APPENDIX B:
BIOLOGICAL RESOURCE EVALUATION

BIOLOGICAL RESOURCE EVALUATION
FOR
HEACOCK STREET SOUTH EXTENSION PROJECT
CITY OF MORENO VALLEY,
RIVERSIDE COUNTY, CALIFORNIA

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December 11, 2025

CERTIFICATION STATEMENT

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

December 11, 2025	Sloane Sanchez
Date	**Sloane Sanchez** Senior Biologist
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APPENDICES

SECTION 1. INTRODUCTION

HANA Resources, Inc. (HANA) was retained by PlaceWorks to prepare this Biological Resources Evaluation (BRE) report for the Heacock Street South Extension Project. Following completion of the reconnaissance-level biological surveys, HANA prepared this study report that: 1) summarized existing conditions; 2) assessed the potential presence of sensitive biological resources; 3) analyzed the potential impacts on those resources; 4) recommended, as appropriate, best management practices (BMPs) avoidance and protection measures, and mitigation measures to avoid, eliminate and/or reduce environmental impacts to less than significant levels; and 5) identified biological permits or approvals needed. The study includes: 1) methods and results of the literature review and field surveys; 2) figures depicting the size and location of plant communities and other sensitive biological resources; 3) a complete flora and fauna compendium; and 4) site photographs.

1.1. SITE LOCATION

The site covers 14.73 acres in the City of Moreno Valley, Riverside County, CA (**Exhibit I,** *Project Location*) and is located east of the March Air Reserve Base (March ARB), south of California State Route 60, west of Lake Perris State Recreation Area, and is on APNs 294-180-054, 316-180-015, 316-180-016, 316-211-001, 316-211-007, 316-211-008, 316-211-009, 316-211-010, 316-211-013, 316-211-014, 316-211-016, 316-211-017 (**Exhibit II,** *Project Area*). The site is located on the United States Geological Survey (USGS) Perris Quadrangle, 7.5-Minute Topographic map. The surface elevation of the site ranges from approximately 1,474 to 1,488 feet above mean sea level (MSL). The site is located within Section 31 of Township 3 South-Range 3 West and Section 36 of Township 3 South-Range 4 West, San Bernardino Meridian.

1.2. Project Description

The proposed project would widen and realign Heacock Street in Moreno Valley between San Michele Road and the Perris Valley Storm Drainage Lateral “B” (channel) to a total width of 76 feet (proposed project). The project proposes to extend Heacock Street’s Arterial classification south from San Michele to the city limits. The project site is 15 acres. The existing roadway is 12 acres, and 11.91 acres of the total 15-acre project site would be disturbed under the proposed project. Heacock Street improvements would terminate in a cul-de-sac adjacent to and north of the channel. Storm drain improvements are also proposed in the project impact area and are included in the 11.91 acres of disturbance.

Exhibit I: Project Location

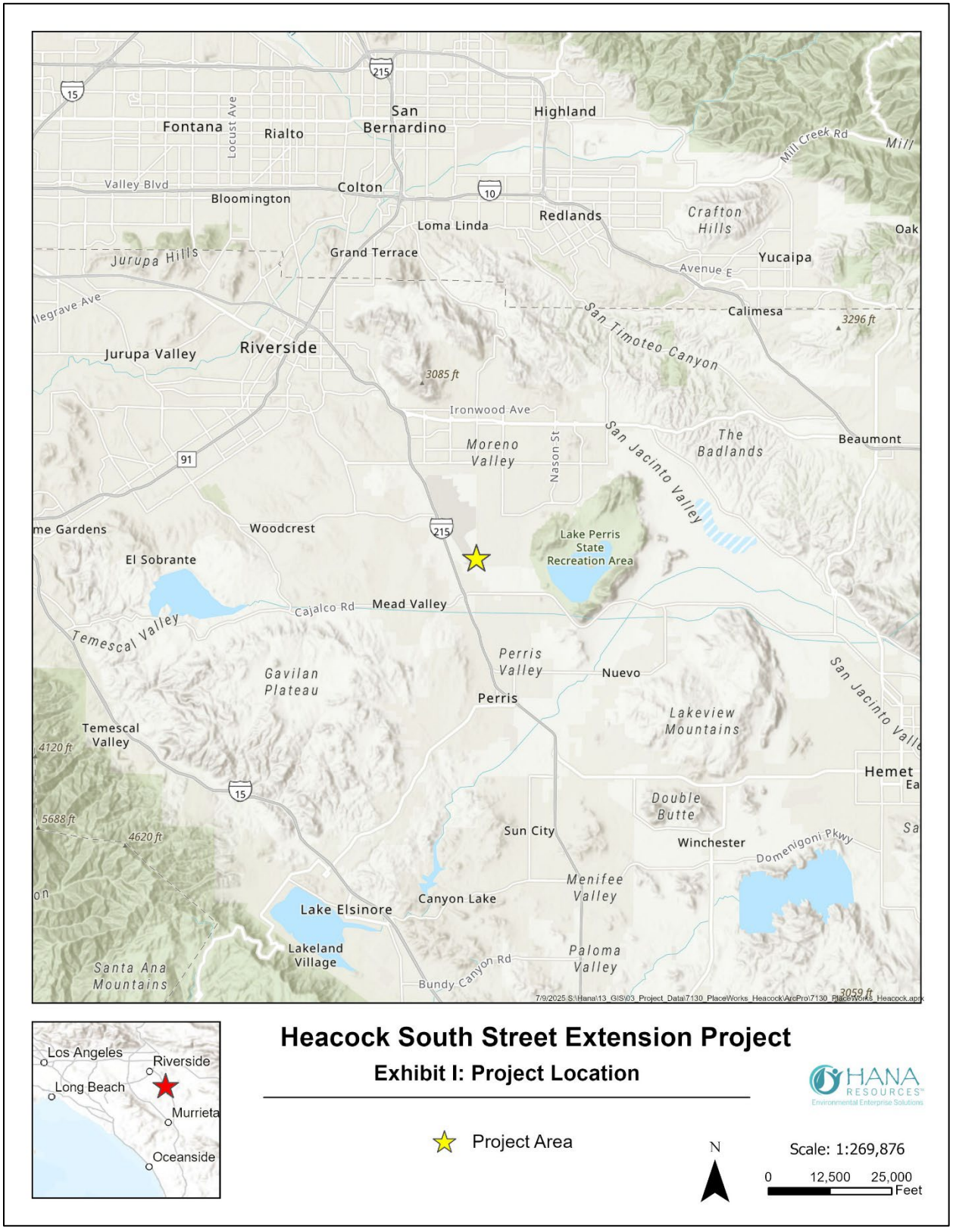
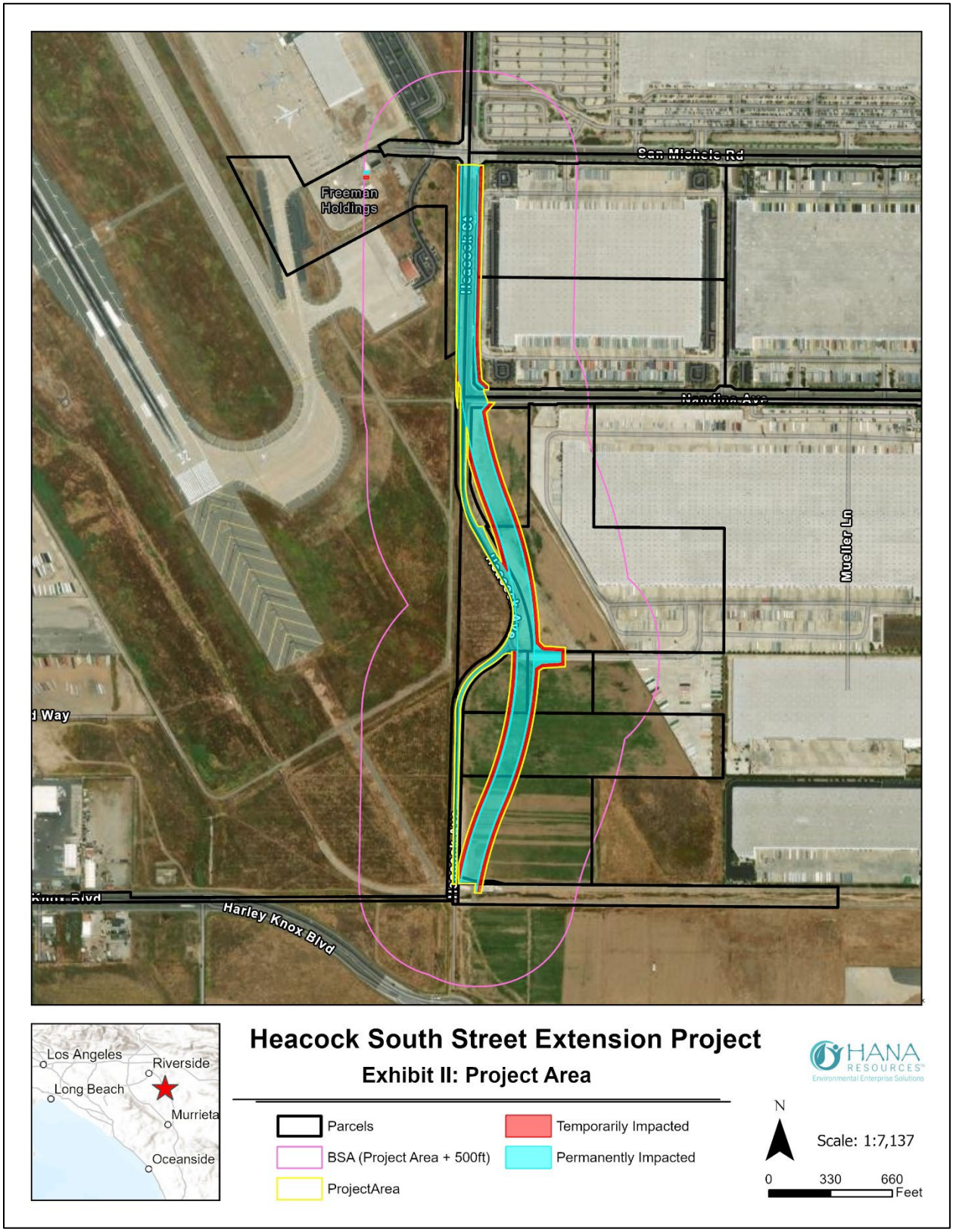


Exhibit II: Project Area



SECTION 2. REGULATORY OVERVIEW

2.1. Federal Statutes, Regulations and Executive Orders

Endangered Species Act (ESA)

The federal Endangered Species Act of 1973 (Title 16, United States Code [U.S.C.] §§ 1531-1543) (ESA), as amended, designates and provides for protection of listed threatened and endangered plant and animal species, and their critical habitat. The US Fish and Wildlife Service (USFWS), in the Department of the Interior, and the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS), in the Department of Commerce, share responsibility for administration of the ESA. These responsibilities include listing and delisting species, designating critical habitat, and formulating recovery plans. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife.

Section 9 (Prohibited Acts)

Once a species is listed, section 9 of the ESA makes it unlawful for any person, including private and public entities, to "take" species listed as endangered or without a permit issued pursuant to section 10 or an incidental take statement issued pursuant to section 7. Section 9 defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include substantial habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

ESA section 9's take prohibitions apply to listed wildlife and fish species, but not to plants. Endangered plants are not protected from take, although it is unlawful to remove, possess, or maliciously damage or destroy them on federal lands. Removing or damaging listed plants on state and private lands in knowing violation of state law, or in the course of violating a state criminal trespass law, also is illegal under the ESA.

Section 10 (Incidental Take Permits and Habitat Conservation Plans)

An incidental take permit pursuant to section 10(a)(1)(B) is required when non-Federal, otherwise lawful activities, including lawful project development, will result in take of threatened or endangered wildlife. Under this provision, the USFWS and/or NMFS may, where appropriate, authorize the taking of federally listed wildlife or fish if such taking occurs incidentally during otherwise legal activities. Section 10(a)(2)(B) requires an application for an incidental take permit to include a Habitat Conservation Plan (HCP). The purpose of the habitat conservation planning process associated with the permit is to ensure there is adequate avoidance, minimization and mitigation measures to address the effects of the authorized incidental take. Section 10 provides a clear regulatory mechanism to permit the incidental take of federally listed fish and wildlife species by private interests and non-Federal governmental agencies.

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) of 1918 (Title 16, U.S.C. sections 703 - 712), as amended, implements various treaties and conventions between the United States (U.S.) and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. Some regulatory exceptions apply. Take is defined in regulations implementing the MBTA as "to

pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to carry out these activities." The MBTA prohibits the collection and destruction of a migratory bird, its nest, and birds or eggs contained in the nest. The USFWS' Migratory Bird Permit Memorandum (MBPM-2) dated April 15, 2003, clarifies that destruction of most unoccupied bird nests is permissible under the MBTA; exceptions include nests of federally listed threatened or endangered migratory birds, bald eagles, and golden eagles. Take under the MBTA does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The USFWS has statutory authority and responsibility for enforcing the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. If compatible with the preservation of bald and golden eagles, the Secretary of the Interior may permit the taking, possession and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural or other interests. The Secretary of the Interior may authorize the take of golden eagle nests, which interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.

Clean Water Act (CWA)

The federal Clean Water Act (33 U.S.C. §§ 1251-1376) (CWA) is the principal federal law governing pollution control and water quality of the nation's waterways. It establishes the basic structure for regulating discharges of pollutants into "Waters of the United States" (Waters of the U.S.) and for regulating water quality and establishing water quality standards for surface waters. Sections 401, 402, and 404 of the CWA are pertinent to surface and coastal Waters of the U.S. For purposes of Section 404 permitting under the CWA, Waters of the U.S. are comprised of those wetland and non-wetland bodies of water that meet the criteria set forth in 33 Code of Federal Regulations (CFR) § 328.3, as interpreted by a number of court opinions and guidance, including Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001) (SWANCC), consolidated cases Rapanos v. United States (Rapanos), and Carabell v. United States (Carabell), 547 U.S. 715 (2006), and joint guidance issued by U.S. Army Corps of Engineers (USACE) and United States Environmental Protection Agency (EPA) in light of judicial decisions, including the joint guidance memorandum regarding Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States (December 12, 2008)(2008 Regulatory Guidance).

Section 404 – Discharge of Dredge and Fill Requirements

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into Waters of the U.S. The USACE implementing regulations define "dredged material" as material that is excavated or dredged from Waters of the U.S. The CWA implementing regulations define "fill material" as material placed in Waters of the U.S. where the material has the impact of either replacing any portion of Waters of the U.S. with dry land or changing the bottom elevation of any portion of a Waters of the U.S. Examples include discharges of rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure for development projects in Waters of the U.S.

Section 401 – Water Quality Certification

Although the CWA is a federal law, Section 401 of that law recognizes that states have the primary authority and responsibility for setting surface water quality standards and requires the U.S. Army Corps

of Engineers to obtain a state certification that their permits for discharge or dredge and fill material do not violate state water quality standards. Section 401 of the CWA requires every applicant for a Section 404 permit resulting in any discharge of dredge or fill material into Waters of the U.S. to provide a certification that any discharges will comply with the applicable state water quality standards set pursuant to the CWA and applicable state law.

2.2. State Statutes and Regulations

California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) (California Fish and Game Code § 2050 et seq.) was enacted in 1984 to parallel the federal ESA and allows the Fish and Game Commission to designate species, including plants, as "threatened" or "endangered." The CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. Unlike the ESA, the CESA does not include listing provisions for invertebrate species.

CESA makes it illegal to import, export, take, possess, purchase, sell, or attempt to do any of those actions to species that are designated as threatened, endangered, or candidates for listing, unless permitted by the California Department of Fish and Wildlife (CDFW). Section 2080 of the California Fish and Game Code prohibits take of any species that the Commission determines to be an endangered species or a threatened species. "Take" is defined in section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Under section 2081 of CESA, CDFW may permit take or possession of threatened, endangered, or candidate species for scientific, educational, or management purposes, and may also permit take of these species that is incidental to otherwise lawful activities if certain conditions are met. Some of the conditions for issuance of permits allowing incidental take are that the adverse effects of the take must be minimized and fully mitigated, adequate funding must be ensured for implementation of identified mitigation, and that the activity shall not jeopardize the continued existence of the listed species. CESA emphasizes early consultation to avoid potential impacts on candidate and listed endangered and threatened species, and to develop appropriate mitigation to offset projects that cause losses of listed species populations and their essential habitats.

California Fish and Game Code §§ 1600-1616

Pursuant to §§ 1600–1616 of the California Fish and Game Code, the CDFW regulates all substantial diversions, obstructions, or changes to the natural flow or the bed, channel, or bank of any river, stream, or lake, which provides habitat and supports fish or wildlife. CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation" (California Code of Regulations, Title 14, Division 1, Subdivision 1, Chapter 1, § 1.72). "Bank" means the slope or elevation of land that bounds the bed of the stream in a permanent or longstanding way, and that confines the stream water up to its highest level. "Lake" includes "natural lakes or man-made reservoirs."

Rivers, streams, lakes, and riparian vegetation that provide habitat for fish and wildlife species are subject to jurisdiction by the CDFW under §§ 1600-1616 of the California Fish and Game Code. Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Section 2785(e) defines "riparian

habitat" as lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source. CDFW regulates bed, bank to bank, as well as associated riparian vegetation, and fish and wildlife resources. CDFW has interpreted jurisdictional boundaries to be defined by the tops of stream banks (i.e., the limit of stream influence) and/or the limit of the canopy of riparian vegetation (outer drip line) that is hydrologically connected to river, stream, or lake, whichever is greatest. As a result, the area of CDFW jurisdiction is usually greater than the active channel and overlaps and extends beyond the USACE jurisdiction. Isolated wetlands not associated with a river, stream or lake are not protected under §§ 1600 et seq. of the California Fish and Game Code. In addition, CDFW does not have regulatory authority on Tribal Lands.

2.3. Regional and Local Ordinances, Plans and Policies

Moreno Valley 2040 General Plan

Implementation of General Plan policies will assist in minimizing adverse conditions to biological resources located in the City. In conjunction with neighboring cities, a key objective of the overall General Plan, originally adopted in 1988 and the most recent public review draft update being released on July 7, 2025, is to protect various biological, cultural, and scenic resources in tandem with City development initiatives. Land Use Designations within the BSA are primarily Residential/Office (R/O) and Parks/Open Space (OS). In particular, the General Plan, in its Open Space & Resource Conservation, Noise, and Land Use & Community Character elements include policies designed to limit potential impacts on environmental resources over the long term.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The City of Moreno Valley is a permittee to the MSHCP. The MSHCP is a comprehensive, multi-jurisdictional regional plan adopted under the ESA and the NCCP Act focusing on conservation of species and associated habitats to address biological and ecological diversity conservation needs, while development is simultaneously approved on non-federal lands in western Riverside County (Riverside County, 2003). The MSHCP serves as an HCP pursuant to section 10(a)(1)(B) of the ESA, as well as an NCCP under the NCCP Act. The MSHCP is administered by the Western Riverside County Regional Conservation Authority (RCA). A total of 146 species are covered by the MSHCP.

The final MSHCP was approved by the Riverside County Board of Supervisors on June 17, 2003. The MSHCP was approved by the USFWS and CDFW through the execution of an Implementing Agreement. The Implementing Agreement outlines the specific enforceable measures and mechanisms that are required to effectively implement the MSHCP. The federal and state incidental take permits (Permits) were issued by the USFWS and CDFW on June 22, 2004, and implementation of the MSHCP began on June 23, 2004. The term of the permits is 75 years.

The goal of the MSHCP is to provide for conservation of approximately 500,000 acres of land supporting the habitat and life history requirements for the 146 species and their habitats (MSHCP Conservation Area). The plan would provide for the creation of a reserve system that would protect and manage 153,000 acres of habitat for Covered Species. This reserve system would be acquired from existing private landowners and complement the approximately 347,000 acres of land already conserved and managed on existing public/quasi-public lands.

The project area is within the Reche Canyon/Badlands Area Plan of the Western Riverside County MSHCP. While the project itself is not located within a Criteria Area or Cell group, the site is located within a designated burrowing owl (*Athene cunicularia*) [BUOW] survey area, requiring a Step I habitat assessment

and potential follow-up BUOW focused surveys. Additional surveys for covered amphibians, mammals, narrow endemic plants, Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*), and Criteria Area species are not required. Heacock Street is a covered road under the MSHCP, with the proposed street expansion project being a covered improvement activity that must comply with MSHCP guidelines, including those found within Appendix C, *Standard Best Management Practices*, of the MSHCP. As expressed within the Moreno Valley General Plan 2040, the city's continued participation in upholding the MSHCP is desired, and any new proposed project is required to comply with applicable provisions of the plan.

Stephens' Kangaroo Rat (*Dipodomys stephensi*) Habitat Conservation Plan (SKRHCP)

The City of Moreno Valley is a member agency of the Riverside County Habitat Conservation Agency (RCHCA), which administers the SKRHCP, to protect the federally and state threatened Stephens' kangaroo rat (SKR). Implemented in 1996 after authorization from USFWS and CDFW, and granting of a Section 10(a) permit, the SKRHCP established dedicated core reserves for cooperative management by local agencies and provides take authorization for covered projects outside of the core reserves.

Although the proposed project falls under the SKRHCP fee area, it is not situated within an established core reserve, meaning additional site-specific mitigation for SKR is not required. As outlined in Chapter 5 of the SKRHCP (SKR Conservation and Mitigation Measures), under Section C. (Terms and Conditions), and Subheading s., *Public Facility Improvements*, HCP public agencies are permitted to construct and improve public facilities, which includes projects that involve "the construction of public roadways to their ultimate width as identified in adopted General Plans (Riverside County 1996)."

City of Moreno Valley Municipal Code

In its capacity as an agency member within the SKRHCP and Western Riverside MSHCP, the City of Moreno Valley enforces its city specific requirements via Chapter 3.48 (Western Riverside County Multiple Species Habitat Conservation Plan Fee Program) and Chapter 8.60 (Threatened and Endangered Species) of its Municipal Code. These chapters outline mitigation fees, exemptions, and reporting requirements associated with enforcement of the aforementioned HCPs. Surveys for the Stephens' kangaroo rat and subsequent reporting to the City are only required in areas with known SKR habitat or within the dedicated SKRHCP core reserves (City of Moreno Valley, Cal. Mun. Code § 8.60.060, 2025).

SECTION 3. METHODOLOGY

3.1. LITERATURE REVIEW

Prior to performing the field surveys, a desktop literature review was performed to review existing documentation relevant to the Biological Study Area (BSA). The BSA is defined as the site and a 500-foot buffer zone outside of but contiguous with the site. The most recent records of the Information for Planning and Consultation (IPaC) database, managed by the U.S. Fish and Wildlife Service (USFWS 2025a); California Natural Diversity Database (CNDDB), managed by the California Department of Fish and Wildlife (CDFW 2025); and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2025b) were reviewed for the quadrangle containing (i.e., Perris, California USGS 7.5 minute quadrangle) and surrounding the Survey Area (i.e., Riverside East, Sunnymead, El Casco, Steele Peak, Lake Elsinore, Romoland, Winchester, Lakeview; California USGS 7.5 minute quadrangles). These databases contain records of reported occurrences of federal- or state-listed as endangered or threatened species, proposed endangered or threatened species, former Federal Special of Concern (FSC), California Species of Special Concern (CSC), or otherwise special-status species or sensitive habitat that may occur within or in the immediate vicinity of the BSA.

