DOCKETED	
Docket Number:	24-OPT-02
Project Title:	Compass Energy Storage Project
TN #:	267926
Document Title:	Part 2 Supplemental Submittal_Attachment B_Biological Resources
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	12/15/2025 1:52:59 PM
Docketed Date:	12/15/2025

4.2 Biological Resources

This section describes the existing biological resource conditions of the project site and vicinity, identifies associated regulatory standards, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed project. The biological resources described in this section have been compiled from a literature review of mapping, databases, and general plans~~, as well as a~~; in addition, several field surveys were conducted including: a biological reconnaissance ~~conducted on the project site by Dudek's biologist Tommy Molioo in February~~ in 2021~~;~~; a formal jurisdictional aquatic resources delineation conducted in 2021, ~~and~~ updated in 2023, and in 2025; focused botanical surveys conducted in 2021 and updated in 2023; focused least Bell's vireo (Vireo bellii pusillus) surveys conducted in 2021 and updated in 2023; ~~; and~~ focused ~~species~~ surveys for Crotch's bumble bee (*Bombus crotchii*) and burrowing owl (*Athene cunicularia*) conducted through spring and summer 2023 and updated in 2025; focused bat survey, focused southwestern pond turtle (*Actinemys pallida*) survey, and focused arroyo chub (*Gila orcuttii*) survey conducted in 2025. For records search data for the preparation of this section, refer to the following appendices:

- Appendix 4.2A, Special Status-Species with a Potential to Occur within the Survey Area
- Appendix 4.2B, Observed Species List
- Appendix 4.2C, Resumes of Applicant's Biologists
- Appendix 4.2D, Special-Status Species Occurrence Records (CNDDB and CNPS Forms)

4.2.1 Affected Environment

The project site and a 100-foot buffer were assessed for this report (Survey Area). The Survey Area is located within the northern portion of the city, adjacent to Camino Capistrano with Interstate-5 located to the east. It is currently used by the prior owner, Saddleback Church Rancho Capistrano, for ancillary activities. The Survey Area is adjacent to Saddleback Church Rancho Capistrano to the north, undeveloped land to the south, Oso Creek to the south and east, Metrolink Railroad and Interstate-5 to the east, and open space and residences outside of the city limits to the west. The SDG&E Trabuco to Capistrano 138 kV transmission line is located immediately east of the Survey Area and runs alongside the Metrolink Railroad tracks.

The project is immediately adjacent to Oso Creek and currently consists of a mixture of undeveloped and developed lands. Open space is located on the northern side of the project site associated with Saddleback Church Rancho Capistrano; it contains dirt roads and light, non-commercial agricultural activity. Besides a few small dirt trails and roads, the southern portion of the project site is undeveloped, with no sign of recent agricultural activity. The Survey Area encompasses a portion of Oso Creek, which lies at the bottom of steep slopes. Outside of these steep areas, the Survey Area is flat to gently sloping. Elevation on the Survey Area ranges from approximately 165 to 270 feet above mean sea level.

Land use surrounding the Survey Area consists of residential development to the north, east, and west. Interstate 5 occurs to the east, separating the Survey Area from other developed areas. Residential development to the west is denser than the residential development to the east. Several schools, churches, and agricultural areas are scattered in areas surrounding the Survey Area. Several creeks, such as Oso Creek, Arroyo Trabuco, and Horno Creek, occur in the general vicinity that eventually drain to the Pacific Ocean to the south.

For the purposes of analyzing jurisdictional resources, the Survey Area consists of the larger Saddleback Church property, the proposed project components including emergency vehicle access road, battery storage yard,

interconnection switchyard, internal access roads, 20-foot-wide perimeter landscaping, transmission poles (two replacement poles and a new southern pole), two overhead transmission lines, Oso Creek, plus a 100-foot buffer to account for immediately adjacent aquatic resources. In addition, note that the Survey Area discussed in Section 4.2.1.1 that provides the regional overview of biological resources includes a 10-mile radius as required by the CEC.

4.2.1.1 Regional Overview

The Survey Area is located in the southern portion of Orange County, California. Regionally, the Survey Area occurs within a valley between the Santa Ana Mountains to the northeast and the Laguna Woods to the west. Interstate 5 and State Route 73 are major transportation corridors in the region, and the Survey Area occurs immediately west of Interstate 5. Oso Creek is located in the eastern portion of the ~~to the immediate east of the~~ Survey Area. Oso Creek originates in the Cleveland National Forest and travels southwest through southern Orange County before connecting with the Pacific Ocean. The Survey Area is located on the San Juan Capistrano, California, U.S. Geological Survey 7.5-minute map on Sections 25, 26, 35, and 36 of Township 75, Range 8 West. The Survey Area is located approximately 0.5-mile south of the confluence Interstate 5 and State Route 73.

The Survey Area is located southwest of the Santa Ana Mountains, west of the Peninsular Range, approximately 5 miles from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near San Juan Capistrano range from approximately 48°F to 79°F, and the area generally receives a yearly rainfall of less than 14 inches per year (WRCC 2025~~4~~).

4.2.1.2 Significant Regional Wetlands and Protected Areas

The National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD) were reviewed to identify wetland or hydrologic features (USFWS 2025~~4~~, USGS 2025~~4~~). Figure 4.15-1 (see Section 4.15, Water Resources) depicts the mapped wetland and hydrologic features in the Survey Area. These resources are further described below.

Protected areas within 10 miles of the Survey Area were determined through a review of the California Protected Area Database (CPAD) and California Conservation Easement Database (CCED) mapping tools (CPA 2025~~4~~). These resources are further described below.

4.2.1.2.1 Hydrologic Features

A review of the National Wetland Inventory (NWI) and National Hydrography Dataset (NHD) resulted in several waterbodies within the Survey Area (Figure 4-15-1). The NHD specifically maps Oso Creek as a perennial stream feature that flows north to south along the eastern portion~~edge~~ of the Survey Area. An ephemeral drainage feature is mapped flowing across the southern portion of the Survey Area, originating from a concrete-lined channel at the southwestern corner of the Survey Area. This ephemeral feature flows northeast, eventually flowing into Oso Creek. One additional ephemeral stream feature is mapped on the western side of the Survey Area, but it was not observed in the field. Furthermore, a review of the NWI dataset revealed two wetland types, Riverine and Artificial Pond, within the Survey Area. Specifically, Oso Creek (R4SBC) habitat is classified as riverine, intermittent, streambed, and seasonally flooded. The ephemeral streams mentioned above are not shown in the NWI dataset. The artificial pond (PUBx) west of the proposed access road is classified as palustrine and excavated with an unconsolidated bottom (USFWS 2024, USGS 2024). It functions as an ornamental pond associated with Saddleback Church.

Oso Creek flows south, away from the Survey Area into Arroyo Trabuco. Arroyo Trabuco joins with San Juan Creek, a relatively permanent water downstream and outflows into the Pacific Ocean, a traditional navigable water, near

Dana Point. Compass Energy Storage LLC and Dudek have prepared jurisdictional delineations to determine the accuracy of the NWI/NHD data and the presence/absence of potentially jurisdictional resources throughout the Survey Area (Dudek 2021, 2023, 2025). The formal wetland delineations were performed in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE 1987). Jurisdictional delineation results are shown in Figure 4.2-1.

4.2.1.2.2 Protected Areas

The California Protected Areas Database (CPAD) is a database that includes lands that are owned and protected for open space purposed by over 1,000 public agencies or non-profit organizations. CPAD includes national, state, or regional parks, forests, preserves and wildlife areas. It also includes large and small urban parks; land trust preserves and special district open space lands (CPA~~D~~ 2025~~4~~).

A review of the CPAD and California Conservation Easement Database (CCED) confirmed that there are several protected areas or conservation easements within a 10-mile radius of the Survey Area (CPA~~CED~~ 2025~~4~~). Project activities will not encroach into any conservation easements or protected areas, and there are no conservation easements or protected areas on the Survey Area. Figure 4.2-2 depicts protected areas identified within a 10-mile radius of the Survey Area. A list of the CPAD and CCED identified areas that occur within the 10-mile buffer of the project is provided below.

California Protected Areas Database

Rio Oso Park

The nearest mapped protected area is Rio Oso Park, located approximately 1.5 miles south of the Survey Area. It is held by the City of San Juan Capistrano (CPA~~D~~ 2025~~4~~).

Other protected areas identified within the 10-mile buffer of the project include:

- Acu Canyon Park
- Aliso and Wood Canyons Wilderness Park – County of Orange
- Aliso Beach Park – County of Orange
- Beacon Hill Park
- Bear Brand Park
- Capistrano Beach Park
- Chapparosa Park
- Cook Cordova Park
- Cleveland National Forest – U.S. Forest Service
- Creekside Park – City of Dana Point
- Coronado Park – City of Mission Viejo
- Crystal Cove State Beach
- Doheny State Beach
- Dana Point Preserve
- El Camino Real Park
- Forster Ranch Community Park

- Florence Joyner Olympiad Park – City of Mission Viejo
- Hidden Hills Park – City of Laguna Niguel
- Juaneno Park – City of Laguna Niguel
- Junipero Serra Park – City of San Juan Capistrano
- Ladera Ranch Trails and Open Space
- La Hermosa Park - City of Laguna Niguel
- Laguna Niguel Reginal Park – City of Laguna Niguel
- Lake Forest Sports Park
- Lake Forest GC
- La Plata Park – City of Laguna Niguel
- Liberty Park
- Long View Park
- Los Rios Park
- Mission Viejo Youth Athletic Park
- Marco Forster Field
- O'Neil Regional Park – County of Orange
- Oso Viejo Regional Park
- Park Vista Overlook
- Reef View Park
- Redondo View Node Park
- Regency Park – City of Laguna Woods
- Richard T. Steed Memorial Park
- Ronald Caspers Wilderness Park
- San Juan Capistrano City Open Space
- Seminole Park
- Sea Canyon Park
- San Gorgonio Park – City of San Clemente
- Salt Creek Beach County Park – County of Orange
- Serrano Creek Park
- South Strands Conservation Park – City of Dana Point
- Starr Ranch – National Audubon Society
- Thomas F. Riley Wilderness Park
- Trabuco Rose Preserve
- Treasure Island Beach
- Vista Del Lago Open Space – City of Mission Viejo
- Whiting Ranch Wilderness Park – County of Orange

California Conservation Easement Database

The CCED is a database that defines boundaries of easements and deed-base restrictions on private lands. These lands may be actively farmed, grazed, forested, or held as nature preserves and typically have no public access (CPA~~CED~~ 2025~~3~~4). The following easements were mapped within 10 miles of the project:

Gobernadora Conservation Easement

The nearest mapped conservation easement is the Gobernadora conservation easement, located approximately 5 miles east of the project (~~CCED~~ CPA 2025~~3~~4).

Bee Canyon Conservation Easement

This conservation easement Is located approximately 9 miles north of the project and is held by CDFW.

Gobernadora Conservation Easement

This conservation easement is located approximately 7 miles east of the project and is held by CDFW.

Irvine Ranch Conservation Easement

This conservation easement is located approximately 9 miles northwest of the project.

Irvine Ranch (East Orange) Conservation Easement

This conservation easement is located approximately 10 miles north of the project and is held by the Nature Conservancy.

Irvine Ranch (Fremont) Conservation Easement

This conservation easement is located approximately 10 miles northwest of the project and is held by the Nature Conservancy.

Irvine Ranch (laguna Laurel) Conservation Easement

This conservation easement is located approximately 6 miles northwest of the project site is held by the Nature Conservancy.

Rose Canyon Conservation Easement

This conservation easement is located approximately 8 miles northeast of the project and is held by CDFW.

Upper Chiquita Canyon Conservation Easement

This conservation easement is located approximately 8 miles northeast of the project and is held by the Transportation Corridor Agencies.

Nyes Place- Laguna Beach Conservation Easement

This conservation easement is located approximately 5 miles southwest of the project.

Shady Canyon Conservation Easement

This conservation easement is located approximately 8 miles northwest of the project and is held by CDFW.

4.2.1.3 Sensitive Habitat Types and Critical Habitat

Sensitive habitat types and critical habitats within a 10-mile radius of the project are shown on Figure 4.2-3 and Figure 4.2-4. The descriptions of the sensitive and critical habitats identified are described below.

4.2.1.3.1 Sensitive Habitat Types

As defined by CDFW, sensitive habitats are plant communities that have limited distributions, have high wildlife value, include sensitive species, or are particularly vulnerable to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in the California Natural Diversity Database (CNDDB) (CDFW 2025~~4~~a). Currently, CDFW publishes the California Sensitive Natural Communities List online (CDFW 2025~~3~~). Vegetation rarity ranking is based on a rank calculated developed by NatureServe. Vegetation maps were taken from the CDFW Vegetation Classification Reports and Maps (CDFW 2025~~4~~~~b~~). CDFW's Vegetation Program considers vegetation alliances with state ranks of S1-S3 as sensitive vegetative habitats. CDFW considers species or natural communities with one of the following NatureServe rankings as sensitive: Global(G)/State(S); Presumed Extinct (X); Possibly Extinct (G/S H); Critically Imperiled (G/S 1); Imperiled (G/S 2); Vulnerable (G/S 3). The following sensitive habitat types are mapped within a 10-mile radius of the project (Figure 4.2-3):

Soft Scrub/Mixed Chaparral

Soft scrub is characterized by shrubs in the Salvia genus, including black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and purple sage (*Salvia leucophylla*), and can also include other native shrubs including deer weed (*Acmispon glaber*). Mixed chaparral can co-dominate soft scrub communities, characterized by chamise (*Adenostoma fasciculata*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and sugar bush (*Rhus ovata*) (CNPS 2025~~4~~). No soft scrub/mixed chaparral occurs on the Survey Area.

River/Stream/Canal/Barren

Rivers, streams, creeks, and canals within 10 miles of the project include Oso Creek, Santa Margarita Creek, Arroyo Trabuco, San Juan Creek, the Santa Ana River, Chiquita Creek, Aliso Creek, Sulphur creek, San Diego Creek, Salt Creek, and various flood control channels. Oso Creek occurs within the Survey Area and supports a mixed willow-cottonwood hardwood riparian habitat.

Coast Live Oak

Oak dominated habitats occur in canyons and on slopes with trees and shrubs in the Quercus genus, including coast live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepsis*), scrub oak (*Quercus berberidifolia*), Nuttal's scrub oak (*Quercus nuttali*), and interior live oak (*Quercus wislizeni*), as dense or open canopies (CNPS 2024). Nuttal's scrub oak is considered sensitive by CDFW (CDFW 2025~~3~~). No coast live oak occurs on the Survey Area.

Baccharis (Riparian)

This vegetation community consists of shrubs from the *Baccharis* genus that are accustomed to saturated soils, including mulefat (*Baccharis salicifolia*), coyote brush (*Baccharis pilularis*), and desert broom (*baccharis sarothroides*) (CNPS 2025~~4~~). Mulefat thickets occur along Oso Creek on the eastern Survey Area boundary.

Fremont cottonwood/mixed willow (*Populus fremontii-Salix laevigata*) Riparian Mixed Hardwood Woodland

Riparian mixed hardwood consists of mature riparian trees and shrubs including mixed willows and cottonwoods that can support a variety of special-status riparian birds including least Bell's vireo (*Vireo bellii pusillus*), yellow

warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*). This vegetation community also occurs along Oso Creek in ~~on~~ the eastern portion of the Survey Area ~~boundary~~.

California Sagebrush (*Artemisia californica*) Scrub Occupied by Coastal California Gnatcatcher (*Polioptila californica*)

CDFW considers this vegetation community as sensitive when occupied by a listed species (CDFW 2025b~~3~~). California sagebrush scrub is dominated by California sagebrush but can be co-dominate with California buckwheat (*Eriogonum fasciculatum*) and mixed Salvia species. Recent occurrence records for coastal California gnatcatcher occur in California sagebrush scrub located approximately 0.5 miles south of the project site. These offsite areas where gnatcatcher was previously observed contain much higher quality habitat than what occurs on site. Coastal California gnatcatcher prefers relatively large contiguous swaths of coastal sage scrub vegetation as opposed to small, isolated patches of habitat for nesting. The Survey Area does not contain any California sagebrush scrub that could provide suitable nesting or foraging habitat for coastal California gnatcatcher. Therefore, no further analysis or focused surveys for this species were conducted for the project.

4.2.1.3.2 Critical Habitat

Critical habitats are designated areas occupied by the species at the time it was listed that contain the physical or biological features that are essential to the conservation of endangered and threatened species. In designated critical habitat, U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) consider the following requirements of the species:

> "Space for individual and population growth, and for normal behavior; nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing offspring; and, generally, any habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of this species (USFWS 2025~~4~~)."

No designated critical habitats occur within the Survey Area. The following critical habitats were identified within 10 miles of the Survey Area:

Coastal California Gnatcatcher (*Polioptila californica californica*) Critical Habitat

The northern boundary of Coastal California gnatcatcher critical habitat is located approximately 0.5 miles south and east of the project in upland California sagebrush scrub at the confluence of Arroyo Trabuco and Oso Creek (USFWS 2025~~4a~~). This critical habitat extends to other locations approximately 1 mile southwest of the project in Salt Creek Corridor Regional Park, 3 miles south and southwest of the project in upland coastal sage scrub habitats, approximately 5 miles southwest of the project in Aliso Beach Park, and approximately 6 miles east of the Survey Area~~project site~~ in upland coastal sage scrub.

Southern Steelhead *(Oncorhynchus mykiss)* Critical Habitat

The northern boundary of the southern california Distinct Population Segment of southern steelhead trout critical habitat is located approximately 0.5 miles downstream of the project site in Trabuco Creek, and extends approximately 4.5 miles southwest to its outlet at Doheny Beach, the Pacific Ocean (NOAA 2025). This distinct population segment is federally endangered and CESA Candidate endangered. It is known to spawn in gravel

bottomed, fast flowing, well-oxygenated rivers and streams. Trabuco creek and Oso Creek are connected until Trabuco Creek becomes channelized approximately 2 miles south of the Survey Area.

Arroyo Toad (*Anaxyrus californicus*) Critical Habitat

The northern boundary of a~~A~~rroyo toad critical habitat is located approximately 2.5 miles east and south of the Survey Area~~project~~, in riparian scrub habitat associated with San Juan Creek in Rancho Mission Viejo (USFWS 2025~~4a~~). The western boundary of another critical habitat for this species is mapped approximately 7 miles southeast of the Survey Area~~project~~, in San Clemente. Finally, the southern boundary of additional critical habitat for arroyo toad occurs approximately 7 miles northeast of the Survey Area~~project~~, in the Trabuco Highlands.

Tidewater Goby (*Eucyclogobius newberryi*) Critical Habitat

The northern boundary of tidewater goby critical habitat is located approximately 5 miles southwest of the Survey Area~~project~~ in Aliso Creek. There is no direct connectivity between the suitable habitat within Aliso Creek to the existing habitat within the boundaries of Oso Creek in ~~to the immediate east of~~ the Survey Area (USFWS 2025)~~site~~.

Thread-Leaved Brodiaea (*Brodiaea filifolia*) Critical Habitat

The eastern boundary of thread-leaved brodiaea critical habitat is located approximately 3 miles northwest of the Survey Area~~project~~ in habitat associated with Aliso and Wood Canyons Wilderness Park. Another designated critical habitat for this species occurs approximately 4.5 miles east of the Survey Area~~project~~ in upland habitat associated with the Gobernadora Conservation Easement. Finally, additional critical habitat for this species occurs approximately 7 miles southeast and northeast of the project in upland habitat (USFWS 2025~~24a~~).

This perennial herb occurs in chaparral openings, cismontane woodland, coastal scrub, playas, vernal pools, and grassland at elevations ranging between 80 to 3,675 feet above mean sea level. It blooms from March to July and is often found on clay soils. Thread-leaved brodiaea~~It~~ is federally threatened, state endangered, ranked S2 by CDFW, and has a California Rare Plant Rank (CRPR) of 1B.1- rare or endangered, seriously threatened (CNPS 2025a~~4a~~).

4.2.1.4 Regional Sensitive or Special-Status Species

Appendix 4.2A provides a list of special-status species found within a 10-mile radius of the Survey Area during the literature review. This appendix includes the status designation for each species, habitat types that may support these species in the regional vicinity, a determination of potential for these species to occur within the Survey Area, and a rationale for the occurrence determination. Sensitive or special-status species meet at least one or more of the following criteria:

- Regional species listed as threatened or endangered that have special requirements under the federal Endangered Species Act (FESA) (16 U.S.C. 1531-1544);
- Regional species listed as threatened or endangered that have special requirements under the California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 seq.);
- Other non-listed sensitive and special-status species, including California Native Plant Society (CNPS) CRPR 1-4 species (CNPS 2025), CDFW Species of Special Concern (SSC), CDFW Fully Protected (FP) species, and other CDFW Special Animals (CDFW 2025~~4a~~).

The results of the special-status species identified during the biological reconnaissance, protocol-level rare plant survey, and protocol-level least Bell's vireo ~~(*Vireo bellii pusillus*)~~ surveys on the Survey Area are discussed in Section 4.2.1.7. Appendix 4.2D lists the special-status plant and wildlife species known to occur within a 10-mile radius of the ~~project~~Survey Area. No federal or state listed special-status species are known to occur on the Survey Area. However, two non-listed state special-status Species of Special Concern (SSC) were observed within Oso Creek on the Survey Area during the least Bell's vireo surveys: yellow breasted chat (*Icteria virens*) and yellow warbler (*Setophaga petechia*) (further discussed in Section 4.2.1.7).

4.2.1.5 Biological Surveys

In February 2021, Dudek biologists conducted vegetation mapping and a general biological reconnaissance of the Survey Area. Focused surveys were conducted throughout spring and summer of 2021 by Dudek biologists to determine the presence/absence of various special-status species. Specifically, protocol-level rare plant surveys and least Bell's vireo (*Vireo bellii pusillus*) surveys were conducted within the Survey Area. Due to project design and footprint revisions in early 2023, updated focused surveys for rare plants and least Bell's vireo were conducted in the spring and summer of 2023. Further, Dudek conducted an updated jurisdictional delineation in 2023 to assess potentially jurisdictional features within the revised project footprint. Further revisions to the project footprint within Oso Creek for slope stabilization resulted in the need for updated focused surveys in 2025, including an updated jurisdictional delineation, updated focused Crotch's bumble bee and burrowing owl surveys, as well as focused surveys for bats, southwestern pond turtle, and arroyo chub. Table 4.2-1 lists the dates, conditions, and focus for each survey. All focused surveys have been conducted to date, and the results are provided in this report.

Table 4.2-1. Schedule of Surveys

Date	Hours	Survey Focus	Personnel	Conditions
2/24/2021	1230–1500	Biological Reconnaissance	TM, JH	60°F–62°F; 0%–0% cloud cover; 2–3 miles per hour (mph) winds
3/11/2021	0930–1400	Jurisdictional Delineation	DA	62°F–65°F; 5%–10% cloud cover; 1–2 mph winds
4/8/2021	0730–1130	LBV #1	TM, ES	55°F–64°F; 0%–0% cloud cover; 0–1 mph winds
4/28/2021	0900–1100	LBV #2	TM	61°F–63°F; 100%–100% cloud cover; 1–2 mph winds
5/10/2021	0655–1315	Botanical #1	EB, RS	58°F–2°F; 60%–100% cloud cover; 0–4 mph winds
5/14/2021	0630–0950	LBV #3	EM	65°F–68°F; 90%–100% cloud cover; 0–3 mph winds
5/26/2021	1001–1108	LBV #4	RS	68°F–70°F; 10%–0% cloud cover; 5–15 mph winds
6/18/2021	0921–1041	LBV #5	RS	66°F–73°F; 100%–60% cloud cover; 5–10 mph winds
7/2/2021	1000–1130	LBV #6	DA	69°F–70°F; 0%–0% cloud cover; 1–3 mph winds
7/15/2021	0849–1011	LBV #7	RS	73°F–75°F; 10%–0% cloud cover; 1–5 mph winds
7/25/2021	0836–0711	Botanical #2	EB	64°F–80°F; 0%–80% cloud cover; 1–3 mph winds

Table 4.2-1. Schedule of Surveys

Date	Hours	Survey Focus	Personnel	Conditions
3/23/2023	0900-1200	Updated Biological Reconnaissance, Updated Jurisdictional Delineation ~~Update~~	TM	53°F–60°F; 90% cloud cover; 2-4 mph winds
4/11/2023	0800-1100	LBV #1	SC	51°F–71°F; 10%–100% cloud cover; 1–5 mph winds
4/21/2023	0830-1100	LBV #2	KN	69°F–75°F; 0% cloud cover; 0–2 mph winds
5/3/2023	0900-1000	LBV #3	TM	58°F–60°F; 10% cloud cover; 2-4 mph winds
5/5/2023	0800-1720	Botanical #1	EB	58°F–77°F; 10%-40% cloud cover; 0-3 mph winds
5/17/2023	1000-1100	LBV #4	TM	55°F–67°F; 70 and-80% cloud cover; 1-3 mph winds
6/2/2023	0830-1100	LBV #5	SC	65°F–66°F; 100% cloud cover; 0-6 mph winds
6/13/2023	0830-1100	LBV #6	SC	68°F–71°F; 100% cloud cover; 1-4 mph winds
6/23/2023	1140-1930	Botanical #2	EB	65°F–77°F; 10%-20% cloud cover; 0-3 mph winds
6/27/2023	0640-0850	LBV #7	DA	65°F–66°F; 100% cloud cover; 0-6 mph winds
7/13/2023	0845-1100	LBV #8	KN	74°F–81°F; 0% cloud cover; 1-4 mph winds
7/31/2024	0716–1038	BUOW #1 CBB #1	SZ, DS	60°F–71°F, 0% cc, 0–4 mph winds
8/26/2024	0845–1008	BUOW #2 CBB #2	SZ	70°F–76°F, 0% cc, 0–2 mph winds
7/3/2025	0700–1000	BUOW #1	KN	61°F–67°F, 100%–50% cc, 1–7 mph winds
7/17/2025	0700–1000	BUOW #2	KN	63°F–73°F, 0%–10% cc, 0–3 mph winds
7/31/2025	0700–1000	BUOW # 3	KN	62°F–71°F, 100%–0% cc, 1–4 mph winds
7/3/2025	1000–1300	CBB #1	KN	67°F–76°F, 50%–0% cc, 7–8 mph winds
7/17/2025	1000–1300	CBB #2	KN	73°F–77°F, 20%–0% cc, 3–8 mph winds
7/31/2025	1000-1300	CBB #3	KN	71°F–76°F, 0% cc, 4–8 mph winds
8/20/2025	0830-1130	Southwestern Pond Turtle	MM, KN	70°F–82°F; 0% cloud cover; 0-3 mph winds
8/25/2025	1000-1300	Jurisdictional Delineation Update	DA, KN	73°F–81°F; 0% cloud cover; 1-6 mph winds
9/1/2025	1800-2200	Bats	TM	70°F–65°F; 0% cloud cover; 1-3 mph winds

Table 4.2-1. Schedule of Surveys

Date	Hours	Survey Focus	Personnel	Conditions
10/9/2025	1000-1315	Arroyo chub	MM	71°F–75°F; 90% cloud cover; 1-5 mph winds

Notes: BUOW = burrowing owl; CBB= Crotch's bumble bee; LBV = least Bell's vireo
Personnel: DA = Dylan Ayers; DS = Dahlia Serrato; EB = Erin Bergmann EM = Erin McKinney; ES = Eilleen Salas; JH = Janice Heller; KN = Kimberly Narel; MM= Max Murray; RS = Rachel Swick; SC = Shana Carey; SZ= Sharon Zarate; TM = Tommy Molioo.

Reconnaissance Survey

- **Vegetation Mapping.** Dudek Biologists Tommy Molioo and Janice Heller mapped vegetation communities in the field directly onto a 250-scale (1 inch = 250 feet) aerial photograph of the Survey Area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the Survey Area was determined. Native plant community classifications used in this report follow the Habitat Classification System for Orange County (County of Orange 1992) and California Native Plant Society's A Manual of California Vegetation (Sawyer et al. 2009) where feasible, with modifications to accommodate the lack of conformity of the observed communities to those listed in the Habitat Classification System for Orange County. The initial mapping of the Survey Area used an approximately 0.25-acre minimum mapping unit for vegetation community polygons (i.e., clusters of particular vegetation types smaller than 0.25 acres were not necessarily mapped separately from the surrounding, larger vegetation community). Vegetation mapping was revised in 2023 during the updated biological reconnaissance survey.
- **Biological Survey.** The potential for occurrences of special-status wildlife species, resulting from the literature review, were assessed in relation to the Survey Area. A total of 82~~52~~ wildlife species (73~~50~~ native, ~~2~~9 -non-native) and 89~~75~~ plant species (18~~1~~ native, 71~~64~~ non-native) were observed either on or in the vicinity of the Survey Area during field surveys from 2021 to 2025. Many of these species are common to the region and would be expected in terrestrial and aquatic habitats present in the Survey Area. Special-status species that are threatened, endangered, or protected found on this list are discussed in detail in Section 4.2.1.5. A comprehensive list of all plant and wildlife species observed is included in Appendix 4.2B.

Jurisdictional Delineation and Updated Jurisdictional Delineation. In March 2021, Dudek biologists conducted a formal jurisdictional wetlands delineation within the Survey Area. All areas identified as being potentially subject to the jurisdiction of the United Stated Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW were field-verified and mapped. The wetlands delineation was performed in accordance with the methods prescribed in the 1987 Wetlands Delineation Manual (USACE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008), and the USACE and Environmental Protection Agency (EPA) Rapanos Guidance (USACE and EPA 2008). In March 2023, an updated formal jurisdictional wetlands delineation was conducted, focusing on potentially jurisdictional features within the latest project footprint (Dudek 2023). The Survey Area was assessed for the presence/absence of potentially jurisdictional Waters of the United States (WOTUS) as well as RWQCB and CDFW regulated waterbodies such as wetlands, vernal pools, washes, drainages, streams, lakes, ponds, and any other water bodies. Results of the formal aquatic resources delineations are summarized in Section 4.2.2.2.5. Updated jurisdictional delineations were conducted in 2023 and 2025 to account for the revised project footprint and to assess the rate of bank erosion at Oso Creek (Dudek 2025b).

Rare Plant Surveys. Dudek biologists conducted a spring focused special-status plant survey on May 10, 2021, and a summer focused special-status plant survey on July 25, 2021. Field survey methods and mapping of rare plants conformed to CNPS's Botanical Survey Guidelines (CNPS 2001), CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018), and General Rare Plant Survey Guidelines (Cypher 2002). The surveys consisted of one survey pass in May and one survey pass in July that provided 100% coverage of the Survey Area. Updated protocol-level plant surveys were conducted in spring and summer of 2023 also provided 100% coverage of the Survey Area.

Before conducting the surveys, Dudek botanists conducted reference population checks prior to the 2021 botanical surveys to ensure the focal special-status plant species were in bloom and identifiable. Reference checks were conducted for the following species: threadleaf brodiaea (*Brodiaea filifolia*), Catalina mariposa lily (*Calochortus calalinae*), small flowered morning glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), Palmer's grapplinghook (*Harpagonella palmeri*), cliff aster (*Malacothrix saxatilis var. saxatilis*), chaparral ragwort (*Senecio aphanactis*), bigleaf crownbeard (*Verbesina dissita*), and San Diego thorn mint (*Acanthomintha ilicifolia*). Results of the 2021 and 2023 focused rare plant surveys were negative. As such, special-status plants are considered absent from the Survey Area.

Least Bell's Vireo Surveys. Dudek biologists conducted eight survey passes within suitable habitat in the Survey Area to determine the presence/absence of least Bell's vireo ~~(*Vireo bellii pusillus*)~~. Suitable habitat for the species was identified during the biological reconnaissance within the riparian woodland habitat associated with Oso Creek and several unnamed tributaries. All surveys consisted of slowly walking a methodical, meandering transect within and adjacent to all riparian habitat. This route was arranged to cover all suitable habitat within the Survey Area. An electronically based vegetation map projected on an iPad or iPhone of the Survey Area was available to record any detected vireo. Binoculars (8×40 through 10×50) were used to aid in detecting and identifying wildlife species. Surveyors did not survey more than 3 linear kilometers of habitat on any given survey day. Surveyors generally surveyed between 1 to 2 kilometers of linear habitat on any given survey day. The least Bell's vireo focused survey area is depicted on Figure 4.2-5.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for least Bell's vireo. The eight surveys for least Bell's vireo followed the currently accepted Least Bell's Vireo Survey Guidelines (USFWS 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitats during the period from April 10 to July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations were not used during the surveys. Surveys were conducted between dawn and 11:15 a.m. and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather. Any sign or observations of least Bell's vireo were noted and GPS points taken. All avian species encountered during the surveys were logged in an electronic datasheet. The results of the least Bell's vireo surveys in 2021 and 2023 were negative. As such, this species is considered absent from the Survey Area.

Burrowing Owl Surveys. Dudek biologists conducted focused burrowing owl surveys in 2024 and 2025 within suitable habitat in the Survey Area to determine the presence/absence of burrowing owl. The 2025 late-breeding-season burrowing owl surveys were conducted to determine if any owls are currently occupying the project and surrounding 500-meter buffer, as well as to identify any suitable burrows to support nesting activity. Suitable habitat for burrowing owl on the Survey Area includes portions of rock riprap along Oso Creek, non-native grassland, agricultural land, and coastal sage scrub habitats. The burrowing owl surveys were conducted in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Dudek biologist Kimberly Narel conducting the surveys during the burrowing owl breeding season (February 1–August 31). The surveys were

conducted when conditions were suitable for detecting owls (no rain, high winds [greater than 20 miles per hour], dense fog, or temperatures over 90°F). Three focused burrowing owl survey passes spaced at least 2 weeks apart were conducted before July 31 in suitable habitat within the project plus a 500-meter buffer. No burrowing owl or signs of burrowing owl activity (including feathers, whitewash, or pellets) were observed within the Survey Area. As such, this species is considered absent from the Survey Area (Dudek 2024, Dudek 2025a).

Crotch's Bumble Bee Surveys. Dudek conducted protocol-level photograph surveys for Crotch's bumble bee in 2024 and 2025. The 2025 surveys consisting of three passes within suitable habitat on in the Survey Area. The Survey Area was assessed to find plants in bloom, specifically areas with suitable floral habitat. Surveys occurred after sunrise and were not conducted during wet conditions (e.g., foggy, raining, or drizzling) or windy conditions (i.e., sustained winds greater than 8 miles per hour). The surveys were conducted during optimal conditions when there were sunny to partly sunny skies and temperatures greater than 60°F. Focused surveys were conducted according to CDFW's Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species (CDFW 2023), spaced 2 weeks apart during the Crotch's bumble bee colony active period (April–August). No Crotch's bumble bees or bumble bee nesting activity were observed during the 2024 and 2025 focused surveys. As such, this species is considered absent from the Survey Area (Dudek 2024, Dudek 2025a).

Southwestern Pond Turtle Survey

The habitat assessment and visual encounter survey for southwestern pond turtle was conducted in August 2025 using methods described in the United States Geological Survey (USGS) 2006 protocol. Two biologists scanned Oso Creek and the artificial pond in the Survey Area with binoculars, looking for swimming or basking pond turtles and recording the habitat quality. Aquatic and upland habitats that are required to support southwestern pond turtles were observed within the project boundary. The results of the 2025 habitat assessment and visual encounter survey were positive for southwestern pond turtle. Four individual southwestern pond turtles of different size classes were observed within Oso Creek (Figure 4.2-6: Southwestern Pond Turtle Habitat Assessment and Visual Encounter Survey). Habitat to support all phases of the southwestern pond turtle life cycle are present within the project boundary. It is likely that this portion of Oso Creek supports a population of southwestern pond ~~turtle~~turtles (Dudek 2025c).

Arroyo Chub Survey

A modified visual encounter survey was conducted that included visual observations with binoculars and polarized sunglasses, in addition to the use of underwater cameras to identify fishes in situ. While other survey methods (e.g. electrofishing; seining) are generally considered the most effective method for sampling fish communities in streams (Bonar et al. 2009) and have been proven effective in surveying in southern California (USGS 2001), visual encounter surveys were employed due to the potential take associated with other methods. One biologist scanned suitable habitat in the Survey Area (Oso Creek) with binoculars while setting underwater cameras in locations to passively film fishes. The visual encounter survey was limited to the upstream portions of Oso Creek within the project boundary due to unsafe wading and hiking conditions in the lower portion of the creek. No arroyo chub were observed during the 2025 survey. Several nonnative fish species were observed which have been though to predate and outcompete arroyo chub. It is likely that this portion of Oso Creek no longer supports a population of arroyo chub (Dudek 2025d).

Special-Status Bats Survey

The bat survey was conducted by Senior Bat Biologist Tommy Molioo on the evening of September 1, 2025, from the hours of 6:00pm to 10:00pm. The survey consisted of a roost assessment, emergence survey, and acoustic echolocation detection. The survey focused on suitable habitat within the project site which primarily includes the riparian habitat within Oso Creek, the eucalyptus and palm trees located along the northeastern project boundary, and the various buildings associated with the church. The roost assessment included a daytime visual survey of all suitable roosting habitat to determine if any sign of active roosting (presence of staining and guano piles) is present. Additionally, any areas that provide ingress/egress for roosting bat emergence were closely examined. The emergence survey was conducted throughout the survey period and consisted of visually observing potential roosts for the emergence of bats for foraging.

