Appendix B

Biological Assessment Report

Biological Assessment Report 27232 Garbani Rd, Menifee, CA

APN: 360-250-006

Lead Agency:
Riverside County
27232 Garbani Road
Menifee, CA 92584

Prepared By:
Elevated Entitlements LLC
5716 Corsa Avenue Suite 201
Westlake Village, CA 91362

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1.0 INTRODUCTION

Brookside Community LLC (property owner) proposes to develop a 40-lot tract map at the southwest corner of Tupelo Road and Linda Lee Drive in the City of Menifee. The tract map proposes 40 single family lots (approx. 7,200 sf each) and detached ADU's per Senate Bill 9. The proposed project will include lots ranging from 7,200 to 12,200 sf. Each proposed single-family dwelling is approximately 2,000 sf and each proposed ADU is approximately 800 sf. In addition, the project will include two Communities Facility District (CFD) mandated water quality basins. The proposed project reconfigures the exist Linda Lee Dr right of way and proposes a new cul-de-sac, to be named "Brookside Road," off Tupelo Road

2.0 STUDY AREA

The study area for the project includes the entire extent of the 9.2 acres parcel, as well as buffers extending 100 feet beyond in each direction. The Project Site is currently vacant with no evidence of prior structures. There is an unpaved road on the site. The elevation ranges from 1,457 to 1,557 feet of elevation, from north to south, respectively.

3.0 LITERATURE REVIEW

A query of the California Department of Fish and Game's California Natural Diversity Database (CNDDB) (CDFW 2023) and California Native Plant Society database (CNPS 2023) was conducted to identify special-status plant or wildlife species recorded in the area. The CNDDB lists historical and recently recorded occurrences of both special-status plant and wildlife species, and the CNPS database lists historical and recent occurrences of special-status plant species. The areas searched included nine U.S. Geological Survey (USGS) 7.5-minute quadrangle around the project site, located in the Romoland Quadrangle. The 9 Quadrangles searched were: Lakeview, Perris, Steele Peak, Wildomar, Murrieta, Bachelor Mtn, Lake Elsinore, Romoland and Winchester. In addition, the U.S. Fish and Wildlife Service Critical Habitat Online Mapper (http://criticalhabitat,fws.gov/) and Information for Planning and Consultation (IPaC) report for the project area was reviewed.

The potential for special-status species to occur on the project site is based on the proximity of the site to recorded occurrences listed in the CNDDB, CNPS and IPaC databases, on-site vegetation and habitat quality, topography, elevation, soils, surrounding land uses, habitat preferences, and geographic ranges of special-status plant and wildlife species known to occur in the region.

Table 1 POTENTIAL OCCURRENCE OF SPECIAL-STATUS SPECIES ON PROJECT SITE

	High Potential	Low Potential	Present
Plants	• Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*) • Long-spined spineflower (*Chorizanthe polygonoides var. longispina*) • Parry's spineflower (*Chorizanthe leptotheca*) • Smooth tarplant (*Centromadia pungens ssp. laevis*) • Spreading navarretia (*Navarretia fossalis*)	• California Orcutt grass (*Orcuttia californica*) • Douglas' fiddleneck (*Amsinckia douglasiana*) • Graceful tarplant (*Holocarpha virgate ssp. elongate*) • Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri*) • Little mousetail (*Myosurus minimus ssp. apus*) • Munz's onion (*Allium munzii*) • Palmer's grapplinghook (*Harpagonella palmeri*) • Prostrate vernal pool navarretia (*Navarretia prostrata*) • Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*) • San Bernardino aster (*Symphyotrichum defoliatum*) • San Diego button-celery (*Eryngium aristulatum var. parishii*) • San Jacinto Valley crownscale (*Atriplex coronata var. notatior*) • Santa Lucia dwarf rush (*Juncus luciensis*) • Small-flowered microseris (*Microseris douglasii ssp. platycarpha*) • Small-flowered morning-glory (*Convolvulus simulans*) • Thread-leaved brodiaea (*Brodiaea filifolia*)	• Beard grass (*Polypogon* sp.) • Black mustard (*Brassica nigra*) • California buckwheat (*Eriogonum fasciculatum*) • California sunflower (*Helianthus californicus*) • Cheatgrass/brome (*Bromus* sp.) • Common fiddleneck (*Amsinckia menziesii var. intermedia*) • Curly dock (*Rumex crispus*) • Field bindweed (*Convolvulus arvensis*) • Foothill beardtongue (*Penstemon heterophyllus*) • Hairy vetch (*Vicia villosa*) • Oat (*Avena* sp.) • Olive tree (*Olea* sp.) • White mustard (*Sinais alba*) • Yellow star thistle (*Centaurea solstitialis*)
Wildlife	• Burrowing owl (*Athene cunicularia*) • California horned lark (*Eremophila alpestris actia*) • Coastal California gnatcatcher (*Polioptila californica californica*) • Ferruginous hawk (*Buteo regalis*) • Stephen's kangaroo rat (*Dipodomys stephensi*)	• American badger (*Taxidea taxus*) • Arroyo toad (*Anaxyrus californicus*) • Bell's sparrow (*Artemisiospiza belli belli*) • California glossy snake (*Arizona elegans occidentalis*) • California linderiella (*Linderiella occidentalis*) • Coast horned lizard	• Acorn woodpecker (*Melanerpes formicivorus*) • American crow (*Corvus brachyrhynchos*) • Band tailed pigeon (*Patagioenas fasciata*) • Bishtit (*Psaltriparus minimus*) • Brush rabbit (*Sylvilagus bachmani*) • Bullock's oriole (*Icterus bullockii*)

		(*Phrynosoma blainvillii*) • Coast Range newt (*Taricha torosa*) • Coastal whiptail (*Aspidoscelis tigris stejnegeri*) • Crotch bumble bee (*Bombus crotchii*) • Golden eagle (*Aquila chrysaetos*) • Loggerhead shrike (*Lanius ludovicianus*) • Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) • Northern harrier (*Circus hudsonius*) • Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) • Quino checkerspot butterfly (*Euphydryas editha quino*) • Red-diamond rattlesnake (*Crotalus ruber*) • Riverside fairy shrimp (*Streptocephalus woottoni*) • San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) • San Diego fairy shrimp (*Branchinecta sandiegonensis*) • Southern California legless lizard (*Anniella stebbinsi*) • Swainson's hawk (*Buteo swainsoni*) • Tricolored blackbird (*Agelaius tricolor*) • Vernal pool fairy shrimp (*Branchinecta lynchi*) • Western mastiff bat (*Eumops perotis californicus*) • Western spadefoot (*Spea hammondii*) • Western yellow bat (*Lasiurus xanthinus*) • White cuckoo bee (*Neolarra alba*) • White-tailed kite (*Elanus leucurus*)	• California quail (*Callipepla californica*) • California thrasher (*Toxostoma redivivum*) • California towhee (*Melozone crissalis*) • Canyon wren (*Catherpes mexicanus*) • Carpenter ant (*Camponotus* sp.) • Cassin's finch (*Haemorhous cassinii*) • Cassin's kingbird (*Tyrannus vociferans*) • Evening grosbeak (*Coccothraustes vespertinus*) • Greater roadrunner (*Geococcyx californianus*) • Harvester ants (*Pogonomyrmex* sp.) • House finch (*Haemorhous mexicanus*) • House sparrow (*Passer domesticus*) • Mountain bluebird (*Sialia currucoides*) • Mourning dove (*Zenaida macroura*) • Northern mockingbird (*Mimus polyglottos*) • Pinyon jay (*Gymnorhinus cyanocephalus*) • Raven (*Corvus corax*) • Red-tailed hawk (*Buteo jamaicensis*) • White crowned sparrow (*Zonotrichia leucophrys*)