3.2. SOILS

Soil maps for the site were referenced online to determine the types of soil found on the site from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025). Soils are determined in accordance with categories set forth by the USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2025).

3.3. WETLANDS

The project boundary and its 500-foot buffer were referenced online to determine presence or absence of wetlands through USFWS's Natural Wetland Inventory (NWI) Wetland Mapper (USFWS 2025b). The USFWS is the principal federal agency tasked with monitoring and providing information on the extent, status, characteristics, and functions of the country's wetlands, deepwater, and other aquatic habitats (USFWS 2025b). This inventory follows the national standard definition of wetlands as outlined in Cowardin et al. 2nd edition (2013). Wetlands are categorized based upon landscape, substrate, vegetation cover, and hydrologic regime and is known as the Cowardin system (Cowardin et al. 2013).

3.4. POTENTIAL FOR OCCURRENCE

3.4.1. Criteria

A vegetation community or special-status species is considered to potentially occur in a BSA if its known geographic range includes part of the BSA or an adjacent USGS 7.5-minute quadrangle and/or if the general habitat or environmental conditions (e.g., soil type, etc.) required for the species are present. The criteria for evaluating the potential for occurrence (PFO) on a site is presented in **Table 1**, *Criteria for Evaluating Special-Status Species Occurrences*. Additionally, databases such as iNaturalist, eBird, and CalFlora were utilized to determine if species have modern occurrences documented within or near the BSA (iNaturalist 2025, eBird 2025, CalFlora 2025).

Table 1. Criteria for Evaluating Special-Status Species Occurrences

Potential for Occurrence	Criteria
Absent	Species was not observed during focused surveys conducted at an appropriate time for identification of the species, or species is restricted to habitats or environmental conditions that do not occur within the site.
Low	Historical records for this species do not exist within the immediate vicinity of the site (approximately 5 miles), and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate	Either a historical record exists of the species within the immediate vicinity of the site (approximately 5 miles) and marginal habitat exists on the site, or the habitat requirements or environmental conditions associated with the species occur within the site, but no historical records exist within 5 miles of the site.
High	Both a historical record exists of the species within the site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the site.
Present	Species was detected within the site at the time of the survey.

3.4.2. Status Codes

A list of abbreviations used to help determine the significance of biological resources potentially occurring in the BSA is provided in **Table 2**, *Abbreviations for Federal- and State-listed Special-status Species*.

Table 2. Abbreviations for Federal- and State-listed Special-status Species

Designation	Abbreviation	Explanation
Federal	**FE**	Federally listed; Endangered.
	FT	Federally listed; Threatened.
	FC	Federal Candidate for listing.
	BGEPA	Bald and Golden Eagle Protection Act.
State	**SE**	State listed; Endangered.
	ST	State listed; Threatened.
	SC-T	State Candidate for Threatened listing.
	SC-E	State Candidate for Endangered listing.
	RARE	State listed; Rare (Listed “Rare” animals have been re-designated as Threatened, but Rare plants have retained the Rare designation).
	SC-RARE	State Candidate for Rare listing.
	SSC	State Species of Special Concern.
	SNC	State Natural Communities rarity ranking: 1-3 are considered sensitive, R is Rare.
	BCC	Bird of Conservation Concern.
CNPS CRPR	**List 1A**	Plants presumed to Extinct in California.
	List 1B	Plants Rare and Endangered in California and throughout their range.
	List 2	Plants Rare, Threatened or Endangered in California but more common elsewhere in their range.
	List 3	Plants about which we need more information; a review list.
	List 4	Plants of limited distribution; a watch list.
CNPS CRPR Extensions	**0.1**	Seriously Endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
	0.2	Fairly Endangered in California (20-80 percent of occurrences threatened).
	0.3	Not Very Endangered in California (less than 20 percent of occurrences threatened).

3.5. BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

The field survey was conducted in the BSA to identify any potential for occurrence of sensitive species, vegetation communities, or habitats to support sensitive wildlife species. The survey was conducted on foot between the hours of 0600 and 1030 from September 15, 2025. Photographs of the BSA were also recorded to document existing conditions on September 15, 2025 (**Appendix A,** *Site Photographs*). Weather conditions during the survey included temperatures ranging from approximately 62 to 80 degrees Fahrenheit, persistently clear skies (0% cloud cover), no precipitation, and varying wind speeds of 0 to 2 miles per hour. The Biological Reconnaissance Survey Field Forms can be found in **Appendix B**, *Biological Reconnaissance Survey Field Forms*.

Due to site access limitations, the survey was primarily conducted on the project associated public right-of-way and APN parcels 316-311-007 and 316-211-013. However, relatively flat topography and lack of significant visual obstructions (ie. hills, gullies, or treelines) allowed for appropriate survey coverage of the BSA via pedestrian means and use of binoculars.

3.5.1. Vegetation

Plant communities in the BSA were identified, qualitatively described, and mapped onto an aerial map (**Exhibit V,** *Vegetation Communities*). Plant communities were determined in accordance with a plant nomenclature that follows that of *The Jepson Manual: Higher Plants of California* (Hickman 2012, Jepson 2024). A comprehensive list of the plant species observed during the survey is presented in **Appendix C**, *Plant & Wildlife Species Observed/Detected Onsite*.

3.5.2. Wildlife

All wildlife and wildlife signs observed or detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (undisturbed native habitat, wildlife trails, etc.) or in habitats with the potential to support state- and/or federal-listed or proposed listed species. Notes were made on the general habitat types, species observed, and the conditions of the site. A list of the wildlife species observed during the site visit is included as **Appendix C**, *Plant & Wildlife Species Observed/Detected Onsite*.

3.5.3. USACE, SWRQCB, and CDFW Preliminary Jurisdictional Assessment

Prior to beginning the field preliminary delineation, a 50-foot-to-the-inch scaled topographic map, scaled aerial photograph, and the *Perris* 7.5-minute USGS topographic quadrangle map were examined to determine the locations of potential areas of U.S. Army Corps of Engineers (USACE), California State Water Resources Quality Control Board (SWRQCB), and/or California Department of Fish and Wildlife (CDFW) jurisdiction. HANA biologists examined the BSA to identify potential USACE jurisdiction pursuant to Section 404 and 401 of the Clean Water Act and CDFG jurisdiction pursuant to Section 1602 of the State of California Fish and Game Code.

3.5.4. Burrowing Owl Phase I Habitat Assessment

The proposed project area is within a MSHCP designated burrowing owl survey area. Following the general reconnaissance survey, a Phase I habitat assessment for the BUOW was performed on the proposed project site and its 500-foot buffer. This assessment involved searching for suitable habitat according to survey guidelines provided in Riverside County's Transportation and Land Management Agency's (Riverside County 2006) *Burrowing Owl Survey Instructions For the Western Riverside Multiple Species Habitat Conservation Plan,* and California Department of Fish and Wildlife's (CDFW 2012) *Staff Report on Burrowing Owl Mitigation*. Descriptions of suitable habitat and recommendations from the California Burrowing Owl Consortium's *Burrowing Owl Survey Protocol and Mitigation Guidelines* were also referenced (CBOC 1997).

During the survey, the general condition and the presence of any suitable habitat within the project area and buffer was recorded. Due to access restrictions, areas of the BSA that were inaccessible by the pedestrian survey were thoroughly scanned for BUOW presence and sign via binoculars. Adhering to CDFW guidelines, a minimum distance of 50 meters was maintained from any observed BUOW or burrows occupied by owls if encountered. The presence and location of observed BUOW, owl signs, occupied burrows, non-occupied potential burrows, and potential man-made surrogate shelters (e.g., culverts, pipes, debris piles) were documented.

SECTION 4. RESULTS

4.1. LITERATURE REVIEW

4.1.1. Soils

After review of the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025) (**Appendix D**, *USDA Natural Resources Conservation Service Web Soil Survey*), it was determined that the BSA is composed of the following five (5) soil types:

Exeter sandy loam (EnA), 0 to 2 percent slopes
Exeter sandy loam soil has a mean annual precipitation of 7 to 20 inches and a mean annual air temperature of 61 to 64°F. This soil can be found at elevations of 20 to 700 feet. The Exeter sandy loam is comprised of sandy loam, sandy clay loam, an indurated layer, and stratified sandy loam to silt loam. The parent material is alluvium derived from granite. This soil is well drained and has a low runoff class. This soil is not hydric. This soil is primarily found in the center of the proposed project site.

Exeter sandy loam, deep (EpA), 0 to 2 percent slopes
Exeter sandy loam (deep) has a mean annual precipitation of 7 to 15 inches and a mean annual air temperature of 64°F. This soil can be found at elevations of 300 to 700 feet. The Exeter sandy loam (deep) soil is comprised of sandy loam, sandy clay loam, an indurated layer, and stratified sandy loam to silt loam. The parent material is alluvium derived from granite. This soil is well drained and has a medium runoff class. This soil is not hydric. In comparison to standard Exeter sandy loam, this soil is further characterized by the depth of the duripan being deeper than usual at 35 to 60 inches below the surface. This soil is found on the northern portion of the proposed project site.

Greenfield sandy loam (GyA), 0 to 2 percent slopes
Greenfield sandy loam has a mean annual precipitation of 9 to 20 inches and a mean annual air temperature of 63°F. This soil can be found at elevations of 100 to 3500 feet. The greenfield sandy loam is comprised of sandy loam, fine sandy loam, loam, and stratified loamy sand to sandy loam. The parent material is alluvium derived from granite. The soil is well drained and has a very low runoff class. This soil is not hydric and found primarily in the center of the northern portion of the site, with some small occurrence in the southern portion of the site.

Monserate sandy loam (MnB), 0 to 5 percent slopes
Monserate sandy loam has a mean annual precipitation of 10 to 18 inches and a mean annual air temperature of 63 to 64°F. This soil can be found at elevations of 700 to 2500 feet. The monserate sandy loam is comprised of sandy loam, sandy clay loam, an indurated layer, a cemented layer, and loamy coarse sand. The parent material is alluvium derived from granite. The soil is well drained and has a medium runoff class. This soil is not hydric and is found in the northern portion of the project site.

Ramona sandy loam (RaA), 0 to 2 percent slopes, MLRA 19
Romona sandy loam has a mean annual precipitation of 9 to 17 inches and a mean annual air temperature of 64 to 65°F. This soil can be found at elevations of 370 to 2620 feet. The Romona sandy loam is comprised of sandy loam and sandy clay loam. The parent material is alluvium derived from granite. The soil is well drained and has a low runoff class. This soil is not hydric and is found primarily in the center and southern portions of the site.

4.1.2. Wetlands

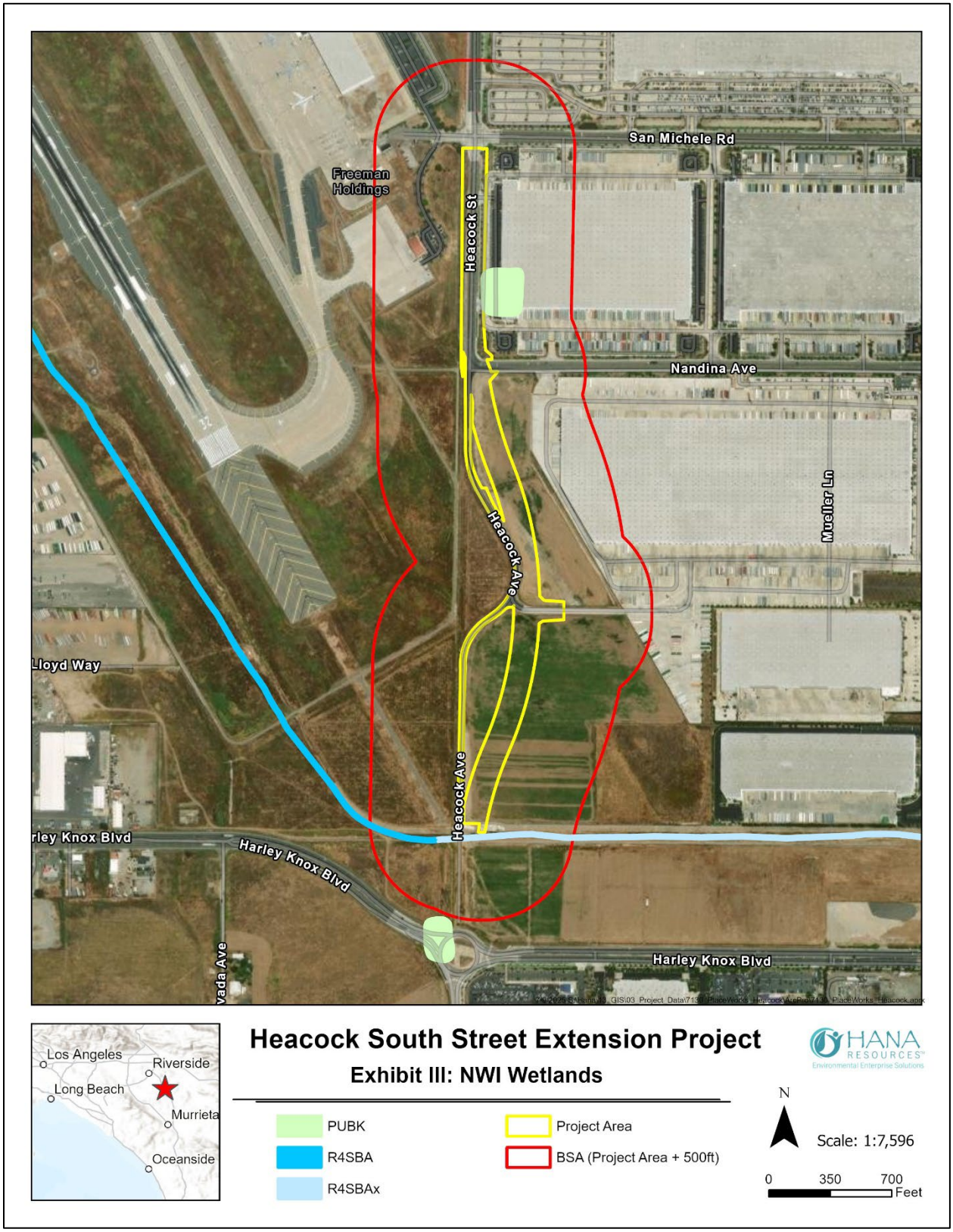
After reviewing the USFWS National Wetland Inventory's Wetland Mapper, three types of wetlands were identified within 500 feet of the project boundaries, though none were found within the project's proposed street expansion and construction areas. Although the Wetland Mapper indicates a wetland type being present on the northeastern portion of the site, this area is being directly occupied by an industrial distribution center and paved parking lot. A map that illustrates all documented wetlands as per the National Wetland Inventory is included in **Exhibit III**, *NWI Wetlands*. Descriptions of the wetland types found nearby, as indicated by the Wetland Mapper and classified according to the Cowardin system (Cowardin et al. 2013), are provided below:

Riverine Intermittent Streambed Temporarily Flooded (R4SBA)
This wetland is classified as a Riverine (R) type of wetland, in this case meaning non-tidal, not dominated by trees, shrubs, or emergent vegetation, and contains flowing water. The flow is Intermittent (4), or present only part of the year, with small pools forming when not flowing. The Streambed (SB) classification is a term associated with intermittent riverine wetlands, described as a collection of substrates and forms who vary greatly depending on gradient of the channel, velocity of water, and sediment being carried by water. Its water regime is Temporary Flooded (A), defined as surface water being present for brief periods (days to weeks) during growing season with a water table generally lying well below ground surface for most of the season.

Riverine Intermittent Streambed Temporarily Flooded Excavated (R4SBAx)
This wetland is classified similarly to the above, it is also classified as a Riverine (R) type of wetland. The flow is Intermittent (4), or present only part of the year, with small pools forming when not flowing. Once more, the Streambed (SB) classification is a term associated with intermittent riverine wetlands, described as a collection of substrates and forms who vary greatly depending on gradient of the channel, velocity of water, and sediment being carried by water. Its water regime is also Temporary Flooded (A). However, the channel for which the wetland is being classified here is not naturally occurring and was excavated (x) by humans.

Palustrine Unconsolidated Bottom Artificially Flooded (PUBK) (Non-Existent within BSA)
This wetland is classified as Palustrine (P) type, meaning a non-tidal wetland dominated by trees, shrubs, emergent mosses or lichens, in an environment where salinity due to ocean-derived salts is below 0.5ppt. This classification can also include wetlands lacking vegetation, and are less than 20 acres, have active wave formed or bedrock shoreline features lacking a maximum basin depth of 2.5 meters at low water and salinity from ocean-derived salts below 0.5ppt. The Unconsolidated Bottom (UB) classification requires a wetland to have a vegetative cover of less than 30% in combination with bottom cover of particles smaller than stones (<6-7 cm) of at least 25%. Its water regime is Artificially Flooded (K), meaning flooding duration and amount in the wetland is controlled by a variety of man-made controls, including pumps or siphons in conjunction with dikes, berms, and dams. As mentioned above, while the NWI database has a record for this wetland within the bounds of the project area, it is no longer present due to the current existence of an industrial distribution center and parking lot directly on top of it. An additional PUBK classified wetland polygon south of the proposed project site is part of the National Wetland Inventory data, but was not assessed due to its presence outside of the BSA.

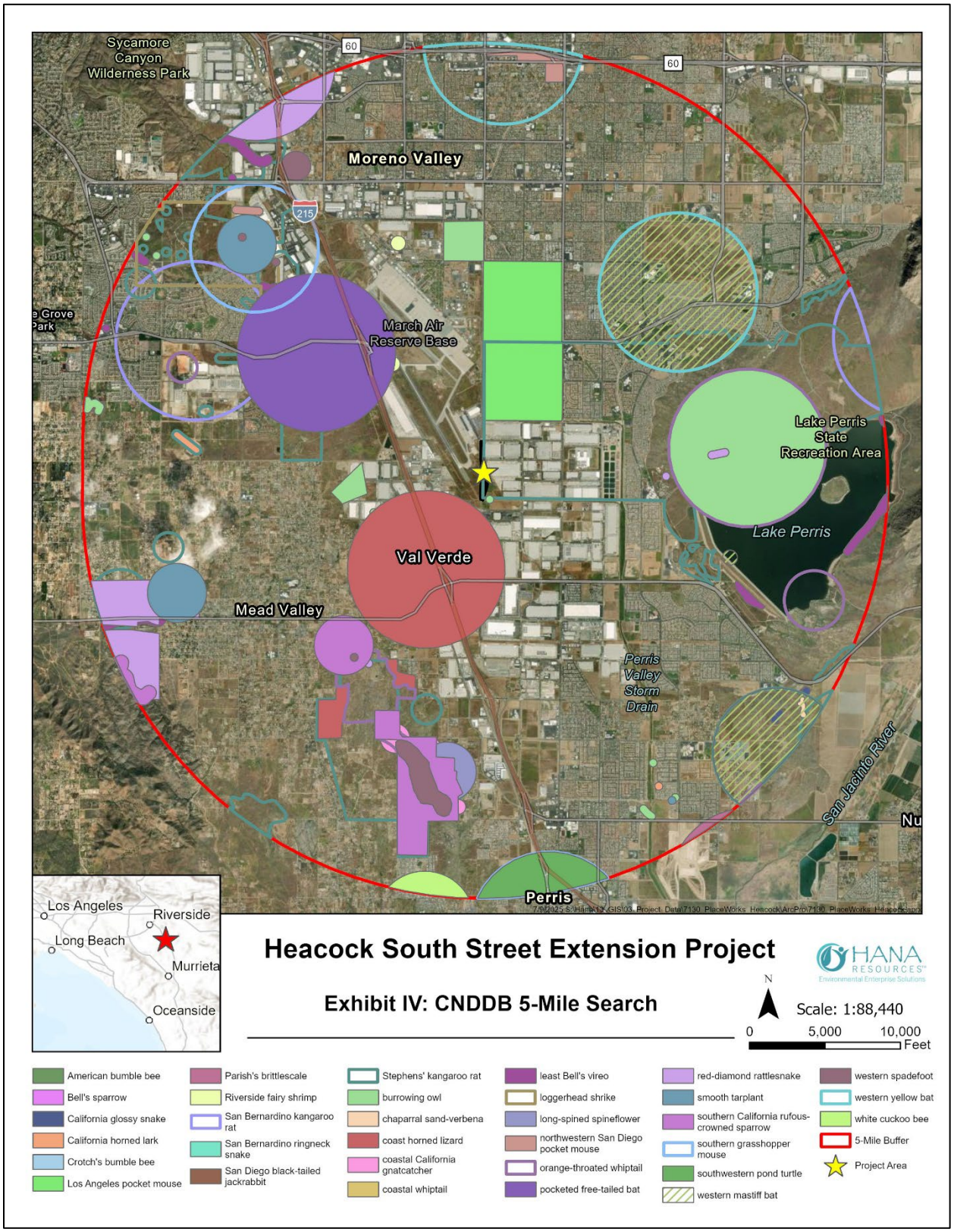
Exhibit III. NWI Wetlands



4.2. POTENTIAL FOR OCCURRENCE

A map of the CNDDB database occurrences is included in **Exhibit IV,** *CNDDB 5-Mile Search*.

Exhibit IV. CNDDB 5-Mile Search



4.2.1. Vegetation

Vegetation

Sensitive natural communities are communities that are of limited distribution, statewide, or within a county or region, and are often vulnerable. These communities may or may not contain special-status plants or their habitat.

The literature review resulted in a list of two (2) vegetation communities that have been known to occur within the five-mile area, which is presented in **Table 3**, *Sensitive Vegetation Communities*. None of the sensitive vegetation community types were present within the BSA, and both have a low probability of occurrence.

Table 3. Sensitive Vegetation Communities

Plant Community Name	PFO	Description	Site Factors
Southern Cottonwood Willow Riparian Forest	Low	A tall, predominantly deciduous streamside woodland dominated by Fremont cottonwood (*Populus fremontii*) and several species of willow (*Salix* spp.), including arroyo (*S. lasiolepis*), black (*S. gooddingii*), and red (*S. laevigata*). Other associated species include box elder (*Acer negundo*), California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), elderberry (*Sambucus* spp.), and coast live oak (*Quercus agrifolia*). These tall riparian trees often form a dense understory, resulting in almost full canopy cover.	Occurs at low elevations along the valley floor, typically where the water table is high and/or there is year-round water flow. Frequent winter flows provide areas of scour and sedimentation within the channel.
Southern Sycamore Alder Riparian Woodland	Low	A tall, open, broad-leafed, winter-deciduous streamside woodland dominated by California sycamore (*Platanus racemosa*) and often also white alder (*Alnus rhombifolia*). These stands seldom form closed canopy forests and may even appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species. Lianas include pacific blackberry (*Rubus ursinus*) and poison oak (*Toxicodendron diversilobum*).	Very rocky streambeds subject to seasonally high-intensity flooding. *Alnus* increases in abundance on more perennial streams, while *Platanus* favors more intermittent hydrographs.

