

Appendix 3

Biological Resources Technical Report



Biological Resources Technical Report

Chiquito Grid Battery Energy Storage
System Project

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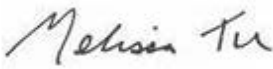
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BIOLOGICAL RESOURCES TECHNICAL REPORT

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Abbreviations

BESS	Battery Energy Storage System
BGEPA	Bald and Golden Eagle Protection Act
BRTR	Biological Resources Technical Report
BSA	Biological Study Area
CCH	Consortium of California Herbaria
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
Client	Chiquito Grid, LLC
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DCH	Designated Critical Habitat
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
FR	Federal Register
GPS	Global Positioning System
Interstate	I-
LSAA	Lake or Streambed Alteration Agreement
m	meter
MBTA	Migratory Bird Treaty Act
MCVII	Second Edition of <i>The Manual for California Vegetation</i>
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Chiquito Battery Energy Storage System Project
RWQCB	Regional Water Quality Control Board
SoCal Edison	Southern California Edison
SSC	Species of Special Concern
Stantec	Stantec Consulting Services, Inc.
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTS	Waters of the State
WOTUS	Waters of the United States
WRCMSHCP	Western Riverside County Multiple Species Habitat Conservation Plan



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Introduction

1.0 INTRODUCTION

This Biological Resources Technical Report (BRTR) documents the biological resources that are associated with the Chiquito Grid Battery Energy Storage System (BESS) Project (Project) in the City of Wildomar, California (Appendix A, Figure 1, Project Location Map). The survey conducted and the discussions presented in this BRTR support planning and regulatory agency permitting and associated documentation. A reconnaissance-level survey was conducted by Stantec Consulting Services, Inc. (Stantec) Senior Biologist, Melissa Tu, and Stantec Environmental Scientist, Emily Medler, on September 21, 2021, within accessible portions of the Project area and within a surrounding 300-foot buffer zone. This approximately 25-acre area surveyed is defined as the Biological Study Area (BSA) (Appendix A, Figure 2, Vegetation Communities and Land Cover Types). This BRTR describes the existing environmental conditions that occur within the BSA and surrounding areas and evaluates the potential for biological resources to occur based on those conditions, with a special emphasis on special-status plant and wildlife species, wildlife corridors, and special-status and sensitive natural communities.

1.1 PROJECT LOCATION

The Project is located within the central portion of the City of Wildomar, California within the United States (U.S.) Geological Survey (USGS) Wildomar 7.5-minute topographic quadrangle. The site is west of Interstate (I)-15 and northeast of the intersection of Clinton Keith Road and Grand Avenue. Review of 2021 aerial imagery indicates that two of the three Project parcels (Assessor Parcel Numbers [APN] 380150019 and 3800150020) are vacant and undeveloped while one (APN 380150021) is developed as the Southern California Edison (SoCal Edison) 115kV Tenaja Substation. The parcels are surrounded by undeveloped land on the east, residential areas on the south, a private ranch on the west, and a retail business and Murrieta Creek on the north.

1.2 PROJECT DESCRIPTION

Chiquito Grid, LLC (Hecate) proposes to develop an 80-megawatt BESS Project on a 1.73-acre parcel (APN 380150019) near the southwestern edge of the City of Wildomar limits. The site is surrounded by the SoCal Edison Tenaja Substation and vacant land to the west, sparse residential uses to the north, Blue Rock Landscaping materials, a landscape supply business, to the east, and Clinton Keith Road to the south. Review of contemporary aerial imagery indicates that the entire parcel is vacant and undeveloped, and it is surrounded by other vacant parcels and suburban single-family residences. The Project site is 200 feet northeast of Tenaja Substation and is in an area which has an existing transmission line corridor that extends across adjacent southwestern parcels (APN 380150020 and APN 380150021) to connect to the Substation.

1.2.1 Land Use and Zoning

Based on Riverside County's GIS-NET website, the Project site is just north of the City of Murrieta, north of the intersection of Clinton Keith Road and Grand Avenue, and south of I-15 (GIS-NET 2020). The



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Project site boundary runs along Clinton Keith Road to the southeast. The Project site is within the southwestern portion of the City of Wildomar. The Project site is within land that is zoned as General Commercial (C-1/C-P) and is subject to standards presented in Table 1 (City of Wildomar 2018).

Table 1. C-1/C-P Zone Development Standards

Dimensional Standard	C-1/C-P Zone
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Maximum Height Limit	50 feet (17.72.030C)
Building Setback	No building setback is required for buildings which do not exceed 35 feet in height. Any portion of a building which exceeds 35 feet in height shall be set back from the front, rear, and side lot lines not less than two feet for each foot by which the height exceeds 35 feet (17.72.030B).
Minimum/Maximum Required Area	No minimum/maximum required area.
Fencing/Walls	N/A
Parking	N/A

Table 2. Surrounding Zoning and Land Uses

Direction/ Parcel	General Plan Land Use	Zoning	Description
North 380-150-014	Low Density Residential	R-R	Residence
East 380-150-018	Commercial Retail	C-1/C-P	Retail (Landscaping Materials)
South 380-160-003	Mixed Use Planning Area	Mixed Use C-1/C-P	Vacant
West 380-150-020	Commercial Retail	Rural Residential (R-R)	Vacant

1.2.2 Project Components

The Project would likely consist of battery storage “cores.” Each core would consist of bi-directional inverters, a transformer, and a battery container or cabinet. The site layout included provides the cabinet and container layout options; this will be confirmed at a future date as the project design progresses. Each container would be self-enclosed, housing batteries, fire detection and suppression systems, controls, and cooling units.

The Project will store and deliver electricity to the grid through a Generator Interconnection Agreement (GIA) with SoCal Edison. Hecate will acquire real property rights, then build and commission the Project. The Project will be owned and operated by Hecate.

Major equipment or Project components would include:

- battery modules assembled in racks monitored by a Battery Management System (BMS)
- bi-directional power inverters



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- battery chiller units
- fire detection/ suppression systems
- gas detection
- electrical switching equipment and auxiliary power panels
- computer and telecommunications equipment
- transformers
- switchgear
- security lighting and signage
- perimeter wall or fence

The preliminary configuration for the facility layout is shown in Appendix B, Site Plans. Project components are summarized in Table 3.

Table 3. Project Components Summary

Project Component	Approx. Dimensions (each)
Battery Core	53' L x 8' W x 9'6" H
Inverter	12 L x 7 x 7
Transformer (main)	20'W x 28' L x 22' H
Switchgear and Control	40'X17' X 20'
GSU	8'6" x 6'0 H x 6'5" W
Overall Facility Area	428 x 174

The proposed BESS facility would be unmanned and would not include restrooms. Limited water required during the construction phase would be trucked in, as necessary. Minimal water would be needed for fire suppression during project operations. Water supply infrastructure is known to exist along the northern boundary of the site and is anticipated that water supply could be provided, if necessary, in coordination with Elsinore Valley Municipal Water District. No wastewater would be generated during project operations and therefore no wastewater services would be required.

The Project site is served by CAL FIRE Riverside, Wildomar Fire Station 61, located at 32637 Gruwell Street, in Wildomar, California 92595. Station 61 is the nearest station to the Project site and is approximately 2.2 miles to the southeast of the Project site.

Access to the Project would be provided by existing roadways including Clinton Keith Road and Grand Avenue. New roads will not need to be constructed to provide access to the site. No changes to the road network or traffic are required.

1.2.3 Project Operations

The long-term operational workforce would entail Hecate-contracted maintenance staff who would maintain the facility on a periodic basis over the project life. The Project would require a maximum four-person crew for maintenance visits once every two to three months, on average. The crew would normally



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consist of one operator, one contracted field engineer, and two mechanical or electrical technicians. The Project would be primarily operated remotely.

Planned maintenance would typically be developed and scheduled a few months in advance. Typical maintenance intervals for major project components would include:

- Fire protection system – twice a year
- HVAC and chiller units – twice a year
- Battery core – once a year
- Relay protection – once in two years
- Project performance testing – once a year
- Project HV substation – once a year

The Project would be designed with multiple automatic and manual power-down/safety mechanisms including active fire suppression systems built into each container. Electrical and fire systems would be designed to open breakers automatically during fault conditions. Each fire protection system would have a signal that would trigger core power-down during fire, electrical fire, overheating, etc. The entire Project power-down would occur automatically during electrical fault conditions (e.g., high-voltage, high-frequency, ground fault etc.). In addition, the Project would be equipped with breakers that could be opened manually to power-down different equipment or the Project as a whole.

The Project would be designed to be in operation for 30 years, with the option to be reassessed for additional years of continued operation. After completion of operations, most of the Project's electrical equipment (breakers, transformers, inverters) would be removed and recycled. Project batteries would be returned to the battery manufacturer for recycling. Equipment foundations and pads would be demolished and removed.



2.0 METHODS

This biological resource assessment of the BSA included, but was not limited to, a literature review, a reconnaissance-level (non-protocol) survey to detect the presence of special-status plant and wildlife species, and a non-protocol avian survey to document the presence of birds, including listed species, if present. Prior to the survey, a preliminary literature review of readily available resources was performed. The survey was conducted on foot within the BSA, where accessible, based on terrain and availability of public access.

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to the reconnaissance-level survey. The BSA is located within the USGS Wildomar, California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) was conducted in the BSA and a surrounding 10-mile buffer area to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW 2021a). The following quadrangles surround the BSA:

- Fallbrook
- Hemet
- Winchester
- Lake Elsinore
- Alberhill
- Temecula
- Bachelor
- Murrieta

Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2021b)
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2021c)
- Special Animals List (CDFW 2021d)
- California Sensitive Natural Communities (CDFW 2021e)
- Western Riverside County Multiple Species Habitat Conservation Plan (County of Riverside 2004)
- Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021)
- Consortium of California Herbaria (CCH 2021)
- USFWS Information for Planning and Consultation (USFWS 2021a)
- USFWS National Wetland Inventory (USFWS 2021b)
- National Hydrography Dataset (USGS 2021)



2.2 BIOLOGICAL SURVEY AND HABITAT ASSESSMENT

2.2.1 Site Reconnaissance and Wildlife Survey

Stantec conducted a habitat assessment and reconnaissance-level survey to document the environmental conditions present within the BSA. The primary goal of this initial survey was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and determine the potential need for additional focused surveys for special-status resources. Biologists recorded all incidental plant and wildlife observations. However, this assessment did not include focused, protocol-level surveys for rare plants or wildlife or other special-status resources.

The reconnaissance-level survey was conducted during a season and time of day when resident birds would be expected to be present and exhibiting normal activity, small mammals would be active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. The survey was conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 65-95 degrees Fahrenheit). The September 21, 2021, survey was conducted shortly after sunrise considering most birds are generally active at sunrise.

The BSA was investigated on foot by experienced field biologists walking throughout publicly accessible areas at an average pace of approximately 2 miles per hour while visually scanning for wildlife and their sign and listening to wildlife songs and calls. Biologists paused as necessary to listen for wildlife or to identify, record, or enumerate any observed species. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.) and are provided in Section 4.3. Species identifications conform to the most up-to-date field guides and technical literature.

2.2.2 Vegetation Mapping

Vegetation descriptions and nomenclature are based on the second edition of *A Manual of California Vegetation* (MCVII) (Sawyer et al. 2009), where applicable, and have been defined to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the ESRI Collector for ArcGIS app on an Apple iPad coupled with an Arrow external global positioning system (GPS) unit. Mapping was further refined in the office using ESRI ArcGIS (version 10.7) with aerial photograph base maps with an accuracy of one foot. Most boundaries shown on the maps are accurate within approximately three feet; however, boundaries between some vegetation types are less precise due to difficulties in interpreting aerial imagery and accessing stands of vegetation.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. All vegetation maps and descriptions are subject to variability for the following reasons:

- In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to intergrade on the landscape, without precise boundaries between



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them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.

- Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the best name available in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.
- Vegetation tends to be patchy. Small patches of one named type are often included within larger stands mapped as units of another type.

2.2.3 Aquatics Resources Assessment

The Project area and a 100-foot buffer was evaluated for potential waters subject to jurisdiction pursuant to Section 1600 et seq. of the California Fish and Game Code (FGC), California Regional Water Quality Control Boards (RWQCB) regulations (Clean Water Act [CWA] Section 401 and Porter-Cologne Water Quality Control Act Waste Discharge Requirement), and United States Army Corps of Engineers (USACE) CWA Section 404 regulations. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA 2021), local and state hydric soils lists, and the National Wetlands Inventory (USFWS 2021b) to evaluate the potential active channels and wetland features that occur within the Project area and a 100-foot-wide survey area. During the field assessment, hydrologic features were not identified on the Project site; however, nearby features were mapped using the same data collection equipment described above for the botanical survey. Field data were further manipulated in the office using GIS and the area of aquatic resources was calculated.



3.0 REGULATORY ENVIRONMENT

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

Federal Endangered Species Act (FESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful “take” and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of Designated Critical Habitat (DCH). Under FESA, take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” The U.S. Fish and Wildlife Service (USFWS) regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 Code of Federal Regulations [CFR] Section 17.3).

DCH is defined in FESA Section 3(5)(A) as “(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features: (I) essential to the conservation of the species; (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior that such areas are essential for the conservation of the species.” The effects analyses for DCH must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*.

Activities that may result in “take” of individuals are regulated by USFWS. USFWS produced an updated list of candidate species December 6, 2007 (72 Federal Register [FR] 69034). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code [USC] 703-711) makes it unlawful to possess, buy, sell, purchase, barter or take any migratory bird listed in Title 50 of CFR Part 10. Take is defined as possession or destruction of migratory birds, their nests, and eggs. Disturbances that cause nest abandonment or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA encompasses whole birds, parts of birds, bird nests, and eggs.



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3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (72 FR 31132; 50 CFR 22.3).

USFWS is the primary federal authority charged with the management of golden eagles in the U.S. USFWS guidance on the applicability of current BGEPA statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the take of golden and bald eagles. The new rules were released under the existing BGEPA, which has been the primary regulatory protection for unlisted eagle populations since 1940.

All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment.

3.1.4 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act, as amended in 1964, requires that all federal agencies consult with National Marine Fisheries Service (NMFS), USFWS, and state wildlife agencies (i.e., CDFW) when proposed actions might result in modification of a natural stream or body of water. Federal agencies must consider effects that these projects would have on fish and wildlife development and provide for improvement of these resources. The Fish and Wildlife Coordination Act allows NMFS, USFWS, and CDFW to provide comments to USACE during review of projects under Section 404 of the CWA (concerning the discharge of dredged materials into navigable waters of the U.S. [WOTUS]) and Section 10 of the Rivers and Harbors Act regarding obstructions in navigable waterways. NMFS comments provided under the Fish and Wildlife Coordination Act are intended to reduce environmental impacts to migratory, estuarine, and marine fisheries and their habitats.

3.1.5 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires all federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA into other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision-making. NEPA requires federal agencies to review and comment on federal agency environmental plans and documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 USC 4321- 4327; 40 CFR 1500-1508).



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3.1.6 Federally Regulated Waters

Areas that meet the regulatory definition of “waters of the United States” are subject to the jurisdiction of the USACE under provisions of Section 404 of the CWA (1972) and Section 10 of the Rivers and Harbors Act (1899). WOTUS may include all waters used or potentially used for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (e.g., intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as WOTUS, tributaries of waters otherwise defined as WOTUS, territorial seas, and wetlands (i.e., “Special Aquatic Sites”) adjacent to WOTUS (33 CFR Part 328, Section 328.3).

Construction activities within WOTUS are regulated by USACE. The placement of fill into such waters must comply with permit requirements of USACE. No USACE permit would be effective in the absence of State Water Quality Certification pursuant to Section 401 of the CWA. As a part of the permit process, the USACE works directly with the USFWS to assess potential project impacts on biological resources. The jurisdictional extent of USACE regulation changed with the 2001 Solid Waste Agency of Northern Cook County ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

The U.S. Environmental Protection Agency announced on October 21, 2021 that both it and the USACE will cease implementation of the Navigable Water Protection Rule and are instead interpreting WOTUS consistent with pre-2015 regulatory regime (i.e., the 2015 Clean Water Rule) until further notice (USEPA 2021).

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant and avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the CEQA Guidelines published by the California Natural Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects.

3.2.2 California Endangered Species Act

Provisions of the California Endangered Species Act (CESA) protect State-listed threatened and endangered species. The CDFW regulates activities that may result in take of individuals (i.e., take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of take under the FGC. Additionally, the FGC contains lists of vertebrate species designated as “fully protected” (FGC Sections 3511 [birds],



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4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to federally and State-listed species, the CDFW also has produced a list of Species of Special Concern (SSC) to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. SSC may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the FGC. FGC Section 3503.5 states that it is “unlawful to ‘take’, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to ‘take’, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW. Under Sections 3503 and 3503.5 of the FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking, or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited.

3.2.3 Section 1602 of the California Fish and Game Code

Section 1602 of the FGC requires any person, state or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that would take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW would determine whether the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) would be required. A completed CEQA document must be submitted to CDFW before an LSAA would be issued. This Project falls within the South Coast Region of the CDFW.

3.2.4 Porter-Cologne Water Quality Control Act

California RWQCBs regulate the “discharge of waste” to “waters of the State” (WOTS). Both terms “discharge of waste” and WOTS are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other “discharge.” Section 401 of the CWA requires that any applicant for a federal permit for activities that involve a discharge to WOTS shall provide the federal



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permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the CWA. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Isolated wetlands within California, which are no longer considered WOTUS, as defined by Section 404 of the CWA, are addressed under the Porter Cologne Water Quality Control Act. This Project falls under the jurisdiction of the Region 8 – Santa Ana RWQCB.

3.2.5 State-Regulated Habitats

The State Water Resources Control Board is the state agency (together with the RWQCBs) charged with implementing water quality certification in California.

The CDFW extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFW 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; that substantially change its bed, channel, or bank; or that use any materials (including vegetation) from a streambed may require that the project applicant enter into an LSAA with the CDFW.

3.2.6 Native Plant Protection Act

Under FGC Sections 1900 to 1913, the Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. A Project applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and sections of CEQA that apply to rare or endangered plants.

3.3 LOCAL REGULATIONS

3.3.1 County of Riverside General Plan

3.3.1.1 Open Space, Habitat, and Natural Resource Protection and Preservation

The Open Space, Habitat, and Natural Resource Preservation chapter of the County of Riverside General Plan (County of Riverside 2003) contains goals and objectives which are designated to preserve and enhance open space and natural resources that are sensitive, rare, threatened, endangered, and irreplaceable. These resources required special protection to ensure their continued viability of the County of Riverside.

The goals and policies relative to biological resources that apply to the Project area are as follow:



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Policy LU 8.1 Provide for permanent preservation of open space lands that contain important natural resources, hazards, water features, watercourses, and scenic and recreational values.

OS17.1 Enforce the provisions of applicable Western Riverside Multi-Species Habitat Conservation Plan (WRMSHCP) when conducting review of development applications.

3.3.2 Western Riverside Multi-Species Habitat Conservation Plan

The WRMSHCP (County of Riverside 2004) is a comprehensive, multijurisdictional habitat conservation planning program for western Riverside County, California. The purpose of the WRMSHCP is to preserve native habitats, and to this end, the plan focuses upon the habitat needs of multiple species rather than one species at a time. The WRMSHCP provides coverage/take authorization for some species listed under the federal or state Endangered Species Act as well as non-listed special-status plant and wildlife species. It also provides mitigation for impacts to special-status species and their associated habitats.

Through agreements with the USFWS and CDFW, 146 listed and special-status plant and animal species receive some level of coverage under the WRMSHCP. Of the 146 covered species, the majority have no additional survey needs or conservation requirements. Furthermore, the WRMSHCP provides mitigation for project-specific impacts to these species, thereby reducing the degree of impact to below a level of significance, pursuant to the CEQA.

The Project is within the boundaries of the WRMSHCP and will be consistent with the requirements of the WRMSHCP. A Criteria Cell is a roughly 160-acre rectangle overlaid onto parcels within the MSHCP area defining areas reserved for conservation. Although the Project does not occur within a WRMSHCP criteria cell, a roughly 160-acre rectangular area reserved for conservation, it is approximately 500 feet east of Public Quasi Public Conserved Lands (RCA 2019). No impacts to the adjacent conserved land will occur.

3.4 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.4.1 California Native Plant Society Rare Plant Program

The mission of the California Native Plant Society (CNPS) Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) is entered into the online CNPS Rare Plant Inventory and given a California Rare Plant Rank (CRPR). The Rare Plant Program currently recognizes more than 1,600 plant taxa (species, subspecies, and varieties) as rare or endangered in California (CNPS 2021).

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under state endangered species legislation, are defined by the following CRPRs:

- CRPR 1A: Plants considered by the CNPS to be extinct in California



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- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3: Plants about which we need more information – a review list
- CRPR 4: Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 0.1 to 0.3 ranking, with 0.1 being the most endangered and 0.3 being the least endangered and are described as follows:

- 0.1: Seriously threatened in California (high degree/immediacy of threat)
- 0.2: Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3: Not very threatened in California (low degree or immediacy of threats or no current threats known)



4.0 EXISTING CONDITIONS

4.1 SETTING

As depicted in Figures 1 and 2 in Appendix A, the BSA is west of I-15 and northwest of Clinton Keith Road. Elevation within the BSA is approximately 1,200 feet above mean sea level. Two parcels 380150019 and 3800150020) are vacant and undeveloped while one (APN 380150021) is developed as the existing SoCal Edison Tenaja Substation. The Project parcels are surrounded by sparsely developed commercial buildings with Murrieta Creek to the north of the Project site. The photographic log for the Project is included in Appendix C and depicts representative environmental conditions within the Project area and surrounding areas.

4.2 VEGETATION AND LAND COVERS

As defined in MCVII, a vegetation alliance is “a category of vegetation classification which describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors” (Sawyer et al. 2009). Generally, Stantec’s mapping and description of plant communities follows the classification system described in the MCVII which is generally limited to communities that are native to or naturalized within California. One vegetation community and one land cover type discussed below are descriptive in nature as they are not specifically referenced in the MCVII. The scientific and common names of each species detailed within this report correspond to those described in the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Habitats observed within the BSA during the reconnaissance-level survey, where vegetated, were comprised primarily of common plant species and vegetation communities found in the inland areas of southern California. Habitat conditions within the vegetated portions of the BSA were noted to be of generally good quality, with well-established communities comprised of native and non-native shrub and herbaceous species. Within the BSA, Stantec Biologists mapped seven vegetation communities defined by Sawyer et al. (2009) and one land cover type. These are described below, summarized in Table 4, and depicted in Figure 2 in Appendix A. Small, localized areas occupied by other plant communities were also observed within the BSA; however, the areas were less than the minimum mapping unit dictated by the size of the survey area and thus, were not mapped.

4.2.1 Vegetation Communities and Land Cover Types

4.2.1.1 Vegetation Communities

Arroyo Willow Thicket (*Salix lasiolepis* Shrubland Alliance)

Within the BSA, this vegetation is dominated by arroyo willow with scattered salt cedar (*Tamarix* sp.) and gum tree (*Eucalyptus* spp.) with sparse herbaceous annuals in the understory. Approximately 0.27 acre of this community occurs in in the northeastern portion of the BSA.