Table 2 SPECIAL-STATUS PLANT/WILDLIFE SPECIES WITH POTENTIAL TO OCCUR ON PROJECT SITE

Common Name *Scientific Name*	Status			General Habitat Description	Occurrence Potential on Project Site
	State	Federal	CNPS		
Plants					
Alkali marsh aster (*Almutaster pauciflorus*)	None	None	2B.2	Found in meadows and seeps. Prefers alkaline habitats. Found at elevations between 785 and 2,625 feet. Blooms between June and October.	**None.** No suitable habitat on site.
Bottle liverwort (*Sphaerocarpos drewiae*)	None	None	1B.1	Found in chaparral and coastal scrub. Prefers openings in soil. Found at elevations between 295 and 1,970 feet.	**None.** No suitable habitat on site.
Buxbaum's sedge (*Carex buxbaumii*)	None	None	4.2	Found in bogs and fens, marshes and swamps, meadows and mesic seeps. Found at elevations between 10 and 10,825 feet. Blooms between March and August.	**None.** No suitable habitat on site.
California ayenia (*Ayenia compacta*)	None	None	2B.3	Found in Mojavean desert scrub and Sonoran desert scrub. Prefers rocky substrates. Found at elevations between 490 and 3,595 feet. Blooms between March and April.	**None.** No suitable habitat on site.
California Orcutt grass (*Orcuttia californica*)	Endangered	Endangered	1B.1	Found in vernal pools. Found at elevations between 50 and 2,165 feet. Blooms between April and August.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 1.56 miles northeast to the Project Site. During this sighting, two 1922 collections were made by Munz/Johnson and Peirson and again in 1941 by Cooper. The species is presumed extirpated in the area.
California screw moss (*Tortula californica*)	None	None	1B.2	Found in chenopod scrub, valley grassland and foothill grassland. Prefers sandy soils. Found at elevations between 35 and 4,790 feet.	**None.** No suitable habitat on site.
Campbell's liverwort (*Geothallus tuberosus*)	None	None	1B.1	Found in mesic coastal scrub and vernal pools. Prefers soils. Found at elevations between 35 and 1,970 feet.	**None.** No suitable habitat on site.
Catalina mariposa lily (*Calochortus catelinae*)	None	None	4.2	Found in chaparral, cismontane woodland, coastal scrub, valley grassland, and foothill grassland. Found at elevations between 50 and 2,295 feet. Blooms between March and June but as early as February.	**None.** No suitable habitat on site.
Chaparral sand-verbena (*Abronia villosa var. aurita*)	None	None	1B.1	Found in chaparral, coastal scrub and desert dunes. Prefers sandy substrates. Found at elevations between 245 and	**None.** No suitable habitat on site.

				5,250 feet. Blooms between March and September but as early as January.	
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)	None	None	1B.1	Found in marshes and swamps with coastal salt, playas and vernal pools. Found at elevations between 5 and 4,005 feet. Blooms between February and June.	**High**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 1.54 miles northeast to the Project Site. During this sighting, an unknown number of plants were observed in 2003. The species is presumed extant in the area.
Coulter's matilija poppy (*Romenya coulteri*)	None	None	4.2	Found in chaparral and coastal scrub. Often found in burned areas. Found at elevations between 65 and 3,935 feet. Blooms between March and July but as late as August.	**None.** No suitable habitat on site.
Davidson's saltscale (*Atriplex serenana var. davidsonii*)	None	None	1B.2	Found in coastal bluff scrub and coastal scrub. Prefers alkaline habitats. Found at elevations between 35 and 655 feet. Blooms between April and October.	**None**. No suitable habitat on site.
Douglas' fiddleneck (*Amsinckia douglasiana*)	None	None	4.2	Found in cismontane woodland, valley grassland, and foothill grassland. Prefers dry, Monterey shale habitats. Found at elevations between 0 and 6,400 feet. Blooms between March and May.	**Low.** Species was not observed but suitable habitat was observed on site in areas of the non-native grassland. No CNDDB data within a 5-mile radius.
Engelmann oak (*Quercus engelmannii*)	None	None	4.2	Found in chaparral, cismontane woodland, riparian woodland, valley grassland and foothill grassland. Found at elevations between 165 and 4,265 feet. Blooms between March and June.	**None.** No suitable habitat on site.
Fish's milkwort (*Polygala cornuta var. fishiae*)	None	None	4.3	Found in chaparral, cismontane woodland, and riparian woodland. Found at elevations between 330 and 3,280 feet. Blooms between May and August.	**None.** No suitable habitat on site.
Graceful tarplant (*Holocarpha virgate ssp. elongate*)	None	None	4.2	Found in chaparral, cismontane woodland, coastal scrub, valley grassland and foothill grassland. Found at elevations between 195 and 3,610 feet. Blooms between May and November.	**Low.** Species was not observed but suitable habitat was observed on site in areas of the non-native grassland. No CNDDB data within a 5-mile radius.
Hammitt's clay-cress (*Sibaropsis hammittii*)	None	None	1B.2	Found in the openings of chaparral, valley grassland and foothill grassland. Found at elevations between 2,360 and 3,495 feet. Blooms between March and April.	**None**. No suitable habitat on site.
Intermediate mariposa-lily	None	None	1B.2	Found in chaparral, coastal	**None.** No suitable habitat on site.

(*Calochortus weedii var. intermedius*)				scrub, valley grassland and foothill grassland. Prefers calcareous and rocky habitats. Found at elevations between 345 and 2,805 feet. Blooms between May and July.	
Intermediate monardella (*Monardella hypoleuca ssp. intermedia*)	None	None	1B.3	Found in chaparral, cismontane woodland, and sometimes in lower montane coniferous forest. Prefers understory. Found at elevations between 1,310 and 4,100 feet. Blooms between April and September.	**None.** No suitable habitat on site.
Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri*)	None	None	1B.1	Found in chaparral, cismontane woodland, coastal scrub, valley grassland and foothill grassland. Sometimes found in rocky or sandy habitats. Found at elevations between 1,200 and 3,200 feet. Blooms between December and June.	**Low.** Species was not observed but suitable habitat was observed on site in areas of the non-native grassland. No CNDDB data within a 5-mile radius.
Lemon lily (*Lilium parryi*)	None	None	1B.2	Found in lower montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest. Prefers mesic habitats. Found at elevations between 4,005 and 9,005 feet. Blooms between July and August.	**None**. No suitable habitat on site.
Little mousetail (*Myosurus minimus ssp. apus*)	None	None	3.1	Found in valley and foothill grassland, and vernal pools. Found at elevations between 65 and 2,100 feet. Blooms between March and June.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Long-spined spineflower (*Chorizanthe polygonoides var. longispina*)	None	None	1B.2	Found in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Prefers clay habitats. Found at elevations between 100 and 5,020 feet. Blooms between April and July.	**High**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 0.34 miles southwest to the Project Site. During this sighting, a southern polygon of at least 100,000 plants was observed in 2004 and covered approximately 5-acres. In 2017, the northern polygon was observed with two plants. The species is presumed extant in the area.
Many-stemmed dudleya (*Dudleya multicaulis*)	None	None	1B.2	Found in chaparral, coastal scrub, valley grassland and foothill grassland. Prefers clay habitats. Found at elevations between 50 and 2,590 feet. Blooms between April and July.	**None.** No suitable habitat on site.
Mud nama (*Nama stenocarpa*)	None	None	2B.2	Found in the lake margins or riverbanks of marshes and swamps. Found at elevations between 15 and 1,640 feet. Blooms between January and	**None.** No suitable habitat on site.