4.2.2. Plants

The literature review resulted in a list of forty-one (41) special-status plant species that have been known to occur within the BSA and surrounding five miles, presented in **Table 4**, *Special-Status Plant Species*. One (1) plant species was present, with the remaining forty (40) species having been determined to have *no* potential to occur in the BSA. Factors used to determine potential for occurrence include quality of habitat, soil type, impact from previous land use, and the date and location of prior CNDDB and Jepson eFlora occurrence records. Reconnaissance plant surveys were conducted to determine if they are present or absent in the BSA.

4.2.3. Wildlife

The literature review resulted in a list of fifty-eight (58) special-status wildlife species that have been known to occur within the BSA and surrounding five miles, which is presented in **Table 5**, *Special-Status Wildlife Species*. Two (2) of these special-status species were present, one (1) was considered to have *high* potential of occurrence, one (1) was considered to have *moderate* potential, two (2) were considered to have low potential, and fifty-two (52) were considered to have no potential to occur in the BSA. Factors used to determine potential for occurrence include quality of habitat, soil type, impact from previous land use, and the date and location of prior CNDDB occurrence records. A reconnaissance wildlife survey was conducted to determine if they are present or absent in the BSA.

Table 4. Special-Status Plant Species

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
Listed Endangered, Threatened, Candidate and State Rare Plants: **Plants with official status under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and/or the Native Plant Protection Act (NPPA). A species may have other sensitive designations in addition to their federal or state listing.**								
Allium munzii (=*Allium fimbriatum* var. *munzii*)	Munz's onion	FE ST CRPR: 1B.1 WRCMSHCP: Covered (b)	Munz's onion is a perennial bulbiferous herb that is found on mesic exposures or seasonally moist microsites in grassy openings in coastal sage scrub, chaparral, juniper woodlands, cismontane woodlands, valley, and foothill grasslands in clay soils. This listed plant flowers from March to May.	No	974 - 3,510	Yes	No	**No potential for occurrence in the BSA.** The BSA lies outside of this species' historical range, which is situated further along the southwestern border of Riverside County and the Santa Ana mountains, past March ARB.
Ambrosia pumila	San Diego ambrosia (=dwarf burr ambrosia)	FE CRPR: 1B.1 WRCMSHCP: Covered (b)	San Diego ambrosia is a perennial rhizomatous herb. Creek beds, seasonally dry drainages, and floodplains are the preferred historical habitat, usually on the periphery of willow woodlands without a protective tree canopy. Riverwash and sandy alluvium underlie these locales. San Diego ambrosia occurs in open habitats such as chaparral and coastal sage scrub in coarse substrates near drainages, and in upland areas on clay slopes or on the dry margins of vernal pools. This species occurs in a variety of associations that are dominated by sparse grasslands or marginal wetland habitats such as river terraces, pools, and alkali playas. In Riverside County, San Diego ambrosia is associated with open, gently-sloped grasslands and is generally associated with alkaline soils. This listed plant flowers from April to October.	No	66 - 1,361	No	Yes	**No potential for occurrence in the BSA.** The BSA is not within the known elevation range of this species.
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	FE CRPR: 1B.1 WRCMSHCP: Covered (a, d)	San Jacinto Valley crownscale is an annual herb that occurs primarily in floodplains (seasonal wetlands) on moist, alkaline soils dominated by alkali chenopod scrub, alkali playas, vernal pools, and, to a lesser extent, alkali grasslands. This listed plant flowers from April to August.	No	456 - 1,640	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within its general distribution, it lacks the floodplain adjacent habitat and the necessary silt/clay-based soils to support this species.
Berberis nevinii (=*Mahonia nevinii*)	Nevin's barberry	FE SE CRPR: 1B.1 WRCMSHCP: Covered (d)	Nevin's barberry is a perennial evergreen shrub that grows in two habitat types. In the alluvial scrub community it grows on sandy and gravelly substrates along the margins of dry washes. In the chaparral community, it grows on steep, north-facing slopes with coarse soils and rocky slopes. It has also been found in cismontane woodlands, riparian scrub, and coastal sage scrub. This listed plant flowers from March to June.	No	899 - 2,706	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within its general distribution, it lacks the sandy/gravelly wash, woodland, or chaparral-like habitats needed to support this species.
Brodiaea filifolia	thread-leaved brodiaea (=threadleaf clusterlily)	FT SE CRPR: 1B.1	Thread-leaved brodiaea is a perennial bulbiferous herb that typically occurs on gentle hillsides, valleys, and floodplains in semi-alkaline mudflats, vernal pools, mesic southern needlegrass grasslands, mixed native/non-native grasslands and alkali grasslands plant communities in association with clay, loamy sand, or alkaline silty-clay soils. This plant grows on various substrates ranging from clay to fine sand. It occurs in open valley and foothill grasslands, at the edge of vernal pools, flood plains, playas and openings in chaparral, cismontane woodlands or coastal scrub. This listed plant flowers from March to June.	No	82 – 3,674	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable hillside, adjacent vernal pool, woodland and chaparral habitat to support this species.
Dodecahema leptoceras	slender-horned spineflower	FE State CE CRPR: 1B.1	Slender-horned spineflower is an annual herb that grows on sandy soil of alluvium in flood plains and in washes. This spineflower is associated with the eastern-most occurrence of coastal sage scrub, known as alluvial fan sage scrub. Cryptogrammic	No	656 – 2,493	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable alluvial sage scrub habitat to support this species. This species is not expected to occur

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
			crusts are frequently present in areas occupied by this plant. This listed plant flowers from April to June.					in the BSA.
Navarretia fossalis	spreading navarretia (=Moran's nosegay)	FT CRPR: 1B.1 WRCMSHCP: Covered (a, b)	Spreading navarretia is an annual herb that grows in vernal pools and depressions and ditches in areas that once supported vernal pools in saline-alkaline soils. It can also be found in artificial roadside ditches. It has been found in alkaline or saline scrubs (chenopod scrub) and playas, shallow freshwater marshes and swamps. This listed plant flowers from April to June.	No	98 - 2,148	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable vernal pool and alkali playa habitat to support this species.
Orcuttia californica (=*Orcuttia californica* var. *californica*)	California Orcutt grass	FE SE CRPR: 1B.1 WRCMSHCP: Covered (a, b)	California Orcutt grass is an annual herb that grows in three kinds of vernal pools (seasonally wet depressions with unique flora and fauna): terrace pools on marine terraces, volcanic mesa pools, and valley pools. Almost always occurs under natural conditions in wetlands. This listed plant flowers from April to August.	No	49 - 2,165	Yes	No	**No potential for occurrence in the BSA.** The BSA is not within this species' general distribution range. Additionally, the BSA lacks the specific wetland habitat to support this species.
Sensitive Plants: **These plants have no official status under the ESA, the CESA, and/or the NPPA; however they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.**								
Abronia villosa var. *aurita*	chaparral sand-verbena	CRPR: 1B.1	Chaparral sand-verbena is an annual herb that is found in sandy soils of chaparral, coastal scrub, and desert dunes. This sensitive plant flowers from January to September.	No	262 - 5,248	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable chaparral, coastal scrub, and desert dune habitat needed to support this species.
Artemisia palmeri	San Diego sagewort	CRPR: 4.2	San Diego sagewort is a shrub native to California. This species is found in riparian habitats and is associated with coastal sage scrub and chapparal communities. This shrub blooms from March to September.	No	0 - 1,345	No	Yes	**No potential for occurrence in the BSA.** The BSA is not within the elevation range throughout which this species occurs. Additionally, the BSA lacks riparian and sage scrub habitat to support this species.
Astragalus pachypus var. *jaegeri*	Jaeger's bush milk-vetch (=Jaeger's milk-vetch)	CRPR: 1B.1 WRCMSHCP: Covered	Jaeger's milk-vetch is a perennial shrub that occurs on dry ridges and valleys and open sandy or rocky slopes in coastal scrub, chaparral, valley and foothill grasslands and cismontane woodlands habitats. This sensitive plant flowers from December to June.	No	1,197 - 3,001	Yes	No	**No potential for occurrence in the BSA.** The BSA is not within this species' general distribution range. Additionally, the BSA lacks suitable coastal scrub and chaparral habitat.
Atriplex parishii	Parish's brittlescale	CRPR: 1B.1 WRCMSHCP: Covered (a, d)	Parish's brittlescale is an annual herb that occurs within alkali vernal pools, alkali annual grasslands, alkali playa, and alkali chenopod scrub and alkali vernal plains. Usually found on drying alkaline flats with fine soils. This sensitive plant flowers from June to October.	No	82 – 6,232	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable alkali vernal pool, alkali grassland, and similar habitat present that contains saline or alkaline soils.
Bahiopsis laciniata	San Diego County viguiera	CRPR: 4.3	San Diego County viguiera is a shrub native to California. This species is associated with coastal sage scrub and chapparal communities and blooms from February to August.	No	15 - 5,185	Yes	No	**No potential for occurrence in the BSA.** The BSA is not within this species' general distribution range. Additionally, the BSA lacks sage scrub habitat to support this species.
Calochortus plummerae	Plummer's mariposa-lily	CRPR: 4.2 WRCMSHCP: Covered (e)	Plummer's mariposa lily is a perennial bulbiferous herb that prefers openings in chaparral, cismontane woodlands, coastal scrub, valley and foothill grasslands, and lower montane coniferous forests. It is found on dry, rocky slopes and soils and brushy areas and can be very common after fire. This sensitive plant flowers from May to July.	No	328 - 5,576	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable alluvial sage scrub habitat to support this species. This species is not expected to occur in the BSA.
Calochortus weedii	Intermediate	CRPR: 1B.2	Intermediate mariposa lily is a perennial bulbiferous herb that occurs on dry, rocky	No	344 – 2,804	Yes	No	**No potential for occurrence in the BSA.**

var. intermedius	mariposa-lily (=Weeds mariposa lily)	WRCMSHCP: Covered	open slopes and rock outcrops in coastal scrub and chaparral. Intermediate mariposa lily occurs in valley and foothill grasslands only after burns. Known localities within Riverside county include the hills within the vicinity of Crown Valley and Vail Lake. This sensitive plant flowers from May to July.					The BSA is not within this species' general distribution range. Additionally, the BSA lacks coastal scrub and rocky slope habitats this species is often associated with.
Carex buxbaumii	Buxbaum's sedge	CRPR: 4.2	Buxbaum's sedge is a perennial grasslike herb native to California. This species occurs in wetlands and meadows and is associated with yellow pine forest, red fir (*Abies magnifica*) forest, lodgepole (*Pinus contorta*) forest, subalpine forest, coastal prairie, wetland-riparian communities. This species blooms from March to August.	No	0 – 8,365	Yes	No	**No potential for occurrence in the BSA.** The BSA is not within this species' general distribution range. Additionally, the BSA lacks the wetland and woodland habitats this species if often associated with.
Caulanthus simulans	Payson's jewel-flower (=Payson's wild cabbage)	CRPR: 4.2 WRCMSHCP: Covered	Payson's jewelflower is an annual herb that occurs in pinyon and juniper woodlands, chaparral and coastal sage scrub, typically on north-facing slopes and ridgelines on sandy-granitic soils. This species frequently occurs on rocky steep slopes, in burned areas or in disturbed sites such as streambeds. This sensitive plant flowers from February to June.	No	295 - 7,216	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable scrub, grassland, and woodland habitat to support this species.
Centromadia pungens ssp. *laevis* (=*Hemizonia pungens* ssp. *laevis*)	smooth tarplant	CRPR: 1B.1 WRCMSHCP: Covered (a, d)	Smooth tarplants is an annual herb that occurs in a variety of alkaline soils within chenopod scrub, meadows and seeps, playas, riparian woodlands, and valley and foothill grasslands. It is also found in disturbed places. This sensitive plant flowers from April to September.	No	0 - 2,099	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA contains potentially suitable habitat in the form of disturbed grassland, limited modern occurrences within 5 miles of the BSA area are confined to riparian, grasslands and meadows associated with the San Jacinto river. Considerable urban development in the area surrounding the BSA limits recruitment corridors to the site.
Chorizanthe leptotheca	Peninsular spineflower	CRPR: 4.2 WRCMSHCP: Covered (e)	Peninsular spineflower is an annual herb that is typically found in alluvial fan and granitic substrates in chaparral; however, it is also found in coastal scrub and lower montane coniferous forests. This sensitive plant flowers from May to August.	No	984 - 6,232	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable alluvial fan and chaparral habitat to support this species. This species is not expected to occur in the BSA.
Chorizanthe parryi var. *parryi*	Parry's spineflower	CRPR: 1B.1 WRCMSHCP: Covered (e)	Parry's spineflower is an annual herb that is found in sandy or rocky soils and openings in coastal scrub, chaparral, cismontane woodlands, and valley and foothill grasslands. Sometimes it is found at an interface of two vegetation types such as chaparral and oak woodlands. Often it is associated with alluvial conditions. This sensitive plant flowers from April to June.	No	902 - 4,002	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable alluvial sage scrub, chaparral, and cismontane habitat to support this species. This species is unlikely to occur in the BSA.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower (=knotweed spineflower)	CRPR: 1B.2 WRCMSHCP: Covered	Long-spined spineflower is an annual herb that is associated primarily with heavy, often rocky, clay soils in vernal pools, meadows and seeps, valley and foothill grasslands, and openings in coastal scrub, and chaparral. This sensitive plant flowers from April to July.	No	98 - 5,018	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable coastal scrub and chaparral habitat and rocky soil types to support this species. This species is not expected to occur in the BSA.
Convolvulus simulans	small-flowered morning-glory	CRPR: 4.2 WRCMSHCP: Covered	Small-flowered morning-glory is an annual herb that grows on friable clay soils which are typically devoid of shrubs, in openings in chaparral, coastal sage scrub, and valley and foothill grasslands. This sensitive plant flowers from March to July.	No	98 - 2,296	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks the clayey soils necessary to support this species, in addition to predominately sage scrub or chaparral habitat.
Deinandra paniculata (=*Hemizonia paniculata*)	paniculate tarplant (=San Diego tarweed)	CRPR: 4.2	Paniculate tarplant is an annual herb that is found in coastal scrub and valley and foothill grasslands, often in clay or clay loam soils or vernally moist situations, and frequently in disturbed sites. It is usually found in vernally mesic sites. Sometimes found in vernal pools or on Mima mounds near them. Habitat is variously described as vernal pool margins, grasslands, open habitats such as roadsides and disturbed areas and inland from the coast within its range on mesas and dry foothills. This sensitive plant flowers from April to November.	Yes	82 - 3,083	Yes	Yes	**Present within the BSA.** The BSA contains suitable habitat and was observed during the survey.
Dudleya multicaulis	many-stemmed dudleya	CRPR: 1B.2	Many-stemmed dudleya is a perennial herb that is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in	No	49 - 2,591	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable coastal scrub and chaparral habitat

		WRCMSHCP: Covered (b)	chaparral, valley and foothill grasslands, and coastal sage scrub in heavy soils, often clay. This sensitive plant flowers from April to July.					and rocky and clay-based soil types to support this species. This species is unlikely to occur in the BSA.
Harpagonella palmeri (=*Pectocarya palmeri*)	Palmer's grapplinghook	CRPR: 4.2 WRCMSHCP: Covered	Palmer's grapplinghook is an annual herb that is associated with clay and cobbly clay soils on dry slopes and mesas in open coastal sage scrub, chaparral, valley and foothill grasslands, and scrub oak woodlands. It is easily found after fires in sparsely vegetated openings and near outcrops in native grasslands when present. This sensitive plant flowers from March to May.	No	66 - 3,133	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable coastal scrub, chaparral, and oak woodland habitat, in addition to the cobbly clay soils types to support this species. This species is unlikely to occur in the BSA.
Hordeum intercedens	vernal barley (=bobtail barley)	CRPR: 3.2 WRCMSHCP: Covered (a)	Vernal barley is an annual herb that is associated with coastal dunes, vernal pools and saline flats and depressions in valley and foothill grasslands. In Riverside County, vernal barley is associated with alkali flats and flood plains within the alkali vernal plains community. Within this community vernal barley is primarily associated with alkali annual grasslands and vernal pools and to a lesser extent alkali scrub and alkali playa. This sensitive plant flowers from March to June.	No	16 - 3,280	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable vernal pool and coastal dune habitat, in addition to the alkaline soils types to support this species. Additionally, occurrences in the area are limited to the San Jacinto River.
Juglans californica (=*Juglans californica* var. *californica*)	Southern California black walnut	CRPR: 4.2 WRCMSHCP: Covered (a)	California black walnut is a perennial deciduous tree that utilizes a variety of habitats in Southern California. Sometimes it is present within coastal scrub and rarely occurs in chaparral. Also found in cismontane woodlands. Found on slopes, canyons and alluvial habitats. This sensitive plant flowers from March to August.	No	164 - 2,952	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within this species' general distribution, it lacks coastal scrub and cismontane woodland suitable for this species. This species is unlikely to occur in the BSA.
Lasthenia glabrata spp. *coulteri*	Coulter's goldfields	CRPR: 1B.1 WRCMSHCP: Covered (a, d)	Coulter's goldfields is an annual herb that is associated with low-lying alkali habitats along the coast and in inland valleys. The majority of the populations are associated with coastal salt marshes and swamps. Coulter's goldfields occur primarily in the alkali vernal plains community. These are floodplains dominated by alkali scrub, alkali playas, vernal pools, and alkali grasslands. These habitats form mosaics that are largely dependent on salinity and micro-elevational differences. This sensitive plant flowers from February to June.	No	3 - 4,002	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within this species' general distribution, it lacks alkali and marsh habitat suitable for this species. This species is unlikely to occur in the BSA.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	CRPR: 4.3	Robinson's pepper-grass is an annual herb that is found in dry soils on chaparral and coastal sage scrub often around rock outcrops. This sensitive plant flowers from January to July.	No	3 - 2,903	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within this species' general distribution, it lacks chaparral and coastal sage scrub habitat suitable for this species. This species is unlikely to occur in the BSA.
Microseris douglasii spp. *platycarpha*	small-flowered microseris	CRPR: 4.2 WRCMSHCP: Covered (e)	Small-flowered microseris is an annual herb that is found in cismontane woodlands, coastal scrub, valley and foothill grasslands, and vernal pools. This nondescript annual is typically found on clay lenses in perennial grasslands, on the periphery of vernal pools, or in broad openings in sage scrub. This sensitive plant flowers from March to May.	No	49 - 3,510	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within this species' general distribution, it lacks suitable cismontane woodlands, coastal scrub, or appropriate vernal pool habitat.
Mimulus clevelandii (=*Diplacus clevelandii*)	Cleveland's bush monkeyflower	CRPR: 4.2 WRCMSHCP: Covered (f)	Cleveland's bush monkeyflower is a perennial rhizomatous herb that is found in chaparral, cismontane woodlands, and lower montane coniferous forests. This species appears to strictly follow metavolcanic or gabbroic soils. Generally the microhabitat consists of open locales in xeric chaparral dominated by chamise, with exposed rock nearby and shallow soils available. This species is often found near the summits of mountain peaks and may have some limiting temperature requirements for optimal habitat. This sensitive plant flowers from April to July.	No	1,476 – 6,560	Yes	No	**No potential for occurrence in the BSA.** The BSA is not within this plant's general distribution range. Additionally, the BSA lacks suitable chaparral and woodland habitat and the specific soil types to support this species.
Myosurus minimus spp. *apus*	little mousetail	CRPR: 3.1 WRCMSHCP: Covered (a, d)	Little mousetail is an annual herb that is found in alkaline vernal pools and in valley and foothill grasslands. In southern California, little mousetail occurs in association with vernal pools and within the alkali vernal pools and alkali annual grasslands components of alkali vernal plains. Little mousetail is found in areas that have semi-regular inundation. This sensitive plant flowers from March to June.	No	66 - 2,099	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within this species' general distribution, it lacks alkaline vernal pool and alkaline grassland habitat to support this species.
Nama stenocarpum	mud nama (=mud fiddeleaf)	CRPR: 2B.2 WRCMSHCP: Covered (a, d)	Mud nama is an annual/perennial herb that is found along marshes, swamps, lake shores, riverbanks, stream banks and intermittently wet areas. This sensitive plant flowers from January to July.	No	16 - 1,640	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA is within this species' general distribution, it lacks swamp, lake shore, and intermittently wet habitat required to support this species.

Quercus engelmannii	Engelmann oak	CRPR: 4.2 WRCMSHCP: Covered (a)	Engelmann oak is a perennial deciduous tree that occurs in the foothills, slopes and in arroyos and dry fans, cismontane woodlands, chaparral, riparian woodlands, and valley and foothill grasslands. Oak woodlands and southern mixed chaparral are both utilized by this tree. Larger oaks sometimes occur in vast savannah grasslands. In the foothills it may also occur as a shrubby element within the chaparral. In such a situation, the understory is relatively dense and the small oaks (even mature oaks in this habitat usually remain stunted) are concentrated on the periphery of watercourses or mesic slope aspects. Along larger creeks coast live oak usually predominates. This sensitive plant flowers from March to June.	No	164 - 4,264	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks suitable geographic and habitat conditions, such as chaparral and foothill habitat, for which this species is associated.
Romneya coulteri	Coulter's matilija poppy	CRPR: 4.2 WRCMSHCP: Covered (a, e) OC NCCP/HCP: Identified Species	Coulter's matilija poppy is a perennial rhizomatous herb that is found in chaparral and coastal scrub. It is often a fire follower. This sensitive plant flowers from March to July.	No	66 - 3,936	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks ideal soil and habitat conditions for which this species is associated. There are no modern (<20 years) occurrences of this species in the area.
Senecio aphanactis	chaparral ragwort (=rayless ragwort)	CRPR: 2B.2	Chaparral ragwort is an annual herb that is found in chaparral, cismontane woodlands, coastal scrub (sometimes alkaline) and drying alkaline flats. This sensitive plant flowers from January to April.	No	49 - 2,624	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks ideal scrub, woodland, or drying alkaline flat habitat conditions for which this species is associated. There are no modern (<20 years) occurrences of this species in the immediate area of the BSA (<5 miles).
Sidalcea neomexicana	salt spring checkerbloom (=mountain sidalcea)	CRPR: 2B.2	Salt spring checkerbloom is a perennial herb that is found in alkaline, mesic sites in chaparral, coastal scrub, lower montane coniferous forests, Mojavean desert scrub, alkali playas, and brackish marshes. This sensitive plant flowers from March to June.	No	49 - 5,018	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks ideal alkaline, chaparral, and scrub-like habitat for which this species is associated. There are no modern (<20 years) occurrences of this species in the immediate area of the BSA (<5 miles).
Symphyotrichum defoliatum (=*Aster bernardinus*)	San Bernardino aster	CRPR: 1B.2	San Bernardino aster is a perennial rhizomatous herb that is found in cismontane woodlands, coastal scrub, lower montane coniferous forests, meadows and seeps, marshes and swamps, and vernally mesic valley and foothill grasslands. While this species usually occurs in meadows, springs and streams, it also occurs in upland habitats. It can be found near ditches, streams, springs or disturbed areas. Grows in seasonally moist fine alluvial soils. This sensitive plant flowers from July to November.	No	7 - 6,691	Yes	Yes	**No potential for occurrence in the BSA.** The BSA lacks ideal cismontane, meadow, chaparral, marsh, and grassland habitat for which this species is associated. While the BSA does contain disturbed area habitat suitable for this species, historical distribution within Riverside County is limited to Murrieta and the San Jacinto Mountains.
Texosporium sancti-jacobi	woven-spored lichen	CRPR: 3	Woven-sported lichen is a lichen that is found in arid intermountain areas. It attaches to soil and animal feces, often rabbit pellets.	No	100—2,000	Yes	Yes	**No potential for occurrence in the BSA.** The BSA does not contain suitable habitat. There are no modern occurrences (<20 years) within the immediate area of the BSA (<5 miles).
Tortula californica	California screw moss	1B.2	California screw moss is native to California. This species grows in arid soil and rock. It occurs within Chenopod scrub and valley and foothill grasslands,	No	920 – 1,085	No	Yes	**No potential for occurrence in the BSA.** The BSA is not within the known elevation range of this species.
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	CRPR: 2B.1 WRCMSHCP: Covered (a, b)	Wright's trichocoronis is an annual herb that is found in meadows and seeps, marshes and swamps, riparian forests and vernal pools/alkaline. Also found on mud flats of vernal lakes, drying riverbeds, and alkali meadows. In Riverside County, Wright's trichocoronis is found in the alkali vernal plains and associated with alkali playa, alkali annual grasslands, and alkali vernal pool habitats. It is highly dependent on alkaline soils that are saturated for extended periods of time. This sensitive plant flowers from May to September.	No	16 - 1,427	No	Yes	**No potential for occurrence in the BSA.** The BSA is not within the known elevation range of this species. Additionally, the BSA lacks the essential wetland habitat this species requires.