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In southern California, this vegetation classification generally consists of arroyo willow (*Salix lasiolepis*) as the dominant in the tall shrub or low tree canopy with mule fat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), and black elderberry (*Sambucus nigra*). As a shrubland, emergent trees may be present at low cover. Shrubs are usually less than ten meters in height, the canopy is open to continuous, and the herbaceous layer is variable.

Goodding's Willow - Red Willow Riparian Woodland and Forest (*Salix gooddingii* - *Salix laevigata* Forest & Woodland Alliance)

Within the BSA, this vegetation is dominated by black willow, red willow, and arroyo willow native herbaceous annuals in the understory. Approximately 1.51 acres of this community occurs in the northeastern portion of the BSA. In southern California, this vegetation classification generally consists of Goodding's willow and/or red willow (*Salix laevigata*) dominant or co-dominant in the tree or shrub canopy with California sycamore, Fremont's cottonwood, coast live oak (*Quercus agrifolia*), gold cup live oak (*Quercus chrysolepis*), valley oak (*Quercus lobata*), pacific willow (*Salix lucida* var. *lasiandra*) or California fan palm (*Washingtonia filifera*). Shrubs include mule fat, California wild rose (*Rosa californica*), Himalayan blackberry (*Rubus armeniacus*), narrowleaf willow (*Salix exigua*), arroyo willow and black elderberry. As a forest and woodland, trees are typically less than 30 meters, the canopy is open to continuous, shrub layer is sparse to continuous, and the herbaceous layer is variable.

Smartweed - Cocklebur Patches (*Polygonum lapathifolium* – *Xanthium strumarium* Herbaceous Alliance)

Within the BSA, this vegetation is dominated by hairy leaved sunflower and tree tobacco (*Nicotiana glauca*). Approximately 1.92 acres of this community occurs in the eastern portion of the BSA. This vegetation classification generally consists of water plantain (*Alisma lanceolatum*), northern water plantain (*Alisma triviale*), hairy leaved sunflower (*Helianthus annuus*), common knotweed (*Polygonum lapathifolium*) and/or cocklebur (*Xanthium strumarium*) or other knotweed or smartweed species are dominant or co-dominant in the herbaceous layer with western field dodder (*Cuscuta pentagona*), tall cyperus (*Cyperus eragrostis*), grass (*Echinochloa* spp.), spike rush (*Eleocharis macrostachya*), western goldenrod (*Euthamia occidentalis*), rush (*Juncus* spp.), pennyroyal (*Mentha pulegium*), common lippia (*Phyla nodiflora*) and green dock (*Rumex conglomeratus*). Herbs are typically less than 1.5 feet in height and cover is open to continuous.

Red Brome or Mediterranean Grass Grassland (*Bromus rubens*- *Schismus [arabicus, barbatus]* Semi-Natural Alliance)

Approximately 2.18 acre of this community occurs in the BSA and is dominated by red brome (*Bromus rubens*). This vegetation classification is dominated or co-dominated by red brome and/or Mediterranean grass (*Schismus arabicus* or *Schismus barbatus*) with other non-natives in the herbaceous layer. Emergent shrubs may be present at low cover. Herbs are usually less than 2.5 feet in height and cover is open to continuous. Within the BSA, this vegetation is dominated by red brome.



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Eucalyptus – Tree of Heaven – Black Lotus Groves (*Eucalyptus* spp. - *Ailanthus altissima* - *Robinia pseudoacacia* Woodland Semi-Natural Alliance)

Approximately 2.01 acres of this community occurs in patches throughout the BSA. This vegetation classification generally consists of blackwood acacia (*Acacia melanoxylon*), acacia (*Acacia* spp.), tree of heaven (*Ailanthus altissima*), gum tree, or black lotus (*Robinia pseudoacacia*) is dominant in the tree canopy. Trees are usually less than 60 meters in heights, cover is open to continuous, shrub layer sparse to intermittent, and herbaceous layer is sparse to intermittent.

Hardstem and California Bulrush Marshes (*Schoenoplectus [acutus, californicus]* Herbaceous Alliance

Approximately 0.16 acre of this community occurs in the northern portion of the BSA and is dominated by bulrush (*Schoenoplectus* sp.) and cattails (*Typha* sp.). This vegetation classification generally consists of Hardstem bulrush (*Schoenoplectus acutus*) and/or California bulrush (*Schoenoplectus californicus*) as dominant or co-dominant in the herbaceous layer with Indian hemp (*Apocynum cannabinum*), mosquito fern (*Azolla filiculoides*), alkali bulrush (*Bolboschoenus maritimus*), western hedge bindweed (*Calystegia sepium*), water hyacinth (*Eichhornia crassipes*), western goldenrod (*Euthamia occidentalis*), rose mallow (*Hibiscus lasiocarpus*), California hemp (*Hoita macrostachya*), marsh pennywort (*Hydrocotyle ranunculoides*), rice cutgrass (*Leersia oryzoides*), marsh purslane (*Ludwigia peploides*), bugleweed (*Lycopus americanus*), cotted smartweed (*Persicaria punctata*), common reed (*Phragmites australis*), broadfruit bur reed (*Sparganium eurycarpum*), arrow grass (*Triglochin* spp.), narrow leaf cattail (*Typha angustifolia*), cattail (*Typha domingensis*), broadleaf cattail (*Typha latifolia*) and stinging nettle (*Urtica dioica*). Emergent trees and shrubs may be present at low cover, including trees white adler (*Alnus rhombifolia*), Fremont cottonwood or Gooding's willow and shrubs: common buttonbush (*Cephalanthus occidentalis*), California wild rose (*Rosa californica*), Himalayan blackberry, narrowleaf willow, and arroyo willow. Herbs are typically less than four meters in height and cover is intermittent to continuous.

4.2.1.2 Land Cover Types

Developed

Approximately 13.83 acres of this land cover type occur in the BSA and consist of the existing SoCal Edison Tenaja Substation, a residential development, private ranches, Blue Rock Landscaping, and the following paved roadways, Grand Avenue and Clinton Keith Road.

This land cover type includes areas that have been graded or paved and/or are developed with urban infrastructure. These areas are generally periodically maintained for weed control, precluding any significant growth of non-ornamental species, but may be sparsely interspersed with ruderal pioneer plant species that readily colonize open disturbed soil such as along disturbed areas or roadsides.



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Table 4: Vegetation Communities and Land Cover Types Occurring within the BSA

Vegetation Community/Land Cover Type	Acreage within BSA
Vegetation Community	
Arroyo Willow Thicket	0.27
Eucalyptus - Tree of Heaven - Black Locust Groves	2.01
Goodding's Willow - Red Willow Riparian Woodland and Forest	1.51
Hardstem and California Bulrush Marshes	0.16
Red Brome or Mediterranean Grass Grassland	2.18
Disturbed Red Brome or Mediterranean Grass Grasslands	3.11
Smartweed - Cocklebur Patches	1.92
Land Cover Type	
Developed	13.83
Total	24.99

4.2.2 Common Plant Species Observed

Plants observed during the September 21, 2021, reconnaissance-level survey were recorded; however, a focused, floristic-level survey was not conducted. The survey resulted in the documentation of 49 plant species, 29 native and 20 non-native plants, within the BSA (Table 5).

Table 5: Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
<i>Acacia</i> sp.*	wattle
<i>Acmispon americanus</i>	Spanish clover
<i>Ambrosia psilostachya</i>	western ragweed
<i>Anemopsis californica</i>	yerba mansa
<i>Artemisia dracunculul</i>	tarragon
<i>Atriplex semibicata</i> *	Australian saltbush
<i>Avena</i> sp.*	wild oats
<i>Baccharis pilularis</i>	coyote brush
<i>Baccharis salicifolia</i>	mulefat
<i>Bromus rubens</i> *	red brome
<i>Centaurea melitensis</i> *	Maltese star thistle
<i>Corethrogyne filaginifolia</i>	sand aster
<i>Croton setiger</i>	turkey-mullein
<i>Datura stramonium</i>	jimson weed
<i>Deinandra paniculata</i> ¹	paniculate tarplant



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Scientific Name	Common Name
<i>Distichlis spicata</i>	saltgrass
<i>Eleocharis macrostachya</i>	giant spikerush
<i>Encelia farinosa</i>	brittlebush
<i>Ericameria</i> sp.	goldenbush
<i>Erigeron</i> sp.	horseweed
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Erodium</i> sp.*	filaree
<i>Eucalyptus</i> sp.*	gum tree
<i>Euphorbia albomarginata</i>	rattlesnake sandmat
<i>Euphorbia maculata</i> *	spotted spurge
<i>Gazania linearis</i> *	treasure flower
<i>Helianthus annuus</i>	hairy leaved sunflower
<i>Heterotheca grandifolia</i>	telegraph weed
<i>Hirschfeldia incana</i> *	summer mustard
<i>Lythrum hyssopifolia</i> *	hyssop loosestrife
<i>Marrubium vulgare</i> *	Horehound
<i>Parkinsonia aculeata</i> *	Mexican palo verde
<i>Pennisetum setaceum</i> *	fountain grass
<i>Phacelia</i> sp.	Phacelia
<i>Populus fremonti</i>	Fremont's cottonwood
<i>Salix gooddingii</i>	black willow
<i>Salix lasiolepis</i>	arroyo willow
<i>Salix laevigata</i>	red willow
<i>Salvia clevelandii</i>	Cleveland sage
<i>Salsola tragus</i> *	Russian thistle
<i>Schinus mole</i> *	Peruvian peppertree
<i>Schinus terebinthifolius</i> *	Brazilian Peppertree
<i>Schoenoplectus</i> sp.	bulrush
<i>Sonchus oleraceus</i> *	sow thistle
<i>Stephanomeria</i> sp.	wand plant
<i>Tamarix</i> sp.*	salt cedar
<i>Typha</i> sp.	cattail
<i>Washingtonia robusta</i> *	Mexican fan palm
<i>Xanthium strumarium</i>	cocklebur

Notes: * = non-native, ¹ = CNPS CRPR 4.2



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4.3 COMMON WILDLIFE

This section describes the common wildlife observed during the reconnaissance-level survey and those species expected to occur within the BSA based on habitat characteristics and species known to occur in the region.

4.3.1 Terrestrial Invertebrates

As in all ecological systems, invertebrates inhabiting the BSA play a crucial role in several biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the BSA provide a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the BSA for this Project; however, some common insects were observed during the reconnaissance-level survey, including honeybees, butterflies, and ants (Table 6).

4.3.2 Fish

No water was present within Murrieta Creek or anywhere in the BSA during the September 2021 survey. Common species of small fish are likely to occur in Murrieta Creek when it has water.

4.3.3 Amphibians

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These species are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris), which is generally not present within the BSA, could provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Aubry et al. 1988; Maser and Trappe 1984). Amphibians require aquatic habitats for all or part of their life cycle. There is suitable aquatic habitat within and adjacent to Murrieta Creek within the BSA to support amphibians.

The number and type of reptile species that may occur at a given site is related to several biotic and abiotic features. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most species take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG 2010). In some cases, they



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are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

The common side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*) were observed during the reconnaissance-level survey. Although not observed, several other common reptiles are known to occur in the area including the southern Pacific rattlesnake (*Crotalus oreganus*), gopher snake (*Pituophis catenifer*), southern alligator lizard (*Elgaria multicarinata*), coachwhip (*Masticophis flagellum*), and western skink (*Plestiodon skiltonia*).