				July.	
Munz's onion (*Allium munzii*)	Threatened	Endangered	1B.1	Found in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley grassland and foothill grassland. Prefers clay or mesic habitats. Found at elevations between 975 and 3,510 feet. Blooms between March and May.	**Low**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 2.90 miles southeast to the Project Site. During this sighting, about 1,000 plants were observed in 1992, 19 plants in 2008, less than 25 plants in 2011, three plants in 2013 and determined present in 2015. More habitat exists north and east of the population surveyed. The species is presumed extant in the area.
Nevin's barberry (*Berberis nevinii*)	Endangered	Endangered	1B.1	Found in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Sometimes found in gravelly or sandy habitats. Found at elevations between 230 and 2,705 feet. Blooms between March and June but as early as February.	**None**. No suitable habitat on site.
Ocellated Humboldt lily (*Lilium humboldtii ssp. ocellatum*)	None	None	4.2	Found in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland. Prefers openings. Found at elevations between 100 and 5,905 feet. Blooms between March and July but as late as August.	**None.** No suitable habitat on site.
Palmer's grapplinghook (*Harpagonella palmeri*)	None	None	4.2	Found in chaparral, coastal scrub, valley grassland and foothill grassland. Prefers habitats with clay or openings. Found at elevations between 65 and 3,135 feet. Blooms between March and May.	**Low**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 2.83 miles southeast to the Project Site. During this sighting, less than a hundred plants were observed in 1981. The species is presumed extant in the area.
Palomar monkeyflower (*Erythranthe diffusa*)	None	None	4.3	Found in chaparral and lower montane coniferous forest. Sometimes found in gravelly or sandy habitats. Found at elevations between 4,005 and 6,005 feet. Blooms between April and June.	**None**. No suitable habitat on site.
Paniculate tarplant (*Deinandra paniculata*)	None	None	4.2	Found in coastal scrub, valley and foothill grassland, and vernal pools. Prefers alkaline habitats. Found at elevations between 80 and 3,085 feet. Blooms between April and November, but as early as March.	**None.** No suitable habitat on site.
Parish's brittlescale (*Atriplex parishii*)	None	None	1B.1	Found in chenopod scrub, playas, and vernal pools. Prefers alkaline habitats. Found at elevations between 80 and 6,235 feet. Blooms between June and October.	**None.** No suitable habitat on site.

Parish's meadowfoam (*Limnanthes alba ssp. parishii*)	Endangered	None	1B.2	Found in lower montane coniferous forest, meadows and seeps, and vernal pools. Prefers vernally mesic habitats. Found at elevations between 1,970 and 6,560 feet. Blooms between April and June.	**None.** No suitable habitat on site.
Parry's spineflower (*Chorizanthe leptotheca*)	None	None	1B.1	Found in chaparral, cismontane woodland, coastal scrub, valley grassland and foothill grassland. Sometimes found in rocky openings or sandy habitats. Found at elevations between 900 and 4,005 feet. Blooms between April and June.	**High**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 1.54 miles northwest to the Project Site. During this sighting, a single plant was observed in 2017. The species is presumed extant in the area.
Payson's jewelflower (*Caulanthus simulans*)	None	None	4.2	Found in chaparral and coastal scrub. Prefers granitic sandy habitats. Found at elevations between 295 and 7,220 feet. Blooms between March and May, but as early as February and as late as June.	**None.** No suitable habitat on site.
Peninsular spineflower (*Chorizanthe leptotheca*)	None	None	4.2	Found in chaparral, coastal scrub and lower montane. Prefers alluvial fan and granitic habitats. Found at elevations between 985 and 6,235 feet. Blooms between May and August.	**None.** No suitable habitat on site.
Plummer's mariposa-lily (*Calochortus plummerae*)	None	None	4.2	Found in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley grassland and foothill grassland. Prefers rocky granitic habitats. Found at elevations between 330 and 5,580 feet. Blooms between May and July.	**None.** No suitable habitat on site.
Pride-of-California (*Lathyrus splendens*)	None	None	4.3	Found in chaparral. Found at elevations between 655 and 5,005 feet. Blooms between March and June.	**None.** No suitable habitat on site.
Prostrate vernal pool navarretia (*Navarretia prostrata*)	None	None	1B.2	Found in coastal scrub, meadows and seeps, alkaline valley and foothill grassland, and vernal pools. Prefers mesic habitats. Found at elevations between 10 and 3,970 feet. Blooms between April and July.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Rainbow manzanita (*Arctostaphylos rainbowensis*)	None	None	1B.1	Found in chaparral. Found at elevations between 675 and 2,200 feet. Blooms between December and March.	**None.** No suitable habitat on site.
Robinson's pepper-grass	None	None	4.3	Found in chaparral and coastal	**Low**. Species was not observed but suitable

(*Lepidium virginicum var. robinsonii*)				scrub. Found at elevations between 5 and 2,905 feet. Blooms between January and July.	habitat observed on site in areas remnant orchard with non-native grassland under canopy. The nearest occurrence of this species is within 2.82 miles southwest to the Project Site. During this sighting, three collections were made in 2006. The species is presumed extant in the area.
Salt spring checkerbloom (*Sidalcea neomexicana*)	None	None	2B.2	Found in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas. Prefers mesic alkaline habitats. Found at elevations between 50 and 5,020 feet. Blooms between March and June.	**None.** No suitable habitat on site.
San Bernardino aster (*Symphyotrichum defoliatum*)	None	None	1B.2	Found in montane coniferous forest, marshes and swamps, meadows and seeps, and vernally mesic valley grassland and vernally mesic foothill grassland. Prefers areas near ditches, streams and springs; streambanks. Found at elevations between 5 and 6,695 feet. Blooms between July and November.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
San Diego ambrosia (*Ambrosia pumila*)	None	Endangered	1B.1	Found in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Prefers disturbed areas but can sometimes be found in alkaline, clay, loam or sandy habitats. Found at elevations between 65 and 1,360 feet. Blooms between April and October.	**None**. No suitable habitat on site.
San Diego button-celery (*Eryngium aristulatum var. parishii*)	Endangered	Endangered	1B.1	Found in coastal scrub, valley and foothill grassland, and vernal pools. Prefers mesic habitats. Found at elevations between 65 and 2,035 feet. Blooms between April and June.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
San Diego County viguiera (*Viguiera laciniata*)	None	None	4.3	Found in chaparral and coastal scrub. Found at elevations between 195 and 2,460 feet. Blooms between February and June but as late as August.	**None.** No suitable habitat on site.
San Jacinto Valley crownscale (*Atriplex coronata var. notatior*)	None	Endangered	1B.1	Found in playas, mesic valley grassland and mesic foothill grassland. Prefers alkaline habitats. Found at elevations between 455 and 1,640 feet. Blooms between April and August.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
San Miguel savory (*Clinopodium chandleri*)	None	None	1B.2	Found in chaparral, cismontane woodland, coastal scrub,	**None.** No suitable habitat on site.