Legend and Notes

Notes:

- The BSA contains approximate elevations of 1,474 to 1,488 feet above mean sea level (amsl).
- The BSA encompasses native chaparral, sage scrub, and woodland habitats. Disturbed habitat with non-native grassland and includes a number of non-native tree, shrub, and herb species were also present.
- **Yes** = the BSA is located within the plant species' known distribution, elevation range, and/or the BSA contains suitable habitats and/or soils to support the plant species. The plant species has a potential to occur within the BSA. Further evaluation is needed.
- **No** = the BSA is located outside the plant species' known distribution, elevation range, and/or the BSA lacks suitable habitats and/or soils to support the plant species. It is highly unlikely for the plant species to have a potential to occur within the BSA. No further evaluation is needed.
- A CNPS elevation range is provided for each taxon in feet. The stated range is for the California portion of a plant's range only (if the taxon also occurs outside the state). These CNPS elevation range data are accumulated from literature, herbarium specimens, and field survey information.

Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened plants is published in 50 CFR § 17.12.

- **FE = federally listed as endangered:** any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
- **FC = federal candidate for listing:** candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need. A proposed regulation has not yet been published in the Federal Register for these species.
- **FPE = federally proposed for listing as endangered:** a candidate species that has been proposed by USFWS for listing as endangered and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPT = federally proposed for listing as threatened:** a candidate species that has been proposed by USFWS for listing as threatened and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPD = federally proposed for delisting:** a species that has been proposed by USFWS for delisting (or down listing from endangered to threatened) and the proposed rule to delist has been published in the Federal Register.

California Endangered Species Act (CESA) and California Native Plant Protection Act (NPPA) Listing Codes: the CESA and NPPA are administered by CDFW. The official listing of *Plants of California Declared to Be Endangered, Threatened or Rare* is contained in the California Code of Regulations, Title 14, § 670.2. Species, subspecies and varieties of California native plants are declared to be endangered, threatened as defined by § 2062 and § 2067 of the Fish and Game Code or rare as defined by § 1901 of the Fish and Game Code.st

- **SE = state-listed as endangered:** "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062).
- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067).
- **SCE = state candidate for listing as endangered:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCT = state candidate for listing as threatened:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCD = state candidate for delisting:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species to either list.
- **SR = state rare:** A species, subspecies, or variety of native plant is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (Fish and Game Code § 1901).

California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, nonprofit organization that maintains, with CDFW, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFW officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CRPR). This was done to reduce confusion over the fact that CNPS and CDFW jointly manage the Rare Plant Status Review Groups, and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

- **CRPR: 1A = California Rare Plant Rank 1A - plants presumed extirpated in California and either rare or extinct elsewhere:** the plants with a CRPR of 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes plants that are both presumed extinct as well as those plants which are presumed extirpated in California. All of the plants constituting CRPR 1A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 1B = California Rare Plant Rank 1B - plants rare, threatened, or endangered in California and elsewhere:** plants with a CRPR of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All of the plants constituting CRPR 1B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 2A = California Rare Plant Rank 2A - plants presumed extirpated in California, but more common elsewhere:** the plant taxa of CRPR 2A are presumed extirpated because they have not been observed or documented in California for many years. This list includes only those plant taxa that are presumed extirpated in California, but more common elsewhere in their range. All of the plants on List 2A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 2B = California Rare Plant Rank 2B - plants rare, threatened, or endangered in California, but more common elsewhere:** except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the ESA. All of the plants constituting CRPR 2B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

Legend and Notes

- **CRPR 3 = California Rare Plant Rank 3 - plants about which more information is needed - a review list:** the plants that comprise CRPR 3 are united by one common theme – CNPS and CDFW lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting CRPR 3 are taxonomically problematic. Some of the plants constituting CRPR 3 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing. CNPS strongly recommends that CRPR 3 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.
- **CRPR 4 = California Rare Plant Rank 4 - plants of limited distribution - a watch list**: the plants in this category are of limited distribution or infrequent throughout a broader area in California. While CNPS and CDFW cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, CNPS and CDFW will transfer it to a more appropriate rank. Some of the plants constituting CRPR 4 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS strongly recommends that CRPR 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.
- **Considered But Rejected =** plants that have been considered for inclusion into the CNPS Inventory but were not included for various reasons.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) (as a decimal code) and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. A Threat Rank is present for all CRPR 1B's, 2B's, 4's, and the majority of CRPR 3's. CRPR 4 plants are seldom assigned a Threat Rank of .1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a CRPR. In addition, all CRPR 1A and 2A (presumed extirpated in California), and some CRPR 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

- **.1** = seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- **.2** = moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- **.3** = not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Other:

- **Annual**: grows from seed and reproduce within a single year.
- **Perennial**: lives more than one year.
- **Deciduous**: plants shed their leaves for part of the year.
- **Evergreen:** plants retain their leaves for an entire year.
- **Mesic habitat:** a habitat with a moderate or well-balanced supply of moisture.
- **Hemiparasitic:** plants that are connected to host plants and derive energy, water, and minerals from them, but also maintain their own functional root systems or photosynthetic surfaces.
- **Parasitic:** plants that are connected to host plants and rely solely on them for energy, water, and nutritional requirements.
- **Carnivorous:** plants that trap insects and other small animals and derive nourishment from them.
- **Herbs**: plants that are herbaceous and lack above-ground woody tissue.
    - **Bulbiferous herb**: plants that have fleshy underground storage organs typically derived from scale leaves (this category includes cormiferous and other similar plants in which storage organs have other origins).
    - **Rhizomatous herb**: plants that have underground stems (rhizomes), typically bearing shoots which develop into new plants.
    - **Stoloniferous herb:** plants that have above-ground runners (stolons) which typically root and produce new plants.
- **Shrubs:** smaller woody perennials that retain most of their above-ground woody tissue and are typically many-stemmed.
    - **Leaf succulents:** succulents with thick, fleshy leaves.
    - **Stem succulents:** succulents with thick, fleshy stems and reduced or absent leaves.
- **Trees:** larger woody perennials that retain all of their above-ground wood tissue and are typically single-stemmed.
- **Vines:** twining woody perennials requiring external support for growth.
- **Mosses:** small green plants (one of three groups of bryophytes) with structures that resemble miniature leaves and stems. The leaves generally have a midrib called a costa. The sporophyte (the spore-bearing structure) is persistent for weeks.
- **Liverworts:** small green plants (one of three groups of bryophytes). There are both leafy and thalloid types - leafy liverworts lack a midrib on the leaves, while thalloid liverworts have no leaves. The sporophyte is short-lived.

Table 5. Special-Status Wildlife Species

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential For Occurrence in the BSA
Listed Endangered, Threatened, and Candidate Wildlife: Wildlife with official status under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA). A species may have other sensitive designations in addition to their federal or state listing.						
Listed Insects						
Danaus plexippus	monarch butterfly	FPT USFS: S	Monarch butterflies are famous for their long-distance migration, with two distinct subpopulations in North America: the eastern population overwinters in the mountains of central Mexico and breeds in the Midwest, while the western population overwinters in coastal California and spreads across the western U.S. from Arizona to Idaho. Despite the geographic separation, both groups are genetically similar. Monarchs lay their eggs exclusively on milkweed (*Asclepias* spp.), which serves as the sole food source for their larvae. During the overwintering period, they roost in wind-protected groves of eucalyptus (*Eucalyptus* spp.), Monterey pine (*Pinus radiata*), and Monterey cypress trees (*Cupressus macrocarpa*), typically near nectar and water sources.	Yes	No	**Low potential for occurrence in the BSA.** BSA lacks roosting trees, and plant species that can provide nectar sources or breeding sites. Any sightings would be predominantly transient in nature.
Euphydryas editha quino (=*Euphydryas editha wrighti*)	quino checkerspot butterfly	FE WRCMSHCP: Covered	The quino checkerspot butterfly is found in grasslands, remnant forbland, open coastal sage scrub, open chamise chaparral, open red shank chaparral, juniper woodland, and semi-desert scrub that support its larval host plants. Adults often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops of chaparral and coastal sage scrub. Populations appear associated with loamy soils containing moderate to high clay, in sparsely vegetated areas with potential host plants, nectar sources, and a moderate to high percentage of native plants. Adult butterflies lay eggs only on recognized host plants. Documented oviposition plants include California plantain (*Plantago erecta*), Patagonian plantain (*Plantago patagonica*), white snapdragon (*Antirrhinum coulterianum*), and, more recently, Chinese houses (*Collinsia concolor*). Egg and pre-diapause larval clusters have also been observed on thread-leaved bird's beak (*Cordylanthus rigidus*) and purple owl's-clover (*Castilleja exserta*), but these species rarely support breeding. Adults primarily nectar on annuals such as goldfields (*Lasthenia* spp.), cryptantha (*Cryptantha* spp.), gilia (*Gilia* spp.), linanthus (*Linanthus* spp.), and trefoil (*Lotus* spp.).	Yes	No	**No potential for occurrence in the BSA.** BSA lacks suitable scrub and chaparral habitat with appropriate specific host plants to serve as nectar sources and breeding sites. BSA is located within the northernmost portion of the species' historical range.
Listed Amphibians						
Spea hammondii	western spadefoot	FPT CDFW: SSC BLM: S WRCMSHCP: Covered	The western spadefoot is an amphibian species in the family Scaphiopodidae, endemic to California and northern Baja California. It inhabits a range of environments including coastal sage scrub, open chaparral, pine-oak woodlands, and grasslands, but is most commonly found in grasslands with vernal pools or mixed grassland and coastal sage scrub areas. Successful reproduction depends on the presence of rain-fed vernal pools or slow-moving streams that retain standing water for at least three weeks, allowing larvae to metamorphose. These breeding sites must be free of fish, bullfrogs (*Lithobates catesbeianus*), and crayfish, which prey on eggs and larvae. Western spadefoots estivate in burrows about one meter deep within sandy or gravelly soils in upland habitats adjacent to breeding sites. Their range extends from near Redding south through the Great Valley and foothills, the South Coast Ranges, coastal southern California, and into northwest Baja California.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable breeding habitat. This species requires aquatic pools/riparian habitat, which are not present.
Listed Reptiles						
Actinemys pallida (=*Actinemys marmorata pallida*)	southwestern pond turtle	FPT CDFW: SCC BLM: S USFS: S	The southwestern pond turtle is a small to medium-sized, drab dark brown, olive brown, or blackish aquatic turtle that inhabits slow-moving permanent or intermittent streams, small ponds, lakes, reservoirs, abandoned gravel pits, shallow wetlands, stock ponds, and sewage treatment lagoons. Within streams, it prefers pools over shallower areas and requires abundant cover such as logs, rocks, submerged vegetation, mud, undercut banks,	Yes	No	**No potential for occurrence within the BSA.** The BSA does not contain suitable aquatic habitats or basking sites to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential For Occurrence in the BSA
		WRCMSHCP: Covered	and ledges, along with water depths greater than 2 meters. It is diurnal and typically active from February through November, with the duration of activity varying by temperature. It is found in aquatic habitats with rocky or muddy bottoms and abundant vegetation, including those in woodland, forest, and grassland. Basking sites such as logs, rocks, cattail (*Typha* spp.) mats, and exposed banks are essential. While it primarily occupies freshwater, it may enter brackish water and even seawater. In California, this description refers specifically to populations restricted to the central coast range south of the San Francisco Bay area to the species' southern range boundary, including the Mojave River.			
Listed Crustaceans						
Branchinecta lynchi	vernal pool fairy shrimp	FT WRCMSHCP: Covered (a)	The vernal pool fairy shrimp is a small freshwater crustacean found in ephemeral habitats such as vernal pools and swales. It is characterized by a slender body, large stalked compound eyes, and 11 pairs of swimming legs that also function as gills. Like other fairy shrimp, it swims gracefully upside down by beating its legs in a coordinated, wavelike motion from front to back. This species is restricted to vernal pools in California and southern Oregon and is currently known from 32 counties across California's Central Valley, central coast, and southern regions, as well as from a single population in Jackson County, Oregon. Vernal pool fairy shrimp inhabit a range of temporary freshwater habitats, including grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, sandstone rock outcrops, and alkaline vernal pools. They prefer cool-water pools with low to moderate levels of dissolved solids. These habitats are typically unpredictable and short-lived, with pool sizes ranging from as small as 20 square meters to over 10 hectares. Most occupied pools contain clear to tea-colored water.	No	No	**No potential for occurrence in the BSA.** The BSA lacks essential vernal pool habitat for this species. The BSA is not within the general distribution of this species. Additionally, this species is only documented in a narrow distribution of select habitat within Riverside County.
Streptocephalus woottoni	Riverside fairy shrimp	FE WRCMSHCP: Covered (a)	Riverside fairy shrimp is an aquatic crustacean in the order Anostraca. This species is found only in deep, long-lived, cool lowland vernal pools, vernal pool-like ephemeral ponds, and stock ponds that retain water through late spring. It is occasionally found in depressions such as road ruts and ditches. The swimming holes where Riverside fairy shrimp occur are seasonally astatic, typically quite large, with pools usually at least 30 cm deep at maximum filling and moderately turbid water. Riverside fairy shrimp cannot tolerate salty, muddy, or alkaline water. These pools are found in seasonal grasslands, some of which are interspersed with chaparral or coastal sage scrub vegetation. Core areas that have been identified to contain large populations of fairy shrimp within Riverside County	Yes	Yes	**No potential for occurrence in the BSA.** While the BSA lacks established deep vernal pool habitat, site features such as ruts and ditches can support the ephemeral nature of this species breeding if present or transported into the site. However, modern occurrences are over 1 mile in distance from the BSA. Additionally, the BSA is not located in the vicinity (<5 miles) of and lacks a potential corridor of dispersal with an identified fairy shrimp core area within Riverside County.
Listed Birds						
Aquila chrysaetos	golden eagle	CDFW: FP CDFW: WL BLM: S USFWS: BCC CDF:S WRCMSHCP: Covered Season of Concern: nesting and wintering	The golden eagle occurs primarily in mountainous canyon lands and rimrock terrain of open deserts and grasslands. Its habitat typically includes open rolling foothills, oak savannas, oak and juniper woodlands, chaparral, mountain areas, and deserts. Golden eagles usually avoid heavily forested areas, extensive croplands, immediate coastal zones, and urban environments. While they may be found in coniferous habitats when open space is available, such as fire breaks, clear-cuts, or pastures, they generally prefer rugged, mountainous country with canyons and escarpments for nesting. Nests are most often built on cliffs but can also be found in trees, on the ground, clay cliffs, riverbanks, and human-made structures like windmills, observation towers, powerline poles, and abandoned gold dredges. These nests typically have an unobstructed wide view of the surroundings or sit on prominent escarpments. Golden eagles require large territories with dependable food supplies and broad open areas for foraging, favoring grasslands, deserts, savannahs, and shrublands. In North America, they are most common in the western half of the continent, from Alaska to northern Mexico. According to the California Department of Fish and	Yes	No	**No Potential for Occurrence in the BSA.** The BSA does not contain suitable nest sites or a dependable food supply. In addition, golden eagles are almost never detected in urbanized environments.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential For Occurrence in the BSA
			Wildlife, they prefer mountainous areas, canyons, and open spaces with cliffs or large trees and can be found in forests, shrublands, grasslands, and deserts. The largest golden eagle population in the world, centered around the Bay Area, is found in coastal northern California.			
Athene cunicularia	burrowing owl	SCE CDFW: SSC BLM: S USFWS: BCC WRCMSHCP: Covered (c) Season of Concern: burrowing sites and some wintering sites	The burrowing owl (BUOW) is a small, ground-inhabiting owl. Typical BUOW habitat is open, dry, flat ground or low rolling hills with sparse vegetation and available burrows. BUOWs are generally found in open country, where tree or shrub canopies cover less than 30% of the habitat. Typical habitats include annual and perennial grasslands, shortgrass prairies open agricultural areas (particularly rangelands), deserts floors, and vacant lots in residential areas and university campuses. Other habitats include oak savannah; grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitat; sandy beaches and coastal dunes; and river bottom lands. BUOWs inhabiting urban landscaped areas may live in vacant fields/lots, pastures, airports, athletic fields, golf courses, cemeteries, city parks, road shoulders, drainage sumps, railroad beds, irrigation ditches, and road cuts. Nest and roost burrows of the BUOW in California are most commonly dug by California ground squirrels (*Spermophilus beecheyi*). Where burrows are scarce, man-made structures, such as culverts, piles of concrete, rubble, or debris, pipes, asphalt, artificial nest boxes, and openings beneath cement or asphalt pavement also are used as nest sites.	Yes	Yes	**High potential for occurrence in the BSA.** BSA contains suitable foraging and breeding habitat in the form of open ruderal fields in addition to various site features (ie. roadside ditches, culverts, dumped debris) that have the potential to provide man-made refuge and roosts. In addition to multiple recent (<20 years) documented occurrences within 5 miles of the BSA, there are documented occurrences that lie partially within the BSA and outside the BSA associated with March ARB.
Empidonax traillii extimus	southwestern willow flycatcher	FE SE WRCMSHCP: Covered (a) Season of Concern: nesting	The southwestern willow flycatcher is a summer breeding subspecies of willow flycatcher (*Empidonax traillii*) that inhabits relatively dense riparian tree and shrub communities associated with rivers, swamps, lakes, and other wetlands. Suitable habitat includes surface water, saturated soil, or herbaceous wetland plants during the early summer months, and a minimum of 20 percent woody riparian vegetation canopy cover over at least 0.5 acre of floodplain or adjacent streamside terrace. The species nests in dense clumps or stands of native vegetation such as willows (*Salix* spp.) and cottonwoods (*Populus* spp.) but also uses non-native vegetation including tamarisk (*Tamarix* spp.) and Russian olive (*Elaeagnus angustifolia*), particularly in mixed stands. Nesting sites typically feature saturated soils or nearby standing or flowing water, which contribute to favorable microclimatic conditions and vegetation density. The flycatcher establishes nest territories during the breeding season and often returns to previous nesting areas, exhibiting site fidelity. By the end of September, Southwestern Willow Flycatchers migrate to wintering grounds in Central America.	Yes	No	**No potential for occurrence in the BSA.** BSA does not contain suitable breeding and foraging dense riparian and aquatic habitats to support this species.
Polioptila californica californica	coastal California gnatcatcher	FT CDFW: SSC WRCMSHCP: Covered	The coastal California gnatcatcher is a small, non-migratory, permanent resident of coastal sage scrub habitat, which includes plant communities such as Venturan coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. In addition to coastal sage scrub, gnatcatchers also use adjacent chaparral, grassland, and riparian habitats for dispersal and foraging, especially during the non-breeding season. This species is found along the coastal slopes of southern California from southern Ventura County south through Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties into Baja California, Mexico, reaching approximately 30 degrees north latitude near El Rosario. The distribution of the gnatcatcher is generally limited to elevations below 1,640 feet inland and below 820 feet along the coast. This species typically occurs in or near low-growing, dry-season deciduous and succulent vegetation, with common plants including California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), bush penstemon (*Keckiella antirrhinoides*), and various sages (*Salvia* spp.). Coastal California	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable breeding and foraging coastal sage scrub habitats to support this species.