To aid in emergence detection and species determination, active and passive echolocation monitoring was conducted. A Pettersen M500 microphone attached to a laptop running Sonobat Live software was deployed throughout the night during the emergence survey to actively detect bats emerging and foraging on the project site. Additionally, five Wildlife Acoustics SM4 full-spectrum bat detectors were deployed throughout the eastern portion of the project site to passively detect and record bats flying along Oso Creek and the rows of trees along the northeastern project boundary. The passive acoustic detectors were deployed for 4 consecutive nights and recorded echolocation calls from 30 minutes prior to sunset to 30 minutes after sunrise in order to detect bats when they are most active throughout the night. The detectors were placed in small plastic lockable bins with an ultrasonic microphone attached to the top of a 10-foot pole, deployed on the first night of surveys and retrieved the morning after the fourth night. Locations of the 5 bat detectors are provided in Figure 4.2-7: Bat Survey Results. The recorded calls were then analyzed off site using Sonobat 4 software with automated call classification. Any questionable, ambiguous or incomplete calls were manually vetted by Dudek's senior bat biologist.

4.2.1.6 Land Cover Types and Vegetation Communities

All plant species encountered during the field reconnaissance surveys and jurisdictional delineations were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (formerly California Native Plant Society List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2025~~4~~a). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2025~~0~~) and common names follow the California Natural Community list (CDFW 2025a~~3~~) or the United States Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2025~~4~~). A list of plant species observed in the Survey Area during the biological ~~initial~~ surveys is presented in Appendix 4.2B.

The Survey Area consists of mostly undeveloped lands, with a mix of native and non-native vegetation communities (Figure 4.2-8: Vegetation~~6~~). Most of the Survey Area is dominated by agricultural land consisting of non-native annual grasses, with trees and shrubs occurring intermittently around the Survey Area. Dense riparian vegetation is found around the aquatic resources in the Survey Area, and non-native vegetation occurs sporadically throughout. The ~~entire~~ eastern portion of the~~edge of the~~ Survey Area contains ~~steep slopes that are associated with~~ Oso Creek. Significant erosion is occurring on the banks~~these steep slopes~~, leaving some areas as barren soils with no established vegetative cover. Communities observed throughout the Survey Area include Fremont Cottonwood – Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Riparian Woodland (Popfre-Sallas), Mulefat Thickets (Bacsal), Agriculture (AGR), Urban/Developed (DEV), Disturbed Habitat (DH), Ornamental (ORN), Upland Mustards (UM), and

Non-Vegetated Channel (NVC). These vegetation communities and land covers are described in further detail below and are summarized in Table 4.2-2. The complete list of plant species observed in the Survey Area is included in Appendix 4.2B. Vegetation communities and land covers observed on the Survey area are depicted on Figure 4.2-8.

Table 4.2-2. Vegetation Communities and Land Cover Types in the Survey Area

Vegetation Communities and Land Cover Types	Project Boundary (acres)	100-foot Survey Area Buffer (acres)
Native Vegetation Communities		
Mulefat Thickets (BacSal)	3.58	1.17
Fremont cottonwood – Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Riparian Woodland (Popfre-Sallas)	7.04	3.57
Subtotal	*10.62*	*4.74*
Non-Native Vegetation Communities and Land Covers		
General Agriculture (AGR)	11.75	8.48
Urban/Developed (DEV)	1.39	4.45
Disturbed Habitat (DH)	2.11	5.96
Ornamental (ORN)	0.15	0.59
Upland Mustards (UM)	1.65	5.72
Non-vegetated Channel (NVC)	0.01	0.64
Subtotal	*17.06*	*25.84*
Total*	**27.68**	**30.58**

Note: * Totals may not exactly sum due to rounding.

~~Table 4.2-2. Vegetation Communities and Land Cover Types in the Survey Area~~

~~Vegetation Communities and Land Cover Types~~	~~Project Boundary (acres)~~	~~100-foot Survey Area Buffer (acres)~~
~~Native Vegetation Communities~~		
~~Mulefat Thickets (BacSal)~~	~~N/A~~	~~1.11~~
~~Fremont cottonwood – Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Riparian Woodland (Popfre-Sallas)~~	~~N/A~~	~~0.94~~
~~*Subtotal*~~	~~*N/A*~~	~~*2.1*~~
~~Non-Native Vegetation Communities and Land Covers~~		
~~General Agriculture (AGR)~~	~~10.82~~	~~9.09~~
~~Urban/Developed (DEV)~~	~~1.45~~	~~4.67~~
~~Disturbed Habitat (DH)~~	~~1.72~~	~~5.85~~
~~Ornamental (ORN)~~	~~0.06~~	~~0.58~~

~~Upland Mustards (UM)~~	~~0.04~~	~~1.88~~
~~Non-vegetated Channel (NVC)~~	~~N/A~~	~~0.58~~
~~*Subtotal*~~	~~*14.1*~~	~~*22.7*~~
~~**Total***~~	~~**14.1**~~	~~**24.8**~~

~~**Note:** * Totals may not exactly sum due to rounding.~~

4.2.1.6.1 Mulefat Thickets (BacSal)

The Bascal mapping unit occurs along the edges of the Popfre-Sallas vegetation community on the steep slopes associated with Oso Creek. Characteristic species of this community includes mulefat (*Baccharis salicifolia*), elderberry (*Sambucus nigra*), and tamarisk (*Tamarix ramoissima*). Other mixed herbs observed in this community include poison hemlock (*Conium maculatum*), black mustard (*Brassica nigra*), and horseweed (*Erigeron* sp.). The mulefat thickets are confined to Oso Creek beneath the proposed overhead transmission lines. Riparian *Baccharis* species such as the mulefat thickets on the Survey Area are considered a sensitive habitat type, as is Oso Creek.

4.2.1.6.2 Fremont Cottonwood-Arroyo Willow (*Populus fremontii – Salix lasiolepis*) Association (Popfre-Sallas)

The Popfre-Sallas vegetation community occurs along Oso Creek on both flat land and steep slopes. Characteristic species of this community includes Fremont's cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), mule fat, and California sycamore (*Platanus racemosa*). Other mixed herbs observed in this community include poison hemlock (*Conium maculatum*) and California wood sorrel (*Oxalis* sp.). This riparian woodland community is considered sensitive by CDFW and is confined to Oso Creek~~. beneath the proposed overhead transmission lines.~~

4.2.1.6.3 General Agriculture

The Agriculture (AGR) mapping unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). The Agriculture (AGR) mapping unit refers to areas that support an active agricultural operation. Agricultural activity occurring in the project site consisted of row crops and raised container gardens that are part of a non-commercial operation. Some herbaceous ruderal species were observed growing in the disturbed soils associated with these areas. Agriculture (AGR) habitat dominates the Survey Area.

4.2.1.6.4 Disturbed Habitat

The Disturbed Habitat (DH) mapping unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). The Disturbed Habitat (DH) mapping unit refers to areas that lack vegetation but still retain a pervious surface, or that are dominated by a sparse cover of non-native grasses and ruderal species, such as wild oat (*Avena fatua)*, black mustard, red brome (*Bromus madritensis*), and prickly lettuce (*Lactuca serriola*). Disturbed Habitat (DH) consists of existing compacted dirt access paths within the project boundary as well as along the proposed access road.

4.2.1.6.5 Ornamental

The Ornamental (ORN) mapping unit is not recognized be the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). The Ornamental (ORN) mapping unit refers to areas that are consistently managed and planted with decorative tree, shrub, and herbaceous species. Ornamental (ORN) vegetation

associated with the existing Saddleback Church is located along a portion of the proposed access road as well as along the proposed relocated equestrian trail.

4.2.1.6.6 Upland Mustards

The Upland Mustards (UM) vegetation community occurs within the outer limits of the Survey Area, on both sloped areas and flat lands. Characteristic species of this community includes black mustard, red brome, ripgut brome (*Bromus diandrus*), wild oat, soft chess (*Bromus hordeaceus*), and Johnsongrass (*Sorghum halepense*). Other mixed herbs observed in this community include artichoke thistle (*Cynara cardunculus*), pampas grass (*Cortaderia selloana*), red stemmed filaree (*Erodium cicutarium*), and London rocket (*Sisymbrium irio*). This community is relatively low quality because many of the observed species are non-native and associated with prior disturbance.

4.2.1.6.7 Developed Areas

The Urban/Developed (DEV) unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). Developed land typically includes areas that have been constructed upon and do not contain any naturally occurring vegetation. These areas are generally characterized as graded land with asphalt and concrete placed upon it. Urban/Developed (DEV) areas mapped for the Survey Area include existing paved parking lots and roadway, and the developed community garden. The proposed transmission poles also occur on developed land adjacent to the existing Trabuco to Capistrano 138 kV transmission line. No vegetation was observed within Urban/Developed (DEV) areas in the Survey Area.

4.2.1.6.8 Non-Vegetated Channel

The Non-Vegetated Channel (NVC) unit is not recognized by the Natural Communities List (CDFW 2023) but is described by Oberbauer et al. (2008). It typically includes a concrete-lined floodway or flood control channel that conveys stormwater runoff and ~~do~~does not contain any naturally occurring vegetation. The non-vegetated channel on the Survey Area consists of the concrete channelized portion of Oso Creek within the Survey Area~~. buffer.~~

4.2.1.7 Sensitive and Special-Status Species

Endangered, rare, or threatened species, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this report and include (1) endangered or threatened species recognized in the context of the CESA and FESA; (2) plant species with a California Rare Plant Rank (CNPS 2025~~4~~) (lists 1 through 4); (3) California Species of Special Concern (SSC) and Watch List species, as designated by CDFW (CDFW 2025~~4~~); (4) mammals and birds that are Fully Protected species, as described in California Fish and Game Code Sections 4700 and 3511; (5) Birds of Conservation Concern as designated by USFWS (2025~~4~~); and (6) plant and wildlife species that are "covered" under the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

Dudek biologists evaluated the regional special-status plant and wildlife species against observed conditions on the Survey~~study a~~ Area to determine the potential for each species to occur. Habitat requirements, occurrence determinations, and rationale for occurrence determination are included in Appendix 4.2A. The potential for each special-status species to occur was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees). Special-status species

with negative protocol survey results are considered absent. ~~Protocol surveys (if conducted) did not detect species.~~

- **Low.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found onsite.
- **Present.** Species was observed on site or within the Survey Area

4.2.1.7.1 Sensitive and Special-Status Plant Species

Special-status plant surveys were conducted in 2021 and 2023 to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.). Two focused rare plant surveys were conducted by Dudek botanist Erin Bergman on May 5th, 2023, and June 23, 2023, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plants and Sensitive Natural Communities* (CDFW 2018) and *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, proposed, and Candidate Plants* (USFWS 2000). Surveys were conducted during the blooming period for target species. A list of all special-status plant species known to occur in the vicinity of the Survey Area (and the surrounding seven topographic quadrangles) and plant species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur onsite, and survey observations, is provided in Appendix 4.2A. This appendix provides evaluations for each of the special-status species' occurrence in the Survey Area vicinity and their potential to occur based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Special-status plant species that have low potential or are not expected to occur are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur onsite.

No special-status or rare plants were identified in the Survey Area during the 2021 and 2023 focused rare plant surveys~~. As such, special status and rare plants are considered absent from the project site~~. Based on a review of the potential species to occur within the region, the habitat conditions identified ~~on the project site~~, and the results of focused botanical surveys conducted on the Survey Area, special-status plant species are considered absent from the Survey Area.

4.2.1.7.2 Sensitive or Special-Status Wildlife Species

Special-status wildlife species are defined as follows:

- have been designated as either rare, threatened, or endangered by CDFW or USFWS and are protected under either the CESA (California Fish and Game Code Section 2050 et seq.) or FESA (16 USC 1531 et seq.), or meet the CEQA definition for endangered, rare, or threatened (14 CCR 15380[b],[d]);
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code (CFG) Sections 3511, 4700, 5050, or 5515;

- are of expressed concern to resource/regulatory agencies or local jurisdictions; this includes those wildlife that are considered a state SSC, are on the CDFW Watch List, are designated as a federal Bird of Conservation Concern, or are considered a state Special Animal; or
- are listed as Covered Species in the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

A list of all special-status wildlife species known to occur in the vicinity of the Survey Area (and surrounding seven quadrangles) and wildlife species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the Survey Area, and survey observations, is provided in Appendices 4.2A, 4.2B, and 4.2D Special-status species with a low potential to occur or species that are not expected to occur are excluded from further discussion in this report.

Additionally, four~~two~~ special-status wildlife species were observed in the Survey Area during the biological surveys: yellow-breasted chat, ~~ and~~ yellow warbler, southwestern pond turtle, and western red bat. Both bird species are listed as California SSCs when nesting, and were observed during the focused least Bell's vireo surveys conducted on the Survey Area within the cottonwood-willow riparian woodland and mulefat thicket habitats along Oso Creek. Oso Creek provides suitable nesting habitat for these two bird species. Southwestern pond turtle was also detected within Oso Creek. The locations of these observations, along with biological resources documented in the Survey Area, are depicted in Figure 4.2.9: Biological Resources. ~~The locations of these observations, along with biological resources documented in the Survey Area, are depicted in Figure 4.2.6.~~

Observed Special-Status Wildlife

Yellow-breasted chat. Yellow-breasted chat is a~~n~~ CDFW SSC that inhabits riparian thickets of willow and other bushy tangles near watercourses for cover. This species occurs as an uncommon summer resident and migrant in coastal California and in the foothills of the Sierra Nevada (CDFG 2005). In Southern California, it breeds locally on the coast and very locally inland. In migration it may be found in lower elevations of mountains in riparian habitat. This species breeds from early May into early August, with peak activity in June. Yellow-breasted chat was observed in the southwestern corner of the Survey Area near an unnamed tributary to Oso Creek (Figure 4.2-9~~6~~)

Yellow warbler. Yellow warbler is a~~n~~ CDFW SSC that inhabits riparian woodland in coastal and desert lowlands, montane chaparral, open ponderosa pine, and mixed conifer habitats (Zeiner et al. 1990). This species breeds along the coast of California west of the Sierra Nevada, and eastern California from Lake Tahoe south to Inyo County. Yellow warbler occurs in medium-density woodlands and forests with heavy brush understory, and migrates to sparse to dense woodland and forest habitats. Yellow warbler was observed within several locations in the southern portion of the Survey Area along the riparian corridor associated with Oso Creek (Figure 4.2-9~~6~~)

Southwestern Pond Turtle. Southwestern pond turtle is a CDFW SSC (and proposed federally threatened) species. These habitat generalists can be found in a variety of intermittent and permanent water features from Central California to northwestern Baja California (Hansen and Shedd 2025). Southwestern pond turtles can be active year-round especially in mild coastal areas, with reproduction occurring from April to October (Hansen and Shedd 2025). Southwestern pond turtles have been observed utilizing upland habitat several hundred meters away from surface water for nesting and aestivation (Semlitsch and Bodie 2003). Multiple southwestern pond turtles of various life stages were observed within Oso Creek in the eastern study area (Figure 4.2-9) (Dudek 2025c).

Western Red Bat. Western red bat is a CDFW SSC that roosts primarily in trees in forests and woodlands from sea level up through mixed conifer forests, typically adjacent to water. Mating occurs in August and September. It forages over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and

croplands (WBWG 2017). Western red bat was passively detected using acoustic analysis software during focused bat surveys foraging within the Survey Area, and therefore, locational data for this species is not included in Figure 4.2.9. No maternity roosting activity was detected (Dudek 2025b).

4.2.1.7.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 USC 703 et seq.), as amended (MBTA), prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

The Applicant will protect any active migratory bird nests identified during preconstruction surveys against take. The two proposed transmission lines are raptor safe against electrocution and collisions.

4.2.1.7.4 Bald and Golden Eagle Protection Act

The golden eagle is a state FP species and a CDFW Watchlist (WL) species that is also protected by the federal Bald and Golden Eagle Protection Act. The Applicant's biologists determined that the potential to occur within the Survey Area is not expected for foraging and nesting. Potentially suitable nesting habitat occurs east of and approximately 10 miles outside of the survey area. Birds that may forage near the site may attract eagles. The transmission poles installed as part of the proposed project (one new pole and two replacement poles) will be low in profile (100 feet or less) and are not likely to result in significant bird strikes. The two proposed transmission lines are raptor safe and would parallel existing railroad infrastructure.

4.2.1.7.5 Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

A total of 13 federally endangered or threatened species are known to occur within the U.S. Geological Survey (USGS) San Juan Capistrano 24-K topographic quadrangle in which the Survey Area resides, and the surrounding seven quadrangles (Appendix B-1). Nine were determined not to be expected on the Survey Area, while one, the least Bell's vireo, has a moderate potential to nest and forage within Oso Creek along the eastern portion of the Survey Area. Protocol-level least Bell's vireo surveys conducted in suitable habitat on the Survey Area in 2021 and 2023 were negative for this species. As such, least Bell's vireo is considered absent from the Survey Area, and no federally endangered species are anticipated to occur on the Survey Area.

4.2.1.7.6 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection and prohibits take of plant, fish, and wildlife species listed by the State of California. Unlike the FESA, under the CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

A total of 10 state endangered or threatened species are known to occur within the U.S. Geological Survey (USGS) San Juan Capistrano 24-K topographic quadrangle in which the Survey Area resides, and the surrounding seven quadrangles (Appendix B-1). Of those, eight were determined to not be expected on the Survey Area, and one~~one~~ proposed state endangered species was determined absent from the ~~has a low potential to forage within the grassland on the~~ Survey Area based on negative 2024 and 2025 survey results: Crotch's bumble ~~(Crotch's bumble bee, *Bombus crotchii*)~~.

Further, ~~the state endangered least Bell's vireo has a moderate potential to nest and forage within Oso Creek on the eastern portion of the Survey Area. P~~protocol-level least Bell's vireo surveys conducted in suitable habitat on the Survey Area in 2021 and 2023 were negative ~~for this species~~ and this species is ~~. As such, least Bell's vireo is~~ considered absent from the Survey Area.

Finally, critical habitat for the federally endangered and CESA endangered southern California Distinct Population Segment of the southern steelhead trout occurs 0.5 mile south of the project, in Trabuco Creek (NOAA 2025). Although Oso Creek occurs immediately east of the project site and connects downstream to Trabuco Creek, it is not fast moving, gravel-bottomed, or well-oxygenated to support southern steelhead habitat. In addition, no project impacts to Oso Creek or any aquatic habitat are proposed. As such, southern steelhead is not expected to occur.

No CESA endangered species are anticipated to occur on the Survey Area. As a result, neither construction nor operation of the proposed project will adversely affect CESA species.

4.2.1.7.7 State Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the take of any fully

protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of the bird species for the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (NCCP). T~~Within t~~he following are the~~ only~~ state FP species identified within 10 miles the Survey Area.

Golden eagle (*Aquila chrysaetos*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. Suitable habitat occurs approximately 10 miles east of and outside of the Survey Area (CDFW 2025~~4~~a).

Ridgeway's Rail (*Rallus obsoletus levipes*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. The closest known occurrence is approximately 15 miles northwest from the Survey Area (CDFW 2025~~4~~a).

California black rail (*Rallus jamiacensis coturniculus*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. The closest known occurrence is approximately 15 miles northwest from the Survey Area (CDFW 2025~~4~~a).

California least tern (*Sturnula natillarum browni*). Potential for occurrence is not expected as no suitable nesting or foraging habitat is present. The closest known occurrence is approximately 15 miles northwest from the project site (CDFW 2025~~4~~a).

White-tailed kite (*Elanus leucurus*). Potential for occurrence is not expected for nesting, but is low for foraging opportunistically in grassland and agricultural land onsite. The nearest occurrence record is 1 mile south of the Survey Area (CDFW 2025~~4~~a).

4.2.1.7.8 State Species of Special Concern

It is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern (SSC), because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

The following Species of Special Concern were identified within the Survey area during the biological surveys, which included focused surveys for least Bell's vireo, burrowing owl, Crotch's bumble bee, southwestern pond turtle, bats, and arroyo chub: yellow warbler, yellow-breasted chat, southwestern pond turtle, and western red bat. Species that were not detected during their respective focused survey efforts are considered absent (special-status bats, Crotch's bumble bee, arroyo toad).

The following SSC have been documented in the vicinity of the Survey Area and have a potential to occur on the project site, with the level of potential indicated in parentheses:

- **Amphibians:** western spadefoot (low); California newt (not expected).
- **Birds:** yellow warbler (*present*); yellow-breasted chat (*present*); tricolored blackbird (low for foraging); grasshopper sparrow (not expected); long-eared owl (low); burrowing owl (considered absent~~low~~); coastal

cactus wren (not expected); northern harrier (low for foraging~~not expected~~); ferruginous hawk (low); yellow rail (not expected); coastal California gnatcatcher (not expected).

- **Fish:** arroyo chub (considered absent~~not expected~~); Santa Ana speckled dace (not expected)~~.~~
- **Reptiles:** red diamond rattlesnake (moderate); orange-throated whiptail (moderate); northwestern pond turtle (not expected); southern California legless lizard (not expected); California glossy snake (not expected); San Diegan tiger whiptail (not expected); Bainville's horned lizard (not expected); coast patch-nosed snake (not expected); two-striped gartersnake (not expected).
- **Mammals:** pallid bat (considered absent~~moderate~~); Dulzura pocket mouse (not expected); northwestern San Diego pocket mouse (not expected); Mexican long-tongued bat (considered absent~~not expected~~); western mastiff bat (considered absent~~low~~); western red bat (present~~low~~); San Diego desert woodrat (not expected); pocketed free-tailed bat (considered absent~~low~~); big free-tailed bat (considered absent~~not expected~~); southern grasshopper mouse (not expected); southern California saltmarsh shrew (not expected); American badger (not expected).

SSC described above with at least a moderate potential to occur on the Survey Area are described in further detail below.

Orange-throated Whiptail. Orange-throated whiptail is a CDFW SSC that occurs in southern California, from the Santa Ana River in Orange County, and near Colton in San Bernardino County, west of the Peninsular ranges, south to the cape region of Baja California (CalHerps 2025). It inhabits semi-arid brushy areas with loose soil and rocks, including washes, stream sides, rocky hillsides, and coastal chaparral. The breeding period for this species is June through July. This species may inhabit the stream sides along Oso Creek within the Survey Area, but was not observed during any of the biological surveys from 2021 to 2025.

Red-Diamond Rattlesnake. Red-diamond rattlesnake is a CDFW~~n~~ SSC that occurs in southwestern California, from the Morongo Valley west to the coast, and south along the peninsular ranges to mid Baja California (CalHerps 2024~~4~~5). It inhabits arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas on the desert slopes of mountains, and rocky desert flats. The breeding period for this species is July through September. This species may inhabit the native scrub and grassland habitat within the Survey Area, but was not observed during any of the biological surveys from 2021 to 2025.

Southwestern Pond Turtle. Southwestern pond turtle is a CDFW SSC that occurs in aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except for along the Mojave River (Zeiner et al. 1990a). This species is associated with permanent or nearly permanent water from nearly sea level to approximately 4,700 feet above mean sea level. Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Several southwestern pond turtles were observed during focused visual surveys of Oso Creek in 2025. Therefore, Oso Creek is currently considered occupied by southwestern pond turtle.

~~**Pallid Bat.** Pallid bat is an SSC that occurs in low elevation rocky arid deserts and canyonlands (lower than 6,000 feet), shrub steppe grasslands, karst formations, and higher elevation coniferous forests (higher than 7,000 feet) (WBWG 2017). It is most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Pallid bats roost alone, in small groups (2 to 20 bats), or gregariously (100s of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and various human structures such as bridges, barns, porches, bat boxes, and human-occupied and vacant buildings. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators.~~

~~Suitable roosting and foraging habitat for this species occurs within the riparian habitat located in the Survey Area. This species was not observed or detected during biological surveys conducted for the project, but focused bat surveys were not conducted.~~

4.2.1.7.9 State Special Species

State Special Species are considered to be sensitive but do not have regulatory protection, such as rare plants. Approximately 78 of the 86~~65~~ plants known to occur within the San Juan Capistrano 24-K topographic quadrangle map and surrounding seven topographic quadrangles are registered within the CNPS that are not state or federally protected but~~y~~ are considered rare (California Rare Plant Rank 1-4). Of the 78~~65~~ rare plants identified, none were detected on the Survey Area during the 2021 or 2023 protocol-level rare plant surveys. As such, state special species are considered absent from the Survey Area.

4.2.2 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of construction and operation of the proposed project. Results from the field surveys, habitat evaluations and literature review were evaluated to address the potential for presence of sensitive biological resources within the Survey Area were presented in the prior section.

Section 4.2.2, contained herein, identifies the biological resources that may be affected directly or indirectly and may have temporary or permanent impacts. These impact categories are defined as follows:

Direct. The California Environmental Quality Act (CEQA) defines direct impacts as those that result from the project and occur at the same time and place. Project related activities, such as alteration, disturbance or destruction of biological resources are considered a direct impact.

Indirect. CEQA defines indirect impacts are impacts that are caused by the project but do not occur at the same time but rather at different but a reasonably foreseeable future time.

Permanent. All impacts that result in the irreversible removal of biological resources are considered permanent.

Temporary. Temporary impacts are considered to have reversible effects on biological resources.

4.2.2.1 Significance Criteria

Factors typically used to evaluate the significance of project-related impacts are set forth in Appendix G CEQA. Biological impacts resulting from the project were assessed by the following criteria:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, threatened, candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, NCCP, or other approved local, regional, or state habitat conservation plan.

4.2.2.2 Potential Impacts of Construction

The project components will require a total project impact area of approximately 27.68 ~~14.1~~ acres, which includes 16.31 ~~14.02~~ acres of direct permanent impacts and 11.37 ~~0.08~~ acre of temporary impacts to the vegetation communities and land covers on the Survey Area.

4.2.2.2.1 Impacts to Sensitive Vegetation Communities

Direct Impacts

Direct permanent impacts would occur to a total of approximately 16.31 acres of native and non-native ~~14.02 acres of non-native~~ vegetation communities and land covers from development of the battery energy storage project, slope stabilization, and restoration of Oso Creek. The total acreage for project-related impacts to the mapped vegetation communities located within the development area are provided in Table 4.2-3.

Table 4.2-3. Project Impacts to Vegetation Communities and Land Cover Types

Vegetation Communities and Land Cover Types	Temporary Impacts (Acres)	~~Direct~~ Permanent Impacts (Acres)
Native Vegetation Communities~~Non-Native Vegetation Communities and Land Covers~~		
Mulefat thickets (MF)	3.20	0.38
Populus freemontii – Salix lasiolepis Association	5.84	1.20
Subtotal Acres	*9.04*	*1.58*
Non-Native Vegetation Communities and Land Covers		
Agriculture (AGR)	0.~~02~~57	~~10.80~~11.18
Urban/Developed (DEV)	~~0.02~~0.0	~~1.44~~1.39
Disturbed Habitat (DH)	0.21~~NA~~	~~1.72~~1.91
Ornamental (ORN)	~~0.04~~0.0	~~0.02~~0.15
Upland Mustards (UM)	~~NA~~1.55	~~0.04~~0.10
Subtotal Acres	*~~0.08~~2.33*	*~~14.02~~14.73*
Total Acres	**~~0.08~~11.37**	**~~14.02~~16.31**

Notes: NA = Not Applicable.

~~As currently designed, the proposed project would result in a total of approximately 14.02 acres of direct permanent impacts to non native vegetation communities and land covers through the removal of vegetation and grading of land on the BESS, substation, and switchyard project footprint, development of the off site access road, as well as the replacement of two transmission poles and installation of one new southern transmission pole.~~ Project-related permanent impacts will specifically occur to 1.58 acres of native vegetation communities associated with Oso Creek, mulefat thickets and *Populus freemontii-Salix lasiolepis* (Fremont cottonwood-Arroyo willow) association,

which are considered sensitive riparian habitats by CDFW. These permanent impacts would be considered significant and require compensatory mitigation. Project-related permanent impacts to 14.73 acres of non-native vegetation communities and land cover types, which are not considered sensitive by CDFW. These impacts would not be considered significant and would not require mitigation as these communities are not considered sensitive by CDFW. ~~non native vegetation communities and land covers are not considered significant because they are not considered sensitive natural communities by CDFW.~~

In addition, the proposed Project would result in a total of 9.04 acres of temporary impacts to native vegetation communities associated with Oso Creek, Fremont cottonwood-Arroyo willow association, which are considered sensitive riparian habitats by CDFW. These impacts are considered temporary as they relate to restoration activities proposed for Oso Creek related to slope stabilization efforts for the Project. The Project will self-mitigate these temporary impacts to a less than significant level through the proposed restoration activities being developed in the Project's Habitat Mitigation and Monitoring Plan (HMMP) based off the plant palette submitted to the CEC in November 2025.

Lastly, temporary Project impacts to 2.33 acres of non-native habitats would not be considered significant as these vegetation communities and land cover types are not considered sensitive by CDFW. Therefore, no compensatory mitigation would be required to offset potential temporary impacts to non-native habitat. ~~0.08 acre of temporary impacts to non native vegetation communities from installation of the replacement/new transmission poles and installation of the stormwater discharge line.~~

~~The project would result in no permanent direct impacts to native vegetation communities, as the proposed transmission lines stretch overhead above Oso Creek and the associated native riparian vegetation. No vegetation removal of mulefat thickets or cottonwood willow riparian woodland will occur from construction or operation of the project. Furthermore, no direct impacts to Oso Creek will occur from project implementation. As such, **no direct impacts** to sensitive vegetation communities will occur.~~

Indirect Impacts

Construction-related indirect impacts may include inadvertent spillover impacts outside of the construction footprint, dust accumulation on adjacent native habitats, chemical spills, stormwater erosion and sedimentation, and increased wildfire risk. To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the South Coast Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction.

Since Oso Creek occurs immediately downslope from the proposed BESS site, potential indirect impacts could occur to native riparian habitats during construction of the BESS facility. However, ~~beneath the proposed overhead transmission lines and contains sensitive Fremont cottonwood willow woodland vegetation with riparian mulefat thickets,~~ a Stormwater Pollution Prevention Plan (SWPPP) would also be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP and BMPs would help to avoid and minimize the potential effects of stormwater erosion during construction. As such, with implementation of a SWPPP and BMPs, indirect impacts to sensitive vegetation communities would be **less than significant.**

Example BMPs to employ on site during construction to reduce potential indirect impacts to sensitive vegetation communities may include the following:

- Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries.
- The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned at previously disturbed areas to the greatest extent practical.
- To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep-walled trenches to allow for animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.
- All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.

4.2.2.2.2 Construction Impacts to Special-Status Plant Species

No ~~listed~~ special-status plant species were observed during either of the focused botanical surveys conducted in the Survey Area or have high or moderate potential to occur within the Survey Area. The focused botanical surveys were conducted during the time of year when any of the special-status plant species identified in Appendix 4.2A with a potential to occur would be blooming. Reference checks were also conducted to ensure known populations of target plant species were in bloom. Despite the lack of rainfall in spring 2021, special-status plant species with a potential to occur would have been in bloom and conspicuous when surveyed, if present, during the 2023 rare plant surveys, due to above average rainfall in winter of 2022 and spring of 2023. No temporary or permanent impacts to special-status plant species will occur from construction and operation of the proposed project as the results of the 2021 and 2023 protocol-level rare plant surveys on the Survey Area are negative. Therefore, the project would have **no direct or indirect impacts** to any special-status plant species.

4.2.2.2.3 Construction Impacts to Special-Status Wildlife Species

Direct Impacts

Temporary and permanent direct impacts to special-status wildlife could occur from construction and operation of the proposed project. The Survey Area contains suitable habitat to support six special-status wildlife species that were either observed during focused surveys or have a moderate to high potential to occur based on the presence of

suitable habitat. The fourtwo species observed during focused surveys are yellow-breasted chat, and yellow warbler, western red bat, and southwestern pond turtle, which are both listed by CDFW as SSC and occur within riparian habitats such as those found within Oso Creek. Direct impacts to riparian habitat and open water within Oso Creek have the potential to adversely affect yellow warbler and yellow-breasted chat if nesting, western red bat if maternity roosting, and southwestern pond turtle that is a resident species within Oso Creek. Focused surveys were conducted for least Bell's vireo in 2021 and 2023 to determine presence/absence of this species since it has a moderate potential to forage and nest within the riparian habitat on the Survey Area. The results were negative both years; as such, least Bell's vireo is currently considered absent from the Survey Area, and construction of the project would have no impact on this species. Note that the transmission lines proposed for the project will traverse over Oso Creek, and as such, will not directly impact the creek or its associated native riparian woodland vegetation, in which the yellow-breasted chat and yellow warbler were observed on the Survey Area.

DNo direct impacts to suitable habitat for special-status riparian bird, bat, and species would occur as a result of removal of trees and alterations to aquatic habitat within Oso Creek for bank stabilization and restoration activities construction offor the proposed project. As such, Since suitable habitat for yellow-breasted chat and yellow warbler would be avoided by the project, and least Bell's vireo is determined to be absent from the Survey Area, the project would have a **no direct impact** on special-status wildlife species that occur within the riparian woodland, specifically yellow warbler, yellow-breasted chat, and western red bat. Additionally, bank stabilization and restoration activities would have direct impacts to southwestern pond turtle that inhabit Oso Creek and immediately adjacent upland areas. Significant direct impacts could occur if construction activities result in the greater populations of these species to dip below self-sustaining levels as a result of loss of individuals and occupied habitat, particularly during the nesting and maternity roosting seasons. Project Implementation of **MM BIO-1: Pre-Construction Special-Status Species Surveys**, shall be implemented prior to initiation of construction activities to reduce potential impacts to yellow warbler, and yellow-breasted chat, and western red bat to a less than significant level. Further, direct impacts to Oso Creek could result in significant direct impacts to southwestern pond turtle, a species proposed for federal listing as Threatened. Project Implementation of **MM BIO-2: Southwestern Pond Turtle Trapping and Relocation** would reduce potential impacts to southwestern pond turtle to less than significant.

Three Two other special-status wildlife species have at least a moderate potential to occur: Red diamond rattlesnake is rattlesnake and pallid bat are listed by CDFW as SSC, and California horned lark and orange-throated whiptail is a Watch List species. These species have the potential to occur within the riparian scrub habitat associated with Oso Creek and may be impacted, if present, during bank stabilization and creek restoration activities for the project. Therefore, significant direct impacts to these species cwould occur by the project if construction activities result in the greater population of the either species to dip below self-sustaining levels. None Neither of these species were observed in the Survey Area during any of the biological surveys conducted during 2021 and 2023, h. However, due to the presence of suitable habitat, the potential for these species to move into the project site in the future cannot be entirely ruled out. Therefore, if a population of these species is found in on the project site prior to the start of construction, the project could result in a significant direct impact to these species. Project implementation of **MM-BIO-1** would reduce potential impacts to red diamond rattlesnake and orange-throated whiptail to **less than significant**. See Section 4.2.4.2 for further details on mitigation measures for the project. With implementation of **MM BIO-1** and **MM BIO-2**, construction impacts to special-status wildlife species shall be reduced to a less than significant level.

Nesting Birds and Raptors

Similar to most other sites containing trees, shrubs, and other vegetation, the Survey Area contains opportunities for birds of prey (raptors) and other avian species to nest. Native nesting bird species with potential to occur within

the project site are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). In particular, Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Recently, the Department of Interior ruled that the MBTA should apply only to "affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs," and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. However, that ruling is now under review as a revision to the MBTA that would include prohibitions to incidental take.

Potential direct impacts to nesting birds may occur during Project construction if construction activities commence during the avian breading season of February through August via direct take or nest failure, which would be considered significant. To avoid potential project-related impacts to nesting birds, implementation of **MM-BIO-3: Pre-Construction Nesting Bird Surveys and Avoidance~~2~~** would reduce potential impacts to **less than significant**.

Indirect Impacts

During construction activities, indirect impacts to sensitive wildlife in Oso Creek could include construction-related dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability. Without construction-related minimization measures to control dust, erosion, and runoff, and without compliance with National Pollutant Discharge Elimination System (NPDES) requirements, indirect impacts to riparian resources and upland communities could occur. However, standard construction BMPs to control dust, erosion, and runoff, including straw bales and silt fencing, would be implemented to minimize these adverse effects. Additionally, implementation of **MM-BIO-1** to reduce direct impacts to special-status wildlife species would also contribute to the reduction of indirect impacts to **less than significant**.

4.2.2.2.4 Impacts to Wildlife Corridors

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

The majority of the P~~p~~roject is located in an undeveloped area that has been subject to previous disturbances related to previous and ongoing agricultural activities. This undeveloped area also occurs immediately adjacent to development such as the church facility to the north, residential development to the west, and Interstate 5 to the east. However, the approximately 2 miles of undeveloped land to the south provides opportunities for small- to medium-sized wildlife species to move through the area. Additionally, Oso Creek, located ~~along the~~in the eastern portion of the ~~Survey Area~~Project site, provides opportunities for mammals, fish, and bird species to travel along the creek from upstream locations in Trabuco Canyon, south toward the Pacific Ocean. Upstream and ~~D~~downstream portions of Oso Creek are channelized but still provide opportunity for wildlife movement. The Survey Area and immediate surroundings are not mapped as a significant wildlife corridor or habitat linkage in the region, but do function as a corridor for the movement of local wildlife.

No significant direct or indirect permanent impacts would occur on wildlife movement or use of native wildlife nursery sites associated with project activities. Existing habitat linkages and wildlife corridor functions would remain

intact while construction activities are conducted and following project completion. Construction activities would not likely result in permanent impacts to wildlife movement because no new structures that would impede wildlife movement are proposed.