4.3.4 Birds

Birds were identified by sight and were observed throughout the BSA. A few upland bird species were observed on the Project site and are expected to nest and forage within the Project site and within and adjacent to the Tenaja Substation. Raptors could nest in the eucalyptus groves next to the Tenaja substation on the south and north sides of the BSA. Raptors, songbirds, and special-status bird species are likely to nest in the riparian vegetation along Murrieta Creek in the northern portion of the BSA. Bird species observed are detailed in Table 6.

4.3.5 Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas).

Brush rabbit (*Sylvilagus bachmani*) and California ground squirrel (*Otospermophilus beecheyi*) were observed during the reconnaissance-level survey. Common mammals habituated to urban environments may move through the BSA, including striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*). All wildlife species observed within the BSA are listed in Table 6.

Table 6 Wildlife Species Observed in the BSA

Scientific Name	Common Name
Invertebrates	
<i>Apis mellifera</i> *	European honeybee
<i>Colias philodice</i>	clouded sulfur
<i>Linepithema humile</i> *	Argentine ant
<i>Papilio rutulus</i>	western tiger swallowtail
<i>Pieris rapae</i>	cabbage white
<i>Pogonomyrmex barbatus</i>	harvester ant
Reptiles	
<i>Sceloporus occidentalis</i>	western fence lizard



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<i>Uta stansburiana</i>	western side blotched lizard
Birds	
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Calypte anna</i>	Anna's hummingbird
<i>Dryobates nuttallii</i>	Nuttall's woodpecker
<i>Psaltirparus minimus</i>	bushtit
<i>Troglodytidae</i> spp.	wren
<i>Corvus brachyrhynchos</i>	American crow
<i>Haemorhous mexicanus</i>	house finch
<i>Melospiza melodia</i>	song sparrow
<i>Spinus psaltria</i>	lesser goldfinch
<i>Tyrannus</i> spp.	kingbird
<i>Zenaida macroura</i>	mourning dove
Mammals	
<i>Otospermophilus beecheyi</i>	California ground squirrel
<i>Sylvilagus bachmani</i>	brush rabbit

Notes: * = non-native

4.4 AQUATIC RESOURCES

An assessment of aquatic resources was completed on September 21, 2021. An isolated concrete drainage channel occurs along the north side of the SoCal Edison Tenaja Substation. It is approximately 340 feet long and begins on the west side of the Project site northwest of the Substation and flows southeast toward the east side of the Substation. It ends on the northeast side of the Substation. The water flows into a gum tree grove on the southeast side of the site (Appendix A, Figure 4).

Murrieta Creek and the associated wetlands and riparian vegetation occur more than 100 feet from the Project site (Appendix A, Figure 2).

4.5 SOILS

Historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types that may occur within the BSA; this data was used to determine if hydric soils historically occurred (Appendix A, Figure 3, Historical Soils). Table 7 identifies the soils historically known to occur within the BSA and provides a summary of characteristics of these soils (USDA 2021).

Table 7 Historic Soil Units Occurring within the Biological Survey Area

Map Unit Symbol	Map Unit Name	Description	Acres within BSA
GtA	Grangeville fine sandy	A moderately well-drained non-hydric soil	3.36



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Map Unit Symbol	Map Unit Name	Description	Acres within BSA
	loam, drained, 0 to 2 percent slopes	associated with alluvial fans at elevations between 10 and 1,800 feet; very low runoff; high water capacity; fine sandy loam to sandy loam; parent material consists of alluvium derived from granite.	
GyC2	Greenfield sandy loam, 2 to 8 percent slopes, eroded	A well-drained non-hydric soil associated with alluvial fans, terraces at elevations between 100 and 3,500 feet; low runoff; moderately highwater capacity; sandy loam to stratified loamy sand; parent material consists of alluvium derived from granite.	0.04
MmD2	Monserate sandy loam, 8 to 15 percent slopes, eroded	A well-drained non-hydric soil associated with alluvial fans at elevations between 700 and 2,500 feet; high runoff; very low water capacity; sandy loam to loamy coarse sand; parent material consists of alluvium derived from granite.	10.41
RaB2	Ramona sandy loam, 2 to 5 percent slopes, eroded	A well-drained non-hydric soil associated with alluvial fans, terraces at elevations between 250 and 3,500 feet; low runoff; moderately high-water capacity; sandy loam to gravelly sandy loam; parent material consists of alluvium derived from granite.	0.11
RaC2	Ramona sandy loam, 5 to 8 percent slopes, eroded	A well-drained non-hydric soil associated with alluvial fans, terraces at elevations between 250 and 3,500 feet; low runoff; moderately high-water capacity; sandy loam to gravelly sandy loam; parent material consists of alluvium derived from granite.	1.34
RaD2	Ramona sandy loam, 8 to 15 percent slopes, eroded	A well-drained non-hydric soil associated with alluvial fans, terraces at elevations between 250 and 3,500 feet; medium runoff; moderately highwater capacity; sandy loam to gravelly sandy loam; parent material consists of alluvium derived from granite.	0.25
ReC2	Ramona very fine sandy loam, 0 to 8 percent slopes, eroded	A well-drained non-hydric soil associated with alluvial fans, terraces at elevations between 250 and 3,500 feet; low runoff; moderately highwater capacity; very fine sandy loam to gravelly sandy loam; parent material consists of alluvium derived from granite.	6.22
RsC	Riverwash	An excessively drained hydric soil associated with channels at elevations between 700 and 2,900 feet; very low runoff; very high-water capacity; gravelly coarse sand to stratified extremely gravelly coarse sand to gravelly sand; parent material consists of sandy and gravelly alluvium derived from sources.	2.73
Wf	Willows silty clay	A poorly drained non-hydric soil associated with basin floors at elevations between 0 and 1,700 feet; very high runoff; very low water capacity; silty clay to clay; parent material consists of alluvium derived from mixed sources.	0.55



5.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

The background information presented above combined with habitat assessments performed during the survey was used to evaluate special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and adjacent habitats. For the purposes of this BRTR, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the CESA or FESA;
- Are candidate species being considered or proposed for listing under these same acts;
- Are recognized as SSC by the CDFW;
- Are ranked by CNPS as CRPR 1, 2, 3, or 4 plant species;
- Are fully protected by the FGC, Sections 3511, 4700, 5050, or 5515; and,
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions.

5.1 SPECIAL-STATUS NATURAL COMMUNITIES

Special-status natural communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA. There are no special-status natural communities within the BSA. However, the BSA falls within the boundaries of the WRMSHCP.

5.2 DESIGNATED CRITICAL HABITAT

Designated Critical Habitat is defined by the USFWS (2021c) as, "...a term defined and used in the FESA. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Designated critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery." The Project is not within designated critical habitat.

5.3 SPECIAL-STATUS PLANTS

Appendix D, Table D-1 presents a list of special-status plants, including federally and state-listed species and CRPR 1-4 species that are known to occur within 10 miles of the BSA or within the USGS 7.5-minute quadrangles including and surrounding the BSA.



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Special-Status Biological Resources

Record searches of the CNDDDB, the CNPS Online Inventory, and the CCH were performed for special-status plant taxa. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- **Present:** Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 1 mile) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Moderate:** Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 1 mile) and the environmental conditions associated with taxa presence are marginal or limited within the BSA, or the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Low:** A historical record (over 10 years) exists of the taxa within the BSA or general vicinity, and the environmental conditions (including soil type) associated with taxa presence are marginal or limited within the BSA.
- **Not Likely to Occur:** The environmental conditions associated with taxa presence do not occur within the BSA

One special-status plant species, paniculate tarplant (*Deinandra paniculata*), a CNPS CRPR 4.2 species, was observed in the western portion of site near Clinton Keith Road and in the northern portion of the site near the Blue Rock Landscaping materials rock storage area.

Smooth tarplant (*Centromadia pungens* ssp. *laevis*), a CNPS CRPR 1B.1 species and a WRCMSHCP covered species, has a moderate potential to occur in the BSA (Appendix D, Table D-1).



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Special-Status Biological Resources

5.4 SPECIAL-STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the FESA or CESA, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the BSA.

The CNDDDB was queried for occurrences of special-status wildlife taxa within the USGS topographical quadrangles in which the BSA occurs and the eight surrounding quadrangles, as discussed in Section 2.0. Appendix D, Table D-2, summarizes the special-status wildlife taxa known to occur regionally and their potential for occurrence in the BSA. Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- **Present:** Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate:** Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.
- **Low:** Limited habitat for the taxa occurs within the BSA and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur:** The environmental conditions associated with taxa presence do not occur within the BSA.

California horned lark (*Eremophila alpestris actia*), Cooper's hawk (*Accipiter cooperii*), least Bell's vireo (*Vireo bellii pusillus*), white-tailed kite (*Elanus leucurus*), and yellow-breasted chat (*Icteria virens*), while not observed during the September 2021 survey, have been documented in the northern portion of the BSA in the riparian habitat along Murrieta Creek in 2020 and 2021 (Cornell 2021).

Burrowing owl (*Athene cunicularia*), CDFW species of special concern and WRCMSHCP covered species, has a moderate potential to occur in the BSA (Appendix D, Table D-2).



5.5 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts, California red-legged frogs, southwestern pond turtles, and two-striped garter snakes found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian “movement corridor” (Bulger et al. 2002; Hunt 1993; Ramirez 2002, 2003a, 2003b; Rathbun et al. 1992; Trenham 2002). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Beier 1993, 1995; Newmark 1995; Noss et al. 1996, n.d.). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.
- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.
- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.
- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors, within larger natural habitat areas that are frequently used by animals to facilitate movement and provide access to water, food, cover, den sites, and other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic



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Special-Status Biological Resources

resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll 1997).

Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are human-made and include culverts, underpasses, drainage pipes, bridges, tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll 1997).

5.6 WILDLIFE MOVEMENT IN THE BSA

The Project site encompasses SoCal Edison Tenaja Substation and undeveloped land. Murrieta Creek and riparian vegetation occur in the BSA just north of the Project site. Murrieta Creek and the surrounding riparian vegetation provides a wildlife corridor. Resident and migratory bird species depend on this corridor for foraging and nesting. Amphibians, fish, mammals, and reptiles also use the area along Murrieta Creek as a wildlife corridor. The wildlife corridor along Murrieta Creek will not be impacted.

The BSA is within the Pacific Flyway, a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Each year, at least one billion birds migrate along the Pacific Flyway (Audubon 2021).



6.0 SUMMARY OF CONSISTENCY WITH MSHCP POLICIES

This section includes discussion and analysis of the proposed Project's consistency with the processes and policies outlined in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Specifically, it is intended to assist the County with project review for compliance with MSHCP and regulatory requirements. The following sections summarize the Project site's relationship to MSHCP criteria areas and MSHCP compliance guidelines.

Criteria Areas

The 1.73-acre Project site is located within the Western Riverside County Multiple Species Habitat Conservation Plan Elsinore Area Plan but is not located within an MSHCP Criteria Area; therefore, no onsite conservation is required or proposed. Furthermore, no Habitat Evaluation and Acquisition Negotiation Strategy (HANS) or Joint Project Review (JPR) are required.

The following summarizes the MSHCP conservation goals respective of MSHCP regulated resources based on the criteria cell(s) or species survey area(s) within which the Project site occurs.

Criteria Area Plant Species Survey Area

The Project site does not occur within a predetermined Survey Area for criteria area plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The Project is consistent with MSHCP Section 6.3.2.

Narrow Endemic Plant Species Survey Area

The Project Site does not occur within a predetermined Survey Area for narrow endemic plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.1.3

Amphibian Species Survey Area

The Project Site does not occur within the Amphibian Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

Mammal Species Survey Area

The Project Site does not occur within the Mammal Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

Burrowing Owl Survey Area

The Project site does occur within the Burrowing Owl Survey Area; therefore, focused BUOW surveys are required according to the MSHCP (RCA GIS Data Downloads 2022).