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			gnatcatchers are non-migratory and exhibit strong site fidelity, with pairs actively defending territories during the breeding season and some maintaining their territories throughout the year.			
Haliaeetus leucocephalus	bald eagle	SE CDFW: FP BLM: S CDF:S USFWS: BCC WRCMSHCP: Covered Season of Concern: nesting & wintering	The bald eagle, which is federally delisted, occurs primarily in or near seacoasts, rivers, wetlands, swamps, and large lakes across its range in North America, including Alaska, Canada, the lower 48 states, and northwestern Mexico. This raptor requires large bodies of water or free-flowing rivers with abundant fish, as well as nearby perching and nesting sites composed of large trees or snags with strong limbs or broken tops. In winter, bald eagles roost communally in dense, sheltered, remote conifer stands. In California, breeding habitats are mainly found in mountain and foothill forests and woodlands near reservoirs, lakes, and rivers. Most breeding territories are located in northern California, but the species also nests in scattered locations throughout the central and southern Sierra Nevada mountains and foothills, from the central coast range to inland southern California, and on Santa Catalina Island. During winter, bald eagles may be found throughout much of the state, including at lakes, reservoirs, rivers, rangelands, and coastal wetlands.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain adequate large bodies of water, or free flowing rivers with abundant fish for foraging. In addition, suitable perching sites, roosting sites, and breeding habitats are absent from the BSA.
Vireo bellii pusillus	least Bell's vireo	FE SE WRCMSHCP: Covered (a) Season of Concern: nesting	The least Bell's vireo is a small, grayish-yellow migratory songbird restricted to willow (*Salix* spp.) dominated riparian woodlands. This species primarily occupy willow-dominated riverine riparian habitats with well-developed overstories and understories, and low densities of aquatic and herbaceous cover. The understory often contains dense subshrub or shrub thickets 3 to 6 feet above the ground. Least Bell's vireos are associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, and mesquite in desert localities. They inhabit areas limited to the immediate vicinity of watercourses but also use thickets along dry, intermittent streams. On desert slopes, mesquite (*Prosopis* spp.) and sandbar willow (*Salix exigua*) in canyon locations may be occupied. Least Bell's vireos winter in southern Baja California, Mexico, where they occupy a variety of habitats including mesquite scrub within arroyos, palm groves, and hedgerows bordering agricultural and residential areas. They migrate south by September and return from mid-March to early April.	Yes	No	**No potential for occurrence in the BSA.** While there are various modern occurrences within 5 miles of the BSA, the BSA itself does not contain suitable breeding and foraging dense riparian and aquatic habitats to support this species. Any occurrences would most likely be restricted to fly-overs.
Listed Mammals						
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE SE CDFW: SSC WRCMSHCP: Covered (c)	The San Bernardino kangaroo rat is one of 19 recognized subspecies of Merriam's kangaroo rat (*Dipodomys merriami*), historically distributed from the San Bernardino Valley in San Bernardino County to the Menifee Valley in Riverside County, California. Today, its populations are limited to three disjunct areas in San Bernardino and Riverside counties, which contain the largest remaining patches of suitable habitat. These include the historical floodplain along the upper Santa Ana River wash, Lytle and Cajon washes, and the San Jacinto River. The species inhabits Riversidean alluvial fan sage scrub and sandy loam soils found on alluvial fans, river and stream terraces, flood plains, and washes adjacent to sage scrub. The sandy loam substrate facilitates the digging of simple, shallow burrows. It requires open, sparse shrub vegetation and actively avoids rocky substrates and dense vegetation. Its diet consists of seeds, green vegetation, and insects.	Yes	Yes	**No potential for occurrence in the BSA.** While similar species within the genus of *Dipodomys* can occupy disturbed habitats, the BSA lacks the specific alluvial scrub and flood plain habitat suitable to support this species. Historical occurrences within Riverside County are primarily limited to habitat located in the San Jacinto River valley.

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Dipodomys stephensi	Stephens' kangaroo rat	FT ST WRCMSHCP: Covered	The Stephens' kangaroo rat is a small, nocturnal mammal adapted to warm, arid environments through various behavioral, morphological, and physiological traits. It is found almost exclusively in open annual and perennial grasslands or sparse shrublands such as coastal sage scrub with less than 50% cover, preferring areas with buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), brome grass (*Bromus rubens*), and filaree (*Erodium cicutarium*), while avoiding dense grass cover. As a fossorial (burrowing) animal, it typically inhabits well-drained, gravelly or sandy and sandy loam soils with low clay to gravel content, although it can occasionally use burrows made by pocket gophers and California ground squirrels. It tends to avoid rocky soils and favors flatter slopes. The Stephens' kangaroo rat lives in underground burrow systems used for shelter, protection from predators, food storage, and nesting. Breeding activity peaks in winter and spring, and it primarily forages at night, feeding mostly on seeds. Populations occur in three geographic regions of southern California: western Riverside County, western San Diego County, and central San Diego County. Habitat loss threats have been significantly reduced through conservation plans including the Stephens' Kangaroo Rat Habitat Conservation Plan and the Western Riverside County Multiple Species Habitat Conservation Plan.	Yes	Yes	**No potential for occurrence in the BSA.** The BSA does not contain suitable grassland, or alluvial and coastal sage scrub habitat. While historical occurrences do occur at Lake Perris State Recreational Area, of which a portion is within 5 miles of the BSA, lack of recent (<20 years) modern occurrences and habitat corridors due to heavy urbanization surrounding the BSA means recruitment potential is limited.
Sensitive Wildlife: **These animals have no official status under the ESA and/or the CESA; however they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.**						
Sensitive Invertebrates						
Bombus crotchii	Crotch's bumble bee	SC	Crotch's bumblebee occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills throughout much of southwestern California, with additional records from southwest Nevada near the California border. It inhabits open grassland and scrub habitats and is adapted to hotter and drier conditions than many other bumblebee species. Crotch's bumblebee is a short-tongued species, which influences its floral preferences and foraging behavior. Known food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable foraging habitat to support this species.
Sensitive Reptiles						
Arizona elegans occidentalis	California glossy snake	CDFW: SSC	The California glossy snake is a medium-sized, muscular, nocturnal snake with smooth, glossy scales, occurs from the eastern part of the San Francisco Bay Area in California south to northwestern Baja California. It is absent along the central coast. There are also old reports of this snake from the Santa Monica Mountains. It inhabits a variety of arid and semi-arid environments, including desert scrub, sagebrush flats, chaparral, grasslands, and woodlands, typically preferring open areas with sandy or loamy soils suitable for burrowing. It also occurs in rocky habitats with loose soil, using mammal burrows, rock outcrops, and surface debris for cover. The species is primarily active from late February through November, with peak activity in May, and it remains underground during the day, emerging at night to hunt. The California glossy snake is a subspecies of the western glossy snake (*Arizona elegans*), which has a broad range across the southwestern United States and northern Mexico.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable desert, sagebrush, grassland, chaparral or woodland habitat to support this species.
Aspidoscelis hyperythra	orange-throated whiptail	CDFWL: WL USFS: S WRCMSHCP: Covered	The orange-throated whiptail is a slender, fast-moving lizard with a distinctive jerky gait, native to southern California and the Baja California Peninsula. It inhabits semi-arid, brushy areas with loose, friable soil and scattered rocks, such as washes, stream sides, rocky hillsides, and coastal chaparral. Preferred habitats include low-elevation chaparral, non-native grasslands, coastal sage scrub (particularly Riversidian type), juniper (*Juniperus* spp.) woodland, oak (*Quercus* spp.) woodland, alluvial fan scrub, and riparian zones. Loose soil is	Yes	Yes	**No potential for occurrence in the BSA**. Open, disturbed habitat present in the BSA may support this species and occurrences have been documented within 5 miles; however, the BSA is below the elevation range for this species.

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			essential for burrow excavation and egg-laying. This species is often seen darting quickly across open ground in pursuit of prey or to escape predators.			
Aspidoscelis tigris stejnegeri	San Diegan whiptail (=coastal whiptail)	CDFW: SSC WRCMSHCP: Covered	The San Diegan whiptail inhabits a variety of ecosystems, primarily favoring hot, dry, open areas with sparse vegetation. Typical habitats include deserts, chaparral, semiarid regions, oak woodlands, and riparian corridors, particularly in sunny microhabitats with firm, sandy, or rocky soil. This agile lizard is most often found in open or rocky terrain, often within grassland or shrubland associations. In California, its range includes coastal southern regions west of the Peninsular Ranges and south of the Transverse Ranges, extending north into Ventura County and south into Baja California.	Yes	No	**No potential for occurrence in the BSA**. Open, disturbed habitat present in the BSA may support this species; however, recent occurrences within 5 miles of the BSA are limited to open rocky terrain.
Crotalus ruber	red diamond rattlesnake	CDFW: SSC USFS: S WRCMSHCP: Covered	The red diamond rattlesnake can be found in southwestern California and southward through Baja California, including several islands in the Gulf of California. Its range extends from the Morongo Valley area of San Bernardino County and southeastern Los Angeles County down to the tip of Baja California. This species inhabits a variety of habitats, ranging from desert and dense chaparral in the foothills (avoiding mountains above about 4,000 feet) to warm inland mesas, valleys, and the cool ocean shore. It is most commonly associated with heavy brush and large rocks or boulders. Populations are found in dense chaparral, coastal sage scrub with cactus or boulders, oak and pine woodlands, and desert slope scrub. However, chamise and red shank habitats may provide better structural cover for refuges and food resources. Red diamond rattlesnakes require rodent burrows, rock crevices, or other surface cover for shelter.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable rocky, dense chaparral, sage scrub, woodland or desert habitat to support this species.
Diadophis punctatus modestus	San Bernardino ring-necked snake	USFS: S	A snake of moist habitats including oak woodlands, mixed coniferous forests, grassland, wet meadows, rocky hillsides, coastal sage scrub, chaparral, riparian areas, farms and gardens. It requires soil that is slightly damp, but not wet or soggy, abundant shelter in the form of a surface mat of dead vegetation and/or loose objects such as flat rocks, boards, or trash and shrubs or trees with open canopies sparse enough to permit abundant sunshine to reach the ground. They appear to be most common in open, relatively rocky areas near streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable woodland, forest, grassland or meadow habitat to support this species.
Phrynosoma blainvillii	coast horned lizard (=coast horned lizard)	CDFW: SSC BLM: S WRCMSHCP: Covered	The coast horned lizard, also known as Blainville's horned lizard, is a flat-bodied lizard with a wide, oval-shaped body, scattered enlarged pointed scales on the upper body and tail, and a prominent crown of horns or spines on the head. It is diurnal, active during warm weather, and retreats underground during periods of cold or extreme heat. It is found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak (*Quercus* spp.) woodland, riparian woodland, and coniferous forest. In inland areas, it is restricted to pockets of open microhabitat created by disturbance such as floods, fire, roads, grazed areas, or fire breaks. Key habitat elements include loose, fine soils with a high sand content, abundant native ants or other insects for food, open areas with limited overstory for basking, and low but dense shrubs for refuge. It is often observed in valleys, foothills, and semiarid mountains, commonly along sandy washes, dirt roads, and near ant hills. Historically found from the Baja California border north along the Pacific coast to the Bay Area and as far inland as Shasta Reservoir, including the Kern Plateau east of the Sierra Nevada crest, its range has been severely fragmented due to land alteration. It also occurs in northwestern Baja California.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable foraging and basking scrub and grassland habitats.
Sensitive Birds						

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential For Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Aechmophorus clarkii	Clark's grebe	USFWS: BCC	The Clark's grebe is a large, slender grebe with a long, thin, straight bill and a black crown. It inhabits large freshwater lakes and marshes, especially those with edges that have emergent vegetation such as reeds and rushes. On very large lakes, colonies may number in the hundreds of pairs during the breeding season. Smaller numbers winter inland on lakes and rivers. Clark's grebes breed at suitable water bodies across the western United States, southern Alberta to southern Manitoba, and Mexico. The species winters primarily along the Pacific coast from California to central Mexico.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks marsh and aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Aechmophorus occidentalis	western Grebe	USFWS: BCC	The western grebe is a grebe with a long neck and a long, thin bill. It breeds in freshwater lakes and marshes and migrates to coastal bays and marine environments for winter. It feeds on small fish such as perch (*Perca* spp.) and aquatic invertebrates like water fleas (*Daphnia* spp.). Western grebes are found in large freshwater lakes and marshes throughout western North America. They are known for their striking courtship displays and are often seen in breeding colonies on isolated lakes. Their diet includes fish such as Percidae and small invertebrates. Habitat changes due to water management and pollution are ongoing concerns. The western grebe is commonly found from Canada through California, and sometimes in Mexico.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks marsh and aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Agelaius tricolor	tri-colored blackbird	ST CDFW: SSC USFWS: BCC BLM: S	The tricolored blackbird breeds primarily in the Central Valley and southern California, forming large colonies in freshwater marshes, agricultural fields, and other open wetlands with dense emergent vegetation such as cattails or bulrush. Nests are built low within dense stands of vegetation over or near standing water. Foraging occurs in adjacent grasslands, pastures, and croplands. Roosting takes place in tall wetland vegetation near nesting colonies or in nearby trees and shrubs, often communally and near foraging areas. Except for small nesting colonies found locally in Oregon, Washington, Nevada, and coastal Baja California, the tricolored blackbird is native to California. The species also breeds locally in other lowland areas of California west of the Cascade-Sierra axis and in valleys at higher elevations in northeastern California. During winter, virtually all birds from outside the state, except a few in Oregon, withdraw to concentrate in the California breeding range.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable wetland, grassland, or cropland habitat to support breeding or foraging activities for this species.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	CDFW: WL WRCMSHCP: Covered	Southern California rufous-crowned sparrows are bulky, long-tailed sparrows that forage on the ground beneath sparse shrubs and grasses. They are usually found on dry, steep sloping land and hillsides with a moderate density of low, scattered shrubs (50% - 70% shrub cover), usually coastal sage scrub, interspersed with grasses and forbs and occasional rock outcrops for song perches. Areas without shrub cover will not support these birds. They tend to avoid chaparral or dense unbroken stands of coastal sage scrub. This sparrow often occurs in coastal sage scrub dominated by California sagebrush (*Artemisia californica*), but also may occur in coastal bluff scrub, low chaparral on serpentine outcrops, open land recovering from a burn, and edges of tall chaparral. Nests are placed in small depressions on the ground usually at base of grass or forb patches, rocks, under a shrub, and very rarely in a shrub. A resident of southwest California, this subspecies occurs on the slopes of the Transverse and Coastal ranges from Los Angeles County south to Baja California Norte. It can also be found on San Martin Island. Typically, it inhabits elevations between 2,000 and 6,000 feet.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable breeding and foraging habitats with low shrub cover interspersed with grasses, forbs, and rock outcrops.

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				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Artemisiospiza belli belli (=*Amphispiza belli belli*)	Bell's sage sparrow	CDFW: WL USFWS: BCC WRCMSHCP: Covered	Bell's sage sparrow is a breeder in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains. In transmontane California, it occupies sagebrush, alkali desert scrub, desert scrub, and similar habitats. In cismontane California, it frequents chaparral dominated by chamise (*Adenostoma fasciculatum*), and coastal scrub dominated by sage (*Salvia* spp.). The preference for chamise chaparral appears to occur only in the more northern parts of its range. The Bell's sparrow is also found in big sagebrush (*Artemisia tridentata*) at higher elevations in southern mountains. Bell's sparrows are primarily found in California and Baja California, with some presence in the southwestern United States and northwestern Mexico. They inhabit arid, shrubby areas like coastal sage scrub, chaparral, and desert scrub habitats.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable chaparral and coastal sage scrub habitat to support this species.
Asio otus	long-eared owl	CDFW: SSC USFWS: BCC Season of Concern: nesting	The long-eared owl is a medium-sized species of owl that nests in conifer, oak (*Quercus* spp.), riparian, pinyon-juniper, and desert woodlands that are either open or adjacent to grasslands, meadows, or shrublands. Key habitat components include some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas. The long-eared owl appears to be more associated with forest edge habitat than open or forest habitat. They are found across the Northern Hemisphere. In North America, they breed from southern Canada south through the United States, including western states like California, and into northern Mexico. They are considered uncommon year-round residents in most of the state, except for the Central Valley and southern California deserts where they are uncommon winter visitors. They favor riparian areas, and other dense tree stands for roosting and nesting.	Yes	No	**No potential for occurrence in the BSA.** The Survey Area does not contain suitable conifer, oak, riparian, pinyon-juniper, or desert woodland breeding, roosting, or foraging habitats to support this species.
Baeolophus inornatus	oak titmouse	USFWS: BCC	The oak titmouse is a small drab songbird primarily associated with oaks (*Quercus* spp.). It occurs in montane hardwood-conifer, montane hardwood, blue, valley, coastal oak woodlands, chaparral, and montane and valley foothill riparian habitats. They may use scrub oaks or other brush as long as woodland occurs nearby. Despite a clear preference for oaks, populations in some areas have adapted locally to warm, dry environments without oaks, such as western juniper woodland in extreme northern California. Nests are constructed in natural tree cavities, old woodpecker holes, or bird boxes. The oak titmouse's range extends from southern Oregon (Rogue River Valley and surrounding hills) south through California. They are found in the Coast, Transverse, and Peninsular ranges, as well as the western foothills of the Sierra Nevada.	Yes	No	**No potential for occurrence in the BSA.** While the BSA is located within the general distribution of this species, the BSA lacks the appropriate oak and woodland tree species necessary for nesting and foraging.
Calidris canutus roselaari	red knot	USFWS: BCC	The red knot is a medium-sized shorebird that breeds in dry Arctic tundra, typically nesting on windswept ridges or slopes with sparse vegetation such as stunted willow (*Salix* spp.) and mountain avens (*Dryas* spp.). After hatching, chicks and adults move to wetter areas like sedge meadows and lakeshores. During migration, red knots utilize coastal marine habitats, favoring sandy shores near tidal inlets, estuaries, and the mouths of bays. In winter, they are found in the southern United States in habitats such as sandy beaches, salt marshes, brackish lagoons, tidal mudflats, and mangrove areas. In California, red knots primarily migrate along the Pacific coast during both spring and fall.	No	No	**No potential for occurrence in the BSA.** The BSA is not within the general distribution of this species. This species has a strictly coastal presence in Southern California.

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Chamaea fasciata	wrentit	USFWS: BCC	The wrentit is a small songbird found in dense chaparral, coastal scrub, riparian scrub, and oak (*Quercus* spp.) woodland with thick vegetation along the western coast of North America. It is extremely site-tenacious and rarely found outside of its preferred habitat or geographic range. This species prefers chaparral plants such as coyote bush (*Baccharis pilularis*) California lilac (*Ceanothus* spp.), manzanita (*Arctostaphylos* spp.), and California sagebrush (*Artemisia* californica).	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks chaparral, riparian scrub, and coastal scrub habitat necessary to support this species. Occurrences within 5 miles of the BSA are associated with Lake Perris State Recreation Area and surrounding foothills.
Chlidonias niger	black tern	CDFW: SSC USFWS: BCC Season of Concern: nesting colony	The black tern is a small tern with fairly broad wings and flies with light, buoyant wingbeats. It is generally found in or near inland waters and breeds across Europe, western Asia, and North America. During winter, it migrates to coastal areas of Africa and South America. The species uses fresh emergent wetlands, lakes, ponds, moist grasslands, and agricultural fields for foraging and nesting. During migration, some birds take coastal routes and forage offshore. Although it is restricted to freshwater habitats while breeding, it can be fairly common on bays, salt ponds, river mouths, and pelagic waters in spring and fall migration. Loss of wetlands in the Central Valley has been partially offset by rice farming, which provides important potential foraging and nesting sites.	No	No	**No potential for occurrence in the BSA.** The BSA is not within this species' distribution range. Black terns are rare migrants in Southern California, and their occurrence is limited to coastal areas.
Circus hudsonis	northern harrier	CDFW: SSC, USFWS: BCC WRCMSHCP: Covered Season of Concern: nesting	Northern harriers breed widely but locally across North America, from northern Alaska and Canada south to mid- and lower latitudes of the United States and northern Baja California. They occupy a variety of open, treeless habitats that provide ample vegetation cover, abundant prey, and scattered perches like shrubs or fence posts for hunting and lookout. In California, northern harriers are found in open wetlands, freshwater, brackish and saltwater marshes, wet meadows, weedy borders of lakes and rivers, grasslands, including those with vernal pools, weed and fallow fields, lightly grazed pastures, some croplands, sagebrush flats, and desert sinks. They nest on the ground, building nests in dense, often tall vegetation within undisturbed areas. Historically, their breeding range in California extended from the Modoc Plateau south to San Diego, primarily east and south of the humid northwest coast and west and north of the arid southeastern deserts.	Yes	Yes	**Low Potential for occurrence in the BSA.** Open ruderal vegetation in the BSA may provide limited foraging habitat, but dense vegetation required for nesting is absent, and the site is highly disturbed.
Contopus cooperi	olive-sided flycatcher	CDFW: SSC USFWS: BCC Season of Concern: nesting	The olive-sided flycatcher breeds mostly in coniferous forests of high mountains, favoring large, tall trees overlooking canyons, meadows, lakes, or other open areas. It thrives on forest edges, openings, and clearings, both natural and human-made, in otherwise dense forests, also inhabiting semi-open and burned forests. In California's Sierra Nevada, it prefers open mixed conifer and California red fir forests over closed-canopy stands. In the White Mountains, it's associated with mature stands of limber pine, western bristlecone pine, and lodgepole pine (*Pinus contorta*), while in northwestern California it's often found near forest edges in bigcone Douglas-fir (*Pseudotsuga macrocarpa*) forests. Along the coast, it nests in tall trees, including eucalyptus (*Eucalyptus* spp.), willows (*Salix* spp.), alders (*Alnus* spp.), and oaks. This stocky, barrel-chested flycatcher is distributed broadly across North and South America, with breeding habitat stretching from California and New Mexico up through central Alaska and across Canada.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable semi-open habitat to support this species. Nearby modern occurrences (<20 years) within 5 miles of the BSA are limited to Lake Perris State Recreation Area.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential For Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Cypseloides niger	black swift	CDFW: SSC USFWS: BCC WRCMSHCP: Covered Season of Concern: nesting	The black swift nests in small colonies in moist crevices or caves on sea cliffs above the surf, or on cliffs behind or near waterfalls in deep canyons. While it requires rocky cliffs for its specialized nesting sites, it forages widely across a variety of habitats and can range far from the breeding area due to its strong flight capabilities. As long as suitable nesting sites are available, the black swift will forage over almost any terrain. Its breeding range is broad but localized across western North America, from southeastern Alaska to southern California and east to central Colorado.	Yes	Yes	**No potential for occurrence in the BSA.** The BSA contains low-quality foraging habitat for this species. However, any occurrences in the vicinity of BSA would likely be limited to flyovers. No nesting or breeding habitat exists in the BSA. Nearest documented occurrence is greater than 5 miles from the BSA, to the east of Lake Perris State Recreation Area.
Dryobates nuttallii	Nuttall's woodpecker	USFWS: BCC	The Nuttall's woodpecker is a common resident of low-elevation oak (any species) woodlands, especially where mixed with California sycamore (*Platanus racemosa*) and deciduous riparian habitats. They excavate a nest in a diseased or dead tree. Nests are located mostly in riparian habitat in dead (occasionally live) trunk or limb of willow (*Salix* spp.), California sycamore, cottonwood (*Populus* spp.), or alder (*Alnus* spp.); rarely in oaks. Nuttall's woodpeckers have a limited geographic range primarily within California and northern Baja California, Mexico. They are non-migratory.	Yes	No	**No potential for occurrence in the BSA.** While the BSA is within this species' distribution range, the BSA lacks the presence of any tree species able to support foraging and nesting behaviors. Nearby occurrences limited to Lake Perris State Recreation Area.
Eremophila alpestris actia	California horned lark	CDFW: WL WRCMSHCP: Covered	California horned larks are year-round residents of open habitats across the state, from coastal grasslands and low-elevation deserts to alpine dwarf-shrub zones above the tree line. They prefer areas where trees and large shrubs are absent, favoring short, sparsely vegetated prairies, deserts, and agricultural lands such as recently plowed fields, fallow plots, or heavily grazed grasslands. During the breeding season, primarily from March through July with peak activity in May, they build cup-shaped, grass-lined nests in ground depressions in open areas. Foraging occurs on the ground, either in bare patches or in fields with low vegetation.	Yes	Yes	**Present within the BSA.** The BSA has ideal open-field habitat with the absence of a significant shrub and tree layer and was encountered during the survey.
Icterus bullockii	Bullock's oriole	USFWS: BCC	Bullock's oriole is a small New World blackbird found in western North America, northeastern Mexico, and southwestern Canada. They breed in open deciduous woodlands, scrubland, and riparian corridors. Bullock's orioles nest from late spring to early summer in willows (*Salix* spp.), cottonwoods (*Populus* spp.), sycamores (*Platanus* spp.), madrones (*Arbutus* spp.), and mesquite trees (*Prosopis* spp.) at approximately 10-25' above ground at habitat edges. It migrates to Mexico and Central America for winter. Can adapt to pecan trees (*Carya illinoinensis*) in orchards, irrigated fields, ranches, parks, and street trees. Its diet includes caterpillars (e.g., *Lonomia obliqua*) and beetles (e.g., *Chrysomela scripta*), fruits like mulberries (*Morus* spp.) and cherries (*Prunus* spp.), and nectar from flowering plants, using the "gaping" method to extract juices with their brush-like tongues.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable foraging or breeding habitat for this species. While this species has multiple recent (<20 years) occurrences within 5 miles of the BSA, any occurrences within the BSA would likely be limited to flyovers.
Lanius ludovicianus	loggerhead shrike	CDFW: SSC WRCMSHCP: Covered Season of Concern: nesting	The loggerhead shrike is a large, predatory songbird. They are known to inhabit and forage over open country within areas of short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures with fence rows, old orchards, savannas, prairies mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs. They prefer tall shrubs or trees (also fences or power lines) for hunting perches and territorial advertisement; open areas of short grasses, forbs, or bare ground for hunting; and large shrubs or trees for nest placement. Human disturbance does not seem to be a major concern with this species. The shrike is often seen next to well-traveled roads and near houses built in suitable habitat. In California, loggerhead shrikes breed mainly in shrublands or open woodlands with a fair	Yes	Yes	**Present in the BSA.** This species was observed to be present within the BSA. The BSA contains suitable open area habitat and site features to support foraging and perching behaviors.