During construction activities, temporary disturbance to local species may occur, but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Some indirect impacts to localized wildlife movement could occur during construction activities due to construction-related noise. However, this impact would be temporary and short term, which would not be expected to significantly disrupt wildlife movement during and following construction activities. Additionally, construction BMPs to allow for the continued use of Oso Creek during construction shall be implemented into the project design to reduce and minimize potential impacts to wildlife corridors and linkages.

Therefore, direct and indirect impacts on wildlife corridors and migratory routes resulting from the proposed project would be **less than significant**.

4.2.2.2.5 Impacts to Wetlands and Waters of the United States

The results of the 2021, ~~and~~ 2023, and 2025 jurisdictional delineation identified Oso Creek as a jurisdictional non-wetland water of the U.S. subject to USACE jurisdiction, Regional Water Quality Control Board (RWQCB), and CDFW, due to the presence of an Ordinary High-Water Mark, downstream connectivity to a Traditionally Navigable Water (TNW) (Pacific Ocean), and presence of mature riparian habitat. Impacts to Oso Creek may require permitting from USACE, RWQCB, and CDFW, including but not limited to a ~~Streambed Alteration Agreement and~~ USACE ~~CWA~~ Section 404 Waste Discharge Requirement, and RQWCB Section 401 Water Quality Certification, and CDFW Streambed Alteration Agreement~~permits~~.

~~The jurisdictional delineations informed the design and placement of improvements to ensure avoidance of any work within CDFW or Clean Water Act (RWQCB and USACE) jurisdiction.~~ Figure 4.2-1 depicts the water features detected on the Survey Area~~project site~~ during the jurisdictional delineations.

The results of the 2021, ~~and~~ 2023, and 2025 jurisdictional delineation performed by Dudek biologists concluded that there is approximately ~~1.40~~1.77 acres of non-wetland waters of the United States and State, and approximately 20.83 ~~20.64~~ acres of CDFW non-wetland waters in the Survey Area (Dudek 2025b). Table 4.2-4 summarized the jurisdictional aquatic resources within the Survey Area. Note that based on observations and mapping from 2021 and 2023, there is a significant amount of erosion on the upper west bank of Oso Creek. From 2023 to 2025, approximately 0.50 acres (850 linear feet) of erosion has occurred on the bank which resulted in a near vertical cliff face and an approximate 20-foot drop to the channel bottom. This equates to an erosion rate of approximately 11.75 feet per year. Table 4.2-4 summarized the jurisdictional aquatic resources within the Survey Area.

Table 4.2-4. Summary of Jurisdictional Aquatic Resources within the Survey Area

Jurisdiction	Survey Area (acres) ~~Project Boundary (acres/linear feet)~~	Permanent Impacts (acres/linear feet)~~Survey Area (acres/linear feet)~~	~~Total (acres/linear feet)~~Temporary Impacts
Waters of the United States (USACE/RWQCB)			
Non-Wetland Waters			
Oso Creek OHWM	1.77 ~~0.0/0.0~~	0.169/576 ~~1.17/4,056~~	~~1.17, 4056~~ 0.605/2,042
~~Stream 1 OHWM~~	~~0.0/0.0~~	~~0.21/1,474~~	~~0.21/1,474~~
~~Stream 1 – Concrete Channel OHWM~~	~~0.0/0.0~~	~~0.02/125~~	~~0.02/125~~
Waters of the United States and State (USACE/RWQCB) Total*	**~~0.0/0.0~~ 1.77**	**~~1.40/5,655~~ 0.169/576**	**~~1.40/5,655~~ 0.605/2,042**
Waters of the State (CDFW)			
Non-Wetland Waters			
Oso Creek OHWM	~~0.0/0.0~~ 1.77	0.169~~1.17~~/ 576~~4,056~~	~~1.170.605~~/ 2,042~~4,056~~
Oso Creek Bank	~~0.0/0.0~~ 2.47	0.098~~0.71~~/ 576~~3,655~~	0.391~~0.71~~/ 2,069~~3,655~~
Oso Creek Riparian	~~0.0/0.0~~ 16.59	~~15.36~~1.107/ 519~~4,224~~	6.031~~15.36~~/ 2,002~~4,224~~
~~Stream 1 OHWM~~	~~0.0/0.0~~	~~0.21/1,474~~	~~0.21/1,474~~
~~Stream 1 – Concrete Channel OHWM~~	~~0.0/0.0~~	~~0.02/125~~	~~0.02/125~~
~~Stream 1 Bank~~	~~0.0/0.0~~	~~0.17/1,474~~	~~0.17/1,474~~
~~Stream 1 – Concrete Channel Bank~~	~~0.0/0.0~~	~~0.02/125~~	~~0.02/125~~
~~Stream 1 Riparian~~	~~0.0/0.0~~	~~2.92/1,578~~	~~2.92/1,578~~
~~Swale 1~~	~~0.0/0.0~~	~~0.03/189~~	~~0.03/189~~
CDFW Jurisdiction Total*	**~~0.0/0.0~~ 20.83**	**~~20.64~~1.374/ ~~16,900~~1,671**	**7.027~~20.64~~/ 6,113~~16,900~~**

OHWM = ordinary high-water mark
* Totals may not exactly sum due to rounding.

~~No d~~Direct impacts to jurisdictional aquatic resources will occur from construction ~~or operation~~ of the proposed project from slope stabilization and restoration activities of Oso Creek. S~~However, s~~tormwater runoff from the existing project development area also currently sheet flows to Oso Creek. As part of the project, to meet regulatory standards and reduce potential for stormwater to be discharged off site in exceedance of existing conditions, offsite and onsite stormwater will flow to an underground stormwater detention basin located in the central portion of the Survey Area. A waterline will be constructed from the proposed onsite stormwater detention basin and pumped north to the existing 18-inch and/or 30-inch storm drainpipe/outfalls located north, which currently discharge into the unvegetated channelized portion of Oso Creek.

Project activities that occur within the jurisdictional limits of Oso Creek will require regulatory agency permitting. ~~The Applicant will obtain an MS4 permit from the RWQCB through Orange County Flood Control District to discharge into the two outfalls into Oso Creek (see Section 4.15, Water Resources for additional details).~~ Direct i~~No i~~mpacts

to jurisdictional aquatic resources will occur from project development and permits from each of the regulatory agencies would be required (USACE, RWQCB, and CDFW). Since the project is being processed by the CEC through the AB 205 process, the CDFW Lake and Streambed Alteration Agreement would be processed in the project's AB 205 application as opposed through CDFW under Section 1600 et seq. of California Fish and Game Code. Direct impacts to USACE and RWQCB jurisdiction would be processed under Sections 404 and 401 of the Clean Water Act, respectively. The Applicant will obtain an MS4 permit from RWQCB through Orange County Flood Control District to discharge into the two outfalls into Oso Creek (see Section 4.15, Water Resources for additional details). Further, a~~A~~ SWPPP would be prepared and implemented to prevent all construction pollutants from contacting stormwater during construction activities, with the intent of keeping sediment and any other pollutants from moving off site and into receiving waters. BMP categories employed would include erosion control, sediment control, and non-stormwater good housekeeping. Preparation and implementation of a SWPPP help to avoid and minimize the potential effects of stormwater erosion during construction and with regulatory permitting, impacts would be **less than significant with mitigation**.

4.2.2.3 Potential Impacts of Operation

The BESS and all associated equipment will be remotely monitored and controlled. Qualified technicians would visit the site approximately 1-2 times per month to conduct routine inspections and maintenance as well as semiannual and annual services. Periodically, batteries and various components may be replaced or renewed to ensure optimal performance.

During operation, the project will produce water discharge, noise, and light. Following construction, the proposed use would not create emissions to air, would not require sanitary facilities, and would not require water. Operational water will be limited to water necessary for landscape irrigation and to supply on-site fire hydrants.

4.2.2.3.1 Noise and Light

The project site contains undeveloped land. Although there is a church and ancillary facilities north of the survey area , the existing conditions result in minimal sources of noise emissions. Operations of the project will produce some noise as described in Section 4.7, Noise.

As discussed in Section 4.13, Visual Resources, sources of light come from Saddleback Church, the railroad, cars from the I-5 freeway east of the Survey Area, numerous safety lights associated with the utility corridor for the Trabuco-Capistrano overhead transmission poles outside of the project site boundary. The project will introduce new light sources into the existing nighttime environment such as facility lighting for safety and security purposes and access road lighting. The outside lighting may include a combination of pole-mounted LED lighting and equipment-mounted fixtures. The Applicant will apply best practices to minimize the effects of obtrusive exterior lighting and make these light sources motion activated when possible. These practices include shielding light fixtures directed downward and scheduling controls.

Based on the project equipment and the limited application of outdoor lighting and best practices, nose, and light impacts from project operations will likely have a **less than significant** impact on special-status wildlife.

4.2.2.3.2 Potential for Collision and Electrocution Hazard to Wildlife

The new facility will include multiple structures that range in height from 10 to 32 feet tall. The tallest structure on the project site is the switchyard bus work at 32 feet above ground level. The two replacement poles and one new

transmission pole as part of the loop-in transmission line will be up to 100 feet above ground. Most collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions. The collisions typically occur when migrating birds collide with tall, guyed television or radio transmission towers (CEC 1995, Kerlinger 2000). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features or when inclement weather forces the birds closer to the ground. Based on the project's design and location, operations are likely to result in **less than significant** impacts from potential collisions.

Bird collisions with electric conducting wires occur when birds are unable to see the lines, especially during fog or rain events. Factors that affect the risk of collision include weather conditions, behavior of the species of bird, and design and location of the line.

Electrocutions occur when a bird simultaneously contacts two conductors of different phases or contacts a conductor and a ground. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these components. On a 138-kW transmission line, all clearances between conductors or between conductors and ground are sufficient to protect even the largest birds provided recommended horizontal and vertical spacing (55 – 76 inches) are used for conductor separation according to the Avian Power Line Interaction Committee (APLIC 2006). As such, operation of the project will not result in adverse impacts to wildlife from electrocution.

4.2.2.3.3 Effects of Operation on Special-Status Species

Impacts to Special-Status Plants

Based on the facility's design and absence of special-status plants on the Survey Area, operations will have **no impact** ~~to~~on special-status plant species and their habitat.

Impacts to ~~Sensitive and~~ Special-Status Wildlife Species

It is the proposed facility's intention to anticipate the potential for low-frequency noise in the design and specification of the project equipment and to take necessary steps to prevent ground or airborne vibration impacts. Only a nominal amount of habitat outside of the project site will experience noise levels within the 60 A-weighted decibel (dBA) equivalent sound level (Leq) contour (see Section 4.7, Noise). The two special-status wildlife species observed on the project site (yellow warbler and yellow-breasted chat) were detected in riparian habitat associated with Oso Creek, which parallels the I-5 freeway as well as active railroad tracks. As such, they are expected to adapt to the new noise levels that are less than the typical noise effect threshold of 60 dBA Leq hourly. Ambient noise levels and ground vibration from the operation of the proposed facility will be **less than significant**.

~~Potential temporary direct impacts to special-status species present in Oso Creek could occur from routine utility vegetation management to prevent tree encroachment near the two overhead transmission lines during the lifetime of the proposed facility. No tree removal would occur; only trimming of the overhead tree canopy branches that encroach near the power lines. The right distance between a tree and a power line depends on the height of the lines and the mature size of the tree. With implementation of **MM BIO-2**, potential impacts of vegetation trimming to special status riparian bird habitat within Oso Creek will be **less than significant.**~~

While lighting required during facility operation will create prominent new sources of light for nearby wildlife, effects from light will not result in substantial light or glare. Based on the localized adverse effect of new mitigated light sources, the long-term impact to special-status wildlife from facility generated light will be less than significant.

Based on the project's design, the facility's operations will have a **less than significant** impact on special-status wildlife species and their habitat.

4.2.2.3.4 Operation Phase Impacts to Wetlands and Waters of the United States

The project will not result in any direct or indirect impacts to potentially regulated waters and wetlands of the U.S. during the construction phase of the project. Additionally, since the operational requirements of the project are relatively minimal and will be constrained to newly developed areas on site, there will be no future encroachment into regulated jurisdictional waters and wetlands. Therefore, the operational phase of the project will have **no impact** to wetlands and waters of the U.S.

4.2.3 Cumulative Effects

Cumulative effects on biological resources because of past, present, and reasonably foreseeable future actions, in combination with the project, would mainly result from loss of habitat and habitat disturbance and degradation. A cumulative impact refers to a project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the facility (Public Resource Code [PRC] Section 21083; 14 CRR 15064[h], 16065[c], 15130, and 15355). Most of the projects in the vicinity of the project involve infill development and redevelopment on developed parcels which have limited potential for sensitive biological resources. As such, the project is unlikely to have impacts that would combine cumulatively with other closely related past, present, and reasonably foreseeable future projects to cumulatively impact biological resources.

4.2.4 Avoidance and Minimization Measures

The following section describes the measures that are intended to avoid and minimize potential adverse effects of the project to biological resources.

4.2.4.1 Minimization Measures for Construction

Environmental Awareness Training. A qualified biologist shall present an education program on special-status species that may be encountered on the project site, such as: yellow warbler, yellow-breasted chat, California horned lark, orange-throated whiptail, red diamond rattlesnake, southwestern pond turtle, western red bat, and pallid bat to all project employees prior to the start of construction and before new employees begin work onsite. Materials discussed in the program will include, at a minimum, the following topics: (1) species description, general behavior, and ecology; (2) distribution and occurrence near the project site; (3) species' sensitivity to human activities; (4) legal protection; (5) penalties for violation of State and Federal Laws; (6) reporting requirements; and (7) project conservation measures. The biological monitor shall document the names, dates, and affiliation of those persons who attend the training.

Pre-Construction Surveys. As described in **MM-BIO-1** in the following subsection, prior to the onset of work, a qualified biologist shall conduct a pre-construction survey for sensitive biological resources within and near the project site. Target special-status species include but are not limited to, yellow warbler, yellow breasted chat, western red bat, and southwestern pond turtle. Should special-status species be found, then measures recommended by the qualified biologist shall be incorporated into the project to reduce the likelihood of species impacts.

Southwestern Pond Turtle Trapping and Relocation. As detailed in MM BIO-2 in the following subsection, potential impacts exist for southwestern pond turtle that are present in and along the banks of Oso Creek. A pre-construction clearance survey for southwestern pond turtle shall be conducted to trap and relocate any species within the work impact areas. Informal consultation with USFWS shall be conducted to specify the methods of trapping and relocation.

Nesting Bird Season Avoidance. As detailed in MM-BIO-32 in the following subsection, potential impacts exist for avian species during the breeding season occurring between February 1 and August 31 for general nesting birds and January 1 through September 15 for raptors. Work conducted during these months will require a nesting bird survey conducted by a qualified biologist within and near the project footprint within 72 hours of the onset of activities. Should the qualified biologist discover any nesting birds, then appropriate measures, as determined by the qualified biologist, will be implemented to minimize impacts.

Best Management Practices (BMPs). ~~No significant d~~Direct permanent impacts ~~would~~ are proposed to occur to federally or state-defined wetlands ~~or~~ and non-wetland waters as a result of project activities. Short-term and long-term indirect impacts to jurisdictional waters relating to construction activities (edge effects) and trash/pollution would not likely result in significant impacts, especially with the application of the standard BMPs that would be implemented during project construction. Additionally, construction BMPs to allow for the continued use of wildlife movement through Oso Creek during construction would reduce significant impacts to wildlife corridors.

The following BMPs will be implemented:

- BMPs to address erosion and excess sedimentation shall be incorporated into the project plans.
- Work shall be limited to the construction footprint as outlined in the project plans. Access routes, staging areas, and the total footprint of disturbance shall be the minimum number/size necessary to complete the project and will be selected/placed to avoid impacts to sensitive habitat/resources.
- Sensitive resources will be marked and protected by temporary fencing (e.g., orange plastic fencing, silt fencing, signage) or other acceptable method. Works limits will be clearly marked in the field and confirmed by the project biologist/biological monitor prior to the start of construction. All staked/fenced boundaries will be maintained in good repair throughout construction.
- Where applicable, weed-free products shall be used to minimize the accidental spread of exotic plants. All construction equipment used for the project shall be clean and free of soil and plant material before arrival on-stie and before leaving the work area to prevent the spread of invasive plants.
- All storage and staging areas should be placed on existing developed or disturbed locations to the greatest extent feasible (e.g., paved, or bare ground surfaces) that have been reviewed and approved by the project biologist and project archaeologist.
- All areas used for stockpiling shall be kept free from trash and other waste. No project-related items shall be stored outside approved staging areas at any time.
- All contractor equipment and vehicles shall be inspected for leaks immediately prior to the start of construction, and regularly thereafter until the equipment and/or vehicles are removed from project premises. Any leaks shall be properly contained, or the equipment/vehicle(s) repaired, and if failing repair, removed off-site.
- Unless authorized by regulatory authority, project activities particularly involving cleaning or fueling or motorized equipment, will occur greater than 100 feet from jurisdictional or potentially jurisdictional waters.

Contaminated water, sludge, spill residue, or other hazardous compounds will be disposed of outside project boundaries at a lawfully authorized destination.

- Dust impacts shall be minimized by implementing appropriate measures that will reduce/control emissions generated by the project. water shall be applied (e.g., using a water truck) at sufficient quantities to prevent airborne dust from leaving the project area.
- In areas of excavation (e.g., pits, trenches, drilling holes) shall be covered overnight or during periods of inactivity. Routes of escape from excavated pits and trenches shall also be installed for wildlife that could potentially become entrapped (e.g., wood planks, sticks, or equivalent with dimensions of roughly 2-inch thick by 6-inch wide, and earthen ramps/slopes). These locations will be regularly inspected over the course of the project and immediately prior to filling. Should any entrapped wildlife be discovered, then work shall be suspended at the excavation site until the animal can be safely relocated by the biological monitor or project biologist.

- Project fencing will be integrated into the project design during construction to allow for wildlife movement to continue to occur within the floodplain of Oso Creek so as to not significantly impede the continued use of wildlife movement. The silt fencing will be installed outside of project work areas allowing a 3–5-foot path for small to medium sized wildlife to continue to move through the area. The silt fencing shall be installed by the Applicant's construction team and will be monitored weekly by a biologist to ensure the fence remains intact and to repair any holes in the fencing. Any wildlife that is trapped in the silt fence will be moved off site.

Regulatory Agency Permitting. As detailed in **MM-BIO-4** below, the Project shall consult with the regulatory waters agencies in order to obtain necessary permitting and secure required mitigation in order to offset the temporary and permanent impacts to state and federally-protected waters.

MM-BIO-4 Regulatory Waters Permitting. Prior to the start of construction, the Applicant shall submit the necessary applications to obtain permits from the USACE, RWQCB, and CDFW to comply with Sections 404, 401, and CFG Code. The Applicant will consult with the agencies through a pre-application meeting in order to confirm the proposed Applicant-led on site mitigation strategy through Oso Creek restoration is adequate to offset Project-related impacts. After the mitigation strategy is secured, the Applicant shall apply for a Nationwide Permit(s) from USACE, a 401 Water Quality Certification from RWQCB, and a Lake and Streambed Alteration Agreement from CDFW. The LSAA shall be submitted directly to the CEC as part of this application as opposed through the online EPIMS process. Regulatory permits and adequate mitigation shall be secured prior to the start of project activities within Oso Creek.

4.2.4.2 Minimization Measures for Special-Status Species

MM-BIO-1 Pre-Construction Surveys for Special-Status Species. ~~One p~~Conduct pre-construction clearance surveys for special-status wildlife species known to occur on site or have the potential to occur, including but not limited to: yellow warbler, yellow-breasted chat, red diamond rattlesnake, western red bat, and pallid bat. The survey shall be conducted no more than 14 days prior to initiation of site preparation and grading activities. A qualified biologist shall walk the entire project site to determine if any ~~red-diamond rattlesnakes or pallid bats~~special-status wildlife are observed or detected. Acoustic detection for bats may be used in conjunction with visual observation of individuals and sign to determine presence/absence of occupied roosts or foraging behavior. If

~~either~~ special-status wildlife species are~~is~~ observed or detected during the pre-construction surveys, additional measures may be required, such as establishing a buffer around known locations and/or conducting monitoring during construction near occupied areas to move observed individuals out of harm's way. For pallid bat, if a roost may be impacted during construction, additional measures, such as a focused bat survey, replacement roost installation, and/or agency consultation, may be required.

MM BIO-2 Southwestern Pond Turtle Trapping and Relocation (Management) Plan. Southwestern pond turtle (SWPT; *Acinemys pallida*) have been documented within the Project site on surveys conducted on August 20, 2025. Four SWPT were observed basking in Oso Creek and were limited to the upper and middle sections of the natural bottom portion of Oso Creek within the Project Boundary. Habitat is present to support all phases of the SWPT life cycle. Below are the following Avoidance and Minimization Measures (AMMs) for SWPT protection:

- Southwestern pond turtle (SWPT) shall be included in the WEAP described above, which will also educate staff on the potential or known presence of these species and ways to avoid and minimize impacts.
- Ground-disturbing activities within suitable habitats for special-status aquatic species shall be conducted during dry conditions (between June 15 and October 31) and no more than 48 hours prior to a forecasted rain event (greater than 40 percent chance of rain) or after a qualifying rain event (rain exceeds 0.5 inches during a 24-hour period). If work must continue when rain is forecast, a project biologist(s) shall survey the work area before construction begins each day rain is forecast. If rain exceeds 0.5 inches during a 24-hour period, work shall cease until National Weather Service forecasts no further rain.
- Project ground-disturbing activities will occur only during daytime hours and will cease no less than 30 minutes before sunset and will not begin again prior to no less than 30 minutes after sunrise.
- At least 14 days prior to initial project ground-disturbance, a qualified biologist shall conduct an initial pre-construction survey for SWPT and other aquatic species. The survey shall be conducted during the day (preferably mid-day) when turtles and other aquatic species are normally active. The survey will provide 100-percent visual coverage of Oso Creek to the greatest extent feasible, potential upland habitat, and within 50 feet of the work area. The biologist will inspect all burrows, crevices, ruts and holes, or other potential refugia in the work area including moist vegetation. Additionally, the survey will include identification of any potential SWPT nest sites if present
- Potential refugia and nest sites for SWPT will be flagged by qualified biologists for avoidance prior to the commencement of project-related activities.
- Survey results shall be submitted to CDFW electronically
- Within 48 hours prior to the initiation of ground-disturbing activities, a qualified biologist shall conduct a pre-construction survey for the presence of SWPT. The survey will provide 100-percent visual coverage of both ponds and potential upland habitat within 50 feet of the work area. The biologist will inspect all potential SWPT nesting sites and refugia.
- Potential refugia and nest sites will be flagged by qualified biologists for avoidance prior to the commencement of project-related activities.
- Survey results shall be submitted to CDFW electronically.

- If SWPT are encountered during the survey, these individuals will be relocated by a project biologist to suitable habitat off-site prior to the initiation of ground-disturbing activities and in accordance with the project's Survey, Relocation, and Monitoring Plan that will require CEC/CDFW approval.
- To prevent SWPT from reentering the project site, silt fencing shall be installed around Oso Creek extending up to 300 feet into the uplands to isolate aquatic features and adjacent upland habitat prior to turtle capture and relocation activities. If necessary to facilitate construction activities, the fencing can be extended to the perimeter of the project site. If present, SWPT upland habitat outside the construction (silt) fencing will be avoided by all construction personnel. The fence shall be inspected daily, and repaired, if necessary, while in use to ensure that breaks do not occur along the fence line where turtles may re-enter the pond. If, at any time during construction of the project, SWPT is encountered within the project site, work shall stop, and the qualified biologist shall be contacted to collect and relocate the turtle.
- Qualified biological monitor(s) will be on site each day during all earth moving activities and dredging activities. The biological monitor(s) shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may displace, injure, or kill special-status aquatic species through contact with workers, vehicles, and equipment. All aquatic and upland habitat including refugia habitat and potential nesting habitat shall be duly inspected.
- If SWPT are encountered in the active work zone, these individuals will be relocated by a project biologist to suitable habitat off-site and in accordance with the project's Survey, Relocation, and Monitoring Plan.
- The biological monitor(s) shall maintain monitoring records that include: (1) the beginning and ending time of each day's monitoring effort; (2) a statement identifying the any special-status species encountered, including the time and location of the observation; (3) the time the specimen was identified and by whom and its condition; (4) the capture and release locations of each individual; (5) photographs and measurements (snout to vent and total length) of each individual; and (6) a description of any actions taken. The biological monitor(s) shall maintain complete records in their possession while conducting monitoring activities and shall immediately provide records to CDFW and/or USFWS upon request. All monitoring records shall be provided to CDFW within 30 days of the completion of monitoring work.
- The biological monitor(s) shall permanently remove any non-native, invasive species encountered, including bullfrogs, crayfish, red-eared slider, and centrarchid fishes, to the maximum extent possible. Non-native species removal will be performed in accordance with the project's Survey, Relocation, and Monitoring Plan.

All special-status species observations within or adjacent to the work area will be recorded using the California Natural Diversity Database (CNDDB) Online Field Survey Form and submitted electronically to CDFW within five (5) business days of the observation.

A pre-construction visual encounter survey for southwestern pond turtle shall be conducted in and along the banks of Oso Creek prior to initiation of construction activities to trap and relocate any detected southwestern pond turtles in the project impact area. Informal consultation with USFWS and CDFW shall be conducted by the Applicant prior to initiation of construction activities within Oso Creek to coordinate on the specific methods of trapping and

relocation for southwestern pond turtle that are present in the project impact areas. As southwestern pond turtle is proposed for federal listing as Threatened, no formal Section 7 USFWS consultation under the Federal Endangered Species Act is required. A southwestern pond turtle Management Plan shall be prepared to detail the specific methods for translocation/relocation efforts in coordination with USFWS and CDFW.

No ground-disturbance will be permitted within 1,640 feet (500 meters) of suitable aquatic habitat for southwestern pond turtle during the turtle overwintering period from October to March. No ground-disturbance will be permitted within 656 feet (200 meters) of aquatic habitat occupied by southwestern pond turtle. The project proponent will implement applicable Best Management Practices (BMPs) for southwestern pond turtle in accordance with the most recent and agency-accepted guidelines available at the time of project implementation (e.g., Department of Defense (DOD) Legacy Resource Management Program 2020 and Oregon Department of Fish and Wildlife 2015).

- If ground-disturbance within 1,640 feet (500 meters) of suitable aquatic habitat from October to March or 656 feet (200 meters) of occupied aquatic habitat is not feasible, the project proponent will informally consult with USFWS on appropriate measures to identify and avoid take of any southwestern pond turtles nesting in the construction footprint. These measures may include all or a combination of the following to avoid take of nesting pond turtles:

    - Qualified biologist(s) shall conduct visual encounter surveys for pond turtle nests or evidence of nesting from May to June prior to any ground disturbance within the above buffers.
    - A minimum 50-foot-radius exclusion zone shall be established around any pond turtle nests or suspected nests found during the visual encounter surveys using high-visibility fencing. The exclusion zone shall remain in effect until the biologist has verified that the nest is no longer active.

- Occupied aquatic habitat shall be isolated from adjacent upland nesting habitat within the construction footprint before April in the year of construction. The intent of this measure is to ensure that once hatchling pond turtles leave their upland nests in April, no additional nests will be established in the construction footprint during the following season. Unclimbable, smooth fencing (e.g., Animex HDPE#2 material or wooden fencing) will be installed at the interface between aquatic and upland habitat. The fencing will be maintained between its installation and project start with regular monitoring (1 to 2 hours of observation every monitoring period) to ensure that turtles and other special-status species are not being entrapped by the fencing.

MM-BIO-3~~2~~ Pre-Construction Nesting Bird Surveys and Avoidance. Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the Survey Area, including yellow warbler, yellow-breasted chat, and California horned lark. If construction activities must occur during the migratory bird nesting season, an avian nesting survey of the project site and within 500 feet of all impact areas must be conducted to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 72 hours prior to the start of construction in accordance with the Migratory Bird Treaty Act (16 USC 703–712) and California Fish and Game Code Sections 3503, 3503.5, and 3513. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans, along with an appropriate buffer established around the nest, which shall be determined by the biologist based

on the species' sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The nest area shall be demarcated in the field with flagging and stakes or construction fencing. On-site construction monitoring shall also be conducted when construction occurs in proximately to an active nest buffer. No project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged and the nest is no longer active.

~~**Environmental Awareness Training.** A qualified biologist shall present an education program on yellow warbler, yellow breasted chat, California horned lark, red diamond rattlesnake, and pallid bat to all project employees prior to the start of construction and before new employees begin work onsite. Materials discussed in the program will include, at a minimum, the following topics: (1) species description, general behavior, and ecology; (2) distribution and occurrence near the project site; (3) species' sensitivity to human activities; (4) legal protection; (5) penalties for violation of State and Federal Laws; (6) reporting requirements; and (7) project conservation measures. The biological monitor shall document the names, dates, and affiliation of those persons who attend the training.~~

4.2.4.3 Minimization Measure for Site Restoration (Decommissioning)

Over the long term, once the project facilities are no longer needed, the structures will be removed the project area will be restored to approximate preconstruction conditions as described in the draft Decommissioning Plan (see Appendix 2A). This draft plan can then be updated at a later date (but no more than 1 year prior to closure). A formal plan for the project facility closure will be developed by the project owner and submitted to the CEC at least 1 year prior to facility closure (**MM BIO-5: Decommissioning Plan**).

MM-BIO-~~3~~5: Decommissioning Plan. Prior to commencing decommissioning activities and at least 12 months in advance of planned decommissioning, the applicant shall file a decommissioning plan with the CEC Compliance Project Manager (CPM) for approval. The decommissioning plan shall:

- Identify and discuss the proposed decommissioning and site restoration activities for the project and all appurtenant facilities constructed as a part of/or because of the project;
- Identify all applicable laws, ordinances, regulations, standards, (LORS) and local/regional plans applicable at that time;
- Discuss how the specific proposed decommissioning activities would comply with those identified LORS and plans;
- Discuss the reasons for selecting the preferred proposal; and
- Provide a schedule for decommissioning and identify the final reporting that shall be required to demonstrate that decommissioning was completed in compliance with the CEC-approved decommissioning plan.

4.2.5 Laws, Ordinances, Regulations, and Standards

The following subsections describe the laws, ordinances, regulations, and standards (LORS) that apply to potential impacts on biological resources in the project area and list the agencies responsible for enforcing the regulations. A summary of the applicable federal, state, and local LORS is provided below.

4.2.5.1 Federal

4.2.5.1.1 Federal ESA (16 United States Code [USC] 153 et seq.)

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. The FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the FESA, it is unlawful to "take" any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

4.2.5.1.2 MBTA (16 USC 703 to 711)

The Migratory Bird Treaty Act (16 USC 703 et seq.), as amended (MBTA), prohibits the intentional take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so. In December 2017, Department of the Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA's "take" prohibition to apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

4.2.5.1.3 Bald and Golden Eagle Protection Act (16 USC 668)

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permits issues by the Secretary of the Interior, from "taking" bald or golden eagles, includes their parts, nests, or eggs. The Act provides criminal penalties for person who "take, possess, sell, purchase, bater, offer to sell, transport, export or import, at any time or ay manner, any bald eagle…[or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, kill, wound, capture, trap, collect, molest or disturb."

4.2.5.2 State

4.2.5.2.1 CESA

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2068) provides protection and prohibits take of plant, fish, and wildlife species listed by the State of California. Unlike the FESA, under the CESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the FESA and is prohibited for both listed and candidate species. Take authorization may be obtained by a project applicant from the California Department of Fish and Wildlife (CDFW) under CESA Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

4.2.5.2.2 Fish and Game Code

Sections 3500, 3511, and 3513

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species. Toward that end, CDFW has designated certain vertebrate species as Species of Special Concern, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Section 5901

Section 5901 of the California Fish and Game Code makes it unlawful to construct or maintain any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream. Fish are defined in Section 45 as a wild fish, mollusk, crustacean, invertebrate, or amphibian, or part, spawn, or ovum of any of those animals.

Section 5937

Section 5937 of the California Fish and Game Code requires that the owner of any dam must allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around, or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the

minimum flow of water in any river or stream, permission may be granted by CDFW to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam to keep in good condition any fish that may be planted or exist below the dam, when, in the judgment of CDFW, it is impracticable or detrimental to the owner to pass the water through a fishway.

Section 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of a definable bed and banks and existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark (OHWM) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete, certified California Environmental Quality Act (CEQA) document.

4.2.5.2.3 California Native Plant Protection Act

The Native Plant Protection Act of 1977 (see Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take. The CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, the CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in the CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.

4.2.5.2.4 Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). As of April 2019, the State Water Resources Control Board has narrowed its definition of a water of the state to include the following (SWRCB 2019):

1. Natural wetlands
2. Wetlands created by modification of a surface water of the state

3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration
    b. Specifically identified in a water quality control plan as a wetland or other water of the state
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape
    d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the United States are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the United States are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

4.2.5.2.5 Plants and Animals of California Declared to be Endangered or Threatened (Title 14, CCR, Sections 670.2 and 670.5

These codes list plants and animals designated as threatened or endangered in California. State SSC is a category conferee by CDFW of those species that are indicators of regional habitat change or are considered potential future protected species. These species do not have any species legal status but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

4.2.5.2.6 CEQA (PRC Section 15380)

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

The State of California CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used

in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under the FESA, CESA, and other California Fish and Game Code provisions, and includes lists developed by other organizations, including, for example, the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on the CDFW Special Species list. Additionally, CDFW has concluded that plant species listed as California Rare Plant Rank 1 and 2 by the California Native Plant Society, and potentially some California Rare Plant Rank 3 plants, are covered by CEQA Guidelines Section 15380.

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service."

4.2.5.2.7 Warren Alquist Act (PRC Section 25000, et seq.)

The AFC process is a certified regulatory process pursuant to the Warren-Alquist Act and, therefore, fulfills the requirements of CEQA. CEQA is codified in the California PRC, Section 2100-2118.1. Guidelines for implementation of CEQA are codified in the California Code of Regulations (CRR), Sections 15000-15387.

4.2.5.3 Local

4.2.5.3.1 San Juan Capistrano General Plan

The City of San Juan Capistrano General Plan includes goals and policies designed for the protection of natural resources within the city limits. To preserve the important biological resources within the city for future generations, and to preserve the quality of life in the community that these resources contribute, these important ecological and biological resources need to be protected through implementation of the following goals and policies (City of San Juan Capistrano 1999):

Conservation and Open Space Goal 2: Protect and preserve important ecological and biological resources.

Policy 2.1: Use proper land use planning to reduce the impact of urban development on important ecological and biological resources.

Policy 2. 2: Preserve important ecological and biological resources as open space.

Policy 2.3: Develop open space uses in an ecologically sensitive manner.

Policy 2.4: Continue to designate the City as a bird sanctuary to preserve and protect the populations of all migratory birds which serve as a prime resource to the character and history of the community.

Conservation and Open Space Goal 7: Protect water quality.

Policy 7.1: Coordinate water quality and supply programs with the responsible water agencies.

Policy 7.2: Encourage the production and use of recycled water.

Policy 7.3: Conserve and protect watershed areas.

4.2.5.3.2 City of San Juan Capistrano Municipal Code

Section 9-3.557 of the City of San Juan Capistrano Municipal Code requires tree preservation of existing trees within the City of San Juan Capistrano while permitting reasonable use and development of properties containing such trees, as well as the reasonable trimming and maintenance of such trees. The city's definition of a protected tree includes any living woody perennial plant having a trunk diameter greater than 6 inches, measured at a point 3 feet above the ground. This ordinance prevents any property owner or his or her agent in any district in the city that will cause any tree on his or her property to be severely trimmed, unless prior approval is given by the Planning Director, upon recommendation of an arborist. This ordinance also provides suggested tree trimming standards to preserve the health, beauty, and longevity of trees. Trimming for such purpose would also make trees safer, more functional, and valuable.

4.2.5.3.3 Habitat Conservation Plan

The Natural Community Conservation Act, codified at California Fish and Game Code Sections 2800–2840, authorizes the preparation of Natural Community Conservation Plans (NCCPs) to protect natural communities and species while allowing a reasonable amount of economic development. At the same time, FESA Section 10 provides for the preparation of Habitat Conservation Plans (HCPs) to permit the taking of federally listed threatened and endangered species. Under both state and federal statutes, joint planning processes result in the preparation and adoption of an NCCP/HCP. The proposed Project's Survey Area is within the NCCP/HCP area for the County of Orange Central and Coastal Subregion, specifically within the Central Subregion of the ~~NCCP/~~HCP area (County of Orange 1996), and is therefore analyzed in this report in the context of the NCCP/HCP with regards to the special-status species identified in the NCCP/HCP and the mitigation provisions of the NCCP/HCP.

The NCCP/HCP was reviewed and approved by USFWS and the California Department of Fish and Game (now CDFW) in 1996 to address protection and management of coastal sage scrub habitat, coastal sage scrub obligate species, and other covered habitats and species, and to mitigate anticipated impacts to those habitats and species on a programmatic, sub-regional level rather than on a project-by-project, single-species basis (County of Orange 1996).

A Southern Subregion ~~NCCP/~~HCP was proposed, but the California Department of Fish and Game did not adopt it. However, USFWS finalized the Southern Subregion HCP to authorize development of Rancho Mission Viejo and select County of Orange projects (i.e., expansion of a landfill and an extension of La Pata). There is an in-lieu fee program authorized for only a few select development sites within Coto~~a~~ de Caza [~~(~~USFWS 2007]~~Snyder 2012~~).