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MSHCP Riparian/Riverine Areas and Vernal Pools

Based on the results of the habitat assessment and aquatic resource assessment, no MSHCP 6.1.2 riparian, riverine or vernal pool resources were documented onsite. An MSHCP Determination of Biological Equivalent or Superior Preservation (DBESP) will not be required. The project is consistent with MSHCP Section 6.1.2.

Urban/Wildlands Interface

The Urban/Wildlands Interface guidelines presented in Section 6.1.4 of the MSHCP are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. The Project Site is not located adjacent to an existing or proposed MSHCP Conservation Area. The project is consistent with MSHCP Section 6.1.4.

Fuels Management

The fuels management guidelines presented in Section 6.4 of the MSHCP are intended to address brush management activities around new development within or adjacent to MSHCP Conservation Areas. The Project Site is not located adjacent to an existing or proposed MSHCP Conservation Area. No mitigation proposed. The project is consistent with MSHCP Section 6.4.

6.1 MSHCP MITIGATION MEASURES AND FEE REQUIREMENTS

Implementation of Mitigation Measures BIO-MM 1 and BIO-MM 2 and complying with the fees below would reduce all potential significant unavoidable impacts on biological resources below a level of significance, thereby ensuring compliance with CEQA and MSHCP guidelines.

BIO-MM-01 Burrowing Owl Surveys

The MSHCP provides the following guidance pertaining to BUOW surveys: "Surveys for burrowing owl will be conducted as part of the project review process for public and private projects within the burrowing owl survey area where suitable Habitat is present. The locations of this species determined as a result of survey efforts shall be conserved in accordance with procedures described within Section 6.3.2 of the MSHCP and the guidance provided below:

Surveys shall be conducted utilizing accepted protocols as follows. If burrowing owls are detected on the project site, then the action(s) taken will be as follows:

If the site is within the Criteria Area, then at least 90 percent of the area with long-term conservation value will be included in the MSHCP Conservation Area. Otherwise:

1) If the site contains or is part of an area supporting less than 35 acres of suitable Habitat or the survey reveals that the site and the surrounding area supports fewer than three pairs of burrowing owls, then the on-site burrowing owls will be passively or actively relocated following accepted protocols.



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2) If the site (including adjacent areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable Habitat and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite" (County of Riverside 2004).

BIO-MM-02 Federal Migratory Bird Treaty Act

Mitigation for potential direct/indirect impacts to common and MSHCP covered sensitive bird and raptor species will require compliance with the federal Migratory Bird Treaty Act (MBTA). Construction outside the nesting season (between September 16th and January 31st) do not require pre-removal nesting bird surveys. If construction is proposed between February 1st and September 15th, a qualified biologist must conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site.

The survey(s) would focus on identifying any bird or raptor nests that would be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be deterred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted for review and approval prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur.

A report of the findings prepared by a qualified biologist shall be submitted for review and approval prior to construction that has the potential to disturb any active nests during the nesting season. Any nest permanently vacated for the season would not warrant protection pursuant to the MBTA.

MSHCP Local Development Mitigation Fee

The project applicant may be required to pay MSHCP Local Development Mitigation fees as established and implemented by the City of Wildomar.

SKR Fee Area

The Project Site is located within the Riverside County SKR HCP. The project applicant may be required to pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside.



7.0 CONCLUSION

Most of the Project site consists of disturbed non-native grassland. The southern portion of the Project site includes the SoCal Edison Tenaja Substation. Murrieta Creek occurs within 300 feet of the Project and is surrounded by willow dominated riparian vegetation. The riparian vegetation along Murrieta Creek likely supports nesting special-status bird species.

One special-status plant species, paniculate tarplant, was observed during the habitat assessment within the Project site. Since smooth tarplant, a CNPS CRPR 1B.1, has a moderate potential to occur in the BSA; rare plant surveys are recommended prior to construction.

One isolated aquatic resource, a concrete channel, occurs along the north side of the Tenaja Substation within the Project site. Since the concrete channel is isolated and does connect to other waters, no permitting is needed.

No special-status wildlife species were observed in the BSA during the habitat assessment; however, five special-status bird species have been documented in the riparian habitat in the BSA along Murrieta Creek. The riparian vegetation along Murrieta Creek is also likely to support other special-status and common bird species. If the Project occurs during the bird breeding season, pre-construction nesting bird surveys are recommended

Since burrowing owls have potential to occur within the Project site, and the Project site occurs in a burrowing owl survey area designated by the MSHCP, focused burrowing owl surveys will be required prior to construction. The survey window for burrowing owl in the Project area is between March 1 and August 31.



8.0 REFERENCES

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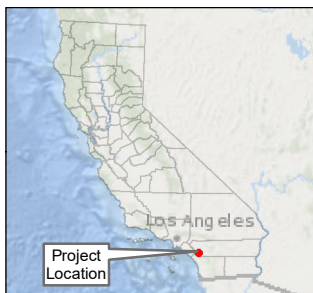
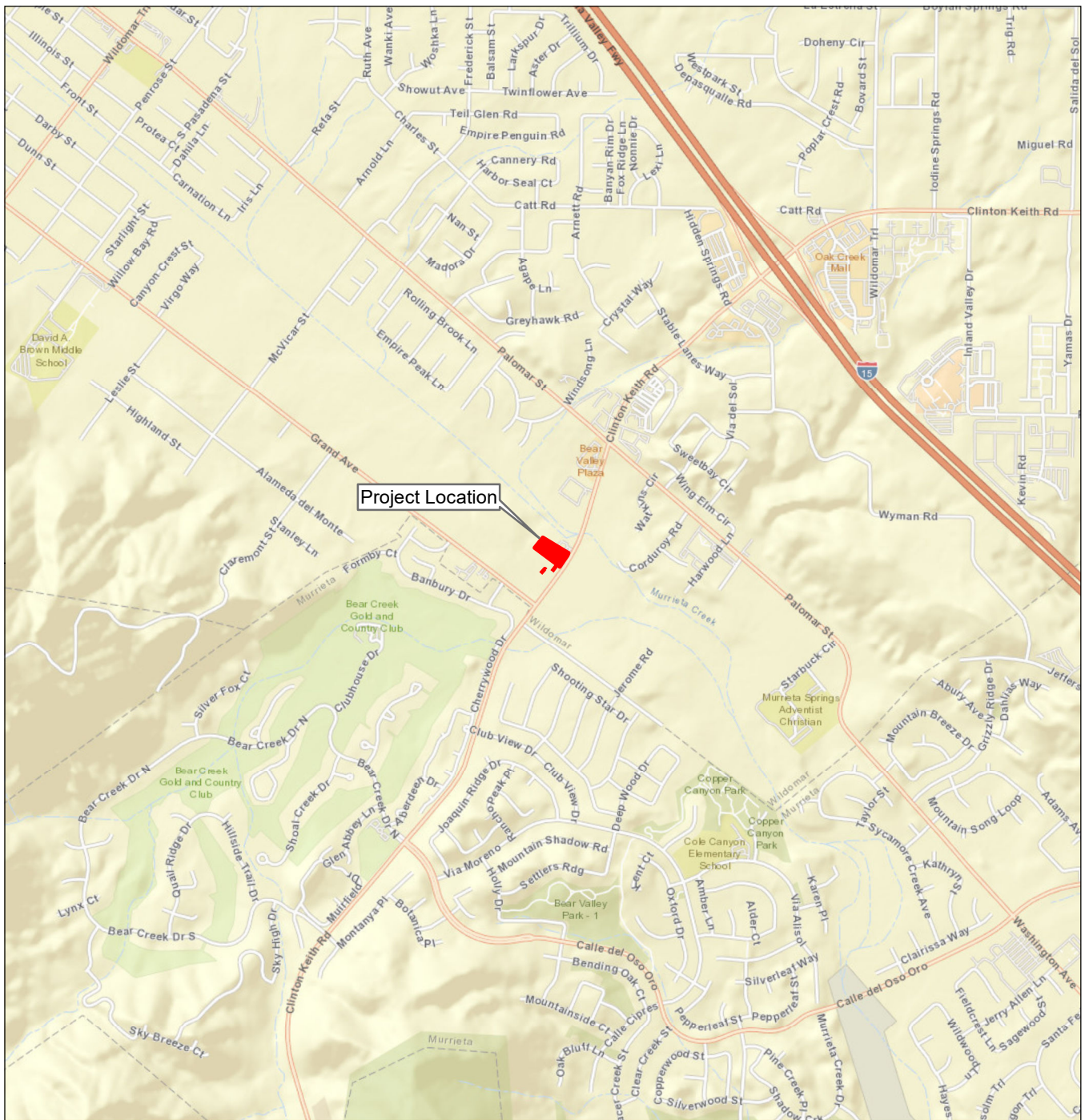
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Appendix A FIGURES





 Project Location
 Transmission Line

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:24,000



Project Location
Wildomar
Riverside County, CA
APN: 380150019
Client/Project
Hecate Energy
Chiquito Storage Facility
185805030

Figure No.
1

Title
Project Location Map

Notes

1. Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
2. Data Sources: Stantec 2021. Parcels from the County.
3. Background: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

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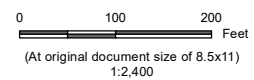
- Survey Area (300 ft. buffer)
- Parcel Boundaries
- Transmission Line

Vegetation Communities and Land Cover Types

- Arroyo Willow Thicket
- Developed
- Disturbed Red Brome or Mediterranean Grass Grasslands
- Eucalyptus - Tree of Heaven - Black Locust Groves
- Goodding's Willow - Red Willow Riparian Woodland and Forest
- Hardstem and California Bulrush Marshes
- Red Brome or Mediterranean Grass Grasslands
- Smartweed - Cocklebur Patches

Notes

1. Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
2. Data Sources: Stantec 2021. Parcels from the County.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Project Location
 Wildomar
 Riverside County, CA
 APN: 380150019