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			amount of grass cover and areas of bare ground. They often nest in isolated trees or large shrubs. This species breeds across much of the United States, excluding the Northeast, and is a year-round resident throughout much of the southern part of the country.			
Larus californicus	California gull	CDFW: WL USFWS: BCC Season of Concern: nesting colony	The California gull is a medium-sized, white-headed gull with a gray back and yellow legs. It is a fairly common colonial nester on islets in large interior lakes, both freshwater and highly alkaline, particularly east of the Sierra Nevada and Cascades. During the nonbreeding season, it is an abundant visitor to both coastal and interior lowlands. Winter habitats include sandy beaches, mudflats, rocky intertidal zones, and pelagic areas along the coast, as well as freshwater and saline wetlands. Inland, it frequents lakes, rivers, agricultural fields, landfills, and urban lawns. California gulls are widely distributed across western North America, ranging from the Canadian prairies south through western Mexico.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Larus heermanni	Heermann's Gull	USFWS: BCC	Heermann's gull is a medium-sized gull with long wings and a fairly rounded head. It is primarily resident in the United States, Mexico, and extreme southwestern British Columbia, with nearly the entire global population nesting on Isla Rasa in the Gulf of California. In California, Heermann's gulls frequent coastal marine habitats, especially areas with abundant kelp beds. They are commonly observed feeding offshore near kelp forests, along rocky shorelines, and on sandy beaches, but are rarely seen inland or in freshwater environments. Breeding occurs on offshore islands, where nests are typically concealed between boulders or among bunchgrasses.	No	No	**No potential for occurrence in the BSA.** The BSA is not within this species' distribution range. Though the BSA is in close proximity to Lake Perris State Recreation Area, this species seldom strays from coastal habitats.
Larus occidentalis	western gull	USFWS: BCC	The western gull is a large, white-headed gull with a heavy bill and pink legs, found primarily along the Pacific coast of North America from Washington to Baja California. It is a coastal species that resides year-round near the ocean, nesting on isolated coastal bluffs, sea stacks, and offshore islands. Nests are typically constructed on bare ground or rocky ledges using grasses, seaweed, and debris. Western gulls forage in nearshore waters, intertidal zones, and human-altered environments such as landfills and urban areas, feeding on fish, invertebrates, carrion, and refuse. They often roost in large flocks on beaches, piers, jetties, and rooftops, favoring open areas that provide clear visibility.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Limnodromus griseus	short-billed dowitcher	USFWS: BCC	The short-billed dowitcher winters along the coasts of North America, with California's coastal estuaries and mudflats serving as important habitats during migration and winter months. It breeds in subarctic bogs and wet meadows of Canada and Alaska, nesting in grassy tussocks or mossy ground near water. Foraging primarily occurs in coastal mudflats, estuaries, and salt marshes, where the bird probes soft substrates for small invertebrates. Roosting sites are typically located on elevated mudbanks, salt marsh islands, or shorelines that offer protection from flooding and disturbances.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Limosa fedoa	marbled Godwit	USFWS: BCC	The marbled godwit is a large, long-legged shorebird recognized by its extremely long, slightly upturned bill. It breeds in the shortgrass prairies of the northern Great Plains, primarily within the prairie pothole region of the United States and southern Canada, including Montana, North Dakota, and central Alberta to Manitoba. During migration and winter, marbled godwits are found along coastal mudflats, estuaries, sandy beaches, salt ponds, and wetlands, where they use their long bills to probe for invertebrates in sand or mud. They are short- to long-distance migrants, with wintering populations concentrated along the coasts of the United States, Mexico, and Central and South America, especially in California, the Gulf Coast, and Mexico. While breeding, they avoid areas with tall vegetation, preferring more open, grassy habitats near wetlands.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Megascops kennicottii	western screech-owl	USFWS: BCC	The western screech owl is a small, compact owl native to western North and Central America, found in a variety of habitats including forests, deserts, urban parks, and residential areas. It prefers wooded environments with trees like cottonwoods (*Populus*	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable foraging or nesting habitat for this species.

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			spp.), aspens (*Populus* spp.), and oaks (*Quercus* spp.), often near canyons and drainages, and can live up to 6,000 feet in elevation. This adaptable owl nests in tree cavities or artificial nest boxes and ranges from southeastern Alaska and southwestern Canada down through the western U.S. to northwestern Mexico and parts of Central America.			
Melospiza melodia graminea	Channel Island song sparrow (Santa Barbara song sparrow)	CDFW: SSC USFWS: BCC	The Channel Islands song sparrow has similar habitat needs to the mainland song sparrow (*Melospiza melodia*), requiring moderately dense scrubby vegetation for nesting, escape cover, and foraging, along with a source of water or moisture from fog or dew. They thrive in areas with dense shrubs, especially giant coreopsis (*Coreopsis gigantea*), but may also occupy grasslands with scattered shrubs. These sparrows defend territories rich in tall vegetation and often place their heavier nests deep within dense shrubbery, away from strong northwest winds. They are found only on San Miguel and Santa Rosa Islands, are transient visitors to Anacapa Island during migration, and were once residents of Santa Barbara Island before local extinction.	No	No	**No Potential for Occurrence in the BSA.** This species has been declared extinct in 1983.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE USFWS: BCC	The Belding's savannah sparrow is a rare subspecies of the Savannah sparrow, yet it remains common in the marshes of San Diego Bay, California and the Tijuana Slough National Wildlife Refuge. It is distinguished from the typical Savannah sparrow by its heavier and darker streaking, as well as a smaller beak profile. Unique among its kind, Belding's savannah sparrow is one of only two wetland-dependent bird species that reside year-round in the coastal salt marshes of southern California. These sparrows nest within the pickleweed salt marsh vegetation found along the outer levees of salt ponds, in the lower reaches of the Otay River, and along the edges of the South Bay within remnant patches of salt marsh. They are primarily associated with coastal salt marshes in the upper intertidal zone, which lies above the flood level except during very high spring tides. Foraging typically occurs on nearby mudflats, shorelines, and rock jetties.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain wetland habitat near water to support this species.
Selasphorus sasin	Allen's hummingbird	USFWS: BCC	Allen's hummingbird is a small, compact, and stocky hummingbird that breeds primarily in a narrow coastal strip from Oregon through California. It occupies a range of habitats from sparse to dense scrub and from open to sparse woodlands, with its distribution closely tied to the availability of nectar sources. Nesting typically occurs on twigs or forks of trees or shrubs. Two subspecies exist within its limited range: the migratory subspecies breeds along the central coast of California and southern Oregon, winters in Mexico and along the southern California coast, while the non-migratory subspecies resides year-round on the Channel Islands and nearby mainland areas such as the Palos Verdes Peninsula. Habitats used include coastal scrub dominated by coyote brush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), and various oak species (*Quercus* spp.).	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable habitat (breeding, foraging, and roosting) for this species.
Spinus lawrencei	Lawrence's goldfinch	USFWS: BCC	Lawrence's goldfinch is a small, gray-bodied songbird that inhabits a variety of environments including oak woodlands (*Quercus* spp.), chaparral (*Adenostoma fasciculatum*), riparian woodlands, valley foothill hardwood-conifer forests, pinyon-juniper woodlands (*Pinus* spp., *Juniperus* spp.), and palm oases, usually near sources of water. Breeding primarily occurs in open woodlands of arid and semiarid foothills and valleys, ranging from sea level near the California coast up to nearly 2,900 meters in southern California. The species often feeds in nearby herbaceous habitats. Nests are typically built in evergreen oaks, conifers, or deciduous trees. Lawrence's goldfinch breeds mainly in California, where it is a permanent resident of the southern part of the state, and winters in southern Arizona, southwestern New Mexico, northwestern Mexico, and along the northern border of the Baja Peninsula.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable chaparral or woodland habitat near water to support this species.
Spizella atrogularis	black-chinned sparrow		Black-chinned sparrows are small, long-tailed sparrows that occur mostly on sloping ground in mixed chaparral habitats such as chamise (*Adenostoma fasciculatum*)–redshank	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable sage scrub, chaparral or

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			(*Adenostoma sparsifolium*) chaparral, sagebrush (*Artemisia* spp.), and similar brushy areas. They also inhabit shrub understories in sparse pinyon-juniper (*Pinus* spp.–*Juniperus* spp.) and other conifer habitats. In montane chaparral, they are associated with chamise, ceanothus (*Ceanothus* spp.), and scrub oak (*Quercus berberidifolia*) dominated landscapes. In California specifically, at Joshua Tree National Monument, they use open chaparral mixed with pinyon-juniper on steep slopes. In Inyo and San Bernardino Counties, they have been reported inhabiting dense sagebrush stands in valley basins but generally avoid open sage, preferring chaparral-covered hillsides. Their breeding range primarily includes California, Baja California, Arizona, and New Mexico, with smaller portions extending into southern Nevada and southwestern Utah.			grassland habitat to support this species.
Toxostoma redivivum	California Thrasher	USFWS: BCC	The California thrasher is a long-tailed, lanky songbird with a deeply curved bill, found primarily in California and Baja California. It is a year-round resident that nests and forages in chaparral habitats of coastal and foothill areas, as well as in nearby woodlands with junipers, pines, and oaks that provide dense underbrush. The species also occupies sagebrush, riparian thickets, and even suburban areas with sufficient shrub cover. Nests are usually built in low bushes or small trees, close to or on the ground, and are constructed by both adults. California thrashers forage mostly on or near the ground, feeding on a varied diet of insects, seeds, and fruits.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks chaparral and scrub habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area and surrounding foothills.
Tringa semipalmata	willet	USFWS: BCC	Willets are large, robust shorebirds with long legs and thick, straight bills noticeably longer than their heads. They are found along both coasts of North America, with western populations breeding inland across the western U.S., including northeastern California and Nevada, and wintering along the Pacific coast. In California, willets are primarily winter residents of estuaries, mudflats, sandy beaches, and rocky coastal zones. During the breeding season, they nest inland in wet meadows and at marsh edges, placing their nests on the ground in tall grasses. Foraging typically occurs in intertidal zones and mudflats, while roosting sites include open flats, salt marsh levees, and sandy beaches near feeding areas. Willets are known for their striking black and white wing patterns, which are especially visible in flight.	Yes	No	**No potential for occurrence in the BSA.** The BSA lacks aquatic habitat suitable for foraging and breeding purposes. Nearby occurrences (<5 miles) are associated with Lake Perris State Recreation Area.
Sensitive Mammals						
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	WRCMSHCP: Covered	The northwestern San Diego pocket mouse is a subspecies of San Diego pocket mouse (*Chaetodipus fallax*). reaches its highest densities in rocky or gravelly areas with an overstory of yucca (*Yucca* spp.) and in desert scrub habitats near or within the pine-juniper belt. A common resident of sandy herbaceous areas, it is usually found in association with rocks or coarse gravel. It inhabits coastal sage scrub, sage scrub–grassland ecotones, and chaparral communities. Within San Diego County, it primarily occurs in arid coastal and desert border zones, but its range extends into portions of Riverside and San Bernardino counties. It occupies a broad elevational range from sea level up to 1350 meters (4500 feet) in the Santa Rosa Mountains of Riverside County and up to 1800 meters (6000 feet) at Cactus Flat on the north slope of the San Bernardino Mountains. In western Riverside County, the San Diego pocket mouse is also commonly found in disturbed grassland and open sage scrub vegetation with sandy-loam to loam soils. It forages primarily on seeds from forbs, grasses, and shrubs.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable sage scrub, chaparral or grassland habitat to support this species.
Eumops perotis californicus	western mastiff bat	CDFW: SSC BLM: S	The western mastiff bat is the largest bat native to North America, recognizable by its large ears, wings, and forearms. It is found in the western United States, Mexico, and South America. This species inhabits a variety of semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas. Its distribution is often determined by	Yes	No	**No potential for occurrence in the BSA.** The BSA does contain suitable roosts or foraging habitat for this species due to its vicinity to Lake Matthews. Any occurrences would likely be limited to flyovers.

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			geomorphology, primarily occurring where significant rock features provide suitable roosting sites. As a cliff-dwelling species, maternity colonies of 30 to several hundred bats roost under exfoliating rock slabs and in rock crevices along cliffs, as well as in crevices in large boulders and buildings. Western mastiff bats require a sizable drop, typically 15 to 20 feet or more, from their roost to achieve flight. In California, they are an uncommon resident in the southeastern San Joaquin Valley and coastal ranges from Monterey County southward through southern California, extending eastward to the Colorado Desert.			
Lasiurus xanthinus	western yellow bat	CDFW: SSC CVMSHCP: Covered	The western yellow bat is an uncommon species of vesper bat found in Mexico and the southwestern United States, with a limited distribution in California where it is known only from Los Angeles County and San Bernardino County south to the Mexican border. In California, it occurs year-round at elevations below 600 meters, primarily in valley foothill riparian zones, desert riparian habitats, desert washes, and palm oases. This species roosts in the dead fronds of palm trees as well as in other trees, including cottonwood (*Populus fremontii*), Arizona sycamore (*Platanus wrightii*) and Arizona white oak (*Quercus arizonica*). It forages among trees and over water, often within or near palm oases and riparian corridors, and is occasionally observed in urban settings. The western yellow bat feeds on flying insects and relies heavily on warm, sheltered microhabitats for daytime roosting.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable habitat (breeding, foraging, and roosting) for this species.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CDFW: SSC WRCMSHCP: Covered	The San Diego black-tailed jackrabbit is a subspecies of black-tailed jackrabbit (*Lepus californicus*) that inhabits diverse habitats in the San Diego region, including desert scrub, prairies, farmland, dunes, Riversidean sage scrub, alluvial fan sage scrub, Great Basin sagebrush, chaparral, disturbed areas, southern willow scrub, and juniper (*Juniperus* spp.) woodland. They prefer open or semi-open areas with grasses and forbs but will consume a wide range of vegetation. As habitat generalists, black-tailed jackrabbits thrive in arid shortgrass regions, grasslands, agricultural fields, and sparse coastal scrub. They typically avoid dense brush or high grass where movement is hindered, favoring open scrub over dense chaparral. They are usually found in valley bottoms or intermontane valleys and are absent from high mountain forests.	Yes	Yes	**Moderate potential for occurrence in the BSA.** The BSA contains suitable open space habitat in the form of semi-open agricultural fields. There are multiple modern occurrences (<20 years) documented within 5 miles of the BSA.
Nyctinomops femorosaccus	pocketed free-tailed bat	CDFW: SSC	The pocketed free-tailed bat is primarily a desert species found in the southwestern United States, specifically in California, Arizona, New Mexico, and Texas, and more commonly, western Mexico. In California, it is uncommon and occurs mainly in Riverside, San Diego, and Imperial Counties. It roosts in crevices of cliffs and rocky outcroppings, favoring high cliffs and rugged terrain near riparian areas. Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian zones, desert wash, alkali desert scrub, Joshua tree (*Yucca brevifolia*) woodland, chaparral, and palm oasis. This species requires accessible drinking water and remains near water sources with sufficiently large surfaces to drink on the wing. Colonies may be located in caves, rock crevices in cliff faces, or human-made structures, with a strong preference for rock crevices in cliffs as roosting sites.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable habitat for this species. Any occurrences would likely be limited to flyovers.
Onychomys torridus ramona	southern grasshopper mouse	CDFW: SSC	Southern grasshopper mouse is found across a wide range in western and central North America, from south-central Canada through the western and Great Plains states, and into northern Mexico. It inhabits low arid scrub and semi-scrub desert areas, particularly those with friable soils suitable for digging, and is also found in grasslands, shortgrass prairies, sand dunes, and sparse coastal sage scrub habitats. This species prefers areas with low to moderate shrub cover and nests in burrows, which it may dig itself in sandy or loose soil but often occupies burrows made by other rodents. Its preference for open, sandy environments makes it well adapted to arid landscapes, where it plays an important role as both predator and prey in desert ecosystems.	Yes	No	**No potential for occurrence in the BSA.** The BSA does not contain suitable arid scrub or desert habitat to support this species.

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				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Perognathus longimembris brevinasus	Los Angeles pocket mouse	CDFW: SSC WRCMSHCP: Covered (c)	The Los Angeles pocket mouse is a subspecies of the little pocket mouse (*Perognathus longimembris*) and is among the smallest of the pocket mice. It is likely restricted to lower-elevation grasslands and sparsely vegetated habitats such as alluvial and coastal sage scrub, with a preference for fine, sandy soils suitable for burrowing. Typical vegetation communities include annual grassland, alluvial sage scrub, and coastal sage scrub, often within shrubland/chaparral and grassland/herbaceous systems. The species typically avoids dense grass cover due to reduced mobility and limited seed access. Historically, it occurred in the coastal basins of southern California, from Burbank and San Fernando in the San Fernando Valley eastward to Cabazon, and south through the San Jacinto and Temecula valleys to Aguanga, Warner Pass, Vail, and Temecula. Its recorded elevational range spans from 167 to 808 meters. Although now absent from much of its historical range due to urbanization, notably in the San Fernando Valley, some populations persist in scattered areas including Etiwanda Wash. Portions of its habitat are protected under the Western Riverside County Multiple Species Habitat Conservation Plan.	Yes	Yes	**No potential for occurrence in the BSA.** The BSA does not contain suitable grassland, or alluvial and coastal sage scrub habitat. While historical occurrences do occur at Lake Perris State Recreational Area, of which a portion is within 5 miles of the BSA, lack of recent (<20 years) modern occurrences and habitat corridors due to heavy urbanization surrounding the BSA means recruitment potential is limited.

Legend and Notes

Notes

- **Yes** = the BSA is located within the wildlife species' known distribution, elevation range, and/or the BSA contains suitable habitats or conditions to support the species. The wildlife species has the potential to occur within the BSA. Further evaluation is needed.
- **No** = the BSA is located outside the wildlife species' known distribution, elevation range, and/or the BSA lacks suitable habitats or conditions to support the species. It is highly unlikely for the wildlife species to have a potential to occur within the BSA. No further evaluation is needed.
- **DPS = distinct population segment:** A DPS, or a distinct population segment, is a vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or distinct population segments of vertebrate species.
- **ESU = evolutionarily significant unit:** a Pacific salmon population or group of populations that is substantially reproductively isolated from other conspecific populations and that represents an important component of the evolutionary legacy of the species.

Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened animals is published in 50 CFR § 17.11.

- **FE = federally listed as endangered:** any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
- **FC = federal candidate for listing:** candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need. A proposed regulation has not yet been published in the Federal Register for these species.
- **FPE = federally proposed for listing as endangered:** a candidate species that has been proposed by USFWS or NMFS for listing as endangered and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPT = federally proposed for listing as threatened:** a candidate species that has been proposed by USFWS or NMFS for listing as threatened and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPD = federally proposed for delisting:** a species that has been proposed by USFWS or NMFS for delisting (or down listing from endangered to threatened) and the proposed rule to delist has been published in the Federal Register.

California Endangered Species Act (CESA) Listing Codes: the CESA is administered by CDFW. The official listing of *Animals of California Declared To Be Endangered or Threatened* is contained in the California Code of Regulations, Title 14, § 670.5. Species and subspecies of California native animals are declared to be endangered or threatened as defined by §§ 2062 and 2067 of the Fish and Game Code.

- **SE = state-listed as endangered:** "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062).
- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067).
- **SCE = state candidate for listing as endangered:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCT = state candidate for listing as threatened:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed by publication in the California Regulatory Notice Register as being under review by CDFW for addition to the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCD = state candidate for delisting:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species to either list.

Legend and Notes

California Department of Fish and Wildlife (CDFW) Designations:

For some wildlife species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nesting colonies. For many species of birds, the primary emphasis is on the breeding population in California. For some species which do not breed in California but winter here, emphasis is on wintering range. The SSC designation thus may include a comment regarding the specific protection provided such as nesting or wintering

- **SSC = species of special concern:** a species of special concern is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; is listed as federally-, but not state-, threatened or endangered; meets the state definition of threatened or endangered, but has not formally been listed; 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; has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- **Fully protected:** fully protected animal species 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. Lists were created for fish (Fish and Game Code § 5515), amphibians and reptiles (Fish and Game Code § 5050), birds (Fish and Game Code § 3511) and mammals (Fish and Game Code § 4700).
- **WL = watch list:** this list includes birds identified in the *California Bird Species of Special Concern* (Shuford and Gardali, 2008) report and are not on the current CDFW species of special concern list, but were on previous lists and they have not been state-listed under CESA; were previously state or federally listed and now are on neither list; or are on the list of fully protected species.
- **Special Animals List:** the CESA does not allow listing of insects, so despite the insect's precarious status, the insect has no protection under state legislation. CDFW includes this insect on its Special Animals List.
- **California Fish and Game Code §§ 4800 – 4810:** The mountain lion (genus Puma) is a specially protected mammal under the laws of California. It is unlawful to take, injure, possess, transport, import, or sell any mountain lion or any part or product thereof, except as specifically provided in California Fish and Game Code §§ 4800 - 4810.
- Protected by § 460 of the California Code of Regulations [CCR], Title 14

Global Ranking

The global rank (G-rank) is a reflection of the overall status of an element throughout its global range.

- GX: Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
- GH: Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct throughout its range.
- G1: Critically Imperiled – At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
- G2: Imperiled – At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
- G3: Vulnerable – At moderate risk of extinction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
- G4: Apparently Secure – At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
- G5: Secure – At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
- GNR: Unranked – Global rank not yet assessed.