The Central and Coastal Subregion NCCP/HCP (herein referred to as "NCCP/HCP") includes a habitat reserve in excess of 37,000 acres for the protection of coastal sage scrub, other upland habitats, coastal California gnatcatcher (*Polioptila californica californica*), and other primarily coastal sage scrub–dependent species. Specifically, the NCCP/HCP, USFWS, and CDFW authorize "take" under the FESA and CESA of 39 "identified species" of plants and wildlife (including "covered" and "conditionally covered" species). Further, the NCCP/HCP contains requirements for adaptive management, interim management, and funding management for the habitat reserve, as well as procedures and minimization measures related to the take of identified species and habitat. Thus, the NCCP/HCP provides for the protection and management of a broad range of plant and wildlife populations while providing certainty to the public and affected landowners with respect to the location of future development and open space in the subregion (County of Orange 1996).

The project site occurs within the NCCP/HCP area, specifically within the Coastal Subarea Plan area, and does not occur within any mapped habitat reserve areas (Figure 4.2-10: Southern Subregion OC HCP). Project-related impacts to covered species and/or covered sensitive habitats would require compliance with the mitigation plan for participating landowners; however, non-signatories to the NCCP/HCP would be required to comply with local, state, and federal policies that pertain to mitigating for impacts to special-status species and sensitive natural communities.

4.2.6 Permit and Permit Schedule

Slope stabilization and restoration of Oso Creek requires permanently impacting jurisdictional aquatic resources that would require agency permitting from CDFW, USACE, and RWQCB~~No permits are required~~. The CDFW LSAA permit shall be coordinated through the AB 205 CEC application filing process. The USACE CWA Section 404 Nationwide Permits and RWQCB 401 Water Quality Certification applications will be submitted through the standard permitting process with each regulatory agency. Regulatory agency permits can typically take 3-9 months to process given mitigation is set in place.

4.2.7 Agency Contacts

The table below lists regulatory agency contacts for biological resources for this project.

Natural Resource	Agency	Contact Information
State-listed species and LSAA permit	CDFW - Region 5, South Coast	David Mayer, Environmental Program Manager Jennifer Turner, Environmental Scientist Supervisor (858) 467-4201 AskR5@wildlife.ca.gov 3883 Ruffin Road, San Diego, CA 92123
Federally-listed species	USFWS - Pacific Southwest Region, Carlsbad Field Office	(760) 431-9440 2177 Salk Avenue Suite 250 Carlsbad, CA 92008
USACE aquatic regulatory permitting	USACE – Los Angeles Region	(760) 602-4837 Eric R. Sweeney Senior Project Manager Eric.R.Sweeney@usace.army.mil South Coast Branch, Regulatory Division Carlsbad, CA Field Office
RWQCB Section 401 permit	Regional Water Quality Control Board San Diego	(619) 521-3364 Eric Becker Senior Water Resource Control Engineer Region 9 San Diego Eric.Becker@waterboards.ca.gov 2375 Northside Drive, Suite 100 San Diego CA 92108

4.2.8 References

16 U.S.C. 1531-1544. Endangered Species Act of 1973. Chapter 35, Endangered Species. Sections 1531-1544.

AOS (American Ornithological Society). 2025~~4~~. "Check-List of North and Middle American Birds." ~~Accessed April 2023.~~ https://checklist.americanornithology.org.

Avian Power Line Interaction Committee (APLIC). 2006. "Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006". ~~Accessed July 2023.~~ https://www.aplic.org/uploads/files/2613/SuggestedPractices2006(LR-2watermark).pdf

Bonar, S.A., Hubert, W.A., and D.W. Willis, 2009. Standard Methods for Sampling North American Freshwater Fishes. Published by the American Fisheries Society.

CalHerps (California Herps). 2025~~4~~. "Snakes, Lizards, and Turtles. ~~Red Diamond Rattlesnake – Crotalus Ruber."~~ http://californiaherps.com/index~~snakes/pages/c.ruber~~.html. ~~Accessed July 2023.~~

CCH (Consortium of California Herbarium). 2025. Specimen data from the Consortium of California Herbarium. CCH2 data portal. https://www.cch2.org/portal/

CDFG (California Department of Fish and Game). 1990. California Wildlife Habitat Relationships System. ~~"Horned Lark" and "Yellow Breasted Chat." Accessed July 2023 .~~ https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1971.

CDFG. 2005. California Wildlife Habitat Relationships. Life History Accounts. https://wildlife.ca.gov/Data/Analysis/CWHR/Life-History-and-Range

CDFG (California Department of Fish and Game). 2012. *Staff Report on Burrowing Owl Mitigation*. March 7, 2012. Accessed July 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline=true

CDFW (California Department of Fish and Wildlife). 2018. "*Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*." March 20, 2018. ~~Accessed May 2023~~. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline.

CDFW. 2023. *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species*. June 6, 2023. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline.

~~CDFW. 2023. "California Natural Community List." Sacramento, California: CDFW. Last updated June 2022. Accessed June 2023. https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities.~~

CDFW. 2025~~4~~a. State of California Natural Resources Agency, Biogeographic Information Observation System, California Natural Diversity Database (CNDDB). Commercial Viewer. Version 6. Wildlife.ca.gov/apps/bios6

CDFW. 2025b. "California Natural Community List." Sacramento, California: CDFW. Last updated February 27, 2025. https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities.

CDFW. 2024~~c~~b. Vegetation Classification and Mapping Program. Vegetation Maps and Reports. Vegetation GIS data. Orange County, CA. 1992 and 2012. Wildlife.ca.gov/data/GIS/Vegetation-Data

City of San Juan Capistrano. 1999. *City of San Juan Capistrano General Plan, Conservation & Open Space Element*. December 14, 1999. https://sanjuancapistrano.org/Portals/0/Documents/Development%20Services/Planning%20and%20Zoning/General%20Plan/General%20Plan%206-Conservation%20%26%20Open%20Space%20Element-REV.pdf.

CNPS (California Native Plant Society). 2001. "Botanical Survey Guidelines of the California Native Plant Society." December 9, 1983. Revised June 2, 2001.

CNPS. 2025~~4~~a. *Inventory of Rare and Endangered Plants* (online edition, v9-5. Sacramento, California: California Native Plant Society. ~~Accessed March 2023.~~ https://.rareplants.cnps.org.

CNPS 2024~~5~~~~b~~. A Manual of California Vegetation, Online Edition. CNPS Sacramento, CA. http://www.cnps.org/cnps/vegetation

County of Orange. 1992. *Habitat Classification System: Natural Resources Geographic Information System (GIS) Project.* Prepared by J. Gray (Dames & Moore) and D. Bramlet (Consulting Biologist) for T.B. Mathews (County of Orange). Santa Ana, California: County of Orange Environmental Management Agency, Planning Department. May 1992.

County of Orange. 1996. *Natural Community Conservation Plan/Habitat Conservation Plan, County of Orange, Central & Coastal Subregion.* Prepared for the County of Orange, Environmental Management Agency. Prepared by R.J. Meade Consulting, Inc. December 7, 1996.

County of Orange. 2012. *General Plan, Chapter VI, Resources Element*. https://ocds.ocpublicworks.com/sites/ocpwocds/files/import/data/files/40235.pdf.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79-31. Prepared for U.S. Fish and Wildlife Service. December 1979. Reprinted 1992. https://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf.

CPA (California's Protected Areas). 2025. California's Protected Areas and Conservation Easements. CPAD and CCE Database. https://www.calands.org/

Crother, B.I. 2017. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 8th ed. Herpetological Circular No. 43. Ed. J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.

Cypher, E.A. 2002. *General Rare Plant Survey Guidelines*. Revised July 2002.

Dudek. 2023. Jurisdictional Aquatic Resources Delineation Report for the Compass Battery Energy Storage Project. March 2021. Revised March 2023.

Dudek 2024. Crotch's Bumble Bee and Burrowing Owl Results Memorandum for the Compass Battery Energy Storage Project. September 2024.

Dudek 2025a. 2025 Crotch's Bumble Bee and Burrowing Owl Results Memorandum for the Compass Battery Energy Storage Project. August 2025.

Dudek 2025b. Bat Survey and Updated Jurisdictional Delineation Results for the Compass Battery Energy Storage Project. September 2025.

Dudek 2025c. Southwestern Pond Turtle Survey Results Memorandum for the Compass Energy Storage Project. September 2025.

Dudek 2025d. Arroyo Chub Survey Results Memorandum for the Compass Battery Energy Storage Project. November 2025.

Hansen, R., and J. D. Shedd. California Amphibians and Reptiles. Princeton University Press, 2025.

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

Jepson Flora Project. 2020. Jepson eFlora. Berkeley, California: University of California. Accessed May 2023. http://ucjeps.berkeley.edu/interchange/index.html.

Kerlinger, Paul. 2000. "Avian Mortality at Communication Towers: A Review of the Recent Literature, Research, and Methodology". Prepared for USFWS, Office of Migratory Bird Management. pp38.

NABA (North American Butterfly Association). 2016. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed May 2023. http://www.naba.org/pubs/enames2_3.html.

NOAA (National Oceanic and Atmospheric Administration). 2025. National Marine Fisheries Service. Designated Critical Habitat Mapper – West Coast Region. Steelhead Trout – Southern California DPS. . https://maps.fisheries.noaa.gov/portal/apps/mapviewer/index.html?layers=2abcff6b1cf14dcda99cbd5492b1c404

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County.* March 2008. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch9.0/rtcrefaletters/014%202014-12-19_OberbauerTM2008.pdf.

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

Semlitsch, R.D. and J.R. Bodie. 2003. "Biological Criteria for Buffer Zones Around Wetlands and Riparian Habitats for Amphibians and Reptiles." Conservation Biology 17:1219–1228.

SWRCB (State Water Resources Control Board). 2021. State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Adopted April 2, 2019; Revised April 6, 2021. https://www.waterboards.ca.gov/press_room/press_releases/2021/procedures.pdf.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetland Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. http://www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606.

USACE. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer

Research and Development Center. September 2008. http://www.usace.army.mil/CECW/Documents/cecwo/reg/trel08-28.pdf.

USACE and EPA (U.S. Environmental Protection Agency). 2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*. December 2, 2008.

USDA (U.S. Department of Agriculture). 2025~~4~~a. "California." PLANTS Database. ~~Accessed March 2023.~~ http://plants.usda.gov/home

USDA. 2025~~4~~b. Natural Resource Conservation Service. Web Soil Survey. ~~Accessed May 2023.~~ http://websoilsurvey.nrcs.usda.gov.

USFWS (U.S. Fish and Wildlife Service). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, proposed, and Candidate Plants*. January, 2000.

USFWS ~~(U.S. Fish and Wildlife Service).~~ 2001. *Least Bell's Vireo Survey Guidelines.* January 19, 2001.

USFWS. 2007. Orange County Southern Subregion Habitat Conservation Plan. Regional Frequently Asked Questions. Carlsbad Field Office. May 2007. https://www.fws.gov/sites/default/files/documents/FAQ%20Orange%20County%20Southern%20Subregion%20HCPsjw%20web.pdf

USFWS. 2025~~4~~a. *Birds of Conservation Concern~~n 2023~~: Migratory Bird Program*. United States Department of the Interior, U.S. Fish and Wildlife Service, Migratory Birds, Falls Church, Virginia. https://www.fws.gov/migratorybirds/pdf/management/birds-of-conservation-concern-2025~~3~~.pdf.

USFWS. 2024~~5~~b. National Wetlands Inventory. Surface Waters and Wetlands. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper.

USGS (United States Geological Survey). 2006. "Western Pond turtle (*Actinemys marmorata*) Visual Survey Protocol for the Southcoast Ecoregion." USGS, Western Ecological Research Center. Sacramento, California.

USGS. 2025~~4~~. National Hydrography Dataset. https://www.usgs.gov/national-hydrography/national-hydrography-dataset

WBWG (Western Bat Working Group). 2017. "Western Bat Species~~: Pallid Bat~~." ~~Accessed July 2023.~~ http://wbwg.org/western-bat-species/.

Western Regional Climate Center (WRCC) 2025~~4~~. Western U.S. Local Climate Data Summaries. San Juan Capistrano, Orange County, CA. 2025~~3~~. https://wrcc.dri.edu/Climate/summaries.php

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990a. *California's Wildlife: Volume I. Amphibians and Reptiles.* Sacramento, California: California Department of Fish and Game.

Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990b. *California's Wildlife: Volume II. Birds.* Sacramento, California: California Department of Fish and Game.

Parcel B1

Map Reference Point

Project Site (27.70-acres)

Potentially Jurisdictional Features

OHWM (USACE,RWQCB,CDFW) (1.77-acres)

Bank Habitat (CDFW) (2.47-acres)

Vegetation Communities and Land Covers

AGR, General Agriculture

DEV, Urban/Developed

DH, Disturbed Habitat

ORN, Ornamental

Created on Wednesday, November 26, 2025
Made in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program*, as amended on February 10, 2016 by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Coordinate System: NAD 1983 State Plane Zone 5
Projection: Transverse Mercator
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet
1 inch = 100 feet

SOURCE: Maxar 2023

DUDEK

0 140 280 Feet

FIGURE 4.2-1A

Jurisdictional Delineation Results

Compass Energy Storage Project

- Parcel B1
- Map Reference Point
- Transect
- Project Site (27.70-acres)
- Erosion Area (0.50 acres, 850 linear feet)

Potentially Jurisdictional Features

- OHWM (USACE,RWQCB,CDFW) (1.77-acres)
- Bank Habitat (CDFW) (2.47-acres)
- Riparian Habitat (CDFW) (16.59-acres)
- Swale (0.03-acres)

Vegetation Communities and Land Covers

- AGR, General Agriculture
- Bacsal, Mulefat thickets
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NVC, Non-Vegetated Channel
- ORN, Ornamental
- Popfre-Sallas, Populus fremontii - Salix lasiolepis Association
- UM, Upland Mustards

Created on Wednesday, November 26, 2025
Made in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program*, as amended on February 10, 2016 by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Coordinate System: NAD 1983 State Plane Zone 5
Projection: Transverse Mercator
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet
1 inch = 100 feet

SOURCE: Maxar 2023

DUDEK

0 140 280 Feet

FIGURE 4.2-1B

Jurisdictional Delineation Results

Compass Energy Storage Project

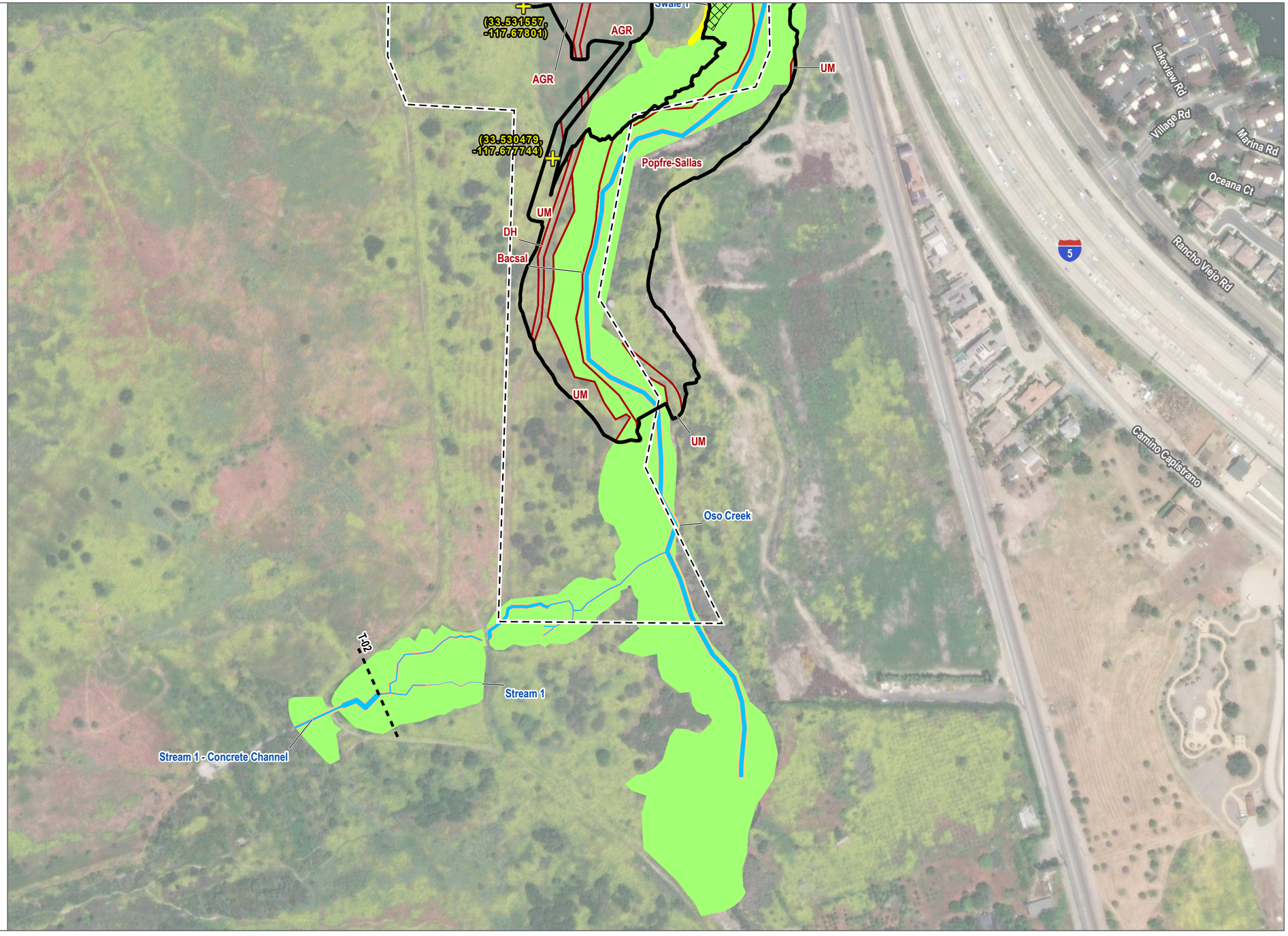
- Parcel B1
- Map Reference Point
- Transect
- Project Site (27.70-acres)
- Erosion Area (0.50 acres, 850 linear feet)

Potentially Jurisdictional Features

- OHWM (USACE,RWQCB,CDFW) (1.77-acres)
- Bank Habitat (CDFW) (2.47-acres)
- Riparian Habitat (CDFW) (16.59-acres)
- Swale (0.03-acres)

Vegetation Communities and Land Covers

- AGR, General Agriculture
- Bacsal, Mulefat thickets
- DH, Disturbed Habitat
- Popfre-Sallas, Populus fremontii - Salix lasiolepis Association
- UM, Upland Mustards



Created on Wednesday, November 26, 2025
Made in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program*, as amended on February 10, 2016 by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Coordinate System: NAD 1983 State Plane Zone 5
Projection: Transverse Mercator
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet
1 inch = 100 feet

SOURCE: Maxar 2023

DUDEK

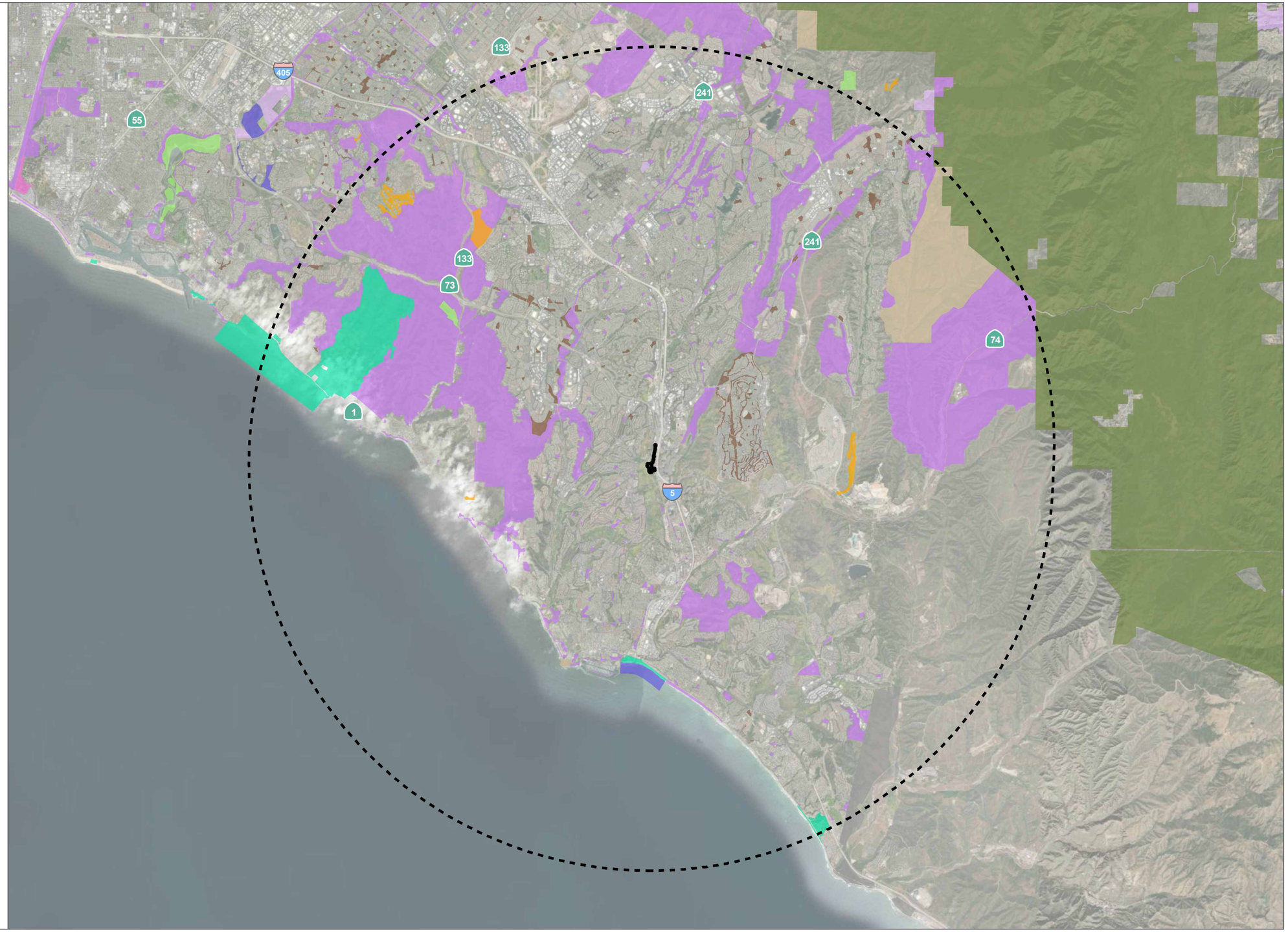
0 140 280 Feet

FIGURE 4.2-1C
Jurisdictional Delineation Results
Compass Energy Storage Project

Project Site
Study Area (10-Mile Buffer)
CA Conservation Easement

CA Protected Area - Ownership

California Department of Fish and Wildlife
California Department of Parks and Recreation
City; County
National Park Service
Non Governmental Organization
Other Federal
Other State
Private
Special District
Tribal
US Bureau of Land Management
US Fish and Wildlife Service
US Forest Service
US Military/Defense



SOURCE: Esri World Imagery; CPAD 2022; CCED 2022

DUDEK

0 1.5 3 Miles

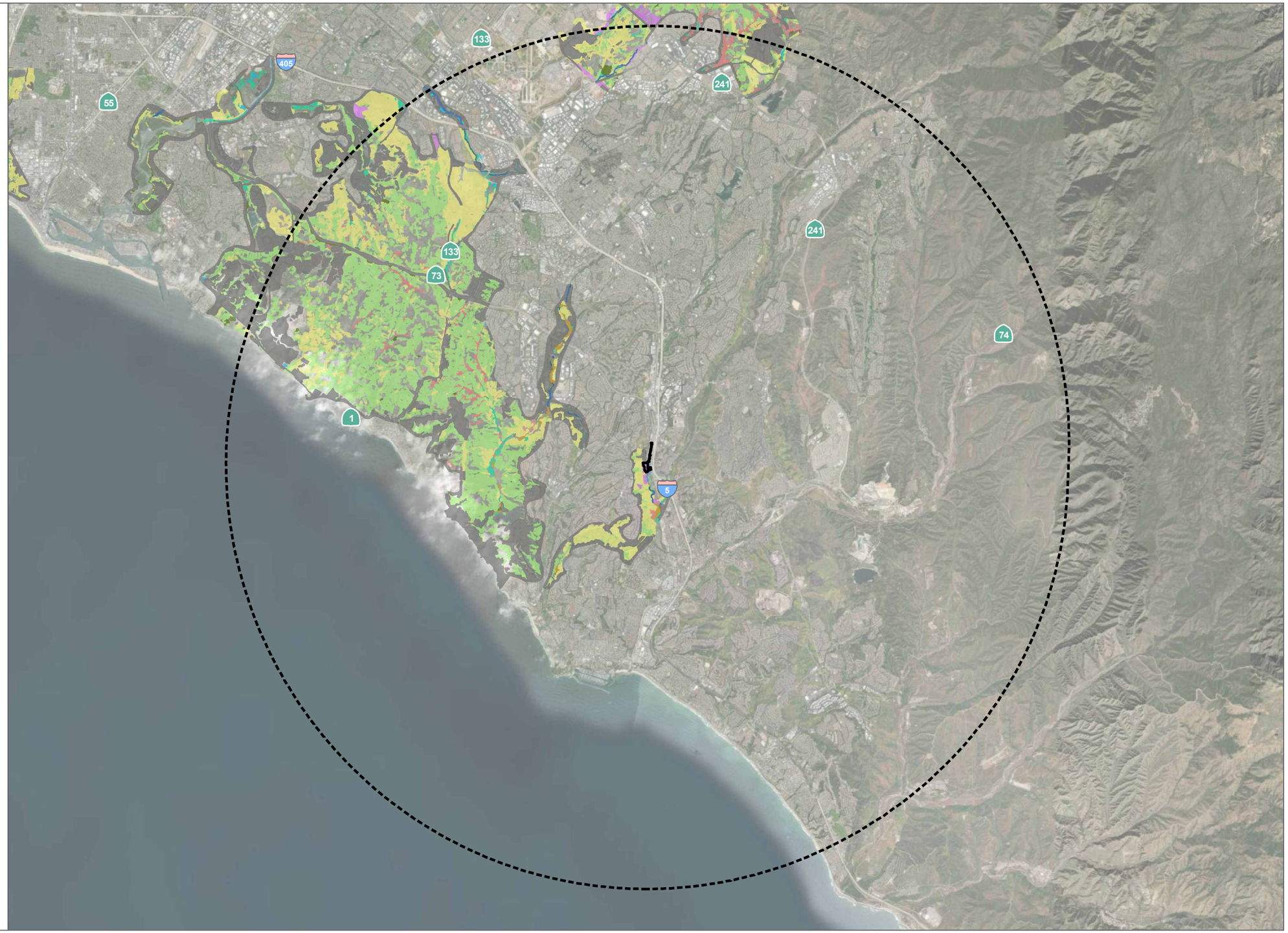
FIGURE 4.2-2
Protected Areas
Compass Energy Storage Project

Project Site

Study Area (10-Mile Buffer)

CDFW Vegetation

- Agriculture, Orchard Agriculture
- Annual Grasses and Forbs, Perennial Grasses and Forbs
- Baccharis (riparian)
- California Sagebrush
- Coast Live Oak
- Giant Reed/Pampas Grass
- Riparian Mixed Hardwood
- River/Stream/Canal, Barren
- Soft Scrub-Mixed Chaparral, California Sagebrush
- Urban



SOURCE: Esri World Imagery 2022; CAFWS 2012

DUDEK

0 1.5 3 Miles

FIGURE 4.2-3

Sensitive Habitat Types

Compass Energy Storage Project

- Project Site
- Study Area (10-Mile Buffer)
- Steelhead (*Oncorhynchus mykiss*
- Riverside fairy shrimp (*Streptocephalus woottoni*
- Coastal California gnatcatcher (*Polioptila californica californica*)
- Tidewater goby (*Eucyclogobius newberryi*
- Thread-leaved brodiaea (*Brodiaea filifolia*
- San Diego fairy shrimp (*Branshinecta sandiegonensis*
- Arroyo toad (*Anaxyrus californicus*

SOURCE: Esri World Imagery; USFWS 2023

DUDEK 0 1.5 3 Miles

FIGURE 4.2-4

Critical Habitat

Compass Energy Storage Project

SOURCE: Dudek 2021; Esri World Imagery 2019

DUDEK

0 250 500 Feet

FIGURE 4.2-5

Least Bell's Vireo Survey Area

Compass Energy Storage Project

SOURCE: USGS NHD 2024; Maxar 2023; Open Street Map 2019

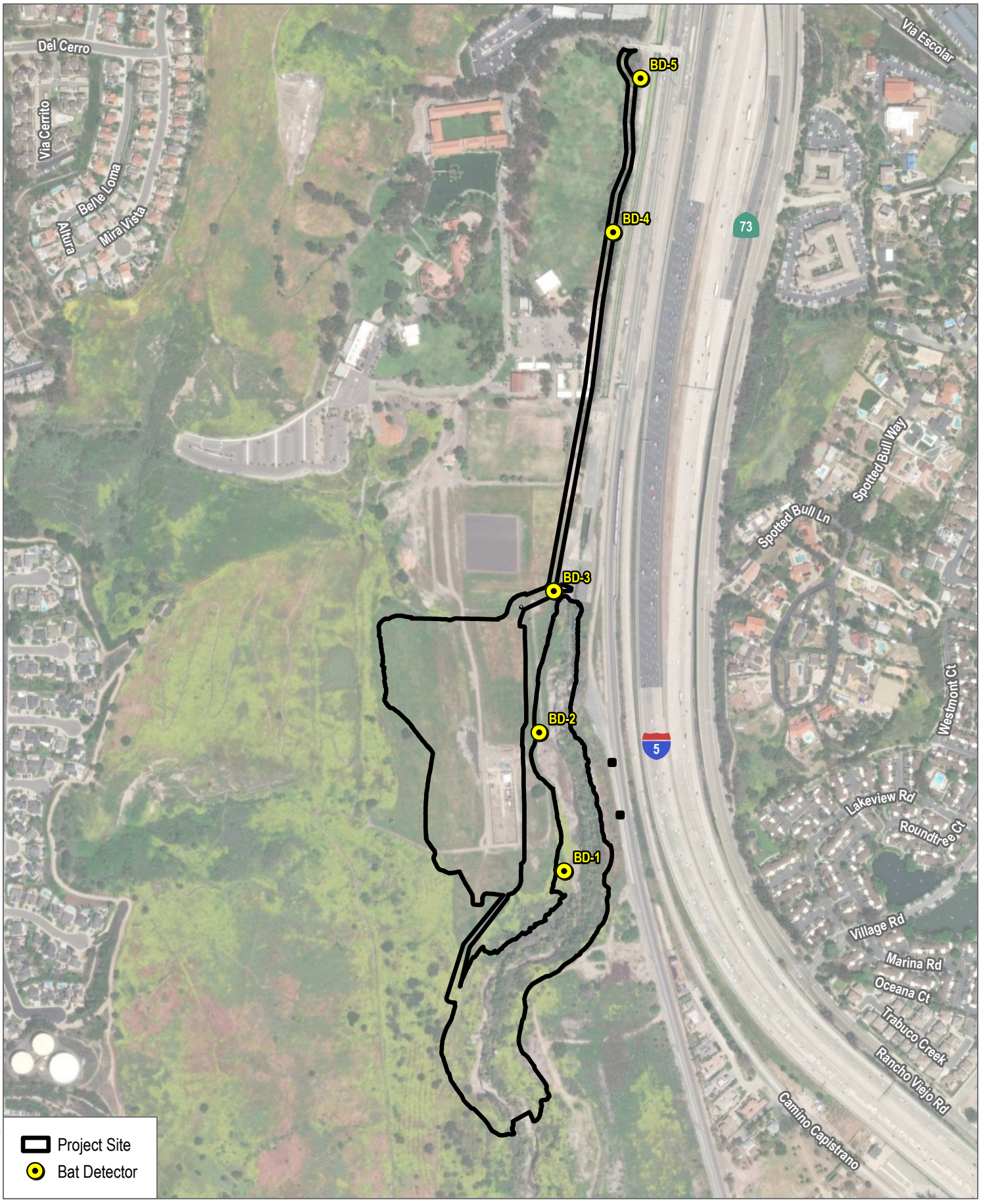
DUDEK

0 250 500 Feet

FIGURE 4.2-6

Southwestern Pond Turtle Habitat Assessment and Visual Encounter Survey

Compass Energy Storage Project



SOURCE: Maxar 2023

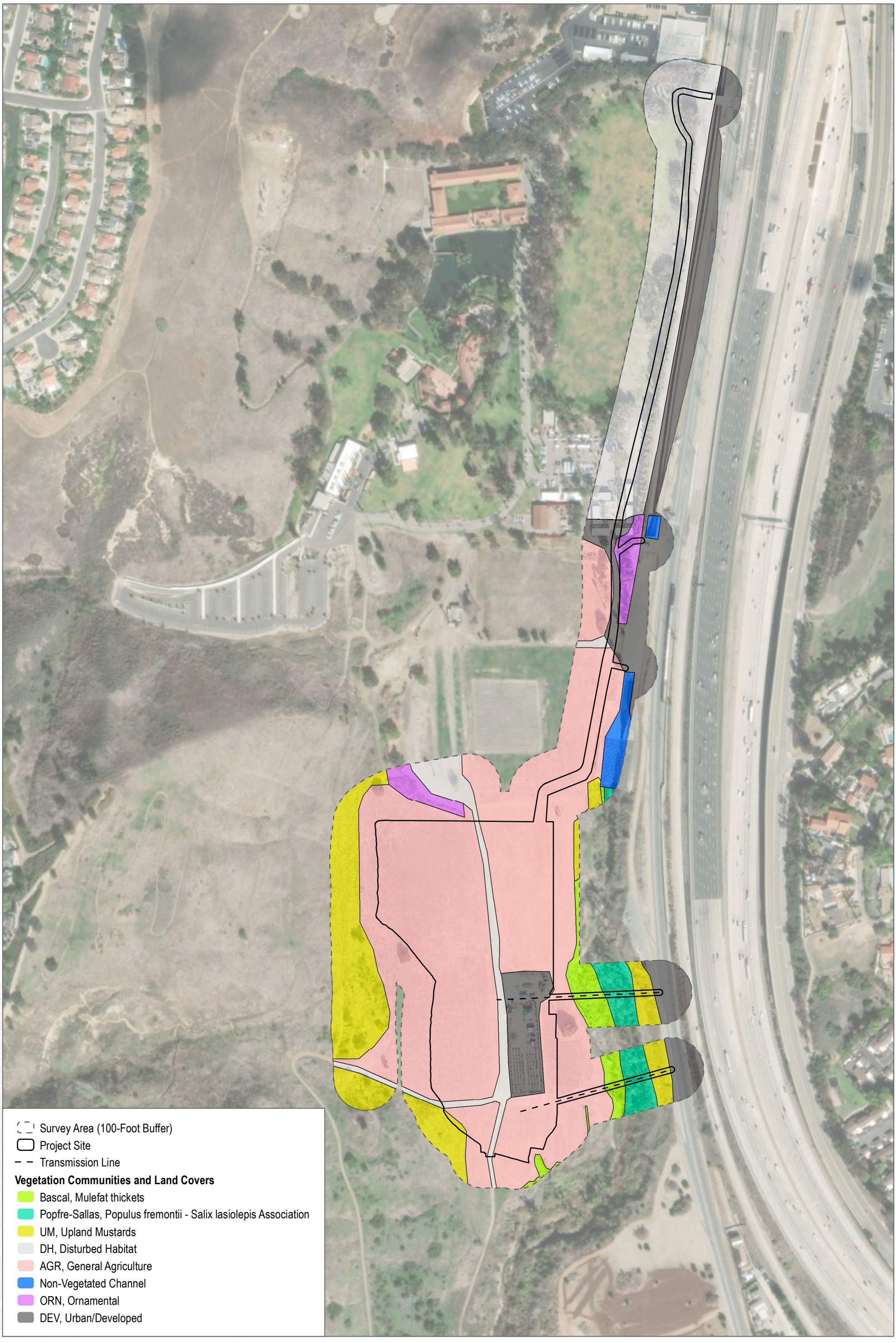
DUDEK

0 300 600 Feet

FIGURE 4.2-7

Bat Survey Results

Compass Energy Storage Project



SOURCE: Dudek 2021; Esri World Imagery 2019

DUDEK

0 150 300 Feet

FIGURE 4.2-8

Vegetation Communities/Land Cover Types

Compass Energy Storage Project

Project Site

Project Site - 10 Mile Buffer

CNDDB

Plant Occurrences

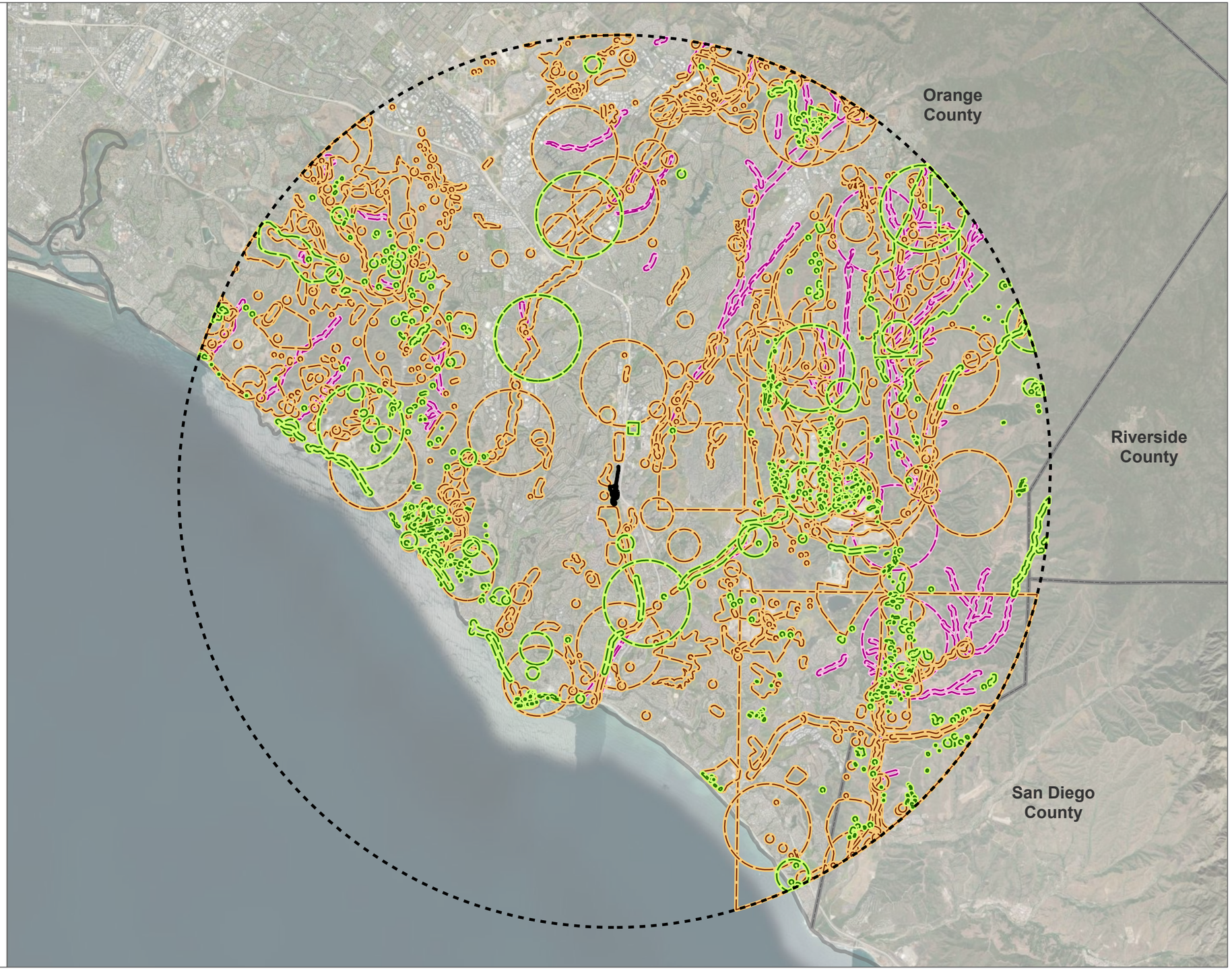
- Allen's pentachaeta, (*Pentachaeta aurea ssp. allenii*)
- Blochman's dudleya, (*Dudleya blochmaniae ssp. blochmaniae*)
- California satintail, (*Imperata brevifolia*)
- Coulter's saltbush, (*Atriplex coulteri*)
- Davidson's saltscale, (*Atriplex serenana var. davidsonii*)
- Laguna Beach dudleya, (*Dudleya stolonifera*)
- Nuttall's scrub oak, (*Quercus dumosa*)
- Orcutt's pincushion, (*Chaenactis glabriuscula var. orcuttiana*)
- Palmer's grapplinghook, (*Harpagonella palmeri*)
- Parish's brittlescale, (*Atriplex parishii*)
- San Miguel savory, (*Clinopodium chandleri*)
- Santa Catalina Island desert-thorn, (*Lycium brevipes var. hassei*)
- aphanisma, (*Aphanisma blitoides*)
- big-leaved crownbeard, (*Verbesina dissita*)
- chaparral nolina, (*Nolina cismontana*)
- chaparral ragwort, (*Senecio aphanactis*)
- cliff spurge, (*Euphorbia misera*)
- decumbent goldenbush, (*Isocoma menziesii var. decumbens*)
- estuary seablite, (*Suaeda esteroa*)
- intermediate mariposa-lily, (*Calochortus weedii var. intermedius*)
- intermediate monardella, (*Monardella hypoleuca ssp. intermedia*)
- many-stemmed dudleya, (*Dudleya multicaulis*)
- mesa horkelia, (*Horkelia cuneata var. puberula*)
- mud nama, (*Nama stenocarpa*)
- prostrate vernal pool navarretia, (*Navarretia prostrata*)
- salt spring checkerbloom, (*Sidalcea neomexicana*)
- south coast saltscale, (*Atriplex pacifica*)
- southern tarplant, (*Centromadia parryi ssp. australis*)
- sticky dudleya, (*Dudleya viscida*)
- summer holly, (*Comarostaphylis diversifolia ssp. diversifolia*)
- thread-leaved brodiaea, (*Brodiaea filifolia*)
- white rabbit-tobacco, (*Pseudognaphalium leucocephalum*)