				riparian woodland, valley grassland and foothill grassland. Sometimes found on gabbroic or rocky habitats. Found at elevations between 395 and 3,525 feet. Blooms between March and July.	
Santa Lucia dwarf rush (*Juncus luciensis*)	None	None	1B.2	Found in chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. Found at elevations between 985 and 6,695 feet. Blooms between April and July.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Santa Rosa Basalt brodiaea (*Brodiaea santarosae*)	None	None	1B.2	Found in valley and foothill grassland. Prefers basaltic habitats. Found at elevations between 1,855 and 3,430 feet. Blooms between May and June.	**None**. No suitable habitat on site.
Slender-horned spineflower (*Dodecahema leptoceras*)	Endangered	Endangered	1B.1	Found in chaparral, cismontane woodland and coastal scrub. Prefers sandy habitats. Found at elevations between 655 and 2,495 feet. Blooms between April and June.	**None.** No suitable habitat on site.
Small-flowered microseris (*Microseris douglasii ssp. platycarpha*)	None	None	4.2	Found in cismontane woodland, coastal scrub, valley and foothill grassland and vernal pools. Prefers clay habitats. Found at elevations between 50 and 3,510 feet. Blooms between March and May.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Small-flowered morning-glory (*Convolvulus simulans*)	None	None	4.2	Found in the openings of chaparral, coastal scrub, valley grassland and foothill grassland. Prefers clay, seeps and serpentinite habitats. Found at elevations between 100 and 2,430 feet. Blooms between March and July.	**Low.** Species was not observed but suitable habitat was observed on site in openings in the non-native grassland. No CNDDB data within a 5-mile radius.
Smooth tarplant (*Centromadia pungens ssp. laevis*)	None	None	1B.1	Found in chenopod scrub, meadows and seeps, playas, riparian woodland, valley grassland and foothill grassland. Prefers alkaline habitats. Found at elevations between 0 and 2,100 feet. Blooms between April and September.	**High**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 0.79 miles northwest to the Project Site. During this sighting, over a hundred plans were observed in a third-acre in 2015. The species is presumed extant in the area.
Southern California black walnut (*Juglans californica*)	None	None	4.2	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Prefers alluvial habitats. Found at elevations between 165 and 2,955 feet. Blooms between	**None.** No suitable habitat on site.

				March and August.	
Southern mountains skullcap (*Scutellaria bolanderi ssp. austromontana*)	None	None	1B.2	Found in chaparral, cismontane woodland, and lower montane coniferous forest. Prefers mesic habitats. Found at elevations between 1,395 and 6,560 feet. Blooms between June and August.	**None**. No suitable habitat on site.
Southwestern spiny rush (*Juncus acutus ssp. leopoldii*)	None	None	4.2	Found in mesic coastal dunes, coastal scrub, coastal salt marshes and swamps, meadows and seeps. Found at elevations between 10 and 2,955 feet. Blooms between May and June but as early as March.	**None.** No suitable habitat on site.
Spreading navarretia (*Navarretia fossalis*)	None	Threatened	1B.1	Found in chenopod scrub, shallow freshwater of marshes and swamps, playas and vernal pools. Found at elevations between 100 and 2,150 feet. Blooms between April and June.	**High**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 1.54 miles northeast to the Project Site. During this sighting, approximately 50 plants were observed in 2003 and 2005. The species is presumed extant in the area.
Tecate cypress (*Hesperocyparis forbesii*)	None	None	1B.1	Found in chaparral and closed-cone coniferous forest. Sometimes found in metavolcanic, clay or gabbroic habitats. Found at elevations between 260 and 4,920 feet.	**None.** No suitable habitat on site.
Thread-leaved brodiaea (*Brodiaea filifolia*)	Endangered	Threatened	1B.1	Found in coastal scrub, playas, valley and foothill grassland, coastal dunes, coastal scrub, valley and foothill and vernal pools. Prefers clay habitats. Found at elevations between 80 and 3,675 feet. Blooms between March and June.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Vernal barley (*Hordeum intercedens*)	None	None	3.2	Found in coastal dunes, coastal scrub, valley and foothill grassland in depressions or saline flats and vernal pools. Found at elevations between 15 and 3,280 feet. Blooms between March and June.	**None.** No suitable habitat on site.
White rabbit-tobacco (*Pseudognaphlium leucocephalum*)	None	None	2B.2	Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Prefers gravelly and sandy habitats. Found at elevations between 0 and 6,890 feet. Blooms between August and November but as early as July and as late as December.	**None.** No suitable habitat on site.

Wiggins' cryptantha (*Cryptantha wigginsii*)	None	None	1B.2	Found in coastal scrub. Prefers clay habitats. Found at elevations between 65 and 900 feet. Blooms between February and June.	**None.** No suitable habitat on site.
Woven-spored lichen (*Texosporium sancti-jacobi*)	None	None	3	Found in openings in chaparral habitats. Prefers soil, small mammal pellets, dead twigs, and on *Selaginella* spp . Found at elevations between 195 and 2,165 feet.	**None.** No suitable habitat on site.
Wright's trichocoronis (*Trichocoronis wrightii var. wrightii*)	None	None	2B.1	Found in marshes and swamps, meadows and seeps, riparian forest, and vernal pools. Prefers alkaline habitats. Found at elevations between 15 and 1,425 feet. Blooms between May and September.	**None.** No suitable habitat on site.
Yucaipa onion (*Allium marvinii*)	None	None	1B.2	Found in clay or the openings in chaparral. Found at elevations between 2,495 and 3,495 feet. Blooms between April and May.	**None**. No suitable habitat on site.
Wildlife					
Amphibians					
Arroyo toad (*Anaxyrus californicus*)	SSC	Endangered		Found in semi-arid regions near washes or intermittent streams including valley-foothill and desert riparian, desert wash, riparian scrub, riparian woodland, south coast flowing waters and south coast standing waters. Prefers rivers with sandy banks, willows, cottonwoods and sycamores; loose gravelly areas of streams in drier parts of the range.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
California red-legged frog (*Rana draytonii*)	SSC	Threatened		Found in lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	**None**. No suitable habitat on site.
Western spadefoot (*Spea hammondii*)	SSC	None		Found in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 3.71 miles southeast to the Project Site. During this sighting, a specimen was collected in 1958, an individual was observed in 2009 and 2013, and hundreds of tadpoles were observed in 2017. The species is presumed extant in the area.

Coast Range newt (*Taricha torosa*)	SSC	None		Found in coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 kilometer to breed in ponds, reservoirs and slow moving streams.	**Low.** Species was not observed but suitable habitat was observed on site in the drainage in the northeast corner of the project area. The drainage appears to collect water runoff from dry intermittent drainage uphill on the southern end of the project area. No CNDDB data within a 5-mile radius.
Birds					
Bald eagle (*Haliaeetus leucocephalus*)	Endangered; Fully Protected	BGEPA; MBTA		Found in montane coniferous forest and old growth. This species uses ocean shore, lake margins and rivers for both nesting and wintering. Most nests are located within one mile of water. Nests are predominantly found in large, old-growth or dominant live tree with open branches, especially in ponderosa pine. Roosts communally in winter.	**None**. No suitable habitat on site.
Bell's sparrow (*Artemisiospiza belli belli*)	Waitlist	None		Found in chaparral and coastal scrub. Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6 to 18 inches above the ground. Territories are about 50 yards apart.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 3.96 miles southwest to the Project Site. During this sighting, an unknown number were observed in 1996 during USFWS surveys in the areas. The species is presumed extant in the area.
Burrowing owl (*Athene cunicularia*)	SSC	None		Found in coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, valley grassland and foothill grassland. This species is predominantly found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. This subterranean nester is dependent upon burrowing mammals most notably the California ground squirrel.	**High**. Species was not observed but suitable habitat observed on site in barren areas with small mammal burrows. The nearest occurrence of this species is within 0.26 miles east to the Project Site. During this sighting, an adult was observed wintering in 2004 but not observed again in spring 2005. The species is presumed extant in the area.
California horned lark (*Eremophila alpestris actia*)	Waitlist	None		Found in marine intertidal and splash zone communities and mead and seeps. Its range includes the coastal regions from Sonoma County to San Diego County and a main part of the San Joaquin Valley and east to the foothills. Prefers short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	**High**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 1.52 miles northeast to the Project Site. During this sighting, 25 species of unknown ages was observed in 2003. The species is presumed extant in the area.

Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)	SSC	BCC		Found in coastal scrub. Prefers Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	**None**. No suitable habitat on site.
Coastal California gnatcatcher (*Polioptila californica californica*)	SSC	Threatened; MBTA		Found in coastal bluff scrub and coastal scrub. Obligate, permanent resident of coastal sage scrub below 2,500 feet in Southern California. Prefers low coastal sage scrub in arid washes on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**High**. Species was not observed but suitable habitat observed on site in areas along the slope on the south end of the project area. This area consists of remnant orchard with non-native grassland under canopy, a dry intermittent drainage, and barren areas along Garbani Road. The nearest occurrence of this species is within 0.24 miles southwest to the Project Site. During this sighting, several individuals ranging from juvenile to adults were observed between 2014 through 2019. The species is presumed extant in the area.
Cooper's hawk (*Accipiter cooperii*)	WL	None		Found in woodland, predominantly in open, interrupted or marginal type. Habitats include cismontane woodland, riparian forest, riparian woodland and upper montane coniferous forest. Nest sites are mainly in riparian growths of deciduous trees, as in canyon bottoms on river flooded-plains. Nest sites are also found in live oaks.	**None**. No suitable habitat on site.
Ferruginous hawk (*Buteo regalis*)	WL	None		Found in Great Basin grassland, Great Basin scrub, pinon and juniper woodlands, valley grassland and foothill grassland. Common in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Predominantly eats lagomorphs, ground squirrels and mice. Population trends may follow lagomorph population cycles.	**High**. Species was not observed but suitable habitat observed on site in areas with the remnant orchard with non-native grass under canopy. The nearest occurrence of this species is within 2.48 miles east to the Project Site. During this sighting, an adult was observed in 2009. The species is presumed extant in the area.
Golden eagle (*Aquila chrysaetos*)	Fully Protected	BGEPA; MBTA		Found in broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinon and juniper woodlands, upper montane coniferous forest, valley grassland and foothill grassland. Prefers rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of its range. Large trees in open areas also provide nesting	**Low**. Species was not observed but suitable habitat observed throughout the project area. The nearest occurrence of this species is within 3.27 miles north to the Project Site. During this sighting, an eaglet was observed in 1974. The species is presumed extant in the area.

				habitat.	
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	Endangered; MBTA		Found in riparian forest, riparian scrub, and riparian woodland. This species is a summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms, typically below 2,000 feet of elevation. Nests are placed along the margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mequite.	**None**. No suitable habitat on site.
Loggerhead shrike (*Lanius ludovicianus*)	SSC	None		Found in broadleaved upland forest, desert wash, Joshua tree woodland, Mojavean desert scrub, pinon and juniper woodlands, riparian woodland and Sonoran desert scrub. Commonly found in broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. In addition, the remnant orchard with non-native grassland under canopy is also suitable habitat for this species. The nearest occurrence of this species is within 4.50 miles northeast to the Project Site. During this sighting, a pair of adults was observed on the ground in an agricultural field with nesting material in 2007. The species is presumed extant in the area.
Long-eared owl (*Asio otus*)	SSC	BCC; MBTA		Found in cismontane woodland, Great Basin scrub, riparian forest, riparian woodland, and upper montane coniferous forest. Commonly found in riparian bottomlands grown to tall willows and cottonwoods as well as belts of live oak paralleling stream courses. Requires adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**None**. No suitable habitat on site.
Northern harrier (*Circus hudsonius*)	SSC	BCC		Found in coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetland. Commonly found in coastal salt and freshwater marsh. Nets and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nets are found on the ground in shrubby vegetation, usually at marsh edge. The nest is built of a large mound of sticks in wet areas.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Southern California rufous-crowned sparrow (*Aimophila ruficeps*	Waitlist	MBTA		Found in chaparral and coastal scrub habitats. Resident in Southern California coastal	**None**. No suitable habitat on site.

canescens)				sage scrub and sparse mixed chaparral. Frequents relatively steep often rocky hillsides with grass and forb patches.	
Swainson's hawk (*Buteo swainsoni*)	Threatened	MBTA		Found in Great Basin grassland, riparian forest, riparian woodland, valley grassland and foothill grassland. Commonly breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs and agricultural or ranch lands with groves or line of trees. Requires adjacent suitable foraging areas such as grasslands or alfalfa or grain field supporting rodent populations.	**Low.** Species was not observed but suitable habitat was observed adjacent to the project area within 10 feet in eucalyptus trees overlooking the non-native grassland on the project site. No CNDDB data within a 5-mile radius.
Tricolored blackbird (*Agelaius tricolor*)	Threatened; SSC	MBTA		Found in freshwater marsh, marsh and swamp, and wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometer of the colony.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Western snowy plover (*Charadrius nivosus nivosus*)	SSC	Threatened		Found in the Great Basin standing waters, sand shore and wetland. Commonly found on sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**None**. No suitable habitat on site.
White-faced ibis (*Plegadis chihi*)	Waitlist	None		Found in marsh, swamp and wetland. Commonly found in shallow freshwater marsh. Dense tule thickets required for nesting, interspersed with areas of shallow water for foraging.	**None**. No suitable habitat on site.
White-tailed kite (*Elanus leucurus*)	Fully Protected	None		Found in cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetland. Commonly found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. Additional areas in the project site with suitable habitat include the remnant orchard with non-native grassland under canopy. No CNDDB data within a 5-mile radius.
Yellow warbler (*Setophaga petechia*)	SSC	None		Found in riparian forest, riparian scrub, and riparian woodland. Commonly found	**None**. No suitable habitat on site.

				with riparian plant in association in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and doraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	
Yellow-breasted chat (*Icteria virens*)	SSC	None		Found in riparian forest, riparian scrub, and riparian woodland. This species is a summer resident in California and inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low dense riparian, consisting of willow, blackberry and wild grape. Forages and nests within 10 feet of the ground.	**None**. No suitable habitat on site.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	SSC	None		Found in marsh, swamp and wetland. Commonly nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests are only found where large insects such as *Odonata* are abundant. Nesting is timed with the maximum emergence of aquatic insects.	**None**. No suitable habitat on site.
Fish					
Arroyo chub (*Gila orcuttii*)	SSC	None		Found in aquatic and south coast flowing waters. Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Prefers slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	**None**. No suitable habitat on site.
Invertebrates					
California linderiella (*Linderiella occidentalis*)	None	None		Found in vernal pools. Commonly found in seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity and total dissolved solids.	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.
Crotch bumble bee (*Bombus crotchii*)	Candidate	None		Found from coastal California east to the Sierra-Cascade crest	**Low**. Species was not observed but suitable habitat observed on site in areas of the non-