State Ranking:

The state rank (S-rank) is assigned in much the same way as the global rank, but state ranks refer to the imperilment status only within California's state boundaries.

- **SX: Presumed Extirpated – Species is believed to be extirpated from the state Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered**
- **SH: Possibly Extirpated – Known from only historical records but still some hope of rediscovery. There is evidence that the species may no longer be present in the state, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.**
- **S1: Critically Imperiled – At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.**
- **S2: Imperiled – At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.**
- **S3: Vulnerable – At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.**
- **S4: Apparently Secure – At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of recent declines, threats, or other factors.**
- **S5: Secure – At very low or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.**
- **SNR: Unranked – State rank not yet assessed.**

United States Fish and Wildlife Service (USFWS) Designations:

- **FSC = federal species of concern:** federal species of concern is an informal term. It is not defined in the ESA. The term commonly refers to species that are declining or appear to be in need of conservation.
- **BCC = bird of conservation concern:** a bird of conservation concern is listed in the USFWS' 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report is priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing.

4.3. BIOLOGICAL RECONNAISSANCE SURVEY

4.3.1. Vegetation

4.3.1.1. Vegetation Communities Descriptions

Determining vegetation communities is critical for understanding the natural processes of the area and informs the potential for wildlife and plant species to occur. Using qualitative methods such as collection of GPS coordinates collected with the ArcGIS Field Maps mobile application, reviewing relevant documents, photos taken during site visits, and quantitative methods to determine relative cover, vegetation communities were mapped and classified according to A Manual of California Vegetation, Online Edition (CNPS, 2025a). A map that illustrates all onsite plant communities is included in **Exhibit V**, *Vegetation Communities*. Descriptions of each community found within are discussed below.

Ruderal-Disturbed
Ruderal-Disturbed areas are those with a high percentage of non-native vegetation with a low to zero percentage of native vegetation or those areas devoid off all vegetation (i.e., dirt lots, fallow fields). Seasonally, these areas may be occupied by active crops, non-native ruderal species, or devoid of plants entirely due to agricultural practices such as mowing or discing. These areas are not directly occupied by buildings or related infrastructure. Common non-native species on this site include Russian thistle (*Salsola tragus*), red brome (*Bromus madritensis*), cheat grass (*Bromus tectorum*), shortpod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), and prostrate pigweed (*Amaranthus albus*). Native species that were observed intermixed among this community include telegraphweed (*Heterotheca grandiflora*), common sunflower (*Helianthus annuus*), annual bursage (*Ambrosia acanthicarpa*), and doveweed (*Croton setiger)*. This community makes up the largest proportion of the proposed project site immediately adjacent to the public right-of-way in the southern and central portions of the BSA. Despite non-native plant species making up the majority of relative plant cover, these areas may potentially provide suitable habitat to sustain threatened and endangered ground-dwelling wildlife and plant species such as Stephens' Kangaroo Rat, burrowing owl, and paniculate tarplant.

Developed
Developed areas consist of human-built infrastructure such as residential and commercial buildings, sidewalks, utilities, and paved roads such as Heacock Street itself. Making up a significant portion of the northern part of the BSA, this area is composed of paved parking lots, truck distribution centers, and portions of March Air Reserve Base. Presence of vegetation in these areas, separate from commonly associated landscaped ornamentals, is limited to non-existent due to lack of growth mediums.

Landscaped Ornamentals
Within the BSA, vegetation in this community predominately consists of introduced and non-native species such as bluestraw (*Curio repens*), Japanese honeysuckle (*Lonicera japonica*), Asian ponysfoot (*Dichondra micrantha*), rosemary (*Salvia rosmarinus*), society garlic (*Tulbaghia violacea*), and crimson fountaingrass (*Pennisetum setaceum*). Native species that were observed to be a part of this community included western sycamore (*Platanus racemosa*) and coyote brush (*Baccharis pilularis*). Ornamental plants were predominantly found immediately adjacent to the paved sidewalks associated with Heacock Street, Nandina Avenue, and San Michele Road in the northern portion of the BSA.

Exhibit V: Vegetation Communities

4.3.1.2. Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable. These communities may or may not contain special-status plants or their habitat. The literature review resulted in a list of two (2) vegetation communities that have been known to occur within the five-mile area, which is presented in **Table 4**, *Sensitive Vegetation Communities*. No sensitive natural communities were observed to be present within the BSA.

4.3.2. Plant Species

4.3.2.1. General

Plant species observed or detected during the site survey were characteristic of the existing site conditions. A full list of the plant species detected within the Survey Area is included in **Appendix C**.

4.3.2.2. Special-Status Species

Of the forty-one (41) special-status plant species found from the literature review, one (1) special-status species was present within the BSA. Individual instances of paniculate tarplant (*Deinandra paniculata*), a CRPR 4.2 species considered to have a limited distribution and moderate threat, were encountered growing within and along the slopes of a roadside ditch located within the southwestern corner of the BSA and to the west of the public right-of-way. The survey area's disturbed habitat is dominated by non-native vegetation and limited habitat corridors, results in a low to no potential for occurrence in the survey area for other sensitive species identified in the literature review. Paniculate tarplant is not a covered species under the MSHCP. No focused botanical surveys are required.

4.3.3. Wildlife

4.3.3.1. General

Wildlife species observed or detected during the site survey were characteristic of the existing site conditions. A full list of the wildlife species detected within the Survey Area is included in **Appendix C,** *Plant & Wildlife Species Observed/Detected Onsite*.

Birds

Seventeen (17) avian species were observed/detected in the BSA during the field surveys. This includes: American crow (*Corvus brachyrhynchos*), American goldfinch (*Spinus tristis*), Barn swallow (*Hirundo rustica*), Bushtit (*Psaltriparus minimus*), California towhee (*Melozone crissalis*), Common raven (*Corvus corax*), European Starling (*Sturnus vulgaris*), California horned lark (*Eremophila alpestris actia*), House Finch (*Haemorhous mexicanus*), House wren (*Troglodytes aedon*), Killdeer (*Charadrius vociferus*), Lesser goldfinch (*Spinus psaltria)*, Loggerhead shrike (*Lanius ludovicianus*), Mourning dove (*Zenaida macroura*), Red-tailed hawk (*Buteo jamaicensis*), Savannah sparrow (*Passerculus sandwichensis*), and the Turkey vulture (*Cathartes aura*).

Reptiles

One common reptile species, the Western fence lizard (*Sceloporus occidentalis*), was detected during the

field survey.

Mammals

Through the field survey, three (3) mammal species were observed to occur within the BSA. Desert cottontail and California ground squirrels were detected visually, along with the presence of scat. Additionally, domesticated dog (*Canis familiaris*) tracks alongside the road suggest partial usage of the BSA as a corridor either by stray dogs or for recreational activities such as dog walking.

4.3.3.2. Sensitive Wildlife Species

Of the fifty-eight (58) sensitive wildlife species identified in the literature review, two (2) were encountered during the survey. It was determined from the remaining species that one (1) has a high potential of occurrence, one (1) has a moderate potential of occurrence, two (2) were determined to have a low potential to occur, and fifty-two (52) have no potential to occur in the Survey Area.

The only two sensitive wildlife species encountered during the survey were single instances of loggerhead shrike and the California horned lark. The loggerhead shrike was observed to be exhibiting foraging behavior, perching and keeping close to a chain link fence located on the southeastern portion of the BSA. The California horned lark was observed to be intermixed amongst other avian species found utilizing the site for foraging (i.e., lesser goldfinch, house finch). Loggerhead shrike is a CDFW species of special concern. California horned lark is a CDFW watchlist species. Both the Loggerhead shrike and California horned lark are covered by the MSHCP.

The burrowing owl was determined to have a high potential of occurrence due to the presence of suitable habitat within the BSA and having multiple modern occurrences documented within 5 miles of the BSA. This species is covered by the MSHCP and has additional focused survey requirements.

San Diego black-tailed jackrabbit was determined to have a moderate potential of occurrence due to potential habitat being present within the BSA. However, recruitment corridors for this species are limited. This species is covered by the MSHCP.

Species with a low potential for occurrence include the monarch butterfly, and the Northern harrier. Limited foraging opportunities exist for these species within the BSA, and any occurrences are expected to be solely transient in nature in comparison to active site occupation for purposes such as nesting or breeding. These species are covered by the MSHCP.

4.3.3.3. Step I Burrowing Owl Habitat Assessment

The Step I habitat assessment, conducted following the general habitat reconnaissance survey, detected suitable burrowing owl habitat within the BSA. Suitable habitat, as described by CBOC, includes annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, where tree and shrub canopy covers less than 30% of the ground surface. The presence of burrows is an essential component of BUOW habitat, with both fossorial mammal burrows and man-made structures, such as culverts, pipes, channels, debris piles, and openings beneath cement or asphalt pavement, considered as appropriate shelter. The southern and central portions of the BSA, devoid of tree canopy and characterized by loose soil, grasses, and low-growing vegetation, were determined to consist of suitable BUOW habitat.

While no inspected burrows were determined to be of adequate size or condition to support BUOW or found to have signs of immediate BUOW occupancy (i.e., direct sighting, molted feathers, cast pellets, excrement near entrances), the presence of California ground squirrel within the BSA provides a potential for burrows to be created that could be used by BUOW in the future. Potential refuge within the BSA is also present in the form of man-made ditching immediately adjacent to Heacock Street to its west, and infrastructure associated with the Perris Valley Channel located south of the project area. The presence of suitable BUOW habitat necessitates future deployment of Step II Focused Burrow Surveys and Focused Burrowing Owl Surveys during the appropriate timeframe to accurately assess site BUOW presence.

SECTION 5. CONCLUSIONS AND RECOMMENDATIONS

5.1. SENSITIVE SPECIES

5.1.1. Sensitive Plants

One (1) of the forty-one (41) sensitive plant species identified in the literature review was present within the BSA. The BSA supports individuals of paniculate tarplant, a CRPR 4.2 species considered to have a limited distribution and moderate threat level, that were found in the southern portion of the BSA within and along the slopes of the drainage immediately adjacent to the west of Heacock Street. As paniculate tarplant has a California Plant Rare Plank of 4, this ranking refers to this plant having a limited distribution regionally within Southern California, and not it being a rare or endangered species. Paniculate tarplant is not a listed species under either the federal or state endangered species act, not covered by the MSHCP, and does not require additional focused surveys or deployment of a specific mitigation plan.

As per MSHCP Section 6.3.2, *Additional Survey Needs and Procedures*, all other threatened or endangered species identified in the literature review have no potential for occurrence due to a lack of suitable habitat present within the BSA and therefore do not require additional focused surveys.

5.1.2. Sensitive Wildlife

Of the fifty-eight (58) sensitive wildlife species identified in the literature review, two (2) were encountered during the survey. It was determined from the remaining species that one (1) has a high potential of occurrence, one (1) has a moderate potential, two (2) have a low potential, and fifty-two (52) have no potential to occur in the Survey Area.

No focused surveys are required for the loggerhead shrike, California horned lark, northern harrier or San Diego black-tailed jackrabbit due to coverage under the MSHCP. However, to minimize impacts for avian species, vegetation clearing, or ground disturbing activities must be conducted during the non-breeding season (September 1 to February 14) in order to limit impacts to nesting birds. If limiting work activities to the non-breeding season is not feasible, and vegetation clearing or ground disturbing activities need to take place during breeding season (February 15 through August 31), then in order to remain in compliance with the Migratory Bird Treaty Act, a pre-construction nesting bird survey(s) will be required. The last survey day should be conducted no sooner than three days prior to the start of ground-disturbing activities.

The monarch butterfly is a migratory species whose potential for occurrence is limited to time of year. The BSA occurs within the overwintering range in coastal California. As the BSA lacks suitable habitat and the species is dependent on milkweed (*Asclepias* spp.) as a source of food and location where eggs are laid, the project will have less than significant impact on existing monarch habitat and no further action or focused surveys are required for this species.

Specific recommendations concerning the burrowing owl and resulting from the Step I Habitat Assessment can be found below in Section 5.1.4, *Burrowing Owl Step II Surveys and Recommendations*.

The BSA does not lie within a criteria area or cell requiring additional survey requirements. However, as

per MSHCP Section 6.0, *MSHCP Implementation Structure*, full payment of the mitigation fee associated with the MSHCP and compliance with the requirements found within Section 6.0 is required to provide take authorization and full mitigation for impacts to covered species.

5.1.3. Wetlands and Aquatic Features

Proposed project work areas do not directly overlap with existing wetlands or the Perris Valley Channel. Where feasible, any aquatic features, including the wetland polygons identified in the vicinity of the BSA must be avoided and minimally disturbed through best management practices to the greatest extent feasible. As part of a Stormwater Pollution Prevention Plan (SWPPP), erosion control measures and stormwater best management practices must be incorporated into construction plans, particularly along slopes that drain toward mapped aquatic features or drainages. These may include straw wattles, silt fencing, or stabilized construction entrances to prevent sediment transport.

When feasible, construction activities adjacent to potential aquatic resources shall be scheduled during the dry season (typically May through October) to reduce the risk of hydrologic disruption and erosion. If work must occur outside of the dry season (November through April), enhanced sediment and erosion controls should be used (e.g., two rows of silt fencing or wattles, sediment traps, etc.). Disturbed soils should be stabilized as soon as practicable following construction through native seed mixes, erosion control blankets, or equivalent methods as approved by agencies.

To ensure compliance, a qualified monitor must conduct a detailed site inspection at least once per week, or as frequently required by the project specific SWPPP, during active construction within or adjacent to aquatic features, and within 24 hours following any rainfall event. Monitoring shall include inspection of all erosion and sediment control measures, photo documentation of work areas, and verification of adherence to avoidance and minimization measures. A weekly monitoring report summarizing site conditions, compliance status, and any corrective actions taken shall be submitted to the lead agency and maintained in the project file. The qualified monitor shall have the authority to halt work if non-compliance is observed until corrective measures are implemented.

5.1.4. Burrowing Owl Step II Surveys and Recommendations

As a result of a comprehensive Step I habitat assessment, HANA biologists did not detect the presence, occupied burrows, or sign of BUOW. However, suitable habitat conditions were recorded within the BSA, necessitating implementation of Step II breeding season surveys and census to determine owl presence onsite and follow-up reporting requirements in the form of a summary resource report (Step III). This phase involves implementing focused breeding season surveys and a census to conclusively determine if BUOWs utilize the site for foraging or nesting, thereby informing a final summary resource report. To accurately assess BUOW site occupancy, Step II surveys (Part A and Part B) will need to be conducted during the breeding season (March 1 – August 31).

It should be noted that CDFW is currently conducting a comprehensive status review of the western BUOW, a process started in October 2024 and expected to take 12 to 18 months. During this period, the species will continue to receive full CESA protections. The Commission will then decide whether to formally list the species as threatened or endangered based on the review's findings (CDFW 2024).

CHANGES IN WESTERN BURROWING OWL LEGAL PROTECTIONS
Prohibition of "Take": With its designation as a candidate species under CESA, the western burrowing owl

is now legally protected from "take," which includes actions such as hunting, pursuing, catching, capturing, or killing. This immediate extension of protections ensures that any direct harm to the species is prohibited without proper authorization, emphasizing the importance of compliance with state conservation laws. The take of western burrowing owl without a permit is prohibited by CDFW in Sections 3503, 3503.5 and 3513 of California Fish and Game Code (Jeffers 2024).

Incidental Take Permits (ITP): Activities or projects that may incidentally harm or disturb the western burrowing owl now require an ITP from CDFW. No ITP will be issued if CDFW determines that a project would "jeopardize the continued existence" of the listed species covered by the permit. This regulatory measure ensures that potential impacts on the species are carefully evaluated, with mitigation measures implemented to minimize harm and support population sustainability.

Review of Mitigation Practices: Traditional mitigation measures, such as relocating burrowing owls from development sites, are being reexamined due to their limited success in supporting population recovery. Under CESA, such practices may no longer be deemed adequate, prompting a shift toward more effective conservation strategies to address the species' decline. The designation of the western burrowing owl as a candidate species under the CESA has strengthened its legal protections, underscoring the need for thorough planning and permitting for activities that may impact the species. The following recommendations have been identified to address changes in the regulatory framework and ensure that future project activities comply with the updated requirements.

Preconstruction Surveys:
In addition to Step II surveys, preconstruction surveys must be conducted and adhere to requirements under CESA and Riverside County BUOW surveying protocol (within 30 days prior to ground disturbance). If the BUOW is observed within the disturbance area, immediate consultation with the CDFW is required to obtain appropriate permits and implement mitigation measures. The CDFW's 2012 *Staff Report on Burrowing Owl Mitigation* and Riverside County's *Burrowing Owl Survey Instructions for the Western Riverside MSHCP Area* provides standardized guidelines for conducting surveys to assess BUOW habitat, BUOW occupancy, evaluating project impacts, and determining appropriate mitigation measures. These guidelines outline avoidance, minimization, and mitigation strategies, including pre-construction survey protocol, standardized buffer setbacks, take avoidance measures, translocation efforts (active relocation offsite), and the construction of artificial burrows, to effectively address potential impacts on the species.

Prohibition of Take and Mitigation Measures:
The designation of the western BUOW as a candidate species prohibits any "take" without proper authorization. Construction activities near occupied burrows during the nesting season (February 1–August 31) must not occur within 500 feet of active burrows until a qualified biologist confirms nesting completion. Outside of the nesting season, passive relocation of BUOW using one-way doors and burrow collapse remains permissible but must be conducted in consultation with CDFW and consistent with current CESA guidelines.

The recent legal changes necessitate obtaining an ITP from CDFW for any activities that could harm western burrowing owls. This ensures that all potential impacts are evaluated, and effective mitigation measures are implemented. Traditional mitigation practices, such as passive relocation, may no longer be deemed sufficient under CESA, as relocation has the potential to result in take. Therefore, alternative conservation strategies should be developed in coordination with CDFW to promote population recovery.

It is recommended that any ITPs issued during the BUOW candidacy period explicitly state that the permit,

along with its associated obligations for the permittee, will expire prior to the stated termination date if the BUOW is no longer a candidate species and is not listed for protection under CESA. ITPs solely covering take of the BUOW would consequently be terminated, while ITPs encompassing both the BUOW and other CESA-listed species could be amended by CDFW in accordance with applicable regulations (Jeffers 2024).

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APPENDIX A

SITE PHOTOGRAPHS

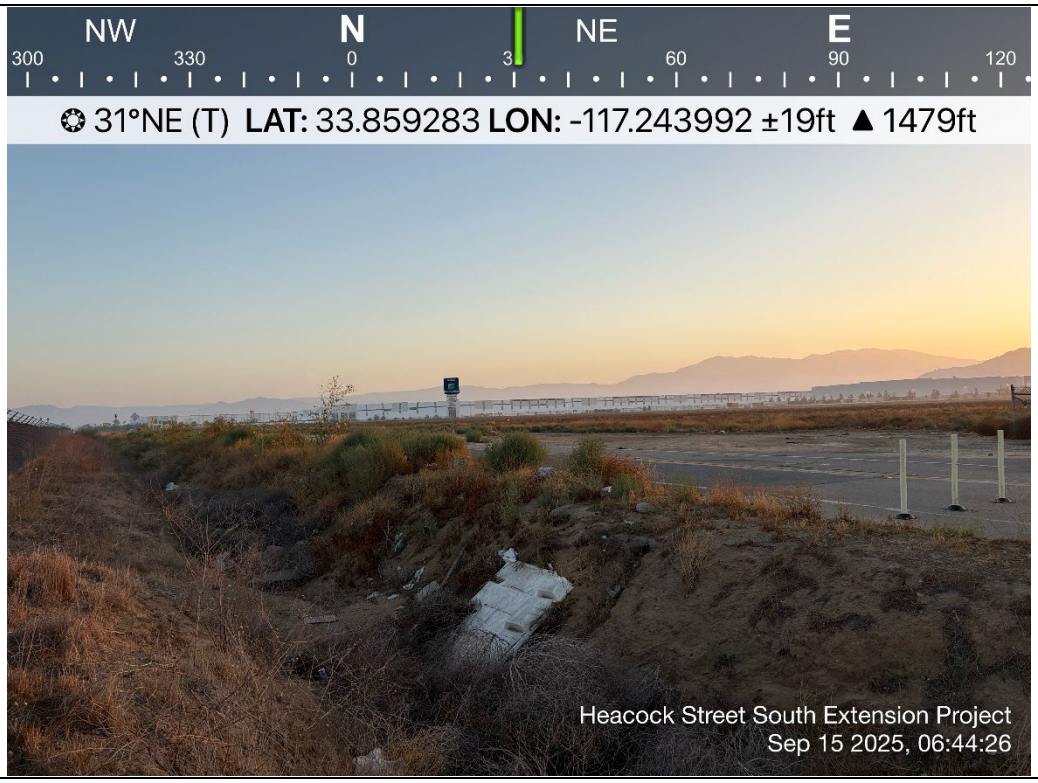


Photo 1: Site overview. View of the site from southwestern portion of BSA, facing northeast. Pictured to the left is a drainage ditch that immediately flanks Heacock Street throughout the BSA.

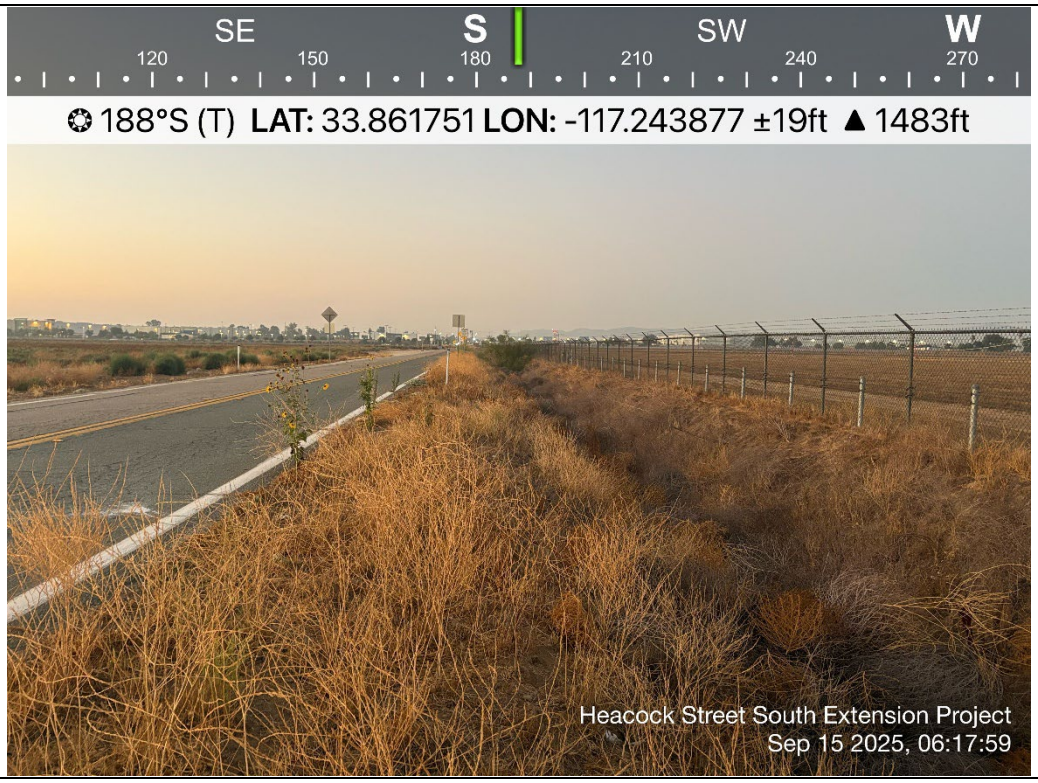


Photo 2: Site overview. View of southern portion of site, with additional view of the drainage ditch. Sloped topography and pictured fencing provide perching and potential refuge for wildlife.