Wildlife Occurrences

- American badger, (*Taxidea taxus*)
- American bumble bee, (*Bombus pensylvanicus*)
- Belding's savannah sparrow, (*Passerculus sandwichensis beldingi*)
- California glossy snake, (*Arizona elegans occidentalis*)
- California horned lark, (*Eremophila alpestris actia*)
- Coast Range newt, (*Taricha torosa*)
- Cooper's hawk, (*Accipiter cooperii*)
- Crotch bumble bee, (*Bombus crotchii*)
- Dulzura pocket mouse, (*Chaetodipus californicus femoralis*)
- Mexican long-tongued bat, (*Choeronycteris mexicana*)
- Pacific pocket mouse, (*Perognathus longimembris pacificus*)
- Riverside fairy shrimp, (*Streptocephalus wootoni*)
- San Diego desert woodrat, (*Neotoma lepida intermedia*)
- San Diego fairy shrimp, (*Branchinecta sandiegonensis*)
- Southern California legless lizard, (*Anniella stebbinsi*)
- Yuma myotis, (*Myotis yumanensis*)
- arroyo chub, (*Gila orcuttii*)
- arroyo toad, (*Anaxyrus californicus*)
- burrowing owl, (*Athene cunicularia*)
- coast horned lizard, (*Phrynosoma blainvillii*)
- coastal California gnatcatcher, (*Polioptila californica californica*)
- coastal cactus wren, (*Campylorhynchus brunneicapillus sandiegensis*)
- coastal whiptail, (*Aspidoscelis tigris stejnegeri*)
- ferruginous hawk, (*Buteo regalis*)
- golden eagle, (*Aquila chrysaetos*)
- grasshopper sparrow, (*Ammodramus savannarum*)
- least Bell's vireo, (*Vireo bellii pusillus*)
- long-eared owl, (*Asio otus*)
- monarch - California overwintering population, (*Danaus plexippus plexippus pop. 1*)
- northern harrier, (*Circus hudsonius*)
- orange-throated whiptail, (*Aspidoscelis hyperythra*)
- pallid bat, (*Antrozous pallidus*)
- red-diamond rattlesnake, (*Crotalus ruber*)
- southern California rufous-crowned sparrow, (*Aimophila ruficeps canescens*)
- southwestern willow flycatcher, (*Empidonax traillii extimus*)
- steelhead - southern California DPS, (*Oncorhynchus mykiss irideus pop. 10*)
- tidewater goby, (*Eucyclogobius newberryi*)
- tricolored blackbird, (*Agelaius tricolor*)
- two-striped gartersnake, (*Thamnophis hammondii*)
- western mastiff bat, (*Eumops perotis californicus*)
- western pond turtle, (*Emys marmorata*)
- western red bat, (*Lasiurus frantzii*)
- western spadefoot, (*Spea hammondii*)
- white-tailed kite, (*Elanus leucurus*)
- yellow warbler, (*Setophaga petechia*)
- yellow-breasted chat, (*Icteria virens*)

Community Occurrences

- Southern Coast Live Oak Riparian Forest, (*Southern Coast Live Oak Riparian Forest*)
- Southern Cottonwood Willow Riparian Forest, (*Southern Cottonwood Willow Riparian Forest*)
- Southern Mixed Riparian Forest, (*Southern Mixed Riparian Forest*)
- Southern Sycamore Alder Riparian Woodland, (*Southern Sycamore Alder Riparian Woodland*)
- Valley Needlegrass Grassland, (*Valley Needlegrass Grassland*)



SOURCE: CDFW 2023; World Imagery 2025

DUDEK

1:150,000

0 1.5 3 Miles

FIGURE 4.2-9

Biological Resources

Compass Energy Storage Project

Project Site
Survey Area (100-Foot Buffer)
Transmission Line
New/Replacement Pole

Sensitive Species

B-YBCH; Yellow-breasted chat (*Icteria virens*)
B-YWAR; Yellow warbler (*Setophaga petechia*)
R-SWPT; Southwestern Pond Turtle (*Actinemys pallida*)

Vegetation Communities and Land Covers

Mulefat thickets
Populus fremontii - Salix lasiolepis Association
Upland Mustards
Disturbed Habitat
General Agriculture
Non-Vegetated Channel
Ornamental
Urban/Developed

Wildlife Occurrences

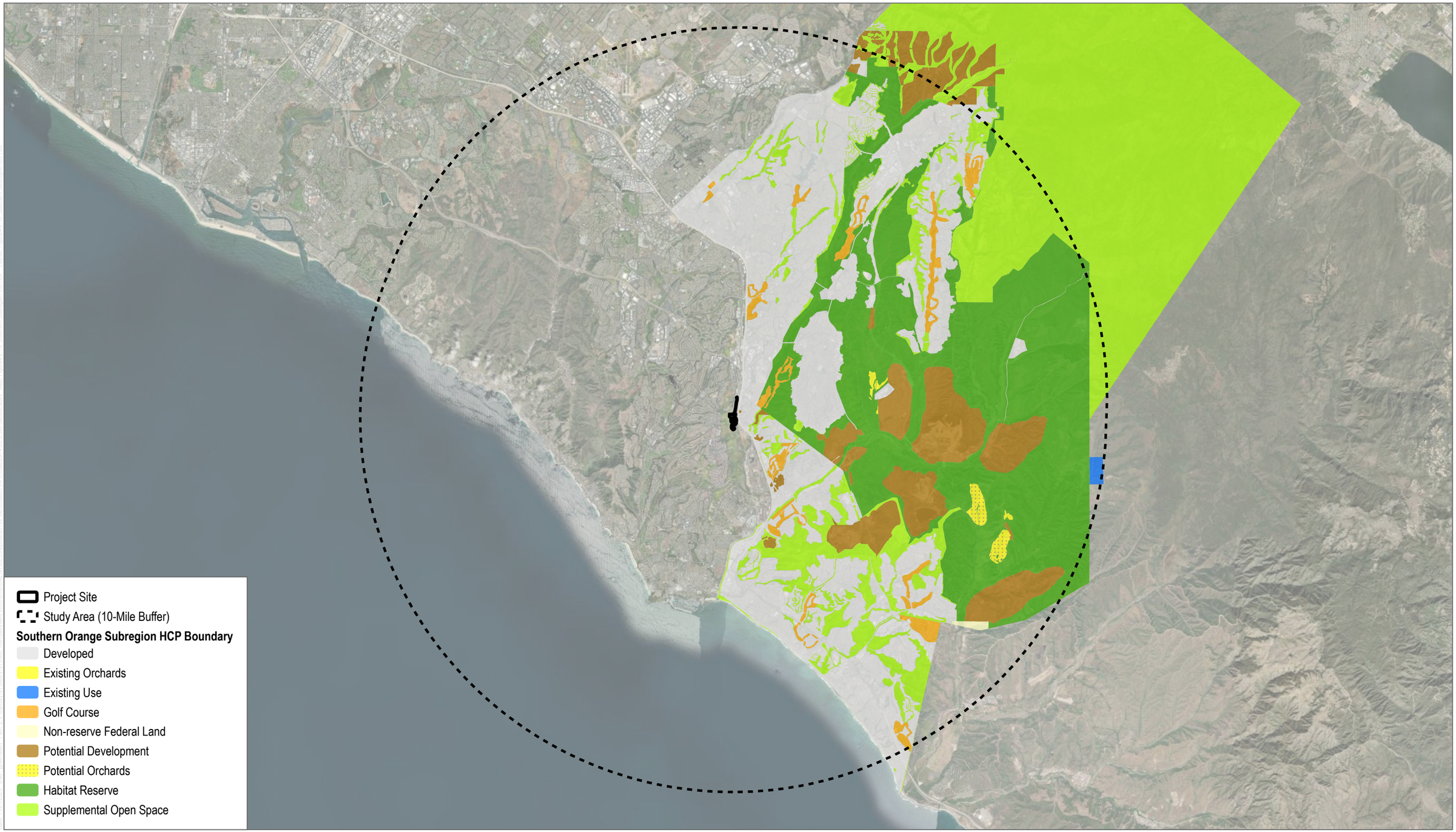
4, coastal California gnatcatcher, (*Polioptila californica californica*)
8, white-tailed kite, (*Elanus leucurus*)

SOURCE: CDFW 2023; World Imagery 2025

DUDEK

0 310 620 Feet

FIGURE 4.2-9
Biological Resources
Compass Energy Storage Project



SOURCE: Esri World Imagery; Orange County 2019

DUDEK

FIGURE 4.2-10

Southern Subregion OC HCP

Compass Energy Storage Project

Appendix 4.2A

Summary of Special Status-Species within the Study Area

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
Abronia maritima	red sand-verbena	None/None/CRPR 4.2/None	Coastal dunes/perennial herb/Feb-Nov/0-330	Not expected to occur. No suitable vegetation present. The nearest occurrence record is from 2013, approximately 3 miles south of the project. This species was not observed during rare plant surveys within the Survey Area.
Aphanisma blitoides	aphanisma	None/None/1B.2/None	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy or gravelly/annual herb/Feb–June/3–1,000	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CDFW 2025). Aphanisma was not observed during rare plant surveys within the Survey Area.
Artemisia palmeri	San Diego sagewort	None/None/4.2/None	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland; sandy, mesic/perennial deciduous shrub/(Feb)May–Sep/49–3,000	Not expected to occur. Limited suitable vegetation present to support this species. There are no known occurrences within 5 miles of the project site (CCH 2025). San Diego sagewort was not observed during rare plant surveys within the Survey Area.
Asplenium vespertinum	western spleenwort	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial rhizomatous herb/Feb–June/591–3,280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Western spleen wort was not observed during rare plant surveys within the Survey Area.
Astragalus brauntonii	Braunton's milk-vetch	FE/None/1B.1/None	Chaparral, Coastal scrub, Valley and foothill grassland; recent burns or disturbed areas, usually sandstone with carbonate layers/perennial herb/Jan–Aug/13–2,095	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 10 miles north of the project site (CDFW 2025). Braunton's milk-vetch was not observed during rare plant surveys within the Survey Area.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2/None	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill	Not expected to occur. No suitable vegetation present. The closest known

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
			grassland; alkaline or clay/perennial herb/Mar–Oct/10–1,505	occurrence is approximately 1 mile south of the project site (CDFW 2025). Coulter's saltbush was not observed during rare plant surveys within the Survey Area.
Atriplex pacifica	South Coast saltscale	None/None/1B.2/None	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CDFW 2025). South coast saltscale was not observed during rare plant surveys within the Survey Area.
Atriplex parishii	Parish's brittlescale	None/None/1B.1/None	Chenopod scrub, Playas, Vernal pools; alkaline/annual herb/June–Oct/82–6,230	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). Parish's brittlescale was not observed during rare plant surveys Survey Area.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/None/1B.2/None	Coastal bluff scrub, Coastal scrub; alkaline/annual herb/Apr–Oct/33–655	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). Davidson's saltscale was not observed during rare plant surveys within the Survey Area.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1/None	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar–June/82–3,670	Not expected to occur. The closest known occurrence is approximately 2 miles north of the project site (CDFW 2025). A reference check was performed for Brodiaea filifolia (blooming May 4, 2025). Thread-leaved brodiaea was not observed during rare plant surveys within the Survey Area.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2/ Covered	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/49–2,295	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CCH 2025). A reference check was performed for Catalina mariposa lily

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				(blooming May 10, 2025). Catalina mariposa lily was not observed during rare plant surveys within the Survey Area.
Calochortus plummerae	Plummer's mariposa-lily	Non/None/4.2/None	Chaparral, cismontane woodland, Coastal scrub, lower montane coniferous forest, valley and foothill grassland/Perennial bulbiferous herb/May-July	Not expected to occur. Grassland present. There are no known occurrence records within 5 miles of the project (CCH 2025). This species was not observed during rare plant surveys within the Survey Area.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	None/None/1B.2/ Covered	Chaparral, Coastal scrub, Valley and foothill grassland; rocky, calcareous/perennial bulbiferous herb/May–July/344–2,805	Not expected to occur. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025). Intermediate mariposa lily was not observed during rare plant surveys within the Survey Area.
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3/None	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy or clay/annual herb/Mar–May(June)/0–985	Not expected to occur. There are no known occurrences within 5 miles of the project site (CCH 2025). Lewis' evening primrose was not observed during rare plant surveys within the Survey Area.
Caulanthus simulans	Payson's jewelflower	None/None/4.2/None	Chaparral, Coastal scrub; sandy, granitic/annual herb/(Feb)Mar–May(June)/295–7,215	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Payson's jewelflower was not observed during rare plant surveys within the Survey Area.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1/None	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May–Nov/0–1,570	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CDFW 2025). Southern tarplant was not observed during rare plant surveys within the Survey Area.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1/None	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CDFW 2025).Orcutt's pincushion was not observed

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				during rare plant surveys within the Survey Area.
Chorizanthe leptotheca	Peninsular spineflower	None/None/4.2/None	Chaparral, Coastal scrub, Lower montane coniferous forest; alluvial fan, granitic/annual herb/May–Aug/984–6,230	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Peninsular spineflower was not observed during rare plant surveys within the Survey Area.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/1B.2/None	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr–July/98–5,015	Not expected to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). Long-spined spineflower was not observed during rare plant surveys within the Survey Area.
Cistanthe maritima	seaside cistanthe	None/None/4.2/None	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; sandy/annual herb/(Feb)Mar–June(Aug)/16–985	Not expected to occur. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). Seaside cistanthe was not observed during rare plant surveys within the Survey Area.
Clinopodium chandleri	San Miguel savory	None/None/1B.2/None	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland; Rocky, gabbroic or metavolcanic/perennial shrub/Mar–July/394–3,525	Not expected to occur. The site is outside of the species' known elevation range. The closest known occurrence is 10 miles from the project site (CDFW 2025). San Miguel savory was not observed during rare plant surveys within the Survey Area.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/1B.2/None	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr–June/98–2,590	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025). Summer holly can easily be observed year-round and was not observed during rare plant surveys within the Survey Area.

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
Convolvulus simulans	small-flowered morning-glory	None/None/4.2/None	Chaparral (openings), Coastal scrub, Valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar–July/98–2,425	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CCH 2025). A reference check was performed for small-flowered morning glory (blooming May 1, 2025). The BSA is too disturbed for small-flowered morning glory to persist. Small flowered morning glory was not observed during rare plant surveys within the Survey Area.
Deinandra paniculata	paniculate tarplant	None/None/4.2/None	Coastal scrub, Valley and foothill grassland, Vernal pools; usually vernally mesic, sometimes sandy/annual herb/(Mar)Apr–Nov(Dec)/82–3,080	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CCH 2025). A reference check was performed for paniculate tarplant (July 25, 2025 blooming). Paniculate tarplant was not observed during rare plant surveys within the Survey Area.
Dichondra occidentalis	western dichondra	None/None/4.2/ Covered	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar–July/164–1,640	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CCH 2025). Western dichondra was not observed during rare plant surveys within the Survey Area.
Diplacus clevelandii	Cleveland's bush monkeyflower	None/None/4.2/None	Chaparral, Cismontane woodland, Lower montane coniferous forest; Gabbroic, often in disturbed areas, openings, rocky/perennial rhizomatous herb/Apr–July/1,475–6,560	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). This species was not observed during rare plant surveys within the Survey Area.
Dodecahema leptoceras	slender-horned spineflower	FE/SE/1B.1/None	Chaparral, Cismontane woodland, Coastal scrub (alluvial fan); sandy/annual herb/Apr–June/656–2,490	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2025, CCH

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				2025). This species was not observed during rare plant surveys within the Survey Area.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1/ Covered	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/Apr–June/16–1,475	Not expected to occur. The closest known occurrence is approximately 5 miles from the project site along the coast (CDFW 2025). Blochman's Dudleya was not observed during rare plant surveys within the Study Area.
Dudleya chasmophyta	Santiago Canyon dudleya	Non/None/1B.1/None	Coastal scrub, chaparral, rocky/May-June/1,560-1,690	Not expected to occur. The project occurs outside the species' known elevation range. There are no known occurrence records within 5 miles of the project (CCH 2025). This species was not observed during rare plant surveys within the Survey Area.
Dudleya cymosa ssp. *ovatifolia*	Santa Monica dudleya	FT/None/1B.1/Covered	Chaparral, Coastal scrub; volcanic or sedimentary, rocky/perennial herb/Mar–June/492–5,495	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CDFW 2025, CCH 2025). Santa Monica Dudleya was not observed during rare plant surveys.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2/None	Chaparral, Coastal scrub, Valley and foothill grassland; often clay/perennial herb/Apr–July/49–2,590	Not expected to occur. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). Many-stemmed Dudleya was not observed during rare plant surveys.
Dudleya stolonifera	Laguna Beach dudleya	FT/ST/1B.1/Covered	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; rocky/perennial stoloniferous herb/May–July/33–855	Not expected to occur. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). Laguna beach Dudleya was not observed during rare plant surveys.
Dudleya viscida	sticky dudleya	None/None/1B.2/None	Coastal bluff scrub, Chaparral, Cismontane woodland, Coastal	Not expected to occur. No suitable vegetation present. The closest known occurrence is less than 5 miles from the

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
			scrub; rocky/perennial herb/May–June/33–1,800	project site (CDFW 2025). Sticky Dudleya was not observed during rare plant surveys.
Eryngium pendletonense	Pendleton button-celery	None/None/1B.1/None	Coastal bluff scrub, Valley and foothill grassland, Vernal pools; clay, vernally mesic/perennial herb/Apr–June(July)/49–360	Not expected to occur. The closest known occurrence is more than 10 miles from the project site (CDFW 2025). Pendleton button-celery has only been observed within Camp Pendleton boundaries. In addition, it was not observed during rare plant surveys.
Erythranthe diffusa	Palomar monkeyflower	None/None/4.3/None	Chaparral, Lower montane coniferous forest; sandy or gravelly/annual herb/Apr–June/4,000–6,000	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Palomar monkeyflower was not observed during rare plant surveys within the Study Area.
Euphorbia misera	cliff spurge	None/None/2B.2/ Covered	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec–Aug(Oct)/33–1,640	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 4 miles from the project site (CDFW 2025).Cliff spurge (large perennial shrub) can easily be observed year round. Cliff spurge was not observed during rare plant surveys.
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2/ Covered	Chaparral, Coastal scrub, Valley and foothill grassland; Clay; open grassy areas within shrubland/annual herb/Mar–May/66–3,130	Not expected to occur. There are no known occurrences within 5 miles of the project site (CCH 2025). A reference check was performed for Palmer's grapplinghook (April 24, 2025 blooming and fruiting). The site is too disturbed for Palmer's grapplinghook to persist. Palmer's grapplinghook was not observed during rare plant surveys,
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None/None/1A/None	Marshes and swamps (coastal salt and freshwater)/perennial	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles north

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
			rhizomatous herb/Aug–Oct/33–5,000	of the project site (CDFW 2025). Los Angeles was not observed during rare plant surveys.
Hesperocyparis forbesii	Tecate cypress	None/None/1B.1/ Covered	Closed-cone coniferous forest, Chaparral; clay, gabbroic or metavolcanic/perennial evergreen tree/N.A./262–4,920	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles north of the project site (CDFW 2025). Tecate cypress can easily be observed year-round. Additionally, Tecate cypress was not observed during rare plant surveys.
Holocarpha virgata ssp. elongata	Graceful tarplant	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/Annual herb/May-Nov/195-3,610	Not expected to occur. Grassland is present. There are no known occurrence within 5 miles of the project (CCH 2025). This species was not observed during the rare plant surveys.
Hordeum intercedens	vernal barley	None/None/3.2/None	Coastal dunes, Coastal scrub, Valley and foothill grassland (saline flats and depressions), Vernal pools/annual herb/Mar–June/16–3,280	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CCH 2025). Vernal barley habitat was not present within the Study Area. In addition, vernal barley was not observed during rare plant surveys.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1/None	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/perennial herb/Feb–July(Sep)/230–2,655	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). Mesa horkelia was not observed during rare plant surveys.
Imperata brevifolia	California satintail	None/None/2B.1/None	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub; mesic/perennial rhizomatous herb/Sep–May/0–3,985	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). California satintails was not observed during rare plant surveys.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/1B.2/None	Chaparral, Coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/33–445	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				project site along the coast (CDFW 2025). Decumbent goldenbush was not observed during rare plant surveys.
Juglans californica	southern California black walnut	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, alluvial/Perennial deciduous tree/March-August/165-2,955	Not expected to occur. Riparian woodland is present. The nearest occurrence record is approximately 5 miles from the project, from 2022. This species was not observed during rare plant surveys.
Juncus acutus spp. leopoldii	Southwestern spiny rush	None/None/4.2/None	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt), Meadows and seeps (alkaline seeps)/Perennial rhizomatous herb/March-June/10-2,955	Not expected to occur. No suitable vegetation present. No known occurrence records within 5 miles of the project (CCH 2025). This species was not observed during rare plant surveys.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1/None	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/3–4,000	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). Coulter's goldfields was not observed during rare plant surveys.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2/ Covered	Closed-cone coniferous forest, Chaparral, Cismontane woodland/perennial shrub/Apr–July/1,705–4,490	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. The closest known occurrence is approximately 15 miles north of the project site (CDFW 2025). Heart-leaved pitcher sage was not observed during rare plant surveys.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3/None	Chaparral, Coastal scrub/annual herb/Jan–July/3–2,900	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Robinson's pepper-grass was not observed during rare plant surveys.
Lessingia hololeuca	Woolly-headed lessingia	None/None/3/None	Broadleafed upland forest, Coastal scrub, Lower montane coniferous	Not expected to occur. No suitable substrates present. No occurrence records

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
			forest, Valley and foothill grassland/annual herb; clay, serpentine/June-Oct/50-1,000	within 10 miles of the project (CCH 2025). This species was not observed during rare plant surveys.
Lilium humboldtii ssp. *ocellatum*	Ocellated Humboldt lily	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland; openings/ perennial bulbiferous herb/March-August/100-5,905	Not expected to occur. Riparian woodland is present. No known occurrence records within 10 miles of the project. This species was not detected during rare plant surveys.
Lycium brevipes var. *hassei*	Santa Catalina Island desert-thorn	None/None/3.1/None	Coastal bluff scrub, Coastal scrub/perennial deciduous shrub/June(Aug)/213–985	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Santa Catalina Island desert-thorn was not observed during rare plant surveys.
Lycium californicum	California box-thorn	None/None/4.2/None	Coastal bluff scrub, Coastal scrub/perennial shrub/(Dec)Mar,June,July,Aug/16–490	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). California box thorn was not observed during rare plant surveys.
Malacothrix saxatilis var. *saxatilis*	cliff malacothrix	None/None/4.2/None	Coastal bluff scrub, Coastal scrub/perennial rhizomatous herb/Mar–Sep/10–655	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). A reference check was performed for cliff malacothrix (July 25, 2025 blooming). This species was not observed during rare plant surveys.
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None/None/4.2/None	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/annual herb/Mar–May/49–3,510	Not expected to occur. The closest known occurrence is less than 5 miles from the project site (CCH 2025). The site is too disturbed for small flowered microseris. In

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				addition, small flowered microseries was not observed during rare plant surveys.
Monardella hypoleuca ssp. *intermedia*	intermediate monardella	None/None/1B.3/None	Chaparral, Cismontane woodland, Lower montane coniferous forest (sometimes); Usually understory/perennial rhizomatous herb/Apr–Sep/1,310–4,100	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). Intermediate monardella was not observed during rare plant surveys.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/None/1B.2/None	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/984–5,165	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles from the project site (CDFW 2025, CCH 2025). Felt-leaved monardella was not observed during rare plant surveys.
Monardella macrantha ssp. *hallii*	Hall's monardella	None/None/1B.3/None	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/perennial rhizomatous herb/June–Oct/2,395–7,200	Not expected to occur. The site is outside of the species' known elevation range. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025). Hall's monardella was not observed during rare plant surveys.
Myosurus minimus ssp. *apus*	little mousetail	None/None/3.1/None	Valley and foothill grassland, Vernal pools (alkaline)/annual herb/Mar–June/66–2,095	Not expected to occur. The BSA has no vernal pools and the site is too disturbed for this species. There are no known occurrences within 5 miles of the project site (CCH 2025). In addition, little mousetails was not observed during rare plant surveys.
Nama stenocarpa	mud nama	None/None/2B.2/None	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/16–1,640	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 3 miles east of the project site (CDFW 2025). Mud nama was not observed during rare plant surveys.

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
Nasturtium gambelii	Gambel's water cress	FE/ST/1B.1/None	Marshes and swamps (freshwater or brackish)/perennial rhizomatous herb/Apr–Oct/16–1,080	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles north of the project site (CDFW 2025). Gambel's water cress was not observed during rare plant surveys.
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.2/None	Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools; Mesic/annual herb/Apr–July/10–3,965	Not expected to occur. The BSA does not have any vernal pools and is too disturbed for prostrate vernal pool navarretia. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). In addition, it was not observed during rare plant surveys.
Nolina cismontana	chaparral nolina	None/None/1B.2/None	Chaparral, Coastal scrub; sandstone or gabbro/perennial evergreen shrub/(Mar)May–July/459–4,180	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). Chaparral nolina was not observed during rare plant surveys.
Ophioglossum californicum	California adder's tongue	None/None/4.2/None	Chaparral, valley and foothill grassland, margins of vernal pools; mesic/Perennial rhizomatous herb/Jan-June (Dec)/195-1,725	Not expected to occur. Grassland present but lacks vernal pool habitat. No known occurrence records within 10 miles of the project (CCH 2025). This species was not observe during rare plant surveys.
Orcuttia californica	California Orcutt grass	FE/CE/1B.1/None	vernal pools/annual herb/April-August/49–2,165	Not expected to occur. No vernal pool habitat present. No known occurrence records within 10 miles of the project (CCH 2025). Not observed during focused rare plant surveys.
Pentachaeta aurea ssp. *allenii*	Allen's pentachaeta	None/None/1B.1/None	Coastal scrub (openings), Valley and foothill grassland/annual herb/Mar–June/246–1,705	Not expected to occur. The closest known occurrence is approximately 5 miles from the project site along the coast (CDFW 2025). In addition, Allen's pentachaeta was not observed during rare plant surveys.

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
Pentachaeta aurea ssp. aurea	Golden-rayed pentachaeta	None/None/4.2/None	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/annual herb/March-July/260-6,070	Not expected to occur. Riparian woodland and grassland present. No known occurrence records within 10 miles of the project site (CCH 2025). This species was not detected during rare plant surveys.
Phacelia hubbyi	Hubby's phacelia	None/None/4.2/None	Chaparral, coastal scrub, valley and foothill grassland; gravelly, rocky, talus/annual herb/April-July/0-3,280	Not expected to occur. Grassland present but lacks suitable substrate. No known occurrence records within 10 miles of the project (CCH 2025). This species was not observed during the rare plant surveys.
Phacelia keckii	Santiago Peak phacelia	None/None/1B.3/None	Closed-cone coniferous forest, Chaparral/annual herb/May–July/1,785–5,245	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. The closest known occurrence is approximately 15 miles north of the project site (CDFW 2025). Santiago peak phacelia was not observed during rare plant surveys.
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	None/None/3.2/None	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar–Aug/16–985	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). South coast branching phacelia was not observed during rare plant surveys.
Piperia cooperi	chaparral rein orchid	None/None/4.2/None	Chaparral, Cismontane woodland, Valley and foothill grassland/perennial herb/Mar–June/49–5,200	Not expected to occur. The BSA is too disturbed for chaparral rein orchid. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). In addition, chaparral rein orchid was not observed during rare plant surveys.
Piperia leptopetala	narrow-petaled rein orchid	None/None/4.3/None	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous	Not expected to occur. The site is too disturbed for narrow petaled rein orchid. The site is outside of the species' known

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
			forest/perennial herb/May–July/1,245–7,295	elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Narrow petaled rein orchid was not observed during rare plant surveys.
Polygala cornuta var. *fishiae*	Fish's milkwort	None/None/4.3/None	Chaparral, Cismontane woodland, Riparian woodland/perennial deciduous shrub/May–Aug/328–3,280	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). Fish's milkwort was not observed during rare plant surveys.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2/None	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; sandy, gravelly/perennial herb/(July)Aug–Nov(Dec)/0–6,885	Not expected to occur. No suitable vegetation present. The closest known occurrence is less than 1 mile south of the project site (CDFW 2025). White rabbit-tobacco was not observed during rare plant surveys.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1/ Covered	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb–Apr(May–Aug)/49–1,310	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 2 miles south of the project site (CDFW 2025). Nuttal's scrub oak was not observed during rare plant surveys.
Quercus engelmannii	Engelmann oak	None/None/4.2/None	Chapparal, cismontane woodland, riparian woodland, valley and foothill grassland/perennial deciduous tree/March-June/165-4,265	Not expected to occur. Riparian woodland and grassland present. Nearest occurrence record is approximately 10 miles from the project (CCH 2025). This species was not observed during the rare plant surveys.
Romneya coulteri	Coulter's matilija poppy	None/None/4.2/ Covered	Chaparral, Coastal scrub; Often in burns/perennial rhizomatous herb/Mar–July(Aug)/66–3,935	Not expected to occur. No suitable vegetation present. There are no known occurrences within 5 miles of the project site (CCH 2025). Coulter's matilija poppy was not observed during rare plant surveys.

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
Selaginella cinerascens	Ashy spike-moss	None/None/4.1/None	Chaparral, coastal scrub/perennial rhizomatous herb/N.A./65-2,100	Not expected to occur. No suitable habitat present. No known occurrence record within 10 miles of the project (CCH 2025). This species was not observed during the rare plant surveys.
Senecio aphanactis	chaparral ragwort	None/None/2B.2/None	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan–Apr(May)/49–2,620	Not expected to occur. No suitable vegetation present. The site is too disturbed for chaparral ragwort to persist. The closest known occurrence is approximately 5 miles from the project site along the coast (CDFW 2025). A reference check was performed for chaparral ragwort (April 15, 2025). Chaparral ragwort was not observed during rare plant surveys.
Sidalcea neomexicana	salt spring checkerbloom	None/None/2B.2/None	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; alkaline, mesic/perennial herb/Mar–June/49–5,015	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 4 miles from the project site (CDFW 2025). Salt spring checkerbloom was not observed during rare plant surveys.
Suaeda esteroa	estuary seablite	None/None/1B.2/None	Marshes and swamps (coastal salt)/perennial herb/(May)July–Oct(Jan)/0–15	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. Estuary seablite typically occurs in marshes and swamps with coastal salt which is not present within the BSA. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). Estuary seablite was not observed during rare plant surveys.
Suaeda taxifolia	woolly seablite	None/None/4.2/None	Coastal bluff scrub, Coastal dunes, Marshes and swamps (margins of coastal salt)/perennial evergreen shrub/Jan–Dec/0–165	Not expected to occur. No suitable vegetation present. Woolly seablite typically occurs in marshes and swamps with coastal salt which is not present within the BSA. The

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				closest known occurrence is less than 5 miles from the project site (CCH 2025). Wooly seablite was not observed during rare plant surveys.
Symphyotrichum defoliatum	San Bernardino aster	None/None/1B.2/None	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–Nov(Dec)/7–6,690	Not expected to occur. The closest known occurrence is approximately 15 miles north of the project site (CDFW 2025). San Bernardino aster was not observed during rare plant surveys.
Tetracoccus dioicus	Parry's tetracoccus	None/None/1B.2/None	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/541–3,280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. There are no known occurrences within 5 miles from the project site (CDFW 2025, CCH 2025). Parry's tetracoccus is a large perennial that can easily be observed year-round. Parry's tetracoccus was not observed during rare plant surveys.
Verbesina dissita	big-leaved crownbeard	FT/ST/1B.1/None	Chaparral (maritime), Coastal scrub/perennial herb/(Mar)Apr–July/148–675	Not expected to occur. No suitable vegetation present. The closest known occurrence is less than 5 miles from the project site (CDFW 2025). A reference check was performed for big-leaved crownbeard (May 10, 2025 blooming). This species was not detected during the rare plant surveys in the Study Area.
Viguiera laciniata	San Diego County viguiera	None/None/4.3/None	Chaparral, Coastal scrub/perennial shrub/Feb–June(Aug)/197–2,460	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site along the coast (CCH 2025). San

Scientific name	Common name	Status (Federal/State/CRPR/ OC NCCP-HCP	Habitat/Lifeform/Blooming Period/Elevation Range	Potential to occur
				Diego viguiera was not observed during rare plant surveys.