Prepared by DL on 2021-09-24
 TR by SET on 2021-09-24
 IR by MT on 2021-09-24

Client/Project

185805030

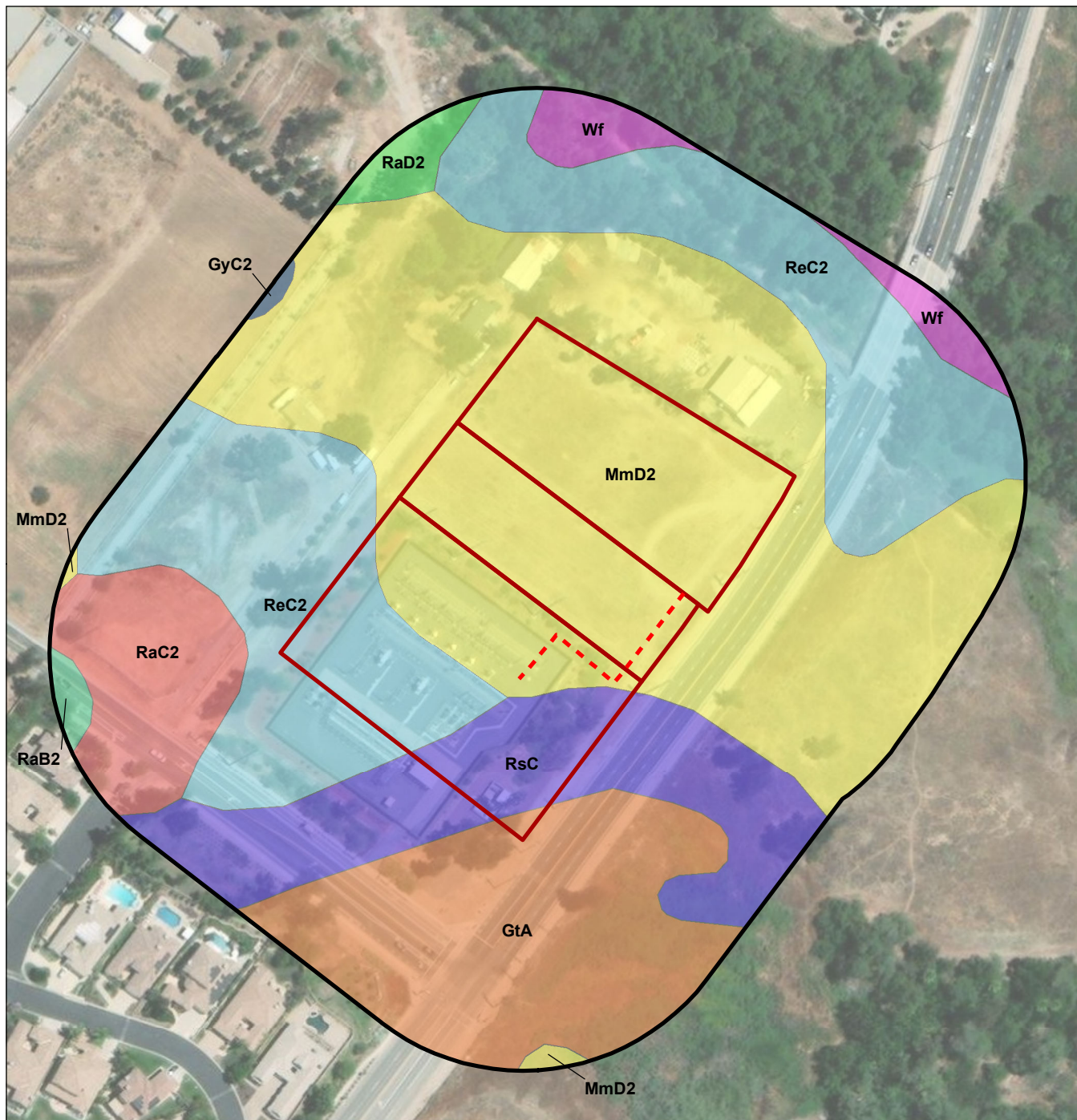
Hecate Energy
 Chiquito Storage Facility

Figure No.

2

Title

Vegetation Communities and Land Cover Types



- Survey Area (300 ft. Buffer)
- Parcel Boundary
- Transmission Line

Soils Map Unit Symbol

- GtA; Grangeville fine sandy loam, drained, 0 to 2 percent slopes
- GyC2; Greenfield sandy loam, 2 to 8 percent slopes, eroded
- MmD2; Monserate sandy loam, 8 to 15 percent slopes, eroded
- RaB2; Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaC2; Ramona sandy loam, 5 to 8 percent slopes, eroded
- RaD2; Ramona sandy loam, 8 to 15 percent slopes, eroded
- ReC2; Ramona very fine sandy loam, 0 to 8 percent slopes, eroded
- RsC; Riverwash
- Wf; Willows silty clay

0 100 200 Feet
(At original document size of 8.5x11)
1:2,400



Project Location
Wildomar
Riverside County, CA
APN: 380150019

Client/Project
Hecate Energy
Chiquito Storage Facility

Prepared by DL on 2021-09-24
TR by SET on 2021-09-24
IR by MT on 2021-09-24

185805030

Figure No.
3

Title
Historic Soils

Notes

1. Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
2. Data Sources: Stantec 2021. Parcels modified from Riverside County, 2021
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\185805030\185805030_Hecate\As Riverside\Figure3 BRTR SoilsMap_09222021.mxd Revised: 2021-10-01 By: Dalaw

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.



 Jurisdictional Delineation Survey Area (100 ft. Buffer)

 Parcel Boundary

 Transmission Line

Aquatic Resources

 Concrete Channel

0 75 150 Feet
(At original document size of 8.5x11)
1:1,800



Project Location

Wildomar
Riverside County, CA
APN: 380150019

Prepared by DL on 2021-09-24

TR by SET on 2021-09-24

IR by MT on 2021-09-24

Client/Project

185805030

Hecate Energy
Chiquito Storage Facility

Figure No.

4

Title

Aquatic Resources

Notes

1. Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet

2. Data Sources: Stantec 2021. Parcels modified from Riverside County, 2021.

3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix B SITE PLANS



BIOLOGICAL RESOURCES TECHNICAL REPORT

Appendix C Photographic Log

Appendix C PHOTOGRAPHIC LOG



**STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD**

Client: Hecate Grid, LLC

Job Number: 185805178

Site Name: Chiquito Grid Battery Energy
Storage System Project

Photographer: M. Tu

Photo 1: September 21, 2021



View of northwestern Project boundary from the center of the site looking at the disturbed non-native grassland habitat in the Project site and the ranch in the Biological Survey Area (BSA) in the background.

Photo 2: September 21, 2021



View of riparian area in the northern portion of the BSA along Clinton Keith Road.

**STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD**

Job Number: 185805178

Site Name: Chiquito Grid Battery Energy
Storage System Project

Photo 3: September 21, 2021



View of the dry wetland in the northern portion of the BSA along Clinton Keith Road.

Photo 4: September 21, 2021



View of Blue Rock Landscaping in the BSA, adjacent and north of the Project site.

**STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD**

Client: Hecate Grid, LLC

Job Number: 185805178

Site Name: Chiquito Grid Battery Energy
Storage System Project

Photographer: M. Tu

Photo 5: September 21, 2021



View of the eastern portion of the BSA, looking northeast.

Photo 6: September 21, 2021



View from the Project site looking northeast at the BSA.

**STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD**

Job Number: 185805178

Site Name: Chiquito Grid Battery Energy
Storage System Project

Photo 7: September 21, 2021



View of eastern side of the BSA adjacent to Clinton Keith Road looking southwest. Slender sunflower (*Helianthus annuus*) is in bloom along the edge of the road.

Photo 8: September 21, 2021



View of the BSA from the east side looking northwest.

**STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD**

Client: Hecate Grid, LLC

Job Number: 185805178

Site Name: Chiquito Grid Battery Energy
Storage System Project

Photographer: M. Tu

Photo 9: September 21, 2021



View of paniculate tarplant (*Deinandra paniculata*), a California Native Plant Society California Rare Plant Rank 4.2 species, along the southeastern boundary of the Project site.

Photo 10: September 21, 2021



View from the Project site looking east at the BSA across Clinton Keith at non-native grassland habitat.

**STANTEC CONSULTING SERVICES INC.
PHOTOGRAPHIC RECORD**

Client: Hecate Grid, LLC

Job Number: 185805178

Site Name: Chiquito Grid Battery Energy
Storage System Project

Photographer: M. Tu

Photo 11: September 21, 2021



View of the Project site from south side looking north at the BSA.

Photo 12: September 21, 2021



View of the concrete channel next to the Southern California Edison Tenaya Substation
looking southwest.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
	Job Number: 185805178
Site Name: Chiquito Grid Battery Energy Storage System Project	Photographer: M. Tu
Photo 13: September 21, 2021	
	
View of a gum tree grove along the southeastern boundary of the Project Site.	

Appendix D SPECIAL-STATUS SPECIES POTENTIAL TO OCCUR TABLES



Table D-1: Known and Potential Occurrences of Special-Status Plant Taxa within the Biological Study Area