Photo 3: Site overview. View of habitat located in the southernmost parcels with work zone area within the BSA, facing southwest.

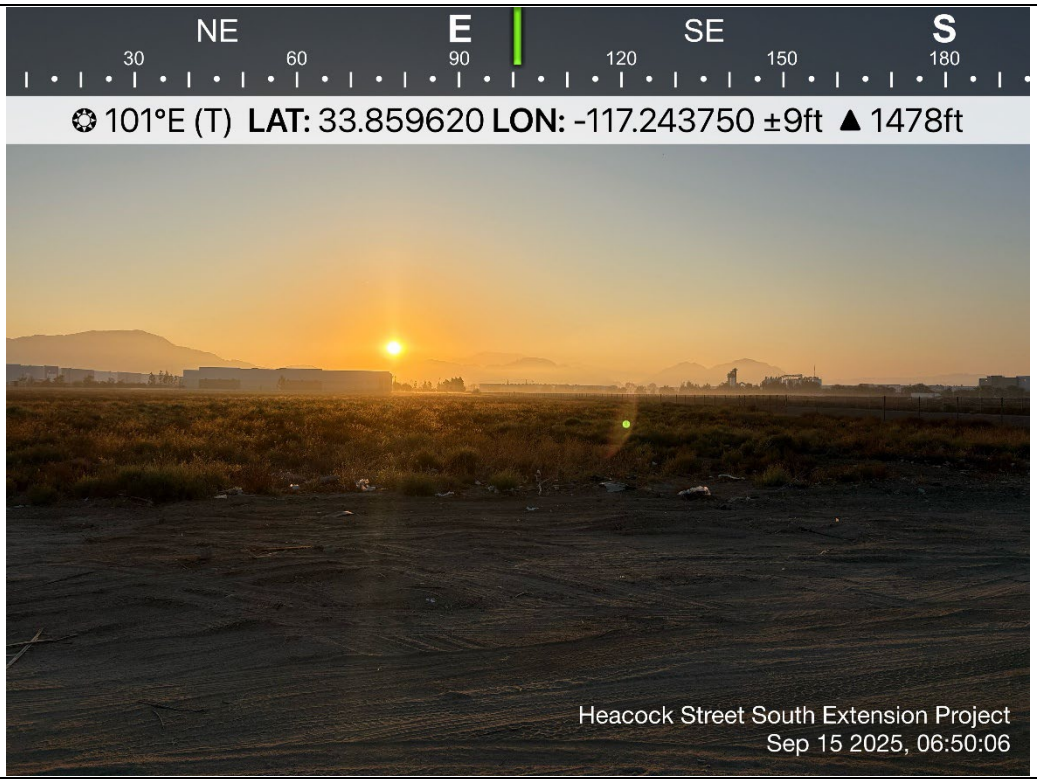


Photo 4: Site overview. View of the southernmost work zone parcel, facing east. Parcel was inaccessible and surveyed from multiple sides with binoculars to achieve adequate survey coverage.

Photo 5: Site overview. View of central portion of site along Heacock Street, facing southeast. This portion of the BSA was additionally inaccessible and surveyed with binoculars.

Photo 6: Site overview. View of one of the central parcel of BSA with portion of proposed work zone, facing east.

Photo 7: Site overview. View of habitat located on parcel with APN #316-211-008. Parcel contains similar habitat to other parcels despite being located on the western side of Heacock Street.

Photo 8: Site overview. View of previously suspected aquatic resource within central portion of BSA, facing southwest.

Photo 9: Site overview. View of habitat within proposed work zone extension, located in the center of the BSA, facing north.

Photo 10: Site overview. View of central portion of proposed workzone within the BSA, facing west.

Photo 11: Site overview. View of ruderal habitat in central portion of BSA, at the intersection of Heacock Street and Nandina Avenue, facing east.

Photo 12: Site overview. View of northern portion of Heacock Street right-of-way, facing northeast.

Photo 13: Example burrow [unoccupied] found on site, potentially previously maintained by CA ground squirrel (*Otospermophilus beecheyi*) or desert cottontail (*Sylvilagus audubonnii*).

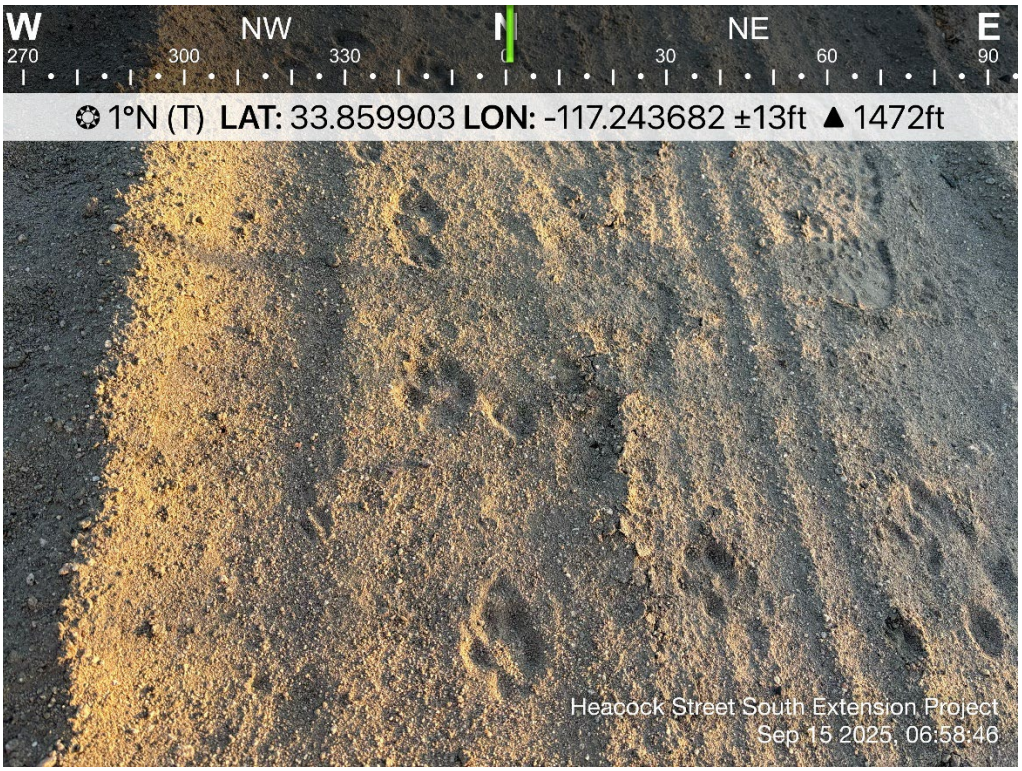


Photo 14: Domestic dog tracks encountered along southern portion of the BSA, alongside the public right-of-way.

Photo 15: Small burrows seen throughout site. Majority of smaller burrows encountered within BSA were in deteriorated condition.

Photo 16: View of intersection of Heacock St and San Michele Road located near the northernmost part of the BSA, facing southwest.

APPENDIX B

BIOLOGICAL RECONNAISSANCE SURVEY FIELD FORMS

HANA RESOURCES

Biological Reconnaissance Survey Field Form

Date: 9/15/25 **Project Name:** Heacock St. South Expansion

Job #: 7130 **Client:** Placeworks

Surveyor(s): JO, AI

LOCATION DESCRIPTION

Site Address: Heacock St, Perris, CA 92571 **City, State:** Moreno Valley, CA

Habitat Types Present: Ruderal, Agricultural

Current Land Uses: Commercial, Agricultural

Start (time) 0615	End (time) 1020
Temp (ºF) 62	Temp (ºF) 80
Cloud Cover (%) 0	Cloud Cover (%) 0
Precipitation 0	Precipitation 0
Wind (mph) 2	Wind (mph) 0

NOTES: (Nest locations and species behavioral notes, disturbances, habitat conditions, etc.)

0615 - On site, starting along southern portion of BSA
- majority ruderal plant species noted, including russian thistle, mustard spp, telegraph weed
- along public ROW, highly disturbed by people (tire tracks, illegal dumping)
- 2 red-tailed hawk noticed in area, perching along fencing south of project site; limiter on BUOW potential presence
- ground squirrell present in BSA, but not immediately sourced on parcels containing workzones
- Loggerhead Shrike in SE portion of BSA, perched behavoir

Page 1 of 3

PLANT SPECIES OBSERVATIONS

ornamental planting

PLANT SPECIES PRESENT Specify plant layer as herb (h), shrub (s), or tree (t)	
Species	**Layer**
common sunflower	
russian thistle	
hirschfeldia	
Stinknet	
Doveweed	
Telegraph weed	
red brome	
Mex Palo verde	
Tocalote	
Jimsonweed/Datura	
Cheatgrass	
Small wirelettuce	
Radish	
London Rocket	
Prostrate Pigweed	
chenopodium?	
nettle leaved goosefoot	
coyote brush	
white sage	
Tree tobacco	
CA Buckwheat	
Crimson fin grass	
CA Sycamore	
Japanese honeysuckle	
Blue Straws	
Society garlic	
Crab myrtle	
Cootamundra wattle	
unk rosaceae (ornamental)	
Rosemary	
Southern magnolia	
unk Pinus (ornamental)	

Urban Planted

PLANT SPECIES PRESENT Specify plant layer as herb (h), shrub (s), or tree (t)	
Species	**Layer**
Asian ponys-foot	
mex fan palm	
chap. yucca	
common lantana	
Peru pepper tree	
flat-spined bursage	
San diego tarweed	

Biologist Signature: _____ **Date:** 9/15/25

WILDLIFE SPECIES OBSERVATIONS

WILDLIFE SPECIES PRESENT Specify observation type as aural (a), sign (s), or visual (v)	
Species	**Observation**
Mourning Dove – MODO	A, V
Common Raven – CORA	A, V
House Finch – HOFI	A, V
Desert cottontail	V,
California Towhee – CALT	A
Lesser Goldfinch – LEGO	A
Killdeer – KILL	A
European Starling – EUST	A, V
Red-tailed hawk – RTHA	A, V
American Goldfinch – AMGO	A, V
Barn swallow – BASW	A, V
House wren – HOWR	A, V
Loggerhead shrike – LOSH	V
Dog	V
American Crow – AMCR	V, A
western fence lizard	V
Bushtit – BUSH	V, A
CA ground squirrel	V
Turkey Vulture – TUVU	V
Horned Lark – HOLA	V, A
Savannah Sparrow – SASP	V, A

WILDLIFE SPECIES PRESENT Specify observation type as aural (a), sign (s), or visual (v)	
Species	**Observation**

Biologist Signature: _____ **Date:** 9/15/25

APPENDIX C

PLANT & WILDLIFE SPECIES OBSERVED/DETECTED ONSITE

Scientific Name	Common Name
EUDICOTS	
AMARANTHACEAE	**PIGWEED FAMILY**
**Amaranthus blitoides*	prostrate pigweed
ANACARDIACEAE	**SUMAC FAMILY**
**Schinus molle*	Peruvian peppertree
ASTERACEAE	**SUNFLOWER FAMILY**
Ambrosia acanthicarpa	Annual bur-sage
Baccharis pilularis	coyote brush
**Centaurea melitensis*	Tocalote
**Curio repens*	Bluestraw
Deinandra paniculata	San Diego tarweed/ Paniculate tarplant
Heterotheca grandiflora	Telegraphweed
Helianthus annuus	Common sunflower
**Oncosiphon pilulifer*	Stinknet
Stephanomeria exigua	Small wirelettuce
**Taraxacum officinale*	Common dandelion
BRASSICACEAE	**MUSTARD FAMILY**
**Hirschfeldia incana*	shortpod mustard
**Raphanus raphanistrum*	Wild radish
**Sisymbrium irio*	London rocket
CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**
**Lonicera japonica*	Japanese honeysuckle
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
**Chenopodium murale*	Nettle leaf goosefoot
**Salsola tragus*	Russian thistle
CONVOLVULACEAE	**MORNING GLORY FAMILY**
**Dichondra micrantha*	Asian ponysfoot
EUPHORBIACEAE	**SPURGE FAMILY**
Croton setiger	Doveweed
FABACEAE	**LEGUME FAMILY**
**Acacia baileyana*	Cootamundra wattle
**Parkinsonia aculeata*	Mexican palo verde
LAMIACEAE	**MINT FAMILY**
Salvia apiana	White sage
**Salvia rosmarinus*	Rosemary
LYTHRACEAE	**LOOSESTRIFE FAMILY**
**Lagerstoemia indica*	Crape-myrtle
MAGNOLIACEAE	**MAGNOLIA FAMILY**
**Magnolia grandiflora*	Southern magnolia
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum fasciculatum	California buckwheat
PLATANACEAE	**SYCAMORE FAMILY**
Platanus racemosa	Western **sycamore**
ROSACEAE	**ROSE FAMILY**
Rosa sp.	Unknown Rosa (Ornamental)
SOLANACEAE	**NIGHTSHADE FAMILY**
Datura wrightii	Sacred datura
*Nicotiana glauca	Tree tobacco
VERBENACEAE	**VERBENA FAMILY**

Scientific Name	Common Name
*Lantana camara	Common Lantana
MONOCOTS	
AGAVACEAE	**AGAVE FAMILY**
Hesperoyucca whipplei	Chaparral yucca
AMARYLLIDACEAE	**AMARYLLIS FAMILY**
*Tulbaghia violacea	Society garlic
Arecaceae ARECACEAE	**PALM FAMILY**
**Washingtonia robusta*	Mexican fan palm
POACEAE	**GRASS FAMILY**
**Bromus madritensis*	red brome
**Bromus tectorum*	Cheat grass
**Pennisetum setaceum*	Crimson fountain grass
GYMNOSPERMS	
PINACEAE	
Pinus sp.	Unknown Pinus (Ornamental)
Legend	
*= Non-native/ invasive species	

Scientific name	Common Name
Reptiles	
Sceloporus occidentalis	western fence lizard
Mammals	
Canis familiaris	Domestic dog
Otospermophilus beecheyi	California ground squirrel
Sylvilagus audubonii	Desert cottontail
Birds	
Buteo jamaicensis	American Crow
Cathartes aura	Turkey vulture
Charadrius vociferus	killdeer
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Eremophilia alpestris	horned lark
Haemorhous mexicanus	house finch
Hirundo rustica	barn swallow
Lanius ludovicianus	loggerhead shrike
Melozone crissalis	California towhee
Passerculus sandwichensis	savannah sparrow
Psaltriparus minimus	Bushtit
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
**Sturnus vulgaris*	European starling
Troglodytes aedon	House wren
Zenaida macroura	mourning dove
Legend	
*=Non-native or invasive species	

APPENDIX D

USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

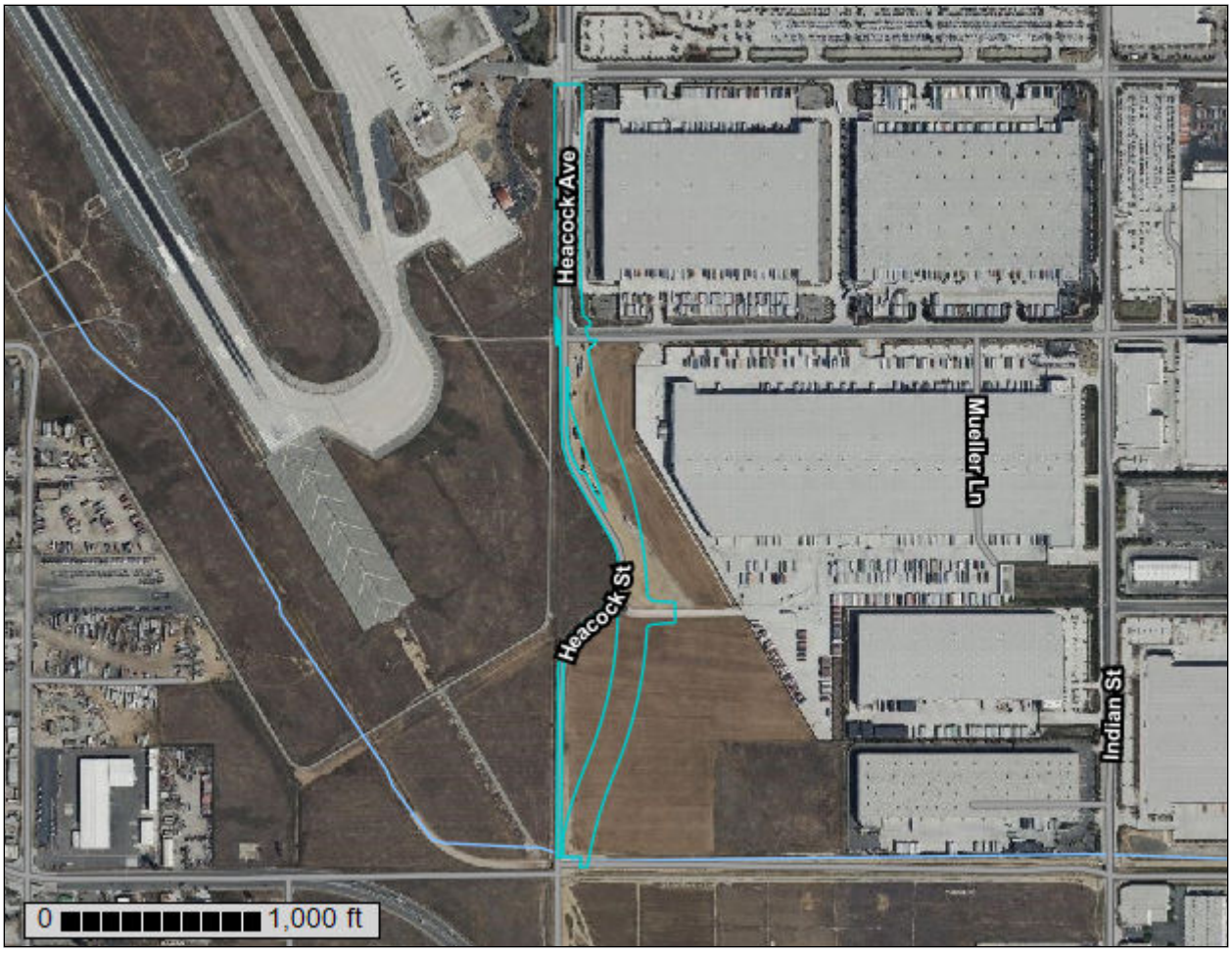
United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

Heacock Street South Extension Project



August 7, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Scale: 1:6,950 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 17, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EnA	Exeter sandy loam, 0 to 2 percent slopes	5.7	38.4%
EpA	Exeter sandy loam, deep, 0 to 2 percent slopes	1.0	6.9%
GyA	Greenfield sandy loam, 0 to 2 percent slopes	1.6	10.9%
MmB	Monserate sandy loam, 0 to 5 percent slopes	0.4	3.0%
RaA	Ramona sandy loam, 0 to 2 percent slopes, MLRA 19	6.0	40.8%
Totals for Area of Interest		**14.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

EnA—Exeter sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hctg
Elevation: 20 to 700 feet
Mean annual precipitation: 7 to 20 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Exeter and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Exeter

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 16 inches: sandy loam
H2 - 16 to 37 inches: sandy clay loam
H3 - 37 to 50 inches: indurated
H4 - 50 to 60 inches: stratified sandy loam to silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Ramona
Percent of map unit: 4 percent
Hydric soil rating: No

Monserate
Percent of map unit: 4 percent
Hydric soil rating: No

Greenfield
Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 3 percent
Hydric soil rating: No

EpA—Exeter sandy loam, deep, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hctk
Elevation: 300 to 700 feet
Mean annual precipitation: 7 to 15 inches
Mean annual air temperature: 64 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Exeter and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Exeter

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 16 inches: sandy loam
H2 - 16 to 37 inches: sandy clay loam
H3 - 37 to 50 inches: indurated
H4 - 50 to 60 inches: stratified sandy loam to silt loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: 35 to 60 inches to duripan

Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Greenfield

Percent of map unit: 5 percent
Hydric soil rating: No

Ramona

Percent of map unit: 5 percent
Hydric soil rating: No

Monserate

Percent of map unit: 5 percent
Hydric soil rating: No

GyA—Greenfield sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hcvv
Elevation: 100 to 3,500 feet
Mean annual precipitation: 9 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Greenfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenfield

Setting

Landform: Terraces, alluvial fans

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 26 inches: sandy loam
H2 - 26 to 43 inches: fine sandy loam
H3 - 43 to 60 inches: loam
H4 - 60 to 72 inches: stratified loamy sand to sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: A
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Hanford

Percent of map unit: 10 percent
Hydric soil rating: No

Pachappa

Percent of map unit: 2 percent
Hydric soil rating: No

Arlington

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Hydric soil rating: No

MmB—Monserate sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hcx4
Elevation: 700 to 2,500 feet
Mean annual precipitation: 10 to 18 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 220 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Monserate and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monserate

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 10 inches: sandy loam
H2 - 10 to 28 inches: sandy clay loam
H3 - 28 to 45 inches: indurated
H4 - 45 to 57 inches: cemented
H5 - 57 to 70 inches: loamy coarse sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 20 to 39 inches to duripan
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Greenfield
Percent of map unit: 5 percent
Hydric soil rating: No

Tujunga
Percent of map unit: 5 percent
Hydric soil rating: No

Hanford
Percent of map unit: 5 percent
Hydric soil rating: No

RaA—Ramona sandy loam, 0 to 2 percent slopes, MLRA 19

Map Unit Setting
National map unit symbol: 2x52z
Elevation: 370 to 2,620 feet
Mean annual precipitation: 9 to 17 inches
Mean annual air temperature: 64 to 65 degrees F
Frost-free period: 260 to 340 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Ramona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ramona

Setting
Landform: Alluvial fans, terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
A - 0 to 20 inches: sandy loam
Bt - 20 to 60 inches: sandy clay loam
C - 60 to 74 inches: sandy clay loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: B
Ecological site: R019XD029CA - LOAMY
Hydric soil rating: No

Minor Components

Greenfield

Percent of map unit: 6 percent
Landform: Terraces, alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hanford

Percent of map unit: 4 percent
Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tujunga

Percent of map unit: 4 percent
Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Placentia

Percent of map unit: 1 percent
Landform: Terraces, alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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