***Status Legend:**
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate for listing
SE: State listed as endangered
ST: State listed as threatened
SC: State Candidate for listing
SR: State Rare
CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3: Review List: Plants about which more information is needed
CRPR 4: Watch List: Plants of limited distribution
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
Covered: Covered species under the Orange County Central/Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP)

References

California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database. Biogeographic Information Observation System. Version 6. Commercial Viewer. https://apps.wildlife.ca.gov/bios6

Consortium of California Herbaria (CCH). 2025. CCH2 Data Portal. Map Search. https://cch2.org/portal/collections/map/index.php

INTENTIONALLY LEFT BLANK

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC/Covered	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximated 5 miles from the project site (CDFW 2025).
Spea hammondii	western spadefoot	None/SSC/Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Low potential to occur. Limited suitable habitat present. Grassland within project site mainly consists of non-native grasses, and the water source within the project site moves too quickly for this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025).
*Taricha torosa (*Monterey Co. south only)	California newt	None/SSC/None	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
Reptiles				
Actinemys pallida	southwestern pond turtle	FPT/SSC/None	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	**Present**. Observed within Oso Creek during 2025 surveys.
Anniella stebbinsi	southern California legless lizard	None/SSC/None	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands;	Not expected to occur. Vegetation present on project site is too dense for this species. The closest known

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
			associated with sparse vegetation and moist sandy or loose, loamy soils	occurrence is approximately 2 miles from the project site (CDFW 2025).
Arizona elegans occidentalis	California glossy snake	None/SSC/None	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Not expected to occur. No suitable habitat present for this species. The closest known occurrence is approximately 2 miles from the project site (CDFW 2025).
Aspidoscelis hyperythra	orange-throated whiptail	None/WL/Covered	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Moderate potential to occur. Suitable vegetation present on the survey area. The closest known occurrence is approximately 2 miles from the project site (CDFW 2025).
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC/Covered	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. No suitable habitat present on site. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025).
Crotalus ruber	red diamondback rattlesnake	None/SSC/Covered	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Moderate potential to occur. Suitable vegetation present on project site. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025).
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC/Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. Vegetation present on site is too dense to support this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025).

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
Plestiodon skiltonianus interparietalis	Coronado skink	None/WL/Covered	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	Low potential to occur. Limited suitable habitat present on site; however, it is isolated from any nearby observations. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC/None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Not expected to occur. No suitable habitat present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
Thamnophis hammondii	two-striped gartersnake	None/SSC/None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 2 miles from the project site (CDFW 2025).
Thamnophis sirtalis pop.1	south coast gartersnake	Non/SSC/None	Marsh and swamp, riparian scrub and woodland, wetlands, standing waters	Low potential to occur. Riparian habitats are present but water flows relatively quickly and riparian areas lacks marsh-like habitat. There are no known occurrence records within 5 miles of the project (CDFW 2025).
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL/None	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	**Present.** Observed within the Study Area foraging along Oso Creek during the biological surveys.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST/None	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Low potential to occur. No nesting habitat present. Low potential to forage as there is suitable habitat present. The closest known occurrence is approximately 1.5

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
				miles from the project site (CDFW 2025).
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL/Covered	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 2 miles from the project site (CDFW 2025).
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC/None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Not expected to occur. No suitable habitat present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Aquila chrysaetos (nesting & wintering)	golden eagle	BCC/FP, WL/Covered	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to occur. Suitable habitat The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
*Asio otus (*nesting*)*	long-eared owl	None/SSC/None	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats	Low potential to occur. Some suitable habitat is present on site; however, the habitat is low quality. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025).
*Athene cunicularia (*burrow sites & some wintering sites*)*	burrowing owl	BCC/SSC/None	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Considered absent. Suitable nesting and foraging habitat is present. The closest known occurrence is approximately 4 miles from the project site (CDFW 2025). However, results of the 2024 and 2025 focused surveys were negative.

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
*Buteo regalis (*wintering*)*	ferruginous hawk	BCC/WL/None	Winters and forages in open, dry country, grasslands, open fields, agriculture	Low potential to occur. Wintering and foraging habitat present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
*Campylorhynchus brunneicapillus sandiegensis (*San Diego & Orange Counties only*)*	coastal cactus wren	BCC/SSC/Covered	Southern cactus scrub patches	Not expected to occur. No suitable cactus scrub patches present to support this species. The closest known occurrence is approximately 2 miles from the project site (CDFW 2025).
*Circus hudsonius (*nesting*)*	northern harrier	None/SSC/Covered	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	Low potential to occur. No nesting habitat present. Limited foraging habitat present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
*Coccyzus americanus occidentalis (*nesting*)*	western yellow-billed cuckoo	FT, BCC/SE/None	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. Wide riparian areas not present to support this species. The closest known occurrence is approximately 20 miles from the project site (CDFW 2025).
Coturnicops noveboracensis	yellow rail	BCC/SSC/None	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
*Elanus leucurus (*nesting*)*	white-tailed kite	None/FP/None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs,	Low potential to occur. My forage but is unlikely to nest on site. The closest known occurrence is approximately 1 mile from the project site (CDFW 2025).

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
			agriculture, emergent wetland, savanna, and disturbed lands	
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE/None	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 4 miles from the project site (CDFW 2025).
Eremophila alpestris actia	California horned lark	None/WL/None	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Moderate potential to occur. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Icteria virens (nesting)	yellow-breasted chat	None/SSC/None	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	**Present.** This species was observed during focused least Bell's vireo surveys within Oso Creek.
Laterallus jamaicensis coturniculus	California black rail	BCC/FP, ST/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/SE/None	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Not expected to occur. Suitable vegetation is not present to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Polioptila californica californica	coastal California gnatcatcher	FT/SSC/Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of	Not expected to occur. No suitable vegetation present. The closest known occurrence overlaps the project site (CDFW 2025).

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
			nesting at less than 1,000 feet above mean sea level	
Rallus obsoletus levipes	Light-footed Ridgway's rail	FE/SE, FP/None	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
*Setophaga petechia (*nesting*)*	yellow warbler	BCC/SSC/None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	**Present.** Observed within Oso Creek in the Survey Area during biological surveys.
*Sternula antillarum browni (*nesting colony*)*	California least tern	FE/FP, SE/None	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to occur. No suitable habitat is present to support this species. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE/Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Considered absent. Suitable riparian vegetation for foraging and nesting is present within Oso Creek. The closest known occurrence is approximately 1 mile from the project site (CDFW 2025). However, this species was not observed during focused surveys.
Fishes				
Eucyclogobius newberryi	tidewater goby	FE/None/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025).
Gila orcuttii	arroyo chub	None/SSC/None	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths	Considered absent. No suitable vegetation present. The closest known occurrence is approximately 0.5 miles from the project site (CDFW

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
			>40 centimeters (16 inches); substrates of sand or mud	2025). However, this species was not observed during the visual encounter survey conducted in 2025.
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/None/None	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 0.5 miles from the project site (CDFW 2025).
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	None/SSC/None	Headwaters of the Santa Ana and San Gabriel Rivers; may be extirpated from the Los Angeles River system	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
Mammals				
Antrozous pallidus	pallid bat	None/SSC/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Considered absent. Suitable foraging and roosting habitat present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025). However, this species was not detected during focused bat surveys on the project site.
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/SSC/None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Not expected to occur. No suitable habitat present to support this species. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025).
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Not expected to occur. No suitable habitat present to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC/None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	Considered absent. No suitable habitat present. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). This species was not detected during focused bat surveys on the project site.
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST/None	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Not expected to occur. Suitable habitats on site contain vegetation that is too tall and dense to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Eumops perotis californicus	western mastiff bat	None/SSC/None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Considered absent. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025). This species was not detected during focused bat surveys.
Lasiurus blossevillii	western red bat	None/SSC/None	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	**Present**. Detected foraging during the focused bat surveys within the project site. No roosting activity detected. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC/Covered	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025).
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC/None	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali	Considered absent. Although foraging and limited roosting habitat is present, the closest known

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
			desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	occurrence is approximately 10 miles from the project site (CDFW 2025), and this species was not detected during the focused bat surveys.
Nyctinomops macrotis	big free-tailed bat	None/SSC/None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Considered absent. Oso Creek may provide suitable roosting and foraging habitat. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025). This species was not detected during the focused bat surveys.
Onychomys torridus ramona	southern grasshopper mouse	None/SSC/None	Grassland and sparse coastal scrub	Not expected to occur. No suitable habitat is present to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC/Covered	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 5 miles from the project site (CDFW 2025).
Sorex ornatus salicornicus	southern California saltmarsh shrew	None/SSC/None	Saltmarsh, saltgrass, dense willow, bulrush	Not expected to occur. No suitable vegetation present. The closest known occurrence is approximately 15 miles from the project site (CDFW 2025).
Taxidea taxus	American badger	None/SSC/None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. The project site is too isolated from other suitable habtiat to support this species. The closest known occurrence is approximately 10 miles from the project site (CDFW 2025).

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/PSE/None	Open grassland and scrub communities supporting suitable floral resources.	Considered absent. Moderate quality floristic resources are present. This species was not detected during the 2024 and 2025 focused surveys. No bumble bee nesting activity was detected during the focused surveys.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None/Covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable vernal pool habitat is present to support this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025).
Danaus plexippus pop. 1 (overwintering)	monarch	None/None/None	Wind-protected tree groves with nectar sources and nearby water sources	**Present (not overwintering).** Foraging habitat is present to support this species and it was observed foraging in the pollinator garden within the project site. However, no overwintering habitat is present. The closest known verified overwintering site active within the last 10 years is Doheny Beach, approximately 8.5 miles south of the site (Xerces 2025).
Euphydras editha quino	Quino checkerspot butterfly	FE/None/Covered	Occurs in sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego Counties on hills and mesas near the coast. It needs high densities of food plants P*lantago erecta*, *P. insularis*, and *Orthocarpus purpurescens*.	Not expected to occur. While the site occurs in a coastal area and contains CSS on adjacent hillsides, the project site does not contain a high density of this species' host plant.

Scientific Name	Common Name	Status* (Federal/State/ OC NCCP-HCP)	Habitat	Potential to Occur
Streptocephalus woottoni	Riverside fairy shrimp	FE/None/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable vernal pool habitat is present to support this species. The closest known occurrence is approximately 3 miles from the project site (CDFW 2025).

***Status Abbreviations:**
FE: Federally Endangered
FT: Federally Threatened
PFE: Proposed Federally Endangered
PFT: Proposed Federally Threatened
FC: Federal Candidate
FDL: Federally Delisted
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened
PSE: Proposed State Endangered
PST: Proposed State Threatened
HCP: Habitat Conservation Plan
NCCP: Natural Community Conservation Plan
Covered: Species Covered by the Orange County Central/Coastal subregion NCCP/HCP

References

CDFW (California Department of Fish and Wildlife). 2025. California Natural Diversity Database. Biogeographic Information Observation System. Version 6. Commercial Viewer. https://apps.wildlife.ca.gov/bios6/

Xerces (Xerces Society for Invertebrate Conservation). 2025. Western Monarch Count. Monarch Overwintering Site Viewer. https://westernmonarchcount.org/map-of-overwintering-sites/

Appendix 4.2B
Observed Species List

Plant Species

Angiosperms (Dicots)

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus* – prostrate pigweed, tumbleweed
* *Amaranthus retroflexus* – redroot amaranth

APIACEAE – UMBELLIFER FAMILY

* *Conium maculatum* – poison hemlock
* *Foeniculum vulgare* – sweet fennel

APOCYNACEAE – DOGBANE FAMILY

Asclepias eriocarpa – woollypod milkweed

Asclepias fascicularis – narrowleaf milkweed

ASPHODELACEAE – ASPHODEL FAMILY

* *Asphodelus fistulosus* – onionweed

ASTERACEAE – SUNFLOWER FAMILY

Baccharis salicifolia – mulefat, seep-willow, water-wally

Baccharis pilularis – coyotebrush

* *Calendula officinalis* – pot marigold
* *Centaurea melitensis* – tocalote

Corythrogene filaginifolia – California aster

* *Cosmos bipinnata* – garden cosmos
* *Cotula australis* – annual buttonweed, Australian waterbutton
* *Cynara cardunculus* – cardoon, artichoke thistle
* *Erigeron bonariensis* – flax-leaved horseweed, asthmaweed

Erigeron canadensis – Canadian horseweed

* *Glebionis coronaria* – crown daisy
* *Helminotheca echioides* – bristly ox-tongue

Heterotheca grandiflora – telegraph weed

* *Lactuca serriola* – prickly lettuce

Matricaria discoidea – pineapple weed

Pseudognaphalium leucosephalum – white rabbit tobacco

* *Pulicaria paludosa* – Spanish false fleabane
* *Senecio vulgaris* – old-man-in-the-spring
* *Sonchus asper* – spiny sowthistle
* *Sonchus oleraceus* – common sowthistle

Xanthium strumarium – rough cockleburr

BORAGINACEAE – BORAGE FAMILY

Amsinckia menziesii var. intermedia – commo fiddleneck

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Atriplex semibaccata* – Australian saltbush
* *Chenopodium album* – lambsquarters
* *Dysphania ambrosioides* – Mexican tea
* *Salsola tragus* – prickly Russian thistle

CONVOLVULACEAE – MORNING GLORY FAMILY

* *Convolvulus arvensis* – field bindweed

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
* *Hirschfeldia incana* – short-pod mustard
* *Lepidium didymium* – lesser swine cress
* *Lepidium latifolium* – perennial pepperweed, broad-leaved pepper grass
* *Raphanus sativus* – cultivated radish, wild radish
* *Sisymbrium altissimum* – tall tumblemustard
* *Sisymbrium irio* – London rocket

EUPHORBIACEAE – SPURGE FAMILY

* *Ricinus communis* – castor bean

FABACEAE – LEGUME FAMILY

Acmispon americanus var. americanus – American bird's-foot trefoil

* *Medicago polymorpha* – bur clover
* *Melilotus indicus* – annual yellow sweetclover
* *Parkinsonia aculeata* – Jerusalem thorn

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutareum* – red stemmed filaree, red stemmed stork's bill
* *Erodium moschatum* – musky stork's bill
* *Geranium molle* – dovefoot geranium

HELIOTROPIACEAE – HELIOTROPE FAMILY

Heliotropium currasavicum – alkali heliotrope

LAMIACEAE – MINT FAMILY

Salvia clevelandii – Cleveland sage

* *Salvia leucantha* – Mexican bush sage
* *Lavandula stoechas* – French lavender

MALVACEAE – MALLOW FAMILY

* *Malva parviflora* – cheeseweed mallow
  Malvella leprosa – alkali mallow

MYRSINACEAE – MYRSINE FAMILY

* *Lysimachia arvensis* – scarlet pimpernel

MYRTACEAE – MYRTLE FAMILY

* *Eucalyptus* spp. – Eucalyptus species

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

* *Bougainvillea sp.* – Bougainvillea species

ONAGRACEAE – EVENING PRIMROSE FAMILY

* *Epilobium ciliatum ssp. ciliatum* – fringed willowherb, willow herb
* *Oenothera berlandieri* – Berlandier's sundrops

OXALIDACEAE – WOOD SORREL FAMILY

* *Oxalis pes-caprae* – Bermuda buttercup, sourgrass

PLANTAGINACEAE – PLANTAIN FAMILY

* *Kickxia elatine* – sharpleaf cancerwort
* *Linaria maroccana* – Moroccan toad flax
* *Plantago lanceolata* – ribwort plantain

PLUMBAGINACEAE – PLUMBAGO FAMILY

* *Limonium ramisissimum* – Algerian sea lavender
* *Plumbago auriculata* – cape leadwort

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum fasciculatum – California buckwheat
Persicaria lapathifolia – common knotweed, smartweed

* *Polygonum aviculare* – prostrate knotweed
* *Rumex crispus* – curly docks

SALICACEAE – WILLOW FAMILY

Populus fremontii – Fremont's cottonwood
Salix lasiolepis – arroyo willow

SCROPHULARIACEAE – FIGWORT FAMILY

* *Buddleja davidii* – butterfly bush

SOLANACEAE – NIGHTSHADE FAMILY

Datura wrightii - jimsonweed
* *Nicotiana glauca* – tree tobacco
Solanum americanum – American black nightshade
Solanum douglasii – Douglas's nightshade

TAMARICACEAE – TAMARISK FAMILY

* *Tamarix ramosissima* – saltcedar, tamarisk

TROPAEOLACEAE – NASTURTIA FAMILY

* *Tropaeolum majus* – garden nasturtium

URTICACEAE – NETTLE FAMILY

* *Urtica urens* – dwarf nettle, annual stinging nettle

VERBENACEAE – VERBANE FAMILY

* *Lantana* spp. – Lantana species

VIBURNACEAE – MOSCHATEL FAMILY

Sambucus mexicana – elderberry

Angiosperms (Monocots)

ARECACEAE – PALM FAMILY

* *Washintonia robusta* – Mexican fan palm

POACEAE – GRASS FAMILY

* *Arundo donax* – giant reed
* *Avena barbata* – slender oat
* *Bromus catharticus* – rescue grass
* *Bromus diandrus* – ripgut brome
* *Bromus hordeaceus* – soft brome
* *Bromus rubens* – red brome
* *Cortaderia selloana* – Uruguayan pampass grass
* *Echinochloa crus-gallii*- barnyardgrass
* *Ehrharta erecta* – panic veldtgrass
* *Festuca myuros* – rattail sixweeks grass
* *Festuca perennis* – perennial rye grass
* *Hordeum murinum* – foxtail barley, mouse barley
* *Pennisetum setaceum* – fountaingrass
* *Phalaris minor* – little seed canarygrass, Mediterranean canarygrass
* *Polypogon monspeliensis* – annual beard grass, rabbitsfoot grass

* *Schismus barbatus* – common Mediterranean grass
* *Stipa miliaceae var. miliaceae* – smilograss

Wildlife Species – Vertebrates

Amphibians

BUFONIDAE – TRUE TOADS

Anaxyrus boreas – western toad

Birds

ACCIPITRIDAE – HAWKS

Astur cooperii – Cooper's hawk
Buteo jamaicensis – red-tailed hawk
Buteo lineatus – red-shouldered hawk

AEGITHALIDAE – LONG-TAILED TITS

Psaltriparus minimus – bushtit

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

ARDEIDAE – HERONS

Ardea alba – great egret
Ardea herodias – great blue heron
Egretta thula – snowy egret
Nycticorax nycticorax – black-crowned night heron

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

CORVIDAE – JAYS AND CROWS

Aphelocoma californica – California scrub jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

CHARADRIIDAE – PLOVERS

Charadrius vociferus – killdeer

DIDELPHIDAE – OPOSSUMS

* *Didelphis virginiana* – Virginia opossum

ESTRILDIDAE – ESTRILDID FINCHES

* *Lonchura punctulata* – scaly-breasted munia

FRINGILLIDAE – FINCHES

Haemorhous mexicanus – house finch

Spinus psaltria – lesser goldfinch

HIRUNDINIDAE – SWALLOWS, MARTINS, AND SAW-WINGS

Hirundo rustica – barn swallow

Petrochelidon pyrrhonota – cliff swallow

Stelgidopteryx serripennis – northern rough-winged swallow

ICTERIDAE – ICTERIDS

Icterus cucullatus – hooded oriole

Icteria virens – yellow-breasted chat

Molothrus ater – brown-headed cowbird

MIMIDAE – MIMIDS

Aphelocoma californica – Califonria scrub jay

Mimus polyglottos – northern mockingbird

Toxostoma redivivum – California thrasher

PARADOXORNITHIDAE – PARROTBILLS

Chamaea fasciata – wrentit

PARULIDAE – NEW WORLD WARBLERS

Geothlypis trichas – common yellowthroat

Setophaga coronata – yellow-rumped warbler

Setophaga petechia – yellow warbler

Leiothlypis celata – orange-crowned warbler

PASSERIDAE – OLD WORLD SPARROWS

* *Passer domesticus* – house sparrow

PASSERELLIDAE – NEW WORLD SPARROWS

Melospiza melodia – song sparrow

Melozone crissalis – California towhee

Pipilo maculatus – spotted towhee
Zonotrichia leocuphrys – white-crowned sparrow

PICIDAE – WOODPECKERS

Colaptes auratus – northern flicker
Dryobates nuttallii – Nuttall's woodpecker

STRIGIDAE – TRUE OWLS

Bubo virginianus – great horned owl

STURNIDAE – STARLINGS

* *Sturnus vulgaris* – European starling

TROCHILIDAE – HUMMINGBIRDS

Archilochus alexandri – black-chinned hummingbird
Calypte anna – Anna's hummingbird
Selasphorus sasin – Allen's hummingbird

TROGLODYTIDAE – WRENS

Thryomanes bewickii – Bewick's wren
Troglodytes aedon – house wren

TURDIDAE – THRUSHES

Sialia mexicana – western bluebird
Turdus migratorius – American robin

TYRANNIDAE – TYRANT FLYCATCHERS

Empidonax difficilis – western flycatcher
Sayornis nigricans – black phoebe
Sayornis saya – Say's phoebe
Tyrannus verticalis – western kingbird
Tyrannus vociferans – Cassin's kingbird

Reptiles

COLUBRIDAE – COLUBRID SNAKES

Pituophis catenifer – gophersnake

EMYDIDAE—BOX AND WATER TURTLES

* *Trachemys scripta*—pond slider
Actinemys pallida—southwestern pond turtle

IGUANIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

Uta stansburiana – common side-blotched lizard

VIPERIDAE -VIPER SNAKES

Crotalus atrox – western rattlesnake

Mammals

CANIDAE – CANIDS

Canis latrans – coyote

LEPORIDAE – RABBITS AND HARES

Sylvilagus audubonii – desert cottontail

MOLOSSIDAE – FREE-TAILED BATS

Tadarida brasiliensis – Brazilian free-tailed bat

SCIURIDAE – SQUIRRELS

Otospermophilus beecheyi – California ground squirrel

VESPERTILLIONIDAE – MICROBATS

Lasiurus blossevillii – western red bat

Myotis californicus – California myotis

Myotis yumanensis - Yuma myotis

Fish

CYPRINIDAE—MINNOWS AND CARPS

* *Pimephales promelas*—fathead minnow

CENTRARCHIDAE—SUNFISHES

* *Lepomis cyanellus*—green sunfish
* *Micropterus salmoides*—largemouth bass

Invertebrates

Insects

APIDAE – BEES

Bombus fervidus – yellow bumblebee
Bombus vosnesenskii – yellow-faced bumble bee
Bombus pensylvanicus – American bumble bee

HESPERIIDAE – SKIPPERS

Panoquina errans – wandering skipper

LYCAENIDAE – GOSSAMER-WINGED BUTTERFLIES

Icaria acmon acmon – acmon blue
Strymon melinis- grey hairstreak

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES

Danaus plexippus – monarch
Dione vanilla – gulf fritillary
Vanessa cardui – painted lady

PIERIDAE – WHITES AND YELLOWS

Pieris rapae – cabbage white

Crayfish

CAMBARIDAE—FRESHWATER CRAYFISH

* *Procambarus clarkii*—red swamp crayfish

* signifies introduced (non-native) species

Appendix 4.2C

Resumes of Applicant's Biologists

Tommy Molioo

SENIOR BIOLOGIST

Tommy Molioo is a senior biologist with 16 years' professional experience as a biologist and project manager specializing in technical surveys and reporting for projects requiring California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) compliance. Mr. Molioo's experience includes conducting habitat assessments, biological resources impact analyses, bat surveys, year-long biodiversity studies, avian and raptor surveys, habitat mitigation monitoring, and local and regional habitat conservation plan compliance and strategic planning.

Mr. Molioo has prepared biological technical reports for projects requiring compliance with local and regional habitat conservation plans, natural community conservation plans, and local coastal programs throughout Southern California. He has also prepared biological resources analyses sections for project and programmatic-level environmental impact reports (EIRs)/EISs, as well as initial studies (ISs), environmental assessments, and biological assessments, to support U.S. Fish and Wildlife Service (USFWS) Section 7 permitting. Mr. Molioo has also conducted focused protocol surveys for a variety of sensitive plant and wildlife species including, but not limited to, coastal California gnatcatcher, burrowing owl, desert tortoise, and Coachella Valley milkvetch.

Mr. Molioo specializes in conducting non-invasive acoustic monitoring surveys for bats for species identification, roost assessments, and preparing and implementing exclusion plans. He is well versed in full-spectrum bat-call data analysis and preparing bat exclusion plans for CDFW approval. He also conducts formal wetland delineations for state and federally regulated waters and wetlands, and preparing regulatory permitting applications for local, state, and federal agencies. Mr. Molioo has also prepared and implemented mitigation monitoring plans for restoration projects.

Education

University of Denver
MAS, Environmental Policy and Management, 2017

Minot State University
BA, Biology, 2008

Certifications

USFWS, Section 10(a)(1)(A) Survey Permit, No. TE02412D-0 (exp. 06/2024)

- *California gnatcatcher*

CDFW, Scientific Collecting Permit, No. SC-10395

Professional Affiliations

North American Society of Bat Research

Western Bat Working Group

Western Section of the Wildlife Society

Project Experience

Development

The Creek at Dominguez Hills, Shopoff Group, Carson, California. Served as phase manager/project biologist. The project proposes to redevelop the southern portion of the exiting Victoria Links Golf Course into a multi-use sports complex. Conducted a biological reconnaissance of the project site, as well as a late season botanical survey, jurisdictional delineation, and focused California gnatcatcher surveys. Prepared a biological technical report to document the existing conditions and analyze impacts. Also prepared the Biological Resources section for the project's EIR, which prescribed mitigation to reduce potential impacts to a less than significant level. Project is currently in progress.

Carol Kimmelman Sports and Academic Campus, County of Los Angeles, Carson, California. Served as phase manager/project biologist. The project proposes to redevelop the northern portion of the Victoria Links Golf Course with new recreation uses including a new sports and academic campus Conducted a biological reconnaissance of the project site, as well as a jurisdictional delineation, and focused California gnatcatcher surveys. Prepared the Biological Resources section for the project's EIR, which prescribed mitigation to reduce potential impacts to a less than significant level. Project is currently in progress.

Bakersfield Synagro South Kern Compost Manufacturing Facility Project, Tilden-Coil Constructors, Bakersfield, California. Served as project manager. Oversaw the biological reconnaissance and preparation of the biological technical report for a 50-acre composting facility project in southwestern Bakersfield. Also conducted preconstruction burrowing owl surveys for the project. Reviewed and provided edits for both reports and coordinated with the client regarding project updates and billing.

Murrieta Greenberg Apartment Technical Studies and Mitigated Negative Declaration, Murrieta Whitewood Multifamily, Murrieta, California. Served as biological technical lead. Conducted the biological reconnaissance of the 10-acre site proposed for the construction of a 162-unit apartment project. Oversaw the preparation of the biological technical report and biological resources section of the project's mitigated negative declaration (MND). Provided review and comment edits to both documents.

San Bernardino Patriot Valley View and Santa Fe Warehouse Studies, Patriot Development Partners, San Bernardino, California. Served as biological technical lead. Conducted the biological reconnaissance and prepared the biological technical report for the 121,900-square-foot warehouses project that involves demolishing and constructing two new warehouses. Also prepared the biological resources section of the project's IS/MND.

11776 Sheep Creek Road, Phelan, California. Served as project manager/biologist. Conducted a biological reconnaissance of the 2-acre property to document existing conditions on the study area. Prepared a biological technical letter report describing the biological resources and providing mitigation to reduce any potential project-related impacts to a less than significant level.

Energy and Water

San Joaquin Field Division Habitat Conservation Plan, California Department of Water Resources, Central Valley, California. Served as lead bat biologist. Developed the survey plan for bat surveys along approximately 100 linear miles of the California Aqueduct, from Kettleman City south to Tejon Ranch. Conducted a daytime roost assessment of the entire 100-mile alignment to determine potentially suitable roost locations and deployed passive acoustic bat detectors along the aqueduct at suitable roosting locations and flyways. Eight detectors were deployed for a week at each location to detect the echolocation calls of bats flying through the area. After each week's deployment, the detectors were moved south to eight new locations for another week's deployment. The detector deployment took place over a 28-week period to survey the entire alignment of the project. At the end of the bat acoustic surveys, all recorded echolocation calls were analyzed using SonoBat 4 software with automated classification. The results were included in the biological report for the project.

Delta Field Division Habitat Conservation Plan, California Department of Water Resources, Central Valley, California. Served as lead bat biologist. Developed the survey plan for bat surveys along approximately 100 linear miles of the California Aqueduct, from the San Luis Rey Reservoir north to the Bethany Reservoir. Conducted a daytime roost assessment of the entire 100-mile alignment to determine potentially suitable roost locations and deployed passive acoustic bat detectors along the aqueduct at suitable roosting locations and flyways. Eight detectors were deployed for a week at each location to detect the echolocation calls of bats flying through the area. After each week's deployment, the detectors were moved south to eight new locations for another week's

deployment. The detector deployment took place over a 28-week period to survey the entire alignment of the project. At the end of the bat acoustic surveys, all recorded echolocation calls were analyzed using SonoBat 4 software with automated classification. The results were included in the biological report for the project.

Facilities Master Plan EIR, Orange County Sanitation District, California. Served as project biologist. Prepared the biological resources chapter of the project's hybrid project/program EIR for the District's proposed Facilities Master Plan. The approximately 83 capital improvement projects addressed in the project/program EIR would be located at various sites throughout the District's service area, which covers an approximately 479-square-mile area within the northwestern and central portions of Orange County. Developed project-level and program-level mitigation to address project impacts to biological resources for the duration of the Facilities Master Plan implementation for the next 20 years.

Sandpiper Battery Energy Storage System Project, Confidential Client, San Clemente, California. Served as the lead biologist for the proposed project. Conducted due diligence and consulted with the client directly on project design on the initial project site. Due to potential impacts and a change in the lead agency, the project was moved to a secondary location. Conducted the biological reconnaissance, prepared a biological technical report, and conducted focused surveys for coastal California gnatcatcher. Also prepared the biological resources proposal and managed the billing for the biological phases.

Compass Battery Energy Storage System Project, Confidential Client, Mission Viejo, California. Served as the lead biologist for the proposed project. Conducted the biological reconnaissance, prepared a biological technical report, conducted focused surveys for coastal California gnatcatcher and least Bell's vireo, and oversaw rare-plant surveys. Also reviewed the preparation of the jurisdictional delineation survey and aquatic resources delineation report. Due to changes in funding, the final document delivered was an application from the California Energy Commission. Prepared the biological resources section of the application.

Newport Bay Crossings Project, City of Newport Beach, California. Served as the field biologist and author for the terrestrial portion of the pipeline replacement project crossing below Newport Bay. Conducted the biological reconnaissance for all six pipeline replacement locations and prepared two biological technical reports for the terrestrial portion of the project. The aquatic environment was addressed in a separate report. Also conducted a focused rare-plant survey for target species.

Cristianitos Road Improvement Project, Santa Margarita Water District, Orange County, California. Served as the project manager and lead biologist on a project to repair the South Coast Pipeline located beneath Cristianitos Road in unincorporated Orange County. Dudek assisted with conducting and preparing biological and aquatic resources surveys and reports and prepared the regulatory permit applications for state and federal permitting. Due to the project's location within a Special Area Management Plan, a Letter of Permission was obtained from the U.S. Army Corps of Engineers.

De Soto Tanks Project, LA Department of Water and Power (LADWP), Chatsworth, California. Served as phase manager/project biologist. The project proposes to replace the existing 3-million-gallon (MG) De Soto Reservoir located at 11200 De Soto Avenue (APN: 2706-007-901), with two buried, pre-stressed circular concrete storage tanks immediately north of the existing reservoir site (APN: 2701-003-907). Conducted a late season botanical survey and summarized the results of the biological reconnaissance, and California gnatcatcher surveys into a biological technical letter report. Also prepared the Biological Resources section for the project's EIR. Project is currently in progress.

Transportation

Old Road Bridge Over Castaic Creek, County of Los Angeles, California. Served as lead biologist. Conducted the biological reconnaissance for the 27-acre project site for the replacement of the existing Old Road Bridge that crosses over Castaic Creek. Prepared a Natural Environment Study for California Department of Transportation (Caltrans) approval that documented the biological resources and impacts to federally listed species for NEPA compliance. Also scheduled and participated in focused species surveys conducted on the site, including least Bell's vireo, arroyo toad, rare plants, and bats. Also prepared the biological resources section of the project's MND.

Bridge Preventative Maintenance Program Group 21, County of Los Angeles, California. Served as lead biologist. Conducted the biological reconnaissance for 17 bridges in the southeast Los Angeles County area and prepared a Natural Environment Study for Minimal Impact for Caltrans's approval to analyze project effects to NEPA. Also prepared the biological resources section of the MND.

Focused Species Surveys

Environmental Services for Beaumont-Cherry Valley Recycled Water Pipeline Extension Project, Yucaipa Valley Water District, Riverside, California. Served as field biologist. Conducted focused coastal California gnatcatcher surveys according to USFWS protocol for the federally threatened species.

Reservoir 2B Replacement Project, South Coast Water District, Orange, California. Served as field biologist. Conducted focused coastal California gnatcatcher surveys according to USFWS protocol for the federally threatened species.

Bedford Canyon Channel Preliminary Environmental Assessment Technical Reports, Riverside County Flood Control and Water Conservation District, Corona, California. Served as bat biologist. Conducted a focused bat survey for the 10-acre project site. Survey methods included a daytime roost assessment, a nighttime emergence survey, and passive acoustic monitoring. Recorded echolocation calls were analyzed off site using SonoBat software with automated classification and manual vetting of ambiguous calls.

Resource Management

Fairview Regional Park, City of Costa Mesa, California. Served as project biologist. Dudek conducted an evaluation of the water quality of ponds and channels that were previously installed at the northern portion of the 195-acre Fairview Regional Park. Assisted in an assessment of the existing biological resources on the site and prepared an analysis of how the proposed project improvements could result in impacts to biological resources. The biological analysis was conducted in conjunction with Dudek's Restoration and Engineering teams to provide the client with one comprehensive document.

Talbert Regional Park, City of Costa Mesa, California. Served as project biologist. Led a team of biologists in conducting and preparing a biological resources technical report, a jurisdictional delineation, and various focused special-status species surveys. Focused surveys included the following species: coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, burrowing owl, fairy shrimp, nesting birds, and rare plants. The results of the surveys were used by the County of Orange to prepare a master plan for the restoration of the approximately 180-acre park, which was divided into two portions referred to as "North Talbert" and "South Talbert." Developed avoidance measures for discovered sensitive biological resources.

Relevant Previous Experience

Bats and Other Sensitive Species Surveys

Seismic Bridge Retrofit Project, Department of Water Resources, Central Valley, California. Served as project manager and bat biologist. Conducted bat emergent surveys, pre-construction surveys, and acoustic monitoring surveys for five bridges spanning the California Aqueduct within several cities and counties throughout California's Central Valley. The results of the surveys were included in a Bat Mitigation Plan for the project. Programmatic avoidance/mitigation measures were provided in the event bats were discovered on any of the bridges included in the project. The Mitigation Plan was approved by the California Department of Fish and Wildlife (CDFW) in the event of any potential impacts to state-listed species.

Los Robles Road Bridge Retrofit Project, Department of Water Resources, Central Valley, California. Served as project manager and bat biologist. Conducted a roost assessment, bat emergent surveys, and acoustic monitoring surveys for the Los Robles Road Bridge that spans the portion of the California Aqueduct located to the east of Quail Lake in the Gorman area of Los Angeles County. The results of the survey were analyzed using Sonobat 4 software and included in a letter report of findings, including any minimization measures to reduce potential project-related impacts.

Leo Carrillo Ranch Historic Stables Renovation Project, City of Carlsbad, San Diego County, California. Served as project manager and bat biologist. Consulted with the City of Carlsbad Parks and Recreation Department regarding the potential impacts to a known bat roost within the historic stables on the Leo Carrillo Ranch Park. Conducted a presence/absence survey of the stables to determine if bats are roosting on site and identify the species present. Prepared a letter report of findings as well as a Bat Exclusion Plan due to the presence of a colony of Mexican free-tailed bats. Advised the City on purchasing and installing 2 bat boxes adjacent to the stables, and the methodology to protect bats during the proposed project. Prepared and implemented a Bat Exclusion Plan which consisted of excluding bats with one-way doors and verifying bats have left the stables at the end of the exclusion period.

Topock Soil Remediation Project, Pacific Gas and Electric (PG&E), Topock, California. Served as bat biologist. Conducted multiple bat habitat assessment surveys and focused bat surveys for the soil remediation and groundwater remedy project site associated with the PG&E Compressor Station in Topock California. The various surveys were conducted in 2015 with bat experts Dr. Pat Brown, Bill Rainey, and Dave Johnston within all suitable habitat areas on the project site. Assisted in developing mitigation and avoidance measures to reduce potential impacts to bats, including Townsend's big-eared bat.

668 Alameda, City of Los Angeles, California. Served as bat biologist. Conducted a presence/absence survey of an existing cold storage building in the Arts District of Downtown Los Angeles. Determined the presence of a colony of approximately 60 Mexican free-tailed bats roosting on the building. Determination was made by conducting an emergence survey, and both active and passive accoustic monitoring.

SR 57 NB Bat Surveys, Anaheim, Orange County, California. Served as project manager and bat biologist. Conducted pre-construction presence/absence surveys of an approximately 1-mile section of the 57 Freeway in the City of Anaheim, where the Freeway crosses over the Santa Ana River near Angels Stadium. Conducted three nights of exclusion surveys with simultaneuos active acoustic monitoring to visually and acoustically determine bat presence/absence.