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Abronia villosa</i> var. <i>aurita</i>	Chaparral sand-verbena	S2, 1B.1	In sandy areas in chaparral, coastal dunes and desert dunes, 75 to 1,600 meters (m).	(Jan) Mar – Sept	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 5.5 miles southeast of the BSA in 1994.
<i>Allium marvinii</i>	Yucaipa onion	S1, 1B.2	Clay openings in chaparral, 760 to 1,065 m.	Apr-May	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recently recorded occurrence is approximately 5.4 miles west northwest of the BSA in 2017.
<i>Allium munzii</i>	Munz's onion	FE, ST, S1, 1B.1	Chaparral, woodland, coastal scrub, pinyon and juniper woodland, grasslands; mesic and clay area; 297 to 1,070 m.	Mar-May	Low: Limited suitable habitat is present within the BSA. The nearest and most recently recorded occurrence is approximately 4.7 miles west northwest of the BSA in 2017.
<i>Almutaster pauciflorus</i>	Alkali marsh aster	S1S2, 2B.2	Perennial herb; Meadows and seeps; 240 to 800 meters.	Jun-Oct	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recently recorded occurrence is approximately 8.2 miles west southeast of the BSA in 1937.
<i>Ambrosia pumila</i>	San Diego ambrosia	FE, S1, 1B.1	Chaparral, coastal scrub, grasslands, vernal pool; often in disturbed areas; sandy loam or clay; sometimes alkaline; 20 to 415 m.	Apr-Oct	Low: Limited suitable habitat is present within the BSA. The nearest recorded occurrence is approximately 8.2 miles east southeast of the BSA in 2017.
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	S2, 1B.1	Chaparral; 205 to 670 m.	Dec-Mar	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 2.1 miles south southwest of the BSA in 1999.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milkvetch	S1, 1B.1	Perennial shrub; chaparral, woodland, coastal scrub, and grasslands; 365 to 975 m.	Dec-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles southeast of the BSA in 1881.
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale	FE, S1, 1B.1	Playas, grasslands (mesic); vernal pool; alkaline areas; 139 to 500 m.	Apr-Aug	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 10 miles northwest of the BSA in 2013.
<i>Ayenia compacta</i>	California ayenia	S3, 2B.3	Mojavean desert scrub and Sonoran desert scrub; rocky areas; 150 to 1,095 m.	Mar-Apr	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recently recorded occurrence is approximately 3.9 miles west northwest of the BSA in 1929.
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT, SE, S2, 1B.1	Chapparal (openings); woodland; coastal scrub; playas; grasslands; vernal pools; often in clay; 25 to 1,120 m.	Mar-June	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recently recorded occurrence is approximately 3.1 miles south of the BSA in 2020.
<i>Brodiaea santarosae</i>	Santa Rosa Basalt brodiaea	S1, 1B.2	Grasslands; basaltic; 565 to 1,045 m.	May-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 3.2 miles south of the BSA in 2009.
<i>Calochortus weedii</i> var. <i>intermedius</i>	intermediate mariposa-lily	S3, 1B.2	Chaparral, coastal scrub, and grasslands; rocky, calcareous; 105 to 855 m.	May-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 4.5 miles east of the BSA in 2003.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Centromadia pungens</i> ssp. <i>laevis</i>	Smooth tarplant	S2, 1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, grasslands, depressions, waterway banks and beds, and open poorly drained flats; also, in disturbed places; alkaline substrate; 90 to 500 m.	Apr-Sep	Moderate: Limited suitable habitat is present within the BSA. The nearest recorded occurrence is approximately 400 m east of the BSA in 2010.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	S2, 1B.1	Sandy or rocky, openings in chaparral, woodland, coastal scrub, and grasslands, 275 to 1,220 m.	Apr-June	Low: Limited suitable habitat is present within the BSA. The nearest recorded occurrence is approximately 2.1 miles north of the BSA in 2011.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Long-spined spineflower	S3, 1B.2	Chaparral, coastal scrub, meadows and seeps, grasslands, and vernal pools; often clay; 30 to 1,530 m.	Apr-June	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 2.8 miles north of the BSA in 2011.
<i>Clinopodium chandleri</i>	San Miguel savory	S2, 1B.2	Chaparral, woodland, coastal scrub, riparian woodland, grasslands; rocky, gabbroic, or metavolcanic; 120 to 1,075 m.	Mar-Jul	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 2.3 miles southeast of the BSA in 1965.
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	S1, 1B.2	Gabbro substrate, vernal pool with silty clay soil.	Feb-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The most recently recorded occurrence is approximately 7.7 miles southeast of the BSA in 2012.
<i>Deinandra paniculata</i>	Paniculate tarplant	4.2	Coastal scrub, grasslands, and vernal pools; 25 – 940 m.	Apr-Nov	Present
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	FE, SE, S1, 1B.1	Chaparral, woodland, and coastal scrub (alluvial fan); sandy; 200 to 760 m.	Apr-June	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 6.4 miles northwest of the BSA in 1979.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Dudleya viscida</i>	Sticky dudleya	S2, 1B.2	Coastal bluff scrub, chaparral, woodland, and coastal scrub; rocky; 10 to 550 m.	May-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 9.7 miles west southwest of the BSA in 2013.
<i>Eryngium aristulatum</i> <i>var. parishii</i>	San Diego button-celery	FE, SE, S1, 1B.1	Vernal pools surrounded by non-native grassland. Clay soil x to x m.	Apr-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 3.6 miles south southeast of the BSA in 2015.
<i>Geothallus tuberosus</i>	Campbell's liverwort	S2, 1B.1	Ephemeral liverwort; coastal scrub and vernal pools; 10 to 600 m.	--	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 4.7 miles south southwest of the BSA, date unknown.
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	S3, 4.2	Chaparral, coastal scrub, and grasslands; open grassy areas within shrubland; clay; 20 to 955 m.	Mar-May	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 6.5 miles east northeast of the BSA in 1981.
<i>Hesperocyparis forbesii</i>	Tecate cypress	S2, 1B.1	Closed-cone coniferous forest and chaparral; clay, gabbroic or metavolcanic; 80 to 1,500 m.	--	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 4.8 miles west northwest of the BSA in 1992.
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa horkelia	S1, 1B.1	Sandy or gravelly areas in chaparral (maritime), woodland, and coastal scrub 70 to 810 m.	Feb-July (Sept)	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 9.5 miles west of the BSA in 1992.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	S3, 1B.2	Annual herb; chaparral, Great Basin scrub, lower coniferous forest, meadows and seeps, and vernal pools; 300 to 2040 m.	Apr-Jun	Low: Suitable marsh habitat occurs along Murrieta Creek within the BSA. The nearest recorded occurrence is approximately 3.2 miles south southeast of the BSA in 1975.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	S2, 1B.1	Marshes and swamps (coastal salt), playas, coastal dunes, coastal sage scrub, grasslands, and vernal pools; usually found on clay and alkaline soils in playas, sinks, and grasslands; 1 to 1,375 m.	Feb-Jun	Low: Limited suitable habitat is present within the BSA. The nearest recorded occurrence is approximately 2 mile southeast of the BSA in 1918.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	S3, 4.3	Chaparral, coastal scrub, and shrubland; dry soils; 1 to 885 m.	Jan-Jul	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 3.7 miles northeast of the BSA in 2006.
<i>Lilium parryi</i>	Lemon lily	S3, 1B.2	Chaparral, coastal scrub, and shrubland; dry soils; 1 to 885 m.	Jan-Jul	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 8.3 miles southwest of the BSA in 2001.
<i>Limnanthes alba</i> ssp. <i>parishii</i>	Parish's meadowfoam	SE, S2, 1B.2	Grasslands, meadows, dry/ephemeral stream beds. basalt-clay; 600 to 2000 m.	Apr-Jun	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 5.5 miles south southwest of the BSA in 2009.
<i>Mielichhoferia shevockii</i>	Shevock's copper moss	S2, 1B.2	Woodland (mesic, metamorphic, rock; 750 to 1400 m.	--	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 9.6 miles south southeast of the BSA, date unknown.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Monardella hypoleuca</i> <i>ssp. intermedia</i>	intermediate monardella	S2?, 1B.3	Chaparral, woodland, and lower coniferous forest; usually understory; 400 to 1,250 m.	Apr-Sep	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 4 miles south southwest of the BSA in 1987.
<i>Myosurus minimus</i> ssp. <i>apus</i>	Little mousetail	S2, 3.1	Grasslands and vernal pools; 20 to 640 m.	Mar-June	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 3.6 miles south of the BSA in 1990.
<i>Navarretia fossalis</i>	spreading navarretia	FT, S2, 1B.1	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools; 30 to 655 m.	Apr-June	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 1.9 miles east northeast of the BSA in 2004.
<i>Navarretia prostrata</i>	Prostrate vernal pool navarretia	S2, 1B.1	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools; 30 to 655 m.	Apr-June	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 3.6 miles south of the BSA in 2015.
<i>Orcuttia californica</i>	Orcutt grass	FE, SE, S1, 1B.1	Occurs only in large and deep vernal pools; clay soils with an impervious subsurface layer and longer inundation periods; 15 to 660 m.	Apr-Aug	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 3.6 miles south of the BSA in 2015.
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	S2, 2B.2	Chaparral, woodland, coastal scrub, riparian woodland, dry stream bottoms, and canyon bottoms; sandy and gravelly substrates; 0 to 2,100 m.	(Jul) Aug-Nov (Dec)	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 1.6 miles south southeast of the BSA in 1995.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
<i>Scutellaria bolanderi</i> <i>ssp. austromontana</i>	southern mountains skullcap	S3, 1B.2	Chaparral, woodland, and lower coniferous forest; 425 to 2,000 m.	Jun-Aug	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 1.8 miles south of the BSA in 1989.
<i>Sibaropsis hammittii</i>	Hammitt's claycress	S2, 1B.2	Chaparral (openings) and grasslands; 720 to 1,065 m.	Mar-Apr	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 4.7 miles west northwest of the BSA in 2016.
<i>Sphaerocarpos drewiae</i>	bottle liverwort	S1, 1B.1	Chaparral and coastal scrub; openings; 90 to 600 m.	--	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest recorded occurrence is approximately 2.8 miles south southwest of the BSA in 2001.
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	S2, 1B.2	Meadows and seeps, woodland, coastal scrub, lower coniferous forest, marshes and swamps, grasslands; vernal mesic grassland or near ditches, streams and springs; disturbed areas; 3 to 2,045 m.	July-Nov	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 2.6 miles south southwest of the BSA, date unknown.
<i>Tortula californica</i>	California screw moss	S2?, 1B.2	Chenopod scrub and grasslands; sandy soil; 10 to 1,460 m.	--	Not Likely to Occur: Suitable habitat and substrate are not present within the BSA. The nearest and most recent recorded occurrence is approximately 9.4 miles west northwest of the BSA in 1930.

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Status Codes		<i>CNPS CRPR Designation</i>			
<i>Federal Designation</i>		1A = Plants considered by the CNPS to be extinct in California			
FE = Federally Endangered		1B = Plants rare, threatened, or endangered in California and elsewhere.			
FT = Federally Threatened		2A. Presumed extinct in California, extant and more common elsewhere			
<i>CDFW State Designation</i>		2B. Rare or Endangered in California, more common elsewhere			
SE = State Endangered		3. Plants for which we need more information - Review list			
SR = State Rare		4. Plants of limited distribution - Watch list			
ST = State Threatened		.1 = Seriously threatened in California (high degree/immediacy of threat).			
<i>State Ranking</i>		.2 = Fairly threatened in California (moderate degree/immediacy of threat).			
S1 = Critically Imperiled		.3 = Not very threatened in California (low degree or immediacy of threats or no current threats known)			
S2 = Imperiled		BSA = Biological Study Area			
S3 = Vulnerable		m = meter			
S4 = Apparently Secure					
S5 = Secure					
Addition of a "?" to the state ranking represents more certainty for the lower status than the higher one. .					

Table D-2: Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
INVERTEBRATES					
<i>Bombus crotchii</i>	Crotch bumble bee	SC, S1, SA	Coastal California east to the sierra-cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Limited suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 4.8 miles north of the BSA in 2001.	Low
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT, S3	Restricted to seasonally ponded basins, vernal pool, and ditches in California and Oregon.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 3.6 miles south of the BSA in 2008.	Not Likely to Occur
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE, S2	Restricted to seasonally ponded basins in coastal southern California and northwestern Baja California, Mexico.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 2.1 miles northeast of the BSA in 2017.	Not Likely to Occur
<i>Cicindela senilis frosti</i>	senile tiger beetle	S1	Occurs in San Francisco, los Angeles, and Riverside counties. Open, unvegetated areas in or near herbaceous wetlands, playa, coastal and alkali mud flats, salt marsh, and marine shorelines. Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone. One population is within an inland salt marsh in Lake Elsinore.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 6.4 miles northwest of the BSA in 1990.	Not Likely to Occur



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Euphydryas editha quino</i>	quino checkerspot butterfly	FE, S1S2	Native to southern California and northwestern Mexico. Occurs in localized colonies closely associated with the high densities of larval food plant, <i>Plantago erecta</i> , <i>P. insularis</i> , and <i>Orthocarpus purpurescens</i> . Adults use several chaparral annual flowers for food. Six known populations in southwestern Riverside and San Diego counties and at least one population near Tecate, Mexico. Associated with sunny openings within chaparral and coastal sage shrublands hills and mesas near the coast.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 1 mile north northeast of the BSA in 1998.	Not Likely to Occur
<i>Linderiella santarosae</i>	Santa Rosa Plateau fairy shrimp	S1	Occur in freshwater in temporary pools. Restricted to pools within the Santa Rosa Plateau in Riverside County, California	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 3.6 miles south of the BSA in 2008.	Not Likely to Occur
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE, S1S2	Restricted to large vernal pools and other large seasonal/ephemeral pools in Riverside, Orange, and San Diego counties in California and northwestern Baja California, Mexico.	Suitable habitat has the potential to occur within the BSA. The nearest recorded occurrence is approximately 1.1-mile northeast of the BSA in 2009.	Not Likely to Occu
FISH					
<i>Gila orcuttii</i>	arroyo chub	SSC, S2	Found in habitats with slow-moving freshwater, mud or sand substrate, and depths greater than 40 cm. Most abundant in low gradient pools that support at least some aquatic vegetation.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8.0 miles southeast of the BSA in 1998.	Not Likely to Occur



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Oncorhynchus mykiss irideus</i> pop. 10	steelhead - southern California DPS	FE, S1, SA	Inhabits seasonally accessible rivers and streams with gravel for spawning. Requires sufficient flows in their natal streams to be able to return from oceans and lakes to spawn. Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerance to warmer water and more variable conditions	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8.3 miles west southwest of the BSA in 2003.	Not Likely to Occur
AMPHIBIANS					
<i>Anaxyrus californicus</i>	Arroyo toad	FE, SSC, S2S3	Occurs in medium-to-large streams and rivers with intermittent and perennial flow in central and southern California, and Baja California, Mexico. Aestivate (burrows) in friable soils in the fall and winter in riparian and upland habitats adjacent to freshwater breeding habitat.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8.3 miles southwest of the BSA in 1991.	Not Likely to Occur
<i>Rana draytonii</i>	California red-legged frog	FT	Occurs from Mendocino County to Riverside County. Occurs in dense, shrubby or emergent riparian vegetation closely associated with deep (greater than two feet deep) still or slow-moving water. Associated with deep-water pools with dense stands of overhanging willows (<i>Salix</i> spp.) and an intermixed fringe of cattails (<i>Typha latifolia</i>). Well-vegetated terrestrial areas may provide important sheltering habitat during winter. Aestivates in small mammal burrows and moist leaf litter. Occurs up to 100 feet from water in dense riparian vegetation.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 3.1 miles south of the BSA in 2000.	Not Likely to Occur