				and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia* and *Eriogonum.*	native grassland. The nearest occurrence of this species is within 3.75 miles west to the Project Site. During this sighting, a specimen was collected in 1987 and an individual was observed during a survey in 2001. The species is presumed extant in the area.
Quino checkerspot butterfly (*Euphydryas editha quino*)	None	Endangered		Found in chaparral and coastal scrub. Prefers sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Commonly found in hills and mesas near the coast. This species needs high densities of food plants *Plantago erecta, P. insularis,* and *Orthocarpus purpurescens.*	**Low**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 3.05 miles northeast to the Project Site. During this sighting, about two individuals were observed in 1999. The species is presumed extant in the area.
Riverside fairy shrimp (*Streptocephalus woottoni*)	None	Endangered		Found in coastal scrub, valley and foothill grassland, vernal pool and wetland. Endemic to Western Riverside, Orange and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter or spring rains. Hatch in warm water later in the season.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 1.17 miles east to the Project Site. During this sighting, cysts were collected and counted during the dry season in 2006. Many of the specimens appeared old and damaged and were presumed non-viable. The species is presumed extirpated in the area.
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	None	Endangered		Found in chaparral, coastal scrub, vernal pool and wetland. Endemic to San Diego and Orange County mesas.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 4.35 miles northeast to the Project Site. During this sighting, thousands of species was observed in 2017 and was the first detection of the species east of the coast range. The species is presumed extant in the area.
Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*)	None	None		Only found in vernal pools on the Santa Rosa Plateau in Riverside County. Prefers southern basalt flow in vernal pools.	**None**. No suitable habitat on site.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	None	Threatened		Found in valley and foothill grassland, vernal pool, and wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone depression pools and grassed swale, earth	**Low.** Species was not observed but suitable habitat was observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. No CNDDB data within a 5-mile radius.

				slump or basalt-flow depression pools.	
White cuckoo bee (*Neolarra alba*)	None	None		Only known from localities in Southern California. Cleptoparasitic in the nests of Perdita bees.	**Low.** Species was not observed but suitable habitat was observed on site in areas of non-native grasslands around ephemeral runoffs. No CNDDB data within a 5-mile radius.
Mammals					
American badger (*Taxidea taxus*)	SSC	None		Found in a variety of habitats. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food, friable soils, and open uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Low.** Species was not observed but suitable habitat was observed throughout project area. No CNDDB data within a 5-mile radius.
Jacumba pocket mouse (*Perognathus longimembris internationalis*)	SSC	None		Found in coastal scrub, desert wash and Sonoran desert scrub. Commonly found in desert riparian, desert scrub, desert wash, coastal scrub and sagebrush. Rarely found on rocky sites; uses all canopy coverages.	**None**. No suitable habitat on site.
Los Angeles pocket mouse (*Perognathus longimembris brevinasus)*	SSC	None		Found in coastal scrub. Commonly associated with lower elevation grasslands and coastal sage communities in and around the Los Angeles Basin. Prefers open ground with find, sandy soils. May not dig extensive burrows, hiding under weeds and dead leaves instead.	**Low.** Species was not observed but suitable habitat was observed on site in areas of non-native grasslands around ephemeral runoffs. No CNDDB data within a 5-mile radius.
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	SSC	None		Found in chaparral and coastal scrub. Commonly associated with coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Prefers sandy, herbaceous areas, usually in association with rocks or coarse gravel.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 3.56 miles northeast to the Project Site. During this sighting, three individuals were captured and released in 1992. The species is presumed extant in the area.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	None		Found in Joshua tree woodland, pinion and juniper woodlands, riparian scrub and Sonoran desert scrub. Commonly associate in a variety of arid areas in Southern California such as pine-juniper woodlands, desert scrub, palm oasis, desert wash and desert riparian. Prefers rocky areas with high cliffs.	**None**. No suitable habitat on site.
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	Candidate; SSC	Endangered		Found in coastal scrub. Commonly associated with alluvial scrub vegetation on sandy loam substrates	**None.** No suitable habitat on site.

				characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	None	None		Found in coastal scrub. Commonly found in intermediate canopy stages of shrub habitats and open shrub, herbaceous and tree, and herbaceous edges. Prefers coastal sage scrub habitats in Southern California.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 3.83 miles northeast to the Project Site. During this sighting, four individuals were observed in 1996 and an unknown number were observed during USFWS surveys in the approximate area. The species is presumed extant in the area.
San Diego desert woodrat (*Neotoma lepida intermedia*)	SSC	None		Found in coastal scrub. Commonly found in coastal scrub of Southern California from San Diego County to San Luis Obispo County. Prefers moderate to dense canopies. They are particularly abundant in rock outcrops, rocky cliffs and slopes.	**None**. No suitable habitat on site.
Southern grasshopper mouse (*Onychomys torridus ramona*)	SSC	None		Found in chenopod scrub. Commonly found in desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	**None**. No suitable habitat on site.
Stephen's kangaroo rat (*Dipodomys stephensi*)	Threatened	Threatened		Found in coastal scrub, valley grassland and foothill grassland. Primarily associated with annual and perennial grasslands but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buchwheat, chamise, brome grass and filaree. Will burrow into firm soil.	**High**. Species was not observed but suitable habitat observed on site in areas of non-native grassland. The nearest occurrence of this species is within 1.43 miles northwest to the Project Site. During this sighting, an unknown number of this species was observed along the sage scrub/farmland edge in 1995. The species is presumed extant in the area.
Western mastiff bat (*Eumops perotis californicus*)	SSC	None		Found in chaparral, cismontane woodland, coastal scrub, valley grassland and foothill grassland. Common in many open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands and chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Low**. Species was not observed but suitable habitat observed on site in the remnant orchard with non-native grassland under canopy. The nearest occurrence of this species is within XX miles northeast to the Project Site. During this sighting, an unknown number of individuals were observed during quino checkerspot butterfly and California gnatcatcher surveys in 1998 and 2001 respectively. The species is presumed extant in the area.
Western yellow bat (*Lasiurus xanthinus*)	SSC	None		Found in desert wash. Common in valley foothill riparian, desert riparian, desert wash and palm oasis habitats. Roosts in trees, particularly	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The

				palms. Forages over water and among trees.	nearest occurrence of this species is within 3.57 miles north to the Project Site. During this sighting, a single male specimen was collected in 1982. The species is presumed extant in the area.
Reptiles					
California glossy snake (*Arizona elegans occidentalis*)	SSC	None		Found in a variety of habitat. Patchily distributed from the eastern protion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	**Low**. Species was not observed but suitable habitat observed throughout the site. The nearest occurrence of this species is within 4.93 miles northwest to the Project Site. During this sighting, a specimen was collected in 1977. The species is presumed extant in the area.
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	None		Found in chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinon and juniper woodlands, riparian scrub, riparian woodland, valley grassland and foothill grassland. Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sun bathing, bushes for cover, patches of loose soil for burial and abundant supply of ants and other insects.	**Low**. Species was not observed but suitable habitat observed on site in openings in the non-native grassland and barren areas. Harvest ants were observed in both these areas in the project site. The nearest occurrence of this species is within 3.68 miles southeast to the Project Site. During this sighting, an adult was observed sun bathing in 2009. The species is presumed extant in the area.
Cost patch-nosed snake (*Salvadora hexalepis virgultea*)	SSC	None		Found in coastal scrub. Commonly associated with brushy or shrubby vegetation in coastal Southern California. Requires small mammal burrows for refuge and overwintering sites.	**None**. No suitable habitat on site.
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	None		Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy or rocky.	**Low**. Species was not observed but suitable habitat observed on site in areas with openings in the non-native grassland and barren areas in the project area. The nearest occurrence of this species is within 2.88 miles northwest to the Project Site. During this sighting, an unknown number of individuals were observed during surveys for quino checkerspot butterflies and California gnatcatcher in 1998 and 2001 respectively. The species is presumed extant in the area.
Orange-throated whiptail (*Aspidoscelis hyperythra*)	Waitlist	None		Found in chaparral, cismontane woodland, and coastal scrub. Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants	**None**. No suitable habitat on site.