Meredith International Centre Bat Roosting Habitat Suitability Assessment, Ontario, San Bernardino County, California. Served as project manager and bat biologist. Conducted an assessment of the project to support roosting and foraging bats. The assessment was conducted during daytime hours and searched for any bat activity or presence of sign (i.e., guano, staining, etc.) within the two concrete-lined creeks that pass through the project site.

Ballona Wetlands Restoration Project, City of Marina Del Rey, Los Angeles County, California. Served as bat biologist. Conducted fall season bat acoustic monitoring surveys at three locations within the Ballona Wetlands to determine if any bat species are currently utilizing the project site. The surveys were conducted to obtain general bat species information of the site.

Big Canyon Habitat Restoration and Water Quality Improvement Project, Newport Beach, Orange County, California. Served as bat biologist. Conducted pre-construction presence/absence surveys for Phase I of the project. Surveys consisted of a roost assessment, emergence survey at dusk, and passive acoustic monitoring at a culvert and riparian woodland area. Prepared letter report of findings with recommended avoidance measures.

Saddle Crest Project, Orange County, California. Served as bat biologist. Conducted a pre-construction presence/absence surveys within the 62-acre development footprint for the approximately 114-acre project site. Surveys consisted of a roost assessment, emergence survey at dusk, and passive acoustic monitoring at two locations. Prepared a letter report of findings with recommended avoidance measures.

Ice Blocks Project, Sacramento, Sacramento County, California. Served as bat biologist. Designed the survey effort for bat acoustic monitoring surveys for two abandoned warehouses that were scheduled for demolition. Coordinated with Northern California bat biology team on the methodology to be implemented during the week-long survey effort for conducting visual emergence surveys and non-invasive passive monitoring. Also analyzed collected data and identified potential sensitive species recorded.

Canyon Heights Residential Development. City of Canyon Lake, Riverside County, California. Served as field biologist. Conducted focused surveys for coastal California gnatcatcher over two survey seasons, as well as avian surveys for all bird species occurring within the restoration site.

LADWP Pine Canyon Wind Farm, Tehachapi Area, Kern County, California. Served as bat biologist. Conducted bat inventory surveys during the summer and fall seasons at LADWP's Pine Canyon wind farm facility. The survey was conducted using acoustic monitoring detectors set up for a month at a time with the use of solar panels. Collected data was analyzed off site with the use of Sonobat software and results were included in the Bird and Bat Monitoring Plan for the project with recommendations to reduce potential impacs to bats from the existing wind farm facility.

Barstow Walmart Distribution Center, California. Served as field biologist. Conducted focused protocol surveys for burrowing owl on a 143-acre project site. The surveys were conducted in accordance with the accepted protocol outlined in the Burrowing Owl Consortium guidelines. All suitable habitat and a 500-foot buffer were surveyed for the presence/absence of burrowing, and/or sign of burrowing owl. No burrowing owl was observed on site or within the survey area.

Pick-A-Part Recycling Center, Unincorporated Riverside County, California. Served as field biologist. Conducted a focused protocol burrowing owl survey for 150 acres in unincorporated Riverside County as part of a multiple species habitat conservation plan (MSHCP) consistency analysis. The survey was conducted in accordance with the Burrowing Owl Consortium, CDFW, and MSHCP focused survey guidelines for burrowing owl. The burrowing owl surveys were conducted concurrently with a general habitat assessment, jurisdictional delineation, focused plant

survey, and Los Angeles pocket mouse trapping. The results of the focused burrowing owl survey was prepared into a written report and included as an appendix to the MSHCP consistency analysis report.

Cogentrix Quail Brush Generation Project. San Diego County, California. Served as field biologist. Assisted permitted biologist Scott Crawford with conducting focused protocol surveys for the federally threatened coastal California gnatcatcher. One individual was observed within coastal sage scrub habitat on 4 different survey occasions. The focused gnatcatcher surveys were recommended as part of the biological resources assessment due to suitable habitat on site.

Burrowing Owl Focused Surveys, Southern California. Conducted and assisted in conducting dozens of focused surveys, following CDFW and MSHCP protocol for burrowing owls, during numerous projects in Los Angeles, San Bernardino, and Riverside Counties. Surveys involved data collection on burrowing owl numbers, behavior, locations, occupied burrows, and sign. Reports were prepared to document findings.

Sensitive Species Surveys, Southern California. Assisted and independently conducted habitat assessments, monitoring surveys, and focused protocol surveys for Coachella Valley milk-vetch, Arroyo toad, desert tortoise, Los Angeles pocket mouse, San Bernardino kangaroo rat, least Bell's vireo, coastal California gnatcatcher and burrowing owl, for projects in Los Angeles, Orange, Riverside, and San Bernardino Counties. The surveys involve overall species accounts, including monitoring behavior and nest locations, and also consisted of an inventory of all plant and wildlife species observed on the sites, vegetation mapping, and habitat assessment.

Development

Fresno General Plan Update, City of Fresno, California. Served as project biologist. Prepared the Biological Resources Section, which included documenting existing biological conditions for the City of Fresno and preparing a programmatic-level impact analysis, for the City of Fresno 2035 General Plan Master EIR. The biological resources within the entire City of Fresno zone of influence were documented and analyzed for potential impacts related to future projects within the City.

Downtown Fresno Specific Plan, City of Fresno, California. Served as project biologist. Prepared the Biological Resources Section for the City of Fresno Downtown Specific Plan Project. The Project involved the revitalization of the Downtown Fresno Area including upgrading buildings and roads, and planning for new development. The report included an analysis of potentially sensitive biological resources that may be impacted and preparation of mitigation.

Walker Basin, De Luz and Sandia Vineyards, Riverside County, California. Served as project biologist. Tommy assisted with general reconnaissance surveys, vegetation mapping, and oak tree mapping on approximately 140 acres in Western Riverside County. Tommy also conducted a jurisdictional delineation on a portion of the project site, as well as mapped potential restoration areas in support of preparation of a Determination of Biological Equivalent or Superior Preservation report. The work was conducted in compliance with the Western Riverside County MSHCP, with direct consultation between the Applicant, the Riverside County Environmental Program Division, CDFW, and USFWS. The biological county documents were prepared in order to support a Criteria Area Refinement by the MSHCP.

Bonsall Unified School District, Bonsall, San Diego County, California. Served as project biologist. Prepared the Biological Resources Section for the project's EIR to address the potential biological impacts from constructing a new high school on 48.9 acres of designated public agency land.

5801 Foxview – Biological Resources Assessment, City of Malibu, Los Angeles County, California. Served as project biologist. Conducted a habitat assessment on the approximately 1-acre project site to determine if the proposed single-family residence project would result in any impacts to biological resources protected by the City of Malibu Local Coastal Plan. Resources evaluated included the presence of any Environmentally Sensitive Habitat Areas. Prepared a Biological Resources Report of the findings.

Betz Mulholland Hwy – Biological Resources Assessment, Los Angeles County, California. Served as project biologist. Conducted a habitat assessment on the approximately 1-acre project site to determine if the proposed single-family residence project would result in any impacts to biological resources protected by the County of Los Angeles. Resources evaluated included the presence of any Significant Ecological Areas and identifying H1, H2, and H3 habitats. Prepared a Biological Resources Report of the findings.

Olive Ciernia Project, City of San Jacinto, Soboba Indian Reservation, California. Served as field biologist. Conducted a reconnaissance-level survey to determine the existing conditions on an approximately 100-acre project site. The project involves the acquisition of private parcels by the Soboba Band of Luiseno Indians as part of the fee-to-trust project carried out by the BIA. A biological assessment was prepared for the project to determine potential impacts to any federally listed species.

Pixley Biogas Anaerobic Digester Project, Pixley, Tulare County, California. Served as field biologist. Conducted a biological resources assessment on the approximately 2.75-acre project site. Plant and wildlife species, and associated habitats, were documented during a one day reconnaissance-level survey. The results of the survey were included in a Biological Resources Assessment report including impact analysis and mitigation measures.

Cabazon Outlet Mall Expansion Project IS/MND, Riverside County, California. Served as field biologist. Prepared the biological resources section for an IS/MND for the proposed Cabazon Outlets II Project in the community of Cabazon, Riverside County, California. The project was analyzed for consistency with the Coachella Valley MSHCP.

San Clemente Target, City of San Clemente, California. Served as field biologist. Conducted a reconnaissance-level field survey to assess the existing conditions on site and identify sensitive biological resources within the 15-acre project site. The survey focused on assessing suitable habitat for sensitive plant species including thread-leaved brodiaea and sensitive wildlife species including burrowing owl and coastal California gnatcatcher. The findings of the survey were prepared into a biological resources assessment report, which included correspondence with City personnel to address impacts and mitigation.

Foxglove Shopping Center, City of Madera, California. Served as field biologist. Conducted a reconnaissance-level field survey to assess the existing conditions on site and identify sensitive biological resources within the 19.51-acre project site. The survey included documenting all plant and wildlife species, assessing the presence of potentially jurisdictional waters, and determining the project's potential to impact sensitive biological resources. The results of the survey were included in a letter report of findings including recommendations for avoiding potentially significant impacts to biological resources.

Trabuco Canyon Oak Woodland Assessment. Orange County, California. Served as project manager and field biologist. Conducted an assessment of the oak woodland habitat on a half-acre parcel proposed for a single family residence in the Trabuco Canyon area of Orange County. The assessment included an investigation of previously removed vegetation to determine species and survey of existing vegetation on the property. A letter report of findings was prepared to refute a County Courtesy Notice.

6185 Kimball Avenue Project, San Bernardino County, California. Served as field biologist. Conducted a biological resources survey and habitat assessment for a 16.3-acre project site located in the City of Chino. The project site is proposed for development into a 300,000 square foot warehouse/industrial building. The entire project site and a 500-foot buffer were surveyed to document existing conditions and determine if suitable habitat occurs for sensitive species. Focused surveys for burrowing owl were recommended and surveys were conducted subsequent to the habitat assessment. No burrowing owls were observed during the protocol surveys.

Lamont Walmart, City of Lamont, California. Served as project biologist. Conducted a general biological survey and habitat assessment on a 21.5-acre property proposed for development into a Walmart retail store with associated parking and three fast-food restaurants. The survey involved documenting the habitat and biological resources on site, and an evaluation of potential sensitive biological resources that could occur on the project site. The results of the survey were included in a Biological Resources Assessment Report for the client to obtain necessary building permits.

Los Baños Walmart, City of Los Baños, California. Served as project biologist. Conducted a general biological survey and habitat assessment on a 21.5-acre property proposed for development into a Walmart retail store with associated parking and three fast-food restaurants. The survey involved documenting the habitat and biological resources on site, and an evaluation of potential sensitive biological resources that could occur on the project site. The results of the survey were included in a Biological Resources Assessment Report for the client to obtain necessary building permits.

Olive 99 Walmart Store No. 3091-00, City of Bakersfield, California. Served as project biologist. Conducted a general biological survey and habitat assessment on an approximately 21.54-acre property proposed for development into a 128,143-square-foot Walmart retail store with associated parking and a retention basin. The survey involved documenting the habitat and biological resources on site, and an evaluation of potential sensitive biological resources that could occur on the project site. The results of the survey were included in a Biological Resources Assessment Report for the client to obtain necessary building permits.

Bakersfield Oswell Walmart, City of Bakersfield, California. Served as project biologist. Conducted a pre-construction clearance survey of the project site to determine the presence/absence of special-status species, including but not limited to San Joaquin kit fox, burrowing owl and nesting birds. The results of the survey were included in a letter report of findings.

Walmart Market, City of Oildale, California. Served as project biologist. Conducted pre-construction clearance survey of the proposed 41,000-square-foot Walmart Market project site to determine the presence/absence of special-status species, including San Joaquin kit fox, burrowing owl and nesting birds. An initial and follow-up survey were conducted at the site. The results of the survey were included in a letter report of findings.

Kerman Walmart, City of Kerman, California. Served as project biologist. Conducted a pre-construction clearance survey of the 20-acre project site to determine the presence/absence of special-status species, including but not limited to San Joaquin kit fox, burrowing owl and nesting birds. An initial and follow-up survey were conducted at the site. The results of the survey were included in a letter report of findings.

Kings Canyon Walmart, City of Fresno, California. Served as field biologist. Conducted a pre-construction clearance survey of the proposed 0.95-acre project site to determine the presence/absence of special-status species, including but not limited to burrowing owl, loggerhead shrike and nesting raptors. An initial and follow-up survey were conducted at the site. The results of the survey were included in a letter report of findings.

Tentative Tract 33642, City of Moreno Valley, California. Served as field biologist. Conducted a Riverside MSHCP Consistency Analysis for a 17-acre residential development property in Moreno Valley, CA. Assessed the site for burrowing owl, and riverine/riparian areas as described by the MSHCP, and prepared a written Habitat Assessment and MSHCP Consistency report, and Burrowing Owl Focused Survey report.

Remediation

Topock Compressor Station Soil Investigation EIR, Department of Toxic Substances Control (DTSC) and PG&E, Topock, Arizona and Needles, California. Served as author/bat biologist. DTSC provides oversight of the site investigation and cleanup activities for the PG&E Topock Compressor Station located in San Bernardino County, 15 miles southeast of Needles, California, and one half mile west of the Colorado River. Soil samples were to be taken from the soils under and near the PG&E Topock Compressor Station to determine the presence of hexavalent chromium, a known carcinogen, and other chemicals of concern. Assisted in preparation of the Biological Resources Section for the Soils Investigation EIR for the proposed soil remediation activities at the Topock Compressor Station. Also assisted in conducting two bat surveys on the project site, which focused on identification of species and potential roosts using a variety of methods including mist-netting, acoustic monitoring, radio-telemetry, and emergence surveys with night-vision binoculars. Served as general biological oversight for the California DTSC.

Topock Compressor Station Final Groundwater Remedy Project, Subsequent EIR, DTSC and PG&E, Topock, Arizona and Needles, California. Served as author/bat biologist. DTSC provides oversight of the site investigation and cleanup activities for the PG&E Topock Compressor Station. Groundwater samples taken from the groundwater under and near the PG&E Topock Compressor Station were found to be contaminated with hexavalent chromium, a known carcinogen, and other chemicals of concern. In addition, soil contamination is present at the site, requiring investigation and cleanup. Prepared the biological resources section for the Subsequent EIR for the final groundwater remedy project.

Energy and Water

Pine Canyon Wind Farm Development in the Tehachapi Mountains, Los Angeles Department of Water and Power (LADWP) Pine, Kern County, California. Served as biologist. Conducted a yearlong avian study to document all avian species, specifically raptors, which occur within a 7-mile area of the Tehachapi Mountains for a proposed wind farm. The surveys were conducted on foot from eight different vantage points throughout the canyon with the use of a helicopter for transportation between each vantage point. The studies utilized binoculars, spotting scopes, and audible detection to determine the different species in the area. Bat sonar recording, protocol raptor surveys and vegetation mapping were also conducted along with the general avian surveys. The study will be used to determine if the construction of a new wind farm in the Tehachapi Mountain range will adversely affect resident, migratory and sensitive avian species.

Eastern Recycled Water System, City of Escondido, California. Served as project biologist and author. Coordinated the field reconnaissance survey for the project site and prepared the biological resources section of the MND. Conducted field surveys for general biological resources and focused surveys for rare plants and coastal California gnatcatcher. Also conducted and prepared a jurisdictional delineation and assisted the project manager with addressing public comments.

Dry Lake Solar Project, Playa Solar, Clark County, Nevada. Served as field biologist. Prepared a Biological Assessment and the Biological Resources Section of an Environmental Assessment for a 1,700-acre solar power generating facility in southern Nevada. The Biological Assessment was prepared to address potential project impacts to federally listed species, including desert tortoise, Moapa dace, and federally listed birds. The

environmental assessment was prepared to address environmental impacts under NEPA. The analysis tiered to the programmatic environmental impact statement for the Bureau of Land Management's Solar Energy Zones.

Soboba Solar Project, Riverside County, California. Served as field biologist. Prepared a biological assessment and the biological resources section of an environmental assessment for a 1-megawatt solar power generating facility on the Soboba Indian Reservation in Riverside County. The biological assessment was prepared to address potential impacts to sensitive biological resources, evaluated at a NEPA level to comply with a federal action.

Artesian Substation Project, California Public Utilities Commission, San Diego County, California. Served as field biologist. Conducted a field survey to ground-truth the results of previously prepared biological resources reports for a proposed new substation and power line route. Met on site with San Diego Gas and Electric biologist to discuss the findings of biological surveys and determine any potential project constraints. Prepared the Biological Resources section of the project's MND for submittal to the California Public Utilities Commission.

Gaskell West Solar Project, Recurrent Energy, Kern County, California. Served as biologist. The project will develop a 125-megawatt photovoltaic solar facility on approximately 1,400 acres of privately owned land. Prepared the Biological Resources section for the project's EIR according to an established Kern County format. Developed mitigation measures to reduce potential impacts to desert tortoise and Joshua tree habitat.

San Juan Watershed Project, EIR, Santa Margarita Water District, Orange County, California. Served as field biologist. The Santa Margarita Water District, in conjunction with South Coast Water District, is proposing to implement the San Juan Watershed Project that would develop facilities to manage surface water resources to enhance groundwater resources of the San Juan Basin. The Project would increase the capture and storage of urban runoff and stormwater, optimize the use of recycled water for beneficial reuse, minimize the potential for undesirable impacts, and augment local water supplies to reduce the region's dependence on imported water. Tommy conducted the site reconnaissance for biological resources and prepared the Biological Resources Technical Report for the project.

Microfiltration/Reverse Osmosis Facility, City of Escondido, San Diego County, California. Served as biologist. Coordinated the field reconnaissance survey for the project site and reviewed the prepared biological letter report. Prepared the biological resources section for the IS/MND and assisted the Project Manager with addressing public comments.

San Jacinto Valley Enhanced Recharge and Recovery Program, Eastern Municipal Water District, City of San Jacinto, Riverside County, California. Served as project biologist. Conducted a habitat assessment survey of the project site which included 3 recharge basins and 44,000 linear feet of proposed pipelines within the City of San Jacinto and Hemet. Prepared a BTR of the proposed program and the Biological Resources Section of the EIR which analyzed both program-level and project-level impacts.

Sterling Natural Resource Center, City of Highland, San Bernardino County, California. Served as project biologist. Assisted the San Bernardino Valley Municipal Water District in preparing the Biological Resources section for the project's EIR. The proposed SNRC would provide tertiary treatment to wastewater generated within East Valley Water District's service area, modify East Valley Water District's wastewater collection facilities, and construct treated water conveyance systems to beneficially use treated water in the upper Santa Ana River watershed.

Lift Station No. 2 Project, South Coast Water District, City of Laguna Beach, Orange County, California. Served as project biologist. Conducted a habitat assessment survey and prepared the Biological Resources section for the Initial Study for the Phase 1 portion of the project. The South Coast Water District currently operates Lift Station 2 which is a reinforced concrete wet well and dry well sewage lift station. The lift station is located at

31104 Country Club Drive and conveys raw sewage to the South Orange County Wastewater Authority Coastal Treatment Plant via a 20-inch diameter ductile iron force main that is over a mile in length to the east and runs generally parallel to Aliso Creek.

On-Call Environmental Services, Los Angeles County Department of Public Works, Los Angeles County, California. Served as field biologist. Supporting the Los Angeles County Department of Public Works, including the Flood Maintenance Division (Los Angeles County Flood Control District) by providing a full array of environmental services under an on-call services contract. Providing a wide range of planning, permitting, and compliance needs for routine and emergency operations and maintenance projects, and services have included preparation of regulatory permits (404, 401, and 1602), biological and cultural resources surveys and reports, focused surveys for federally –listed species, wetland delineations, mitigation monitoring and reporting, air and water quality sampling, and preparation of CEQA documents. A few notable projects include the Big Dalton Dam, Big Tujunga Dam, Cattle Canyon, and Los Angeles Greenway Project, which all required preparation of permit applications and/or technical studies to support permitting and CEQA.

Annexation Project Orange County Water District, California. Served as biologist. Prepared biological resources section, which includes documenting existing conditions and impact analysis, for Orange County Water District's Annexation Project as part of a project-level and programmatic-level EIR. The project proposed to allow additional municipalities to pump additional water from Orange County Water District wells. A portion of the project involved constructing new pump stations and other portions involved no additional construction. The proposed project was evaluated for potential impacts to biological resources within the Orange County basin. Mitigation measures were prescribed in the impact analysis to minimize impacts to potential sensitive biological resources.

Henrietta Solar Project, SunPower, Kings County, California. Served as biologist. Prepared the Biological Resources Section for an IS/MND, which includes documenting existing conditions and impact analysis, for the 836-acre SunPower Henrietta Solar Project. The project proposed to construct and operate a 136-megawatt alternating current photovoltaic electricity generating facility and associated infrastructure. Mitigation measures were prescribed in the impact analysis to minimize impacts to potential sensitive biological resources.

Jurisdictional Delineations and Regulatory Permitting

Noyes Street Vector Habitat Remediation Project, City of San Diego, California. Served as field biologist. Conducted a jurisdictional delineation survey of the Kendall Frost Marsh Reserve and areas that would be affected by the project. The survey involved identifying potential waters of the U.S., State, and local jurisdiction to identify potential impacts to jurisdictional waters by the project.

Big Dalton Dam Sluiceway Rehabilitation Project, City of Glendora, Los Angeles County, California. Served as field biologist. Conducted a jurisdictional delineation, and prepared a report, for the LA Department of Public Works for their Sluiceway Rehabilitation Project on the Big Dalton Dam. The survey involved identifying potential waters of the U.S. and State to identify potential impacts to jurisdictional waters by the project.

Cattle Canyon Project, Glendora, Los Angeles County, California. Served as field biologist. Conducted a jurisdictional assessment of the Cattle Canyon Project which occurs along a portion of the East Fork of the San Gabriel River. Delineated the limits of jurisdiction within the floodplain of the River to determine if projects activities will result in any impacts to jurisdictional waters.

Pigeon Pass 37.8 Acre Property, City of Moreno Valley, Riverside County, California. Served as field biologist. Updated the jurisdictional delineation report for the project based on new definitions of limits of waters from CDFW. Based on the updated delineation report, regulatory agency permits were prepared for the proposed

project. Permit applications were submitted to ACOE for a Nationwide Permit, Regional Water Quality Control Board for a 401 Certification, and CDFW for a streambed alteration agreement. Coordination with the resource agencies to provide updates and obtain the permits was also conducted.

Ascension Cemetery 60-Inch Storm Drain, City of Lake Forest, Orange County, California. Served as field biologist. Conducted a formal wetland delineation of potential waters of the U.S. for the Ascension Cemetery 60" Storm Drain Project which converted an existing drainage feature into an underground pipe to reduce erosion. A preliminary jurisdictional delineation report was prepared and permit applications were completed and filed with the regulatory agencies. A letter of permission application was submitted to ACOE, along with a 404(b)(1) Analysis, due to the site's location within a Special Area Management Plan area within the San Diego Creek Watershed. Also assisted the client with formulating an appropriate mitigation strategy to reduce project impacts.

Sand Canyon Mobile Home Bank Stabilization Project, City of Canyon Country, California. Served as field biologist. Prepared a 401 Certification Application on behalf of the client to the Los Angeles Regional Water Quality Control Board under the Clean Water Act. The Application was prepared for the client for emergency repairs to a severely eroded slope that threatened to damage existing homes. The repair was conducted to the bank of the Santa Clara River which is under the jurisdiction of the Regional Board.

SR 91 and SR 71 Interchange Improvement Project, City of Corona, California. Served as field biologist. Assisted in conducting a jurisdictional delineation for a 35-acre project site and surrounding 652-acre study area for areas potentially under the jurisdiction of the ACOE, Regional Water Quality Control Board, and CDFW. Prepared a written Habitat Assessment and MSHCP Consistency report, and Determination of Biologically Equivalent or Superior Preservation analysis.

Green Park Ranch Wetlands Delineation, City of Simi Valley, California. Served as field biologist. Assisted in conducting a wetland delineation on a 1,600-acre site in the City of Simi Valley. The survey was conducted to delineate the jurisdictional limits of ACOE Waters of the U.S. and CDFW Waters of the state. The wetland delineation was conducted as an update to previous wetland delineations conducted as part of preparation of the Runkle Canyon Specific Plan.

Hamner Avenue, City of Corona, California. Served as field biologist. Conducted a delineation of potentially jurisdictional waters for several drainages located adjacent to Hamner Avenue. The delineation involved taking measurements and mapping of all drainages and roadside ditches. The on-site drainages were determined to demonstrate connectivity with the nearby Santa Ana River.

Mitigation, Habitat Restoration, and Enhancement

LADWP Hollywood Water Quality Improvement Project, City of Los Angeles, California. Served as field biologist. Assisted in the monitoring of an ongoing restoration effort for the LADWP's Hollywood Water Quality Improvement Project at the Hollywood Reservoir in Southern California. The restoration effort was implemented in order to mitigate for impacts resulting from the project, specifically the loss of coastal sage scrub habitat.

Big Dalton Dam Sluiceway Rehabilitation Project, County of Los Angeles, California. Served as deputy project manager and project biologist. Managed the implementation of the Avoidance and Minimization Measures prescribed in the project's Streambed Alteration Agreement issued by CDFW. Surveys conducted included habitat assessments for southwestern willow flycatcher and least Bell's vireo, western pond turtle and aquatic species, bat surveys, nesting birds, rare plants, baseline water quality sampling, fish species, and downstream aquatic resources. Progress reports were prepared for submittal to CDFW.

Sierra Business Center, City of Fontana, California. Served as assistant project manager and field biologist. Coordinated the implementation of a 1-acre bioswale consisting of native riparian scrub species to provide first-flush water quality treatment of local water runoff. The bioswale was designed and implemented for mitigation for the construction of the adjacent business park. A report of as-built conditions was prepared following the installation of native plants, followed by a monitoring period. The restoration site will be monitored for a minimum of 5 years with annual monitoring reports prepared to document progress and success of the restoration effort.

Morgan Valley Residential Development, City of Temecula, California. Served as assistant project manager. Coordinated the implementation of a Habitat Mitigation and Monitoring Plan, involving site preparation, irrigation installation, container and cutting planting, and seeding. The restoration site is mitigation for impacts made to riparian scrub vegetation along an unnamed creek as a result of construction of the Morgan Valley residential development. Conducted monthly and annual monitoring surveys and prepared annual monitoring reports to document performance.

Blackmore Restoration Project, Murrieta, County of Riverside, California. Served as assistant project manager. Conducted three years of quarterly and annual monitoring surveys for the Shea Homes – Blackmore restoration project. The mitigation for the restoration project involved the creation of riparian scrub habitat within a tributary to Murrieta Creek. Annual monitoring surveys involved qualitative and quantitative transect surveys to determine native and non-native species density. Quarterly monitoring involved assessing the site for any potential maintenance issues and removing exotic and invasive species. The project also involves an off-site mitigation area located within the same watershed further to the east. Agency correspondence and coordination was required to address the off-site mitigation and any on site issues.

Mosaic Development Project (Tract Map No. 28206), Menifee Area, County of Riverside, California. Served as project biologist. Conducted various monitoring surveys and maintenance visits for components of the Mosaic residential development restoration project. The project involves the creation of wetland habitat and preservation of on-site willow habitat. Surveys include a nesting bird survey and written report, and quarterly and annual monitoring surveys. Monitoring surveys focused on native vs. non-native species coverage, wetland determination, and recommendations for remedial measures for erosion and/or supplemental seeding. Surveys involved the subsequent preparation of a Notice of Completion of Installation (As-built) report and an Annual Mitigation Monitoring Report.

Adeline's Farm (Tract 29214) Project, French Valley, County of Riverside, California. Served as assistant project manager. Conducted quarterly and annual monitoring surveys for the Adeline's Farm development, Shea Homes, Murrieta Area, Riverside County. The mitigation for the restoration project involves the creation of bioswale habitat on site. Monitoring surveys also involve the preparation of an As-built report and Annual Mitigation Monitoring Report. Worked as the Project Manager with the client to recommend and formulate strategies for continued maintenance and increasing species coverage and diversity. Assisted in conducting a jurisdictional delineation of the site and downstream portion used for off-site mitigation credit for another project. Prepared augment for additional years of monitoring and coordinated with regulatory agencies for project sign-off at the completion of monitoring.

Canyon Heights Residential Development, Canyon Lake Area, County of Riverside, California. Served as field biologist. Conducted quarterly and annual monitoring surveys for the mitigation site associated with the Canyon Heights residential development. The mitigation site consists of a conservation area and a restoration area focused on restoring and improving coastal sage scrub and grassland habitat. Two water quality ponds are included in the mitigation site to provide first-flush water quality treatment of local water runoff. The main tasks for this project involved routine maintenance monitoring to ensure non-native species cover and invasive species

remain at a minimum. Also conducted spring and fall avian surveys, as well as focused surveys for coastal California gnatcatcher as part of the perpetual mitigation monitoring plan.

Three Arch Bay Residential Development, Debris Basin Restoration, Monarch Beach, County of Orange, California. Served as field biologist. Conducted Participated in the clean-up, weed removal, slope stabilization, planting, monitoring and reporting for a 25-foot by 40-foot debris basin. The debris basin associated with the north portion of the Three Arch Bay Residential Development was widened to allow additional nuisance flows to enter the basin without overflowing or causing erosion damage. The debris basin was recontoured and revegetated to recreate a native habitat area within native coastal sage scrub and chaparral. The slope was revegetated at the request of the property owner in an effort to increase the aesthetic value of the bare slope, aid in slope stabilization and add native habitat to the area.

Preserve and Land Management

Mt. Olympus Preserve, San Diego County, California. Served as field biologist. Conducted a complete flora and fauna inventory of species within the 707-acre Mt. Olympus Preserve, as part of a biodiversity study for the County of San Diego. Inventory techniques included small mammal trapping, pit-fall trapping, avian spot counts, motion-activated photography, scent station detection and acoustic monitoring for bats. The surveys were conducted between the late spring to early fall to observe the migration and blooming periods of various species in the region. The findings of the biodiversity study were prepared into a baseline biodiversity report, to be included as part of the finalized North County Multiple Species Conservation Plan. Tommy also assisted in preparation of a Public Access Plan for the Preserve.

Wilderness Gardens Preserve, San Diego County, California. Served as field biologist. Conducted a complete flora and fauna inventory of species within the Wilderness Gardens Preserve as part of a biodiversity study for the County of San Diego. Inventory techniques included small mammal trapping, pit-fall trapping, avian spot counts, motion-activated photography, scent station detection and acoustic monitoring for bats. The surveys were conducted between the late spring to early fall to observe the migration and blooming periods of different species in the region. The findings of the biodiversity study were prepared into a baseline biodiversity report, to be included as part of the finalized North County Multiple Species Conservation Plan.

Carlsbad Preserve, City of Carlsbad, San Diego County, California. Served as field biologist. Assisted with establishing monitoring plots for coastal sage scrub habitat within the Preserve for long-term monitoring. Field surveys were also conducted to determine post-fire conditions of the CSS habitat within the Preserve.

Tonner Canyon, City of Industry, California. Served as field biologist. Assisted as staff ecologist in collecting data for a Wildlife Corridor Study through the Tonner Canyon corridor. Data collection methods included avian spot counts, scent station detection, and motion-capture cameras. Avian spot counts recorded species flying over and under the State Route 57 overpass located over the canyon. The studies were conducted for a 1-year period for five consecutive days a month. The collected data was incorporated into a Wildlife Corridor Study Report.

Biological and Cultural Resources Monitoring

Tehachapi Renewable Transmission Project (TRTP) Construction Monitoring, Los Angeles, San Bernardino, and Riverside Counties, California. Served as field biologist. Conducted on-site construction monitoring for sensitive species during a portion of the Southern California Edison Tehachapi Renewable Transmission project. Construction monitoring entailed supervising various construction crews during transmission tower construction at various locations in Los Angeles, San Bernardino, and Riverside Counties. Monitoring activities also involved

conducting pre-construction clearance surveys, monitoring plan compliance, daily and nightly spot checks, and routine reporting.

Pine Canyon Second Barrel Maintenance Monitoring, LADWP, California. Served as field biologist. Conducted a pre-construction clearance survey, worker training program, and construction monitoring during road maintenance of a small segment of the existing Second Aqueduct access north of California City, to protect Desert tortoise (*Gopherus agassizi*i), Mohave ground squirrel (*Xerospermophilus mohavensis*), Le Conte's thrasher (*Toxostoma lecontei*), and Charlotte's phacelia (*Phacelia nashiana*).

Desert Hot Springs Wind Fence Installation Monitoring, California. Served as field biologist. Conducted on-site monitoring of the federally endangered Coachella Valley milk vetch during installation of a wind fence adjacent to Interstate 10. The monitoring effort included identifying all specimens of Coachella Valley milk vetch on-site and creating a buffer around each plant to ensure direct take of this species did not occur during project activities.

Construction Monitoring for Silverlake Reservoir, LADWP, Los Angeles, California. Served as field biologist. Conducted on-site construction monitoring of pit drilling at 3 locations within the Silverlake Reservoir facility. The monitoring effort included identifying all nesting birds within the project site and determining the extent of impacts that may occur to actively nesting birds. Monitored the effects of drilling on an active rookery of nesting great blue herons.

Disneyland Resort Parking Expansion Study Construction Monitoring, Anaheim, California. Conducted on-site construction monitoring of excavation and earth-moving activities for the construction of a parking lot structure for the Disneyland Resort. The monitoring effort focused on archeological/cultural resources that may be uncovered during excavating and earth-moving activities.

Construction of South Region High School No. 12, Los Angeles Unified School District, California. Conducted on-site construction monitoring of excavation and grading activities for the school site. The monitoring effort focused on archeological/cultural resources that may be uncovered during excavating and earth-moving activities.

Telecommunications

SAN-251 A, Cricket Wireless Telecommunications Facility, City of Escondido, San Diego County, California. Served as field biologist. Conducted a general habitat assessment and reconnaissance-level field survey to document existing biological resources and sensitive species on site. The survey involved assessing the surrounding area for sensitive wildlife species including coastal California gnatcatcher and habitat mapping. The results of the survey were prepared into a written biological resources letter report in accordance with the County of San Diego Multiple Species Conservation Program and draft Escondido Multiple Habitat Conservation Program guidelines. Monitored installation of an impact area fence prior to construction and conducted a nesting bird survey.

NEPA Compliance/Telecommunication Facilities, Southern and Central California. Conducted over 100 biological resource assessments for a variety of telecommunication providers throughout Southern and Central California in complying with NEPA for the implementation of cellular communication facilities. These projects includes the preparation of NEPA compliance documents in accordance with the Federal Communication Commission's regulations pertaining to telecommunication facilities, in particular, biological surveys, including focused sensitive species surveys, permitting, construction monitoring, and arborist surveys. The projects were also assessed for consistency with local relevant policies and habitat conservation plans.

Transportation

SR 91 and SR 71 Interchange Improvement Project, City of Corona, California. Served as field biologist. Conducted a general habitat assessment and MSHCP Consistency Analysis for the 35-acre project site and surrounding 652-acre study area. Surveys focused on assessing suitable conditions for burrowing owl, narrow endemic plant species, riparian/riverine areas, as well as sensitive species not covered under the MSHCP. Assisted in conducting a jurisdictional delineation for areas potentially under the jurisdiction of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board, and CDFW. Prepared a written Habitat Assessment and MSHCP Consistency report, and Determination of Biological Equivalent or Superior Preservation analysis. Assisted in preparation of a Natural Environment Study for Caltrans and the Riverside County Transportation Commission.

Schnoor Avenue Bridge Undercrossing, City of Madera, California. Served as field biologist. Conducted a biological assessment survey for a proposed bridge undercrossing project involving the expansion of an existing pedestrian and bike trail beneath the existing Schnoor Avenue Bridge. The biological assessment was requested by Caltrans and the results of the survey were prepared in a Natural Environment Study (Minimal Impacts) report. The project also required a field visit with City and Caltrans staff to discuss impacts and potential issues, as well as conference calls to address reporting requirements.

Fulton Mall Project, City of Fresno, California. Served as biologist. Prepared the Biological Resources Section for an Initial Study for the Fulton Mall Project which involves the conversion of vehicle streets to pedestrian use for revitalization of the Mall and Downtown Area. Also, prepared a Natural Environment Study (Minimal Impacts) report to address potential impacts of the project on federally protected biological resources on the site due to a change in the use of existing roads and rights-of-way.

Baxter Road Project, Merced County, California. Served as biologist. Prepared the CDFW Streambed Alteration Agreement and RWQCB 401 Certification for replacement of the Baxter Road Bridge which spanned over Deadman Creek. An NES was used for the permit applications which documented the potential impacts of the proposed project, which included significant impact to California tiger salamander.

Specialized Training

- California Rapid Assessment Method (CRAM) Training. CRAM Wetlands. 2018
- Wetland Delineation Training. Wetland Training Institute. Certified Wetland Delineator. 2015.
- Noninvasive Acoustic Monitoring of Bats, Field Techniques Workshop. The Wildlife Society. Instructor Joe Szewczak, 2012.
- Bat Ecology and Field Techniques Workshop. The Wildlife Society. Instructors Joe Szewczak and David Johnston, 2010.
- 20 Plant Families Workshop. Rancho Santa Ana Botanical Gardens. Instructor, Bob Allen, 2009.