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Spea hammondi</i>	western spadefoot	SSC, S3	Occurs in the Central Valley and adjacent foothills and the non-desert areas of southern California and Baja California, Mexico. Grassland habitats, hardwood woodlands, and coastal sage scrub. Vernal pools and other temporary rain pools, cattle tanks, and occasionally pools of intermittent streams are essential for breeding and egg-laying. Burrows in loose soils during dry season	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 1.7 miles east northeast of the BSA in 1998.	Low
<i>Taricha torosa</i>	Coast Range newt	SSC, S4	Occurs from Mendocino to San Diego counties in oak woodlands, chaparral, and grasslands near ponds, lakes, or slow-moving water.	Suitable habitat occurs in Murrieta Creek within the BSA. The nearest recorded occurrence is approximately 1.4 miles south southeast of the BSA in 2001.	Moderate
REPTILES					
<i>Anniella stebbinsi</i>	southern California legless lizard	SSC, S3, SA	South of the transverse range, extending to northwestern Baja California, Mexico. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations occur in the Tehachapi and Piute mountains in Kern County. Occurs in a variety of habitats; generally, in moist, loose soils as they prefer soils with a high moisture content.	Suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 1.4 miles southwest of the BSA in 2018.	Moderate
<i>Arizona elegans occidentalis</i>	California glossy snake	SSC, S2	Occurs in arid scrub, rocky washes, grasslands, and chaparral. Appear to prefer microhabitats of open areas with soil loose enough for easy burrowing.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 0.7-mile northwest of the BSA in 1946.	Not Likely to Occur
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	WL, S2S3	Occurs in Orange, southern San Bernardino, western Riverside, and western San Diego counties. Found in sage scrub and chaparral habitats.	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 1.5 miles north northeast of the BSA in 1998.	Moderate
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	SSC, S3, SA	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 5.9 miles north of the BSA in 2001.	Not Likely to Occur



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Crotalus ruber</i>	red-diamond rattlesnake	SSC, S3	Coastal sage scrub, chaparral, oak woodland, rocky hillsides, and rocky desert flats.	Suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 3.6 miles north northeast of the BSA in 2001.	Low
<i>Emys marmorata</i>	western pond turtle	SSC, S3, SA	A thoroughly aquatic turtle of small ponds and lakes, marshes, permanent and ephemeral shallow wetlands, stock ponds, reservoirs, treatment lagoons, irrigation ditches, and slow-moving permanent or intermittent rivers, streams, usually with aquatic vegetation, below 6000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying. Abundant cover necessary including logs, rocks, and submerged vegetation.	Limited suitable habitat occurs within the BSA in Murrieta Creek. The nearest recorded occurrence is within the BSA in 1987.	Not Likely to Occur
<i>Phrynosoma blainvillii</i>	coast horned lizard	SSC, S3, SA	Primarily in sandy soil in open areas, especially sandy washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Main prey item is harvester ants. Occurs west of the deserts from northern Baja California, Mexico north to Shasta County below 2,400 m (8,000 feet) elevation.	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 2.8 miles northeast of the BSA in 1996.	Low
<i>Thamnophis hammondi</i>	two-striped gartersnake	S3S4, SSC, SA	Coastal California from vicinity of Salinas to northwest Baja California, Mexico. From sea level to about 7000 feet. elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable habitat occurs within the BSA along Murrieta Creek. The nearest and most recently recorded occurrence is approximately 1.4 miles south southeast of the BSA in 2001.	Moderate
BIRDS					
<i>Accipiter cooperii</i>	Cooper's hawk	WL, S4	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Suitable habitat occurs within the BSA. Documented in the BSA in the riparian habitat along Murrieta Creek in 2021.	High



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Agelaius tricolor</i>	tricolored blackbird	ST, SSC, BCC, S1S2, SA	Highly colonial species, most numerous in the Central Valley and vicinity, and largely endemic to California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Forages in grassland and cropland habitats with insect prey within a few kilometers of the colony. They are itinerant breeders, nesting more than once at different locations during the breeding season.	A small area of suitable marsh habitat occur within the BSA. The nearest and most recently recorded occurrence is approximately 7.5 miles east of the BSA from 2015.	Low
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	S3	Breeds in coastal sage scrub and chaparral habitats.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 0.9 mile east of the BSA in 1998.	Not Likely to Occur
<i>Aquila chrysaetos</i>	golden eagle	S3, FP, BCC	Occurs throughout California but is uncommon. Forages in foothills, mountain areas, and desert areas; nests on cliffs and in large trees.	Suitable habitat does not occur within the BSA. The nearest and most recent recorded occurrence is approximately 3.4 miles southwest of the BSA in 1990.	Not Likely to Occur
<i>Artemisiospiza belli</i>	Bell's sage sparrow	S3, BCC	Prefers semi-open habitats with evenly spaced shrubs; dry chaparral and coastal sage scrub; shrub species include brittlebush, black sage, California buckwheat, California sagebrush, bush mallow, chamise, white sage, cholla, and willow.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 0.8 mile north northeast of the BSA in 2001.	Not Likely to Occur
<i>Athene cunicularia</i>	burrowing owl	SSC, BCC, S3, SA	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Owls are found in microhabitats highly altered by humans, including flood risk management and irrigation basins, dikes, banks, abandoned fields surrounded by agriculture, and road cuts and margins. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Otospermophilus beecheyi</i>).	Cuitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 1,200 feet northwest of the BSA in 2021.	Moderate
<i>Buteo regalis</i>	ferruginous hawk	WL, S3S4, BCC	Occurs in open coastal sage scrub, disturbed grassland, and agricultural fields.	Suitable foraging habitat occurs in the BSA. The nearest recorded occurrence is approximately x miles north of the BSA in 2020.	Low-Foraging / Not Likely to Nest



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Buteo swainsoni</i>	Swainson's hawk	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 1 mile northwest of the BSA in 2018.	Low
<i>Charadrius nivosus nivosus</i>	western snowy plover	FT, SSC, S2, BCC	Sandy or gravelly beaches, salt pond levees, shores of large alkali lakes including the Salton Sea. Needs sandy, gravelly or friable soils for nesting.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 5.6 miles northwest of the BSA in 1978.	Not Likely to Occur
<i>Circus hudsonius</i>	northern harrier	SSC, S3	Occurs in open coastal sage scrub, disturbed grassland, and disced fields.	Suitable foraging habitat occurs in the BSA. The nearest and most recent recorded occurrence is approximately 1 mile north of the BSA in 2015.	Moderate
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	FT, SE, S1, BCC	Occurs in dense riparian vegetation with surface water.	Suitable habitat does not occur in the BSA. The nearest and most recent recorded occurrence is approximately 9.8 miles southeast of the BSA in 1950.	Not Likely to Occur
<i>Elanus leucurus</i>	white-tailed kite	FP, S3S4	Occurs in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane California.	Suitable habitat occurs within the BSA. Recorded in the BSA in 2011 near Murrieta Creek.	Moderate
<i>Eremophila alpestris actia</i>	California horned lark	S1, WL, SA	Coastal regions, chiefly from Sonoma County to San Diego County. Also, main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Suitable habitat occurs within the BSA. Recorded within the BSA in 2020.	High
<i>Icteria virens</i>	yellow-breasted chat	SSC, S3	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages.	Suitable riparian habitat occurs in the northeastern portion of the BSA along Murrieta Creek. Recorded within the BSA in 2020.	High



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Lanius ludovicianus</i>	loggerhead shrike	SSC, S4, BCC	Occurs in grasslands and open-canopied hardwood, hardwood-conifer, riparian, pinyon-juniper, juniper, and Joshua tree habitats.	Suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 1,000 feet northwest of the BSA in 2014.	Moderate
<i>Plegadis chihi</i>	white-faced ibis	WL, S3S4	Occurs in freshwater marshes, irrigated lands, and tules. For nesting, they select shallow marshes with scattered areas of taller emergent vegetation such as cattail, bur-reed, or bulrush.	A small area of suitable marsh habitat occur within the BSA. The nearest and most recent recorded occurrence is approximately 5.6 miles northwest of the BSA in 1917.	Low
<i>Poliophtila californica californica</i>	coastal California gnatcatcher	FT, S2, SSC, SA	Obligate, permanent resident of coastal sage scrub below 2500 feet in southern California. Low, coastal sage scrub in arid washes and on mesas and slopes with California sagebrush (<i>Artemisia californica</i>) as a dominant or co-dominant species. Not all areas classified as coastal sage scrub are occupied.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 0.9-mile northeast of the BSA in 2016.	Not likely to occur
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE, SE, S2, SA	Spring and summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Often inhabits structurally diverse woodlands along watercourses including cottonwood-willow and oak woodlands and mulefat thickets. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, mulefat, or mesquite.	Suitable riparian habitat occurs in the northeastern portion of the BSA along Murrieta Creek. Recorded within the BSA in 2020.	High
MAMMALS					
<i>Chaetodipus californicus femoralis</i>	Delzura pocket mouse	SSC	Variety of habitats including coastal scrub, chaparral & grassland especially grass-chaparral edges.	Limited suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 5.0 miles east southeast of the BSA in 2005.	Low
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	SSC, S3S4	Coastal scrub, chaparral, grasslands, sagebrush, etc. in sandy, herbaceous areas. Usually in association with rocks or coarse gravel.	Limited suitable habitat occurs within the BSA along Murrieta Creek. The nearest and most recently recorded occurrence is approximately 3.9 miles east of the BSA in 2009.	Low



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE, SCE, SSC, S1	Early to intermediate seral stages of alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains.	Limited suitable habitat occurs within the BSA along Murrieta Creek. The nearest and most recently recorded occurrence is approximately 5.7 miles east southeast of the BSA in 1989.	Low
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE, ST	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass & filaree. Burrows in firm soil.	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 2.4 miles northeast of the BSA in 1998.	Low
<i>Eumops perotis californicus</i>	western mastiff bat	SSC, S3S4	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, bridges, trees, and tunnels. In California, most records are from rocky areas at low elevations.	No suitable habitat occurs within the BSA. The nearest and most recent recorded occurrence is approximately 5.9 miles north of the BSA in 2001.	Not Likely to Occur
<i>Lasiurus xanthinus</i>	western yellow bat	SSC, S3	Primarily roost in trees hanging from the underside of leaves. Commonly found in riparian woodland habitat with dead fronds of non-native palms (for roosting).	Limited suitable habitat occurs within the BSA. The nearest and most recorded occurrence is approximately 8.1 miles north northeast of the BSA in 1982.	Low
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	SSC, S3S4	Intermediate canopy stages of coastal sage scrub habitats & open shrub / herbaceous & tree/herbaceous edges.	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 0.7-mile east/northeast of the BSA in 1998.	Low
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	SSC, S1S2	Lower elevation grasslands & coastal sage communities in and around the Los Angeles basin. Uses open ground with fine sandy soils.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 7.7 miles east/southeast of the BSA in 1993.	Not Likely to Occur



Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				

Federal Rankings:

FE = Federally Endangered

FC = Federal Candidate Species for Listing

FT = Federally Threatened

BCC = USFWS Bird of Conservation Concern

BSA=Biological Study Area

CNDDDB =California Natural Diversity Database

State Rankings:

S1 = Critically Imperiled

S2 = Imperiled

S3 = Vulnerable

S4 = Apparently Secure

S5 - Secure

SC = State Candidate for Listing

SD = State Delisted

SA = CDFW Special Animal

SE = State Endangered

ST = State Threatened

FP= Fully Protected

SSC = Species of Special Concern

WL = Watchlist