				necessary for its major food: termites.	
Red-diamond rattlesnake (*Crotalus ruber*)	SSC	None		Found in chaparral, Mojavean desert scrub and Sonoran desert scrub. Commonly found in chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	**Low**. Species was not observed but suitable habitat observed on site in areas between the non-native grassland and barren spots in the project area. The nearest occurrence of this species is within 3.43 miles southwest to the Project Site. During this sighting, an adult was observed basking along a dirt road in 2002. The species is presumed extant in the area.
San Bernardino ringneck snake (*Diadophis punctatus modestus*)	None	None		Most common in open relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	**None**. No suitable habitat on site.
San Diego banded gecko (*Coleonyx variegatus abbotti*)	SSC	None		Found in chaparral and coastal scrub. Most commonly associated with coastal and cismontane Southern California. Found in granite or rocky outcrops in coastal scrub and chaparral habitats.	**None**. No suitable habitat on site.
Southern California legless lizard (*Anniella stebbinsi*)	SSC	None		Found in broadleaved upland forest, chaparral, coastal dunes, and coastal scrub. More common south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunctive populations in the Tehachapi and Piute Mountains in Kern County. Found in a variety of habitats, generally in moist, loose soil. This species prefer soils with a high moisture content.	**Low**. Species was not observed but suitable habitat observed on site in areas where the intermittent drainage runs downhill through the non-native grassland, from south to north of the project area, respectively. The nearest occurrence of this species is within 4.92 miles southwest to the Project Site. During this sighting, an individual was observed in a residential yard in 2011. The species is presumed extant in the area.
Two-striped gartersnake (*Thamnophis hammondii*)	SSC	None		Found in marsh and swamp, riparian scrub, riparian woodland, and wetland. Commonly found in coastal California from the vicinity of Salinas to northwest Baja California between sea level to about 7,000 feet of elevation. This species is highly aquatic and is normally found in or near permanent fresh water. Often found along streams with rocky beds and riparian growth.	**None**. No suitable habitat on site.

Western pond turtle (*Emys marmorata*)	SSC	None		Found in aquatic, artificial flowing waters, Klamath and north coast flowing waters, Klamath and North coast standing waters, marsh and swamp, Sacramento and san Joaquin flowing waters, Sacramento and San Joaquin standing waters, South coast flowing waters, South coast standing waters and wetlands. This species is a thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches usually with aquatic vegetation. This species is found below 6,000 feet of elevation. Needs basking sites and suitable upland habitat of sandy banks or grassy open fields up to 0.5 kilometer from the water for egg-laying.	**None**. No suitable habitat on site.

Plant Communities	
Southern Interior Basalt Flow Vernal Pool	Not Present
Southern Coast Live Oak Riparian Forest	Not Present
Southern Cottonwood Willow Riparian Forest	Not Present
Southern Riparian Scrub	Not Present
Southern Sycamore Alder Riparian Woodland	Not Present
Valley Needlegrass Grassland	Not Present

Status Key:

Federal: MBTA = Migratory Bird Treaty Act; BGEPA= Bald and Golden Eagle Protection Act; BCC = Birds of Conservation Concern; BLM_S = Bureau of Land Management Sensitive species

State: SSC = Species of Special Concern

CNPS: Rare Plant Rank 1B = Rare, Threatened or Endangered in California and elsewhere

2 = Rare, Threatened or Endangered in California, but more common elsewhere

3 = Plants about which we need more information – a review list

4 = Plants of limited distribution - a watch list

.1 = seriously threatened in California

.2 = fairly threatened in California

.3 = not very threatened in California

4.0 METHDOLOGY

On June 3, 2023, a general reconnaissance-level biological survey of the project site was conducted by Elevated Entitlement staff. The purpose of the survey was to assess site characteristics, dominant habitat areas on the site, and look for nesting birds and special-status wildlife or the suitable habitat thereof. The literature review and a supplemental review of aerial photography of the project area (Google Earth Maps, 2023) was conducted prior to visiting the site to identify special-status plant or wildlife species recorded in the area. The entire project area was surveyed on foot. The survey consisted of meandering transects spaced at about 50-feet and a perimeter survey.

4.1 PLANT COMMUNITIES AND SPECIES

The vegetation of the project site within the proposed footprint consists of non-native grassland, remnant olive orchard with non-native grassland under canopy, a dry intermittent drainage, and barren areas. The non-native grassland consisted predominantly of black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), cheatgrass/brome (*Bromus* sp.), hairy vetch (*Vicia villosa*), oat (*Avena* sp.), foothill beardtongue (*Penstemon heterophyllus*), California sunflower (*Helianthus californicus*), field bindweed (*Convolvulus arvensis*), common fiddleneck (*Amsinckia menziesii var. intermedia*), California buckwheat (*Eriogonum fasciculatum*), cluster tar weed (*Deinandra fasciculata*), white mustard (*Sinapis alba*), beard grass (*Polypogon* sp.), and curly dock (*Rumex crispus*). The adjacent riparian vegetation along the dry intermittent drainage consisted of a continuation of the non-native grassland with a predominant coverage of yellow star thistle (*C. solstitalis*) and brome (*Bromus* sp.).

4.2 SENSITIVE SPECIES

Small mammal burrows approximately 4-inches in diameter were observed predominantly in the barren areas in the project area, adjacent to the non-native grassland, along Garbani Road, and adjacent to the remnant orchard/non-native grassland. Birds were also observed throughout the project area and are listed in Table 1.

4.3 MULTIPLE SPECIES HABITAT CONSERVATION PLAN

The Western Riverside County Regional Conservation Authority (WRCA) was created in 2004 to implement the Multiple Species Habitat Conservation Plan (MSHCP). According to the Riverside Conservation Authority Multiple Species Habitat Conservation Plan (MSHCP) Information Map, the project site is not in a criteria cell. The project site is not located in an amphibian, mammal, narrow endemic plant, or Delhi Sands Flower-loving fly survey area. Given the project site area is outstand of a MSHCP Criteria Cell, no further MSHCP requirements such as an Habitat Evaluation and Negotiation Strategy will be required.

5.0 SUMMARY OF POTENTIAL IMPACTS

The habitat present on the project site is located is an area studied by the USFWS, as well as surveyed by private parties for development. The following mitigation measures are recommended to reduce the impact to the loss of habitat connectivity in the region: Pre-Construction Rare Plant, Reptile, Raptor and Nesting Bird Pre-Construction Surveys.

Pre-Construction Rare Plant Survey/Incidental Take Permit

Prior to the project's ground-disturbing activities, a pre-construction survey for special-status and rare plant species shall be conducted by a qualified biologist at least 14 days prior to the start of activities but no more than 30 days prior to the start of activities. If the survey reveals the presence of special-status or rare plant species then the Applicant shall either a) apply for the Incidental Take Permit from the CDFW for special-status and rare plants and provide suitable mitigation fees for the purchase of compensatory mitigation or b) in lieu of the Incidental Take Permit shall conduct a follow-up pre-construction survey during the appropriate blooming period to determine the presence of the species on site. The surveys shall entail visual assessment of the project site to determine if there are special-status or rare plants present within the project site and if there are any suitable habitats on site.

Pre-Construction Reptile Pre-Construction Surveys/Incidental Take Permit

Prior to project ground-disturbing activities, a pre-construction survey for special-status species lizards shall be conducted by a qualified biologist at least 14 days prior to the start of activities but no more than 30 days prior to the start of activities. If the survey reveals the presence of special-status species, then the Applicant shall either a) apply for Incidental Take Permit (2081 permit) from the CDFW for special-status reptiles and provide suitable mitigation fees for the purchase of compensatory mitigation or b) in lieu of the Incidental Take Permit shall conduct a follow-up pre-construction survey to determine the presence or absence of the species on site. The surveys shall entail visual assessment of the project site to determine if there are coastal whiptails on the site or if there are signs of potential coastal whiptail presence within the site, and if there are any suitable coastal whiptail habitat on site.

Raptor Surveys

If Project grading or construction activities occur between February 1 and August 31, nesting raptors will be surveyed in accordance with the established CDFW raptor survey protocols. Surveys will cover a minimum of a 0.50-mile radius around the construction area. If nesting raptors are detected, a buffer will be established around the nests sufficient to ensure the breeding is not likely to be disrupted or adversely impacted by construction. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, and baseline levels of

noise and human activity. Buffers will be maintained until a qualified biologist has determined the young have fledged and are no longer reliant upon the nest or parental care for survival.

If potential nesting trees are to be removed during construction activities, removal will take place outside the raptor nesting season.

Table 3 - BUFFER SIZE BY SPECIES

Species	Buffer Radius Size	Justification
Bald eagle	0.25-mile	No surface occupancy beyond that which historically occurred in the area within a 0.5-mile radius of the active nest(s). No permitted, authorized or human encroachment activities within a 0.25-mile radius of the active nest between January 1 and August 31.
Ferruginous hawk	0.50-mile	No surface occupancy beyond that which historically occurred in the area within a 0.50-mile radius of the active nest(s). No permitted, authorized or human encroachment activities within a 0.5-mile radius of the active nest between February 1 and August 31. This species is prone to nest abandonment during incubation if disturbed.
Golden eagle	0.25-mile	No surface occupancy beyond that which historically occurred in the area within a 0.25-mile radius of the active nest(s). No permitted, authorized or human encroachment activities within a 0.25-mile radius of the active nest between January 1 and August 31.
Red-tailed hawk	0.50-mile	No surface occupancy beyond that which historically occurred in the area within a 0.50-mile radius of the active nest(s). No permitted, authorized or human encroachment activities within a 0.5-mile radius of the active nest between February 1 and August 31. Some individuals of this species have adapted to urbanization and may exhibit a high tolerance to human habitation and activities within 100 yards of their nest. Development which encroaches on rural nest sites is more likely to cause abandonment.
Swainson's hawk	0.33-mile	No surface occupancy beyond that which historically occurred in the area within a 0.33-mile radius of the active nest(s). No permitted, authorized or human encroachment activities within a 0.5-mile radius of the active nest between February 1 and September 30. Some members of this species have adapted to urbanization and may tolerate human habitation to within 100

		yards of their nest.
Burrowing owl	0.13-mile	No surface occupancy beyond that which historically occurred in the area within a 0.13-mile radius of the active nest(s). No permitted, authorized or human encroachment activities within a 0.13-mile radius of the active nest between March 1 and August 31. At least three follow-up protocol-level burrowing owl survey will be conducted on or after March 1 but before August 31.

Nesting Bird Surveys

If Project grading or construction activities are scheduled to occur during the nesting season for breeding birds (February 1st through September 30th), the following measures shall be implemented:

Within fourteen days prior to commencement of grading and construction activities, a qualified biologist shall perform a pre-construction survey of all proposed work limits and within 500 feet of the proposed work limits.

If active bird nest(s) of non-special-status species are discovered within or 500 feet from the work limits, a buffer shall be delineated around the active nest(s) measuring 300 feet for passerines and 500 feet for raptors. A qualified biologist shall monitor the nest(s) weekly after commencement of grading/construction to ensure that nesting behavior is not adversely affected by such activities.

If the qualified biologist determines nesting behavior of non-special-status species is adversely affected by grading or construction activities, then a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. If nesting birds are detected, the biologist shall prepare a letter report and mitigation plan in conformance with applicable federal and State laws (e.g., appropriate follow-up surveys, monitoring schedules, construction and noise barriers/buffers) to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report and mitigation plan shall be submitted to the Lead Agency for review and approval, and implemented to the satisfaction of the Lead Agency and the biologist shall verify in a report to the Lead Agency that all measures identified in the mitigation plan are in place prior to and/or during construction] shall be implemented in consultation with CDFW, to allow such activities to proceed. Once the young have fledged and left the nest(s), then grading/construction activities shall proceed within 300 feet (500 feet for raptor species) of the fledged nest(s).

6.0 REFERENCES

Appendix A PROJECT FIGURES

Appendix A Project Figures
November 17, 2023

Figure 1 Regional Location Map

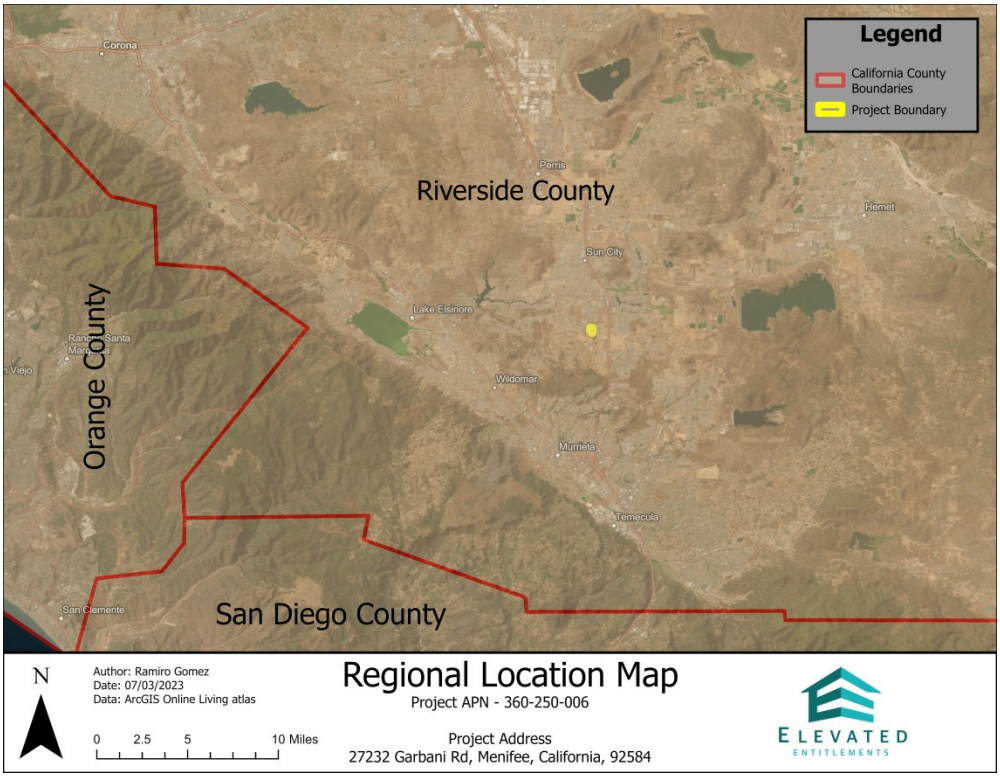


Figure 2 Project Zoning Map