Publications

Molioo, Tommy. 2013. How Proper Planning and a General Understanding of Bats Help Reduce Impacts. Wind Power Engineering & Development Magazine. June 2013.

Presentations

"The Elusive Burrowing Owl," 2011. Presented at Friends of the Newport Back Bay Symposium. Newport Beach, California.

Kimberly Narel

BIOLOGIST I

Kimberly Narel (*KIM-ber-lee na-REL*; *she/her*) is a biologist with 6 years' professional experience in environmental due diligence, biological resource assessments, regulatory compliance, and marine science. She specializes in technical writing and regulatory document preparation, avian nest surveys, biological monitoring, and special-status species/habitat reconnaissance surveys. She has experience coordinating with state and federal agencies throughout the United States on behalf of the Federal Communications Commission and in support of Section 7 Endangered Species Act consultation for National Environmental Policy Act (NEPA) compliance.

Ms. Narel has strong field skills, with experience working throughout the Pacific Northwest on migratory bird identification/active nest surveys and with Southern California special-status species/habitat identification. She has conducted passive and active bat surveys; protocol-level surveys for rare plants, desert tortoise, burrowing owl, and least Bell's vireo; and trapping for pond turtle and Los Angeles pocket mouse throughout California for projects in support of California Environmental Quality Act (CEQA) compliance.

Education

University of California, San Diego
BS, Biology: Ecology, Behavior and Evolution (minor in Environmental Systems), 2014

Certifications

Wetland Delineator

SCUBA Autonomous Diver

Occupational Safety and Health Administration (OSHA) 40-Hour HAZWOPER

Cetacean Naturalist

Professional Affiliations

The Wildlife Society

American Cetacean Society

Project Experience

Municipal

Bedford Canyon Channel Project, Riverside County Flood Control District, California. Conducted focused burrowing owl surveys per Western Riverside County Multiple Species Habitat Conservation Plan protocols and drafted the CDFW burrowing owl survey report, which detailed negative results. Assisted in conducting a bat presence/absence survey using visual and acoustic (sonar) analysis. (2022)

Ben Clark Training Center Modernization Project, Riverside County Sheriff's Department, California. Conducted a biological reconnaissance survey to map vegetation communities, compile a list of observed wildlife, and determine potential biological constraints. Conducted focused burrowing owl surveys following Western Riverside County Multiple Species Habitat Conservation Plan protocols. Drafted the California Department of Fish and Wildlife (CDFW) burrowing owl focused survey results report. Drafted a biological technical report in support of an environmental impact report to detail the results of the biological reconnaissance and focused species surveys and analyze project impacts to biological resources under Appendix G of CEQA Guidelines. (2022)

Big Dalton Dam and San Dimas Dam Helipad and Access Road Improvement Projects, Los Angeles County Department of Power and Water, California. Conducted a biological reconnaissance to map vegetation, compile a list of observed species, and determine potential biological constraints. Drafted biological constraints due

diligence memorandums detailing existing biological resources; recommended focused species surveys; mitigation measures; and applicable local, regional, state, and federal policies. (2021)

El Toro Water District Filter Plant Project, El Toro Water District, Mission Viejo, California. Drafted a biological due diligence memorandum detailing existing site conditions, potential biological constraints, and recommended mitigation measures to reduce project impacts to biological resources. (2022)

El Toro Water District Pump Station and Joint Transmission Main Project, El Toro Water District, Laguna Woods, California. Completed a biological reconnaissance to identify existing biological resources on site, compile a list of observed species, and determine potential biological constraints. Drafted the biological resources section of the initial study (IS)/mitigated negative declaration (MND) to incorporate survey results and analyze proposed project impacts under Appendix G of CEQA Guidelines. Recommended focused species surveys and mitigation measures to reduce project impacts to biological resources to a less-than-significant level under CEQA. (2022)

Fuel Modification Project, Emerald Bay Service District, Laguna Beach, California. Drafted a proposal with a budget to conduct a nesting bird survey prior to vegetation clearing and fuel modification activities. Met with Emerald Bay Service District staff, maintenance crew, and OC Parks staff during a preconstruction kick-off meeting to answer questions regarding nesting bird mitigation measures. (2022)

Peters Canyon Wash Maintenance Project, Orange County Public Works, Irvine, California. Conducted biological monitoring, active acoustic bat presence/absence surveys, and trapping for pond turtles at Peters Canyon Channel. Conducted biological monitoring for active avian nesting and pond turtle presence/absence during vegetation maintenance and sediment removal activities. Prepared biological monitoring reports to detail the results of construction biomonitoring, bat surveys, and turtle trapping surveys. (2022)

Wastewater Treatment Facility and Utility infrastructure Project, Sycuan Band of the Kumeyaay Nation, San Diego, California. Assisted in conducting focused diurnal and nocturnal arroyo toad surveys in Sweetwater River in support of a proposed utility corridor and sewer collection system in the Sycuan Reservation. (2023)

Well 25 Treatment Site Project, Western Municipal Water District, Riverside, California. Conducted a biological reconnaissance and prepared a NEPA compliant biological technical memo to analyze biological for municipal groundwater well and treatment plant improvements. (2023)

Planning

Regional Conservation Authority, Western Riverside County Multiple Species Habitat Conservation Plan-Joint Project Review, Riverside, California. Assisted in reviewing projects located within a Criteria Area of the Western Riverside County Multiple Species Habitat Conservation Plan for project consistency on behalf of the Regional Conservation Authority. (2023)

Talbert Regional Park Master Plan Project, Orange County Public Works, Costa Mesa, California. Conducted a revised biological reconnaissance of Talbert Regional Park to map any changed vegetation communities. Updated the biological technical report with focused species survey results and a project impact analysis of on-site biological resources under Appendix G of CEQA Guidelines. (2022)

Yucaipa Freeway Corridor Specific Plan Project, City of Yucaipa, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of observed species, and determine potential biological

constraints. Conducted focused surveys for least Bell's vireo and assisted in conducting a jurisdictional wetland delineation of potential aquatic resources on site. (2022)

Industrial

6th Street and Del Rosa Warehouse Project, Patriot Development Partners, Highland, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of observed species on site, and determine potential biological constraints. Prepared a biological technical report to incorporate the biological resources section of the IS/MND to incorporate survey results and analyze project impacts under Appendix G of CEQA Guidelines. (2022)

4th Street and Hermosa Avenue Warehouse Project, Patriot Development Partners, Rancho Cucamonga, California. Conducted a general biological reconnaissance to map existing vegetation communities, compile a list of observed species, and determine potential biological constraints to project development. Prepared a due diligence memorandum to detail existing conditions and analyze proposed project impacts to biological resources on the project site in support of a Class 32 Categorical Exemption.

Apple Valley Warehouse Project, Uncommon Developers, Hesperia, California. Conducted a protocol-level focused rare plant survey and focused desert tortoise survey to determine whether desert tortoises or rare/special-status plants covered by the California Desert Native Plants Act and Endangered Species Act occur on site. (2022)

Cemax Warehouse Project, Covington Development Partners, Victorville, California. Conducted a biological reconnaissance survey and prepared an accompanying due diligence memorandum to document the results of existing biological resources and potential biological constraints to future site development as well as recommend focused species presence/absence surveys. (2022)

Hughes Circuits Warehouse Project, Hughes Circuits, San Marcos, California. Assisted in drafting a biological technical report detailing existing site conditions, focused species surveys results, conservation measures, and mitigation measures to reduce project impacts to biological resources to a less-than-significant level under CEQA. Assisted in drafting an aquatic resources delineation report detailing the results of the wetland delineation, as well as applicable local, regional, and national permitting requirements, to reduce project impacts to wetlands to a less-than-significant level. (2022)

Nance Street Warehouse Project, Oakmont Industrial Group, Perris, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of species observed on site, and determine potential biological constraints. Drafted the biological resources section of the IS/MND to detail existing conditions on site, discuss potential impacts to biological resources under Appendix G of CEQA Guidelines, and recommend mitigation measures to reduce project impacts to biological resources to a less-than-significant level under CEQA. (2022)

North Stoddard Warehouse Project, Covington Development Partners, Victorville, California. Conducted a biological reconnaissance survey and prepared an accompanying due diligence memorandum to document the results of existing biological resources and potential biological constraints to future site development as well as recommend focused species presence/absence surveys. (2022)

North Victorville Warehouse Project, Covington Development Partners, Hesperia, California. Conducted a biological reconnaissance survey of the project site to map vegetation communities, compile a list of observed species, and determine potential biological constraints to future site development. (2022)

NWC Santa Ana and Almond Warehouse Project, Patriot Development Partners, Fontana, California. Conducted a biological reconnaissance of the project site to map vegetation communities, compile a list of observed species, and determine potential biological constraints to future site development. (2022)

Poplar 8 Warehouse Project, Covington Development Partners, Hesperia, California. Conducted a general biological resources assessment concurrently with habitat assessments for burrowing owl and Mojave ground squirrel on the project site. Prepared a biological technical report to detail the results of the surveys, analyze potential impacts to biological resources under Appendix G of CEQA Guidelines, and recommend mitigation measures to reduce project impacts to a less-than-significant level under CEQA. Prepared the accompanying Burrowing Owl Translocation Plan. (2022)

San Jacinto and McLaughin Warehouse Project, Patriot Development Partners, Menifee, California. Conducted a biological reconnaissance, focused burrowing owl surveys, a jurisdictional delineation, and prepared the accompanying Biological Technical Report, Aquatic Resources Delineation Report, and Focused Burrowing Owl Survey Results Report. (2023)

Santa Ana and Almond Warehouse Project, Patriot Development Partners, Fontana, California. Drafted a biological resources letter report detailing the results of existing biological resources on site and potential biological constraints. Incorporated results into the biological resources section of the IS/MND report to analyze project impacts under Appendix G of CEQA Guidelines. Recommended mitigation measures to reduce potential impacts to biological resources to a less-than-significant level under CEQA. (2022)

Santa Fe and Valley View Warehouse Project, Patriot Development Partners, San Bernardino, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of species observed on site, and determine potential biological constraints. Drafted a biological resources letter report to detail the existing conditions on site, analyze potential project impacts to biological resources, and recommend mitigation measures to reduce project impacts to biological resources to a less-than-significant level under CEQA. (2022)

Stoddard Wells Distribution Center Project, Covington Development Partners, Indio, California. Conducted a biological reconnaissance to map vegetation communities on site, compile a list of observed species, and determine potential biological constraints. Drafted a biological constraints due diligence memorandum detailing existing conditions on site and focused survey recommendations. Conducted a focused desert tortoise presence/absence survey. (2021)

Willow and Valley Warehouse Project, International Business Group, Rialto, California. Conducted a biological reconnaissance to map vegetation communities and determine potential biological constraints. Drafted the biological resources section of the IS/MND to incorporate survey results and analyze project impacts under Appendix G of CEQA Guidelines. Drafted a focused burrowing owl survey proposal and conducted the subsequent focused burrowing owl surveys to determine presence/absence on the project site. (2022)

Development

31180 and 31164 Ceanothus Drive Properties, Horst Architecture, Laguna Beach, California. Conducted biological reconnaissance surveys for two proposed residential developments to map vegetation communities, compile lists of observed species, and determine potential biological constraints. Drafted biological letter reports detailing existing site conditions and analyzing project impacts to biological resources per City of Laguna Beach Local Coastal Program and California Coastal Commission Coastal Development Permit requirements. (2022)

328 Avenida Gaviota Renovation Project, The Gasparini Family, San Clemente, California. Conducted a biological reconnaissance survey for a proposed residential development located within the Coastal Zone, mapped as an Environmentally Sensitive Habitat Area by the California Coastal Commission. Prepared a biological letter report to discuss the results of the biological reconnaissance and analyze potential project impacts to Environmentally Sensitive Habitat Areas, as directed by the California Coastal Commission, to address the project applicant's incomplete Coastal Development Permit application. (2022)

Baxter and Whitewood Apartments Project, Murrieta Whitewood Multifamily LLC, Murrieta, California. Conducted focused burrowing owl surveys per Western Riverside County Multiple Species Habitat Conservation Plan protocol. Drafted the accompanying CDFW burrowing owl focused survey results report. (2022)

Boutique Hotel Project, Dadashi Developments, Dana Point, California. Conducted a biological reconnaissance to map existing vegetation communities, compile a list of observed species, and determine potential biological constraints to project development. Prepared a biological letter report to describe the results of the biological reconnaissance, determine whether Environmentally Sensitive Habitat Areas occur on site, and analyze project impacts to biological resources under the City of Dana Point Local Coastal Program's Biological Resources Policy. (2022)

Bureau of Indian Affairs Fee to Trust Pechanga Northern Boundary Property Project, Pechanga Band of Indians, Temecula, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of observed species on site, and determine potential biological constraints. Drafted a biological resources technical memorandum detailing the results of the biological reconnaissance and recommended focused species presence/absence surveys. (2022)

Greenberg Apartments Project, Murrieta Whitewood Multifamily LLC, Murrieta, California. Conducted focused burrowing owl surveys per Western Riverside County Multiple Species Habitat Conservation Plan protocol. Drafted the accompanying CDFW burrowing owl focused survey results report. (2022)

Hidden Springs Property Project, Alliance Land Planning and Engineering Inc., Wildomar, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of species observed on site, and determine potential biological constraints. Assisted in conducting a formal jurisdictional delineation of aquatic resources onsite. Drafted a due diligence memo detailing the results of the biological reconnaissance and recommended focused species surveys to determine presence/absence of special-status plants and wildlife. Recommended mitigation measures and detailed state and federal permitting requirements for impacts to special-status species from site development if present on site. (2022)

Jefferson Murrieta Apartments Project, JPI Companies, Murrieta, California. Conducted focused burrowing owl surveys and assisted in conducting a jurisdictional delineation on the project site. Prepared a biological technical report to detail existing conditions, share the results of focused species surveys, analyze project impacts to biological resources, and recommend mitigation measures to reduce project impacts to a less-than-significant level under CEQA. Assisted in drafting an aquatic resources delineation report, detailing the results of the wetland delineation and applicable local, regional, and federal permitting requirements to reduce project impacts to aquatic resources to a less-than-significant level under CEQA. (2022)

Juniper Avenue and Valley Boulevard Apartment Project, JPI Companies, Fontana, California. Conducted a due diligence site visit to determine existing conditions and prepared a biological constraints memorandum detailing the results and potential on-site biological constraints. Subsequently prepared a biological technical report to analyze potential project impacts to biological resources under Appendix G of CEQA Guidelines. Recommended mitigation measures to reduce project impacts to a less-than-significant-level under CEQA. (2022)

Menifee Business Park Project, Patriot Development Partners, Menifee, California. Conducted a biological reconnaissance site survey to map existing vegetation communities, compile a list of species observed, and determine potential biological constraints. Recommended focused burrowing owl surveys and a jurisdictional delineation based on site conditions. (2022)

Meridian Business Park West Lot Campus 1 Project, March Joint Powers Authority, Riverside, California. Conducted an updated habitat assessment in support of an addendum to an existing environmental impact report. (2022)

Paseo Adelanto Permanent Supportive Housing Project, Jamboree Housing Corporation, San Juan Capistrano, California. Conducted a biological reconnaissance to map vegetation communities, compile a list of observed species on site, and determine potential biological constraints. Drafted a biological resources technical memorandum detailing the results of the biological reconnaissance and recommended mitigation measures for project implementation in support of obtaining a Federal Emergency Management Agency Conditional Letter of Map Revision. (2022)

Energy

Compass Battery Energy Storage Systems Project, Broad Reach Power, San Juan Capistrano, California. Conducted focused least Bell's vireo surveys and prepared the biological resources analysis for the California Energy Commission AB 205 Filing application package. (2023)

Charger and Seguro Battery Energy Storage Systems Project, AES Clean Energy, Escondido, California. Assisted in conducting a jurisdictional wetland delineation for revised project boundaries and updated the accompanying aquatic resources delineation with the survey results. (2022)

Nighthawk Energy Storage Project, Nighthawk Energy LLC, Poway, California. Assisted in preparing a biological technical report for the City of Poway. Discussed existing site conditions, detailed the results of focused species surveys, and analyzed impacts to on-site biological resources within the City of San Diego Multiple Species Conservation Program Subarea Plan. (2022)

Sandpiper Energy Storage Project, Sandpiper Energy Storage, LLC, San Clemente, California. Conducted a biological reconnaissance of the project site to map vegetation communities, compile a list of observed species on site, and determine potential biological constraints. Drafted a biological technical report detailing the results of the biological reconnaissance, recommended focused species presence/absence surveys, analyzed project impacts to biological resources, and recommended mitigation measures to reduce potential impacts to a less-than-significant level under CEQA. (2022)

Resource Management

County Wildlife Damage Management Program, California Department of Food and Agriculture, Wildlife Services, and U.S. Department of Agriculture Animal Plant and Health Inspection Service, California. Assisted in drafting a biological technical report in support of a joint environmental impact report/environmental impact statement, as required by CEQA and NEPA, to provide a biological analysis of current and proposed future wildlife damage management activities, which prevent damage to agricultural resources and infrastructure throughout California. (2022)

Whittier Narrows Restoration Project, HRS and Eco Inc., Los Angeles, California. Conducted a preconstruction avian nesting survey, focusing on least Bell's vireo, prior to herbicide application and invasive vegetation removal on site. (2022)

Relevant Previous Experience

Natural Resource Reviews and NEPA Technical Reports, EBI Consulting, Various Locations. Drafted and reviewed hundreds of Natural Resource Reviews in compliance with NEPA for telecommunication tower construction projects throughout the United States. Conducted desktop review of federal lands, flood hazards, wetlands, hydric soils, and federally and state-listed species that may occur within the project area. Consulted on behalf of the Federal Communications Commission for projects requiring concurrence with U.S. Fish and Wildlife Service, CDFW, and other state regulatory agencies. Assisted in compiling final NEPA Finding of No Significant Impact reports to include Natural Resource Reviews with the results of tribal and historic/cultural resource impacts. (2019–2021)

Preconstruction Presence/Absence Special-Status Species Surveys, Biological Assessments, and Avian Nest Surveys, EBI Consulting, Various Locations. Completed site visits for telecommunication facility projects throughout California, Oregon, Washington, Nevada, and Arizona in support of Natural Resource Reviews for NEPA technical reports. (2019–2021)

Specialized Training

- **Wetland Delineation Training, Wetland Training Institute, Orange County, California.** Completed two 8-hour wetland delineation field days and a 40-hour online training course on jurisdictional delineations and U.S. Army Corps of Engineers wetland delineation field methods for the Arid West Region. (2022)
- **California Red-Legged Frog Level I Professional Workshop, The Wildlife Project, Sonoma Mountain Preservation, California.** Workshop included four continuing education hours and eight direct observable hours in the field, identifying, collecting, and learning about the life histories of special-status amphibians found in Northern California. (2020)
- **Cetacean Naturalist Training Program, American Cetacean Society, Orange County Chapter, California.** Continuing education course consisting of lectures, mentoring, and whale-watching offshore. Learned about the life histories, habitat requirements, and identification of marine mammals observed in Southern California. Assisted as a whale-watcher on board vessels off of Newport and Dana Point Harbors. (2019)

Presentations

East Pacific, Green Sea Turtle Training Presentation, Port of Los Angeles, California. Prepared and presented a comprehensive summary of Green Sea Turtle life history, current Long Beach and Los Angeles population density estimates, and regulatory background to the Port of Los Angeles. (2019)

Sylmar Ground Return System Revitalization Project, Marine Mammal Protection Act and Marine Mammal Observers Training Presentation, Burns & McDonnell, Los Angeles, California. Assisted in developing a Marine Wildlife Monitor PowerPoint presenting relevant CDFW and U.S. Fish and Wildlife Service MMPA regulations for marine mammal observers and all offshore construction personnel (120 people) from various subcontracted companies supporting the project. (2018)

Appendix 4.2D
CNDDB and CNPS Forms

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (San Juan Capistrano (3311756) OR Dana Point (3311746) OR Canada Gobernadora (3311755) OR San Clemente (3311745) OR El Toro (3311766) OR Tustin (3311767) OR Santiago Peak (3311765) OR Laguna Beach (3311757))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Actinemys pallida southwestern pond turtle	ARAAD02032	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Aimophila ruficeps canescens southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S4	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Anaxyrus californicus arroyo toad	AAABB01230	Endangered	None	G1G2	S2	SSC
Anniella stebbinsi Southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aphanisma blitoides aphanisma	PDCHE02010	None	None	G3G4	S2	1B.2
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Asio otus long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
Aspidoscelis hyperythra orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
Aspidoscelis tigris stejnegeri coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
Astragalus brauntonii Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
Astur cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Atriplex coulteri Coulter's saltbush	PDCHE040E0	None	None	G3	S2	1B.2
Atriplex pacifica south coast saltscale	PDCHE041C0	None	None	G4	S2	1B.2
Atriplex parishii Parish's brittlescale	PDCHE041D0	None	None	G1G2	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Atriplex serenana var. davidsonii Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus pensylvanicus American bumble bee	IIHYM24260	None	None	G3G4	S2	
Branchinecta sandiegonensis San Diego fairy shrimp	ICBRA03060	Endangered	None	G2	S1	
Brodiaea filifolia thread-leaved brodiaea	PMLIL0C050	Threatened	Endangered	G2	S2	1B.1
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Calochortus weedii var. intermedius intermediate mariposa-lily	PMLIL0D1J1	None	None	G3G4T3	S3	1B.2
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	ABPBG02095	None	None	G5T3Q	S2	SSC
Canyon Live Oak Ravine Forest Canyon Live Oak Ravine Forest	CTT61350CA	None	None	G3	S3.3	
Centromadia parryi ssp. australis southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
Chaenactis glabriuscula var. orcuttiana Orcutt's pincushion	PDAST20095	None	None	G5T1	S1	1B.1
Chaetodipus californicus femoralis Dulzura pocket mouse	AMAFD05021	None	None	G5T3	S3	
Chaetodipus fallax fallax northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	
Choeronycteris mexicana Mexican long-tongued bat	AMACB02010	None	None	G3G4	S1	SSC
Chorizanthe polygonoides var. longispina long-spined spineflower	PDPGN040K1	None	None	G5T3	S3	1B.2
Cicindela latesignata western beach tiger beetle	IICOL02110	None	None	G2G3	S1	
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Clinopodium chandleri San Miguel savory	PDLAM08030	None	None	G2G3	S2	1B.2
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Coelus globosus globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
Comarostaphylis diversifolia ssp. diversifolia summer holly	PDERI0B011	None	None	G3T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S2	SSC
Crotalus ruber red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Proposed Threatened	None	G4T1T2Q	S2	
Dipodomys stephensi Stephens' kangaroo rat	AMAFD03100	Threatened	Threatened	G2	S3	
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1
Dudleya chasmophyta Santiago Canyon dudleya	PDCRA04150	None	None	G1	S1	1B.1
Dudleya multicaulis many-stemmed dudleya	PDCRA040H0	None	None	G2	S2	1B.2
Dudleya stolonifera Laguna Beach dudleya	PDCRA040P0	Threatened	Threatened	G1	S1	1B.1
Dudleya viscida sticky dudleya	PDCRA040T0	None	None	G2	S2	1B.2
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Empidonax traillii extimus southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S3	
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium pendletonense Pendleton button-celery	PDAPI0Z120	None	None	G1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Euphorbia misera cliff spurge	PDEUP0Q1B0	None	None	G5	S2	2B.2
Gila orcuttii arroyo chub	AFCJB13120	None	None	G1	S2	SSC
Harpagonella palmeri Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2
Helianthus nuttallii ssp. parishii Los Angeles sunflower	PDAST4N102	None	None	G5TX	SX	1A
Hesperocyparis forbesii Tecate cypress	PGCUP040C0	None	None	G2	S2	1B.1
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S4	SSC
Imperata brevifolia California satintail	PMPOA3D020	None	None	G3	S3	2B.1
Isocoma menziesii var. decumbens decumbent goldenbush	PDAST57091	None	None	G3G5T2T3	S2	1B.2
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Lepechinia cardiophylla heart-leaved pitcher sage	PDLAM0V020	None	None	G3	S2S3	1B.2
Lepidium virginicum var. robinsonii Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
Lycium brevipes var. hassei Santa Catalina Island desert-thorn	PDSOL0G0N0	None	None	G5T1Q	S1	3.1
Monardella hypoleuca ssp. intermedia intermediate monardella	PDLAM180A4	None	None	G4T2?	S2?	1B.3
Monardella macrantha ssp. hallii Hall's monardella	PDLAM180E1	None	None	G5T3	S3	1B.3
Myosurus minimus ssp. apus little mousetail	PDRAN0H031	None	None	G5T2Q	S2	3.1
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Nama stenocarpa mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Nasturtium gambelii Gambel's water cress	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
Neotoma lepida intermedia San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Nolina cismontana chaparral nolina	PMAGA080E0	None	None	G3	S3	1B.2
Nyctinomops femorosaccus pocketed free-tailed bat	AMACD04010	None	None	G5	S3	SSC
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	Endangered	G5T1Q	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Onychomys torridus ramona southern grasshopper mouse	AMAFF06022	None	None	G5T3	S3	SSC
Passerculus sandwichensis beldingi Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
Pentachaeta aurea ssp. allenii Allen's pentachaeta	PDAST6X021	None	None	G4T1	S1	1B.1
Perognathus longimembris pacificus Pacific pocket mouse	AMAFD01042	Endangered	Candidate Endangered	G5T2	S2	SSC
Phacelia keckii Santiago Peak phacelia	PDHYD0C4G1	None	None	G1	S1	1B.3
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Plestiodon skiltonianus interparietalis Coronado skink	ARACH01114	None	None	G5T5	S2S3	WL
Polioptila californica californica coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T3Q	S2	SSC
Pseudognaphalium leucocephalum white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
Quercus dumosa Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
Rallus obsoletus levipes light-footed Ridgway's rail	ABNME05014	Endangered	Endangered	G3T1T2	S1	FP
Rhinichthys gabrielino Santa Ana speckled dace	AFCJB3705K	Proposed Threatened	None	G1	S1	SSC
Salvadora hexalepis virgultea coast patch-nosed snake	ARADB30033	None	None	G5T4	S3	SSC
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	1B.2
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3	SSC
Sidalcea neomexicana salt spring checkerbloom	PDMAL110J0	None	None	G4	S2	2B.2
Sorex ornatus salicornicus southern California saltmarsh shrew	AMABA01104	None	None	G5T1?	S1	SSC
Southern Coast Live Oak Riparian Forest Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
Southern Coastal Salt Marsh Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
Southern Dune Scrub Southern Dune Scrub	CTT21330CA	None	None	G1	S1.1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Southern Foredunes	CTT21230CA	None	None	G2	S2.1	
Southern Foredunes						
Southern Mixed Riparian Forest	CTT61340CA	None	None	G2	S2.1	
Southern Mixed Riparian Forest						
Southern Riparian Scrub	CTT63300CA	None	None	G3	S3.2	
Southern Riparian Scrub						
Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
Southern Sycamore Alder Riparian Woodland						
Spea hammondii	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
western spadefoot						
Sternula antillarum browni	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
California least tern						
Streptocephalus woottoni	ICBRA07010	Endangered	None	G1G2	S2	
Riverside fairy shrimp						
Suaeda esteroa	PDCHE0P0D0	None	None	G3	S2	1B.2
estuary seablite						
Symphyotrichum defoliatum	PDASTE80C0	None	None	G2	S2	1B.2
San Bernardino aster						
Taricha torosa	AAAAF02032	None	None	G4	S4	SSC
Coast Range newt						
Taxidea taxus	AMAJF04010	None	None	G5	S3	SSC
American badger						
Thamnophis hammondii	ARADB36160	None	None	G4	S3S4	SSC
two-striped gartersnake						
Thamnophis sirtalis pop. 1	ARADB3613F	None	None	G5T1T2	S1S2	SSC
south coast gartersnake						
Tryonia imitator	IMGASJ7040	None	None	G2	S2	
mimic tryonia (=California brackishwater snail)						
Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Needlegrass Grassland						
Verbesina dissita	PDAST9R050	Threatened	Threatened	G2	S1	1B.1
big-leaved crownbeard						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S3	
least Bell's vireo						

Record Count: 120

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

80 matches found. Click on scientific name for details

Search Criteria: , 9-Quad include [3311757:3311765:3311767:3311766:3311745:3311755:3311746:3311756]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC
Abronia maritima	red sand-verbena	Nyctaginaceae	perennial herb	Feb-Nov	None	None	S3?	4.2	
Aphanisma blitoides	aphanisma	Chenopodiaceae	annual herb	Feb-Jun	None	None	S2	1B.2	
Artemisia palmeri	San Diego sagewort	Asteraceae	perennial deciduous shrub	(Feb)May-Sep	None	None	S3?	4.2	
Asplenium vespertinum	western spleenwort	Aspleniaceae	perennial rhizomatous herb	Feb-Jun	None	None	S4	4.2	
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	perennial herb	Jan-Aug	FE	None	S2	1B.1	Yes
Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	perennial herb	Mar-Oct	None	None	S2	1B.2	
Atriplex pacifica	south coast saltscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	S2	1B.2	
Atriplex parishii	Parish's brittlescale	Chenopodiaceae	annual herb	Jun-Oct	None	None	S1	1B.1	
Atriplex serenana var. *davidsonii*	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	S1	1B.2	
Bahiopsis laciniata	San Diego County viguiera	Asteraceae	perennial shrub	Feb-Jun(Aug)	None	None	S4	4.3	

Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	FT	CE	S2	1B.1	Yes
Calochortus plummerae	Plummer's mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	S4	4.2	Yes
Calochortus weedii var. *intermedius*	intermediate mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	S3	1B.2	Yes
Camissoniopsis lewisii	Lewis' evening-primrose	Onagraceae	annual herb	Mar-May(Jun)	None	None	S4	3	
Caulanthus simulans	Payson's jewelflower	Brassicaceae	annual herb	(Feb)Mar-May(Jun)	None	None	S4	4.2	Yes
Centromadia parryi ssp. *australis*	southern tarplant	Asteraceae	annual herb	May-Nov	None	None	S2	1B.1	
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	Asteraceae	annual herb	Jan-Aug	None	None	S1	1B.1	
Chorizanthe leptotheca	Peninsular spineflower	Polygonaceae	annual herb	May-Aug	None	None	S3	4.2	
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	Polygonaceae	annual herb	Apr-Jul	None	None	S3	1B.2	
Cistanthe maritima	seaside cistanthe	Montiaceae	annual herb	(Feb)Mar-Jun(Aug)	None	None	S3	4.2	
Clinopodium chandleri	San Miguel savory	Lamiaceae	perennial shrub	Mar-Jul	None	None	S2	1B.2	
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	Ericaceae	perennial evergreen shrub	Apr-Jun	None	None	S2	1B.2	
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	None	None	S4	4.2	
Deinandra paniculata	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov	None	None	S4	4.2	
Dichondra occidentalis	western dichondra	Convolvulaceae	perennial rhizomatous herb	(Jan)Mar-Jul	None	None	S3S4	4.2	

Diplacus clevelandii	Cleveland's bush monkeyflower	Phrymaceae	perennial rhizomatous herb	Apr-Jul	None	None	S4	4.2	
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	Crassulaceae	perennial herb	Apr-Jun	None	None	S2	1B.1	
Dudleya chasmophyta	Santiago Canyon dudleya	Crassulaceae	perennial herb	May-Jun	None	None	S1	1B.1	Yes
Dudleya multicaulis	many-stemmed dudleya	Crassulaceae	perennial herb	Apr-Jul	None	None	S2	1B.2	Yes
Dudleya stolonifera	Laguna Beach dudleya	Crassulaceae	perennial stoloniferous herb	May-Jul	FT	CT	S1	1B.1	Yes
Dudleya viscida	sticky dudleya	Crassulaceae	perennial herb	May-Jun	None	None	S2	1B.2	Yes
Eryngium pendletonense	Pendleton button-celery	Apiaceae	perennial herb	Apr-Jun(Jul)	None	None	S1	1B.1	Yes
Erythranthe diffusa	Palomar monkeyflower	Phrymaceae	annual herb	Apr-Jun	None	None	S3	4.3	
Euphorbia misera	cliff spurge	Euphorbiaceae	perennial shrub	(Oct)Dec-Aug	None	None	S2	2B.2	
Harpagonella palmeri	Palmer's grapplinghook	Boraginaceae	annual herb	Mar-May	None	None	S3	4.2	
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	Asteraceae	perennial rhizomatous herb	Aug-Oct	None	None	SX	1A	Yes
Hesperocyparis forbesii	Tecate cypress	Cupressaceae	perennial evergreen tree		None	None	S2	1B.1	
Holocarpha virgata ssp. *elongata*	graceful tarplant	Asteraceae	annual herb	May-Nov	None	None	S3	4.2	Yes
Hordeum intercedens	vernal barley	Poaceae	annual herb	Mar-Jun	None	None	S3S4	3.2	
Horkelia cuneata var. *puberula*	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	None	None	S1	1B.1	Yes

Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	S3	2B.1	
Isocoma menziesii var. *decumbens*	decumbent goldenbush	Asteraceae	perennial shrub	Apr-Nov	None	None	S2	1B.2	
Juglans californica	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	None	None	S4	4.2	Yes
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	S4	4.2	
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	S2	1B.1	
Lepechinia cardiophylla	heart-leaved pitcher sage	Lamiaceae	perennial shrub	Apr-Jul	None	None	S2S3	1B.2	
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	None	None	S3	4.3	
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	S2S3	3	Yes
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	S4?	4.2	Yes
Lycium brevipes var. *hassei*	Santa Catalina Island desert-thorn	Solanaceae	perennial deciduous shrub	Jun(Aug)	None	None	S1	3.1	Yes
Lycium californicum	California box-thorn	Solanaceae	perennial shrub	Mar-Aug(Dec)	None	None	S4	4.2	
Malacothrix saxatilis var. *saxatilis*	cliff malacothrix	Asteraceae	perennial rhizomatous herb	Mar-Sep	None	None	S4	4.2	Yes
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	Asteraceae	annual herb	Mar-May	None	None	S4	4.2	

Monardella hypoleuca ssp. *intermedia*	intermediate monardella	Lamiaceae	perennial rhizomatous herb	Apr-Sep	None	None	S2?	1B.3	Yes
Monardella macrantha ssp. *hallii*	Hall's monardella	Lamiaceae	perennial rhizomatous herb	Jun-Oct	None	None	S3	1B.3	Yes
Myosurus minimus ssp. *apus*	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	S2	3.1	
Nama stenocarpa	mud nama	Namaceae	annual/perennial herb	Jan-Jul	None	None	S1S2	2B.2	
Nasturtium gambelii	Gambel's water cress	Brassicaceae	perennial rhizomatous herb	Apr-Oct	FE	CT	S1	1B.1	
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	S2	1B.2	Yes
Nolina cismontana	chaparral nolina	Ruscaceae	perennial evergreen shrub	(Mar)May-Jul	None	None	S3	1B.2	Yes
Ophioglossum californicum	California adder's-tongue	Ophioglossaceae	perennial rhizomatous herb	Jan-Jun(Dec)	None	None	S4	4.2	
Pentachaeta aurea ssp. *allenii*	Allen's pentachaeta	Asteraceae	annual herb	Mar-Jun	None	None	S1	1B.1	Yes
Pentachaeta aurea ssp. *aurea*	golden-rayed pentachaeta	Asteraceae	annual herb	Mar-Jul	None	None	S3	4.2	
Phacelia hubbyi	Hubby's phacelia	Hydrophyllaceae	annual herb	Apr-Jul	None	None	S4	4.2	Yes
Phacelia keckii	Santiago Peak phacelia	Hydrophyllaceae	annual herb	May-Jul	None	None	S1	1B.3	Yes
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	Hydrophyllaceae	perennial herb	Mar-Aug	None	None	S3	3.2	
Piperia cooperi	chaparral rein orchid	Orchidaceae	perennial herb	Mar-Jun	None	None	S3S4	4.2	
Piperia leptopetala	narrow-petaled rein orchid	Orchidaceae	perennial herb	May-Jul	None	None	S4	4.3	Yes

Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	None	None	S2	2B.2	
Quercus dumosa	Nuttall's scrub oak	Fagaceae	perennial evergreen shrub	Feb-Apr(May-Aug)	None	None	S3	1B.1	
Quercus engelmannii	Engelmann oak	Fagaceae	perennial deciduous tree	Mar-Jun	None	None	S3	4.2	
Rhinotropis cornuta var. *fishiae*	Fish's milkwort	Polygalaceae	perennial deciduous shrub	May-Aug	None	None	S4	4.3	
Romneya coulteri	Coulter's matilija poppy	Papaveraceae	perennial rhizomatous herb	Mar-Jul(Aug)	None	None	S4	4.2	
Selaginella cinerascens	ashy spike-moss	Selaginellaceae	perennial rhizomatous herb		None	None	S3?	4.1	
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	S2	1B.2	
Sidalcea neomexicana	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	None	None	S2	2B.2	
Suaeda esteroa	estuary seablite	Chenopodiaceae	perennial herb	(Jan-May)Jul-Oct	None	None	S2	1B.2	
Suaeda taxifolia	woolly seablite	Chenopodiaceae	perennial evergreen shrub	Jan-Dec	None	None	S3S4	4.2	
Symphyotrichum defoliatum	San Bernardino aster	Asteraceae	perennial rhizomatous herb	Jul-Nov	None	None	S2	1B.2	Yes
Verbesina dissita	big-leaved crownbeard	Asteraceae	perennial herb	(Mar)Apr-Jul	FT	CT	S1	1B.1	

Showing 1 to 80 of 80 entries

Go to top

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 18 November 2025].

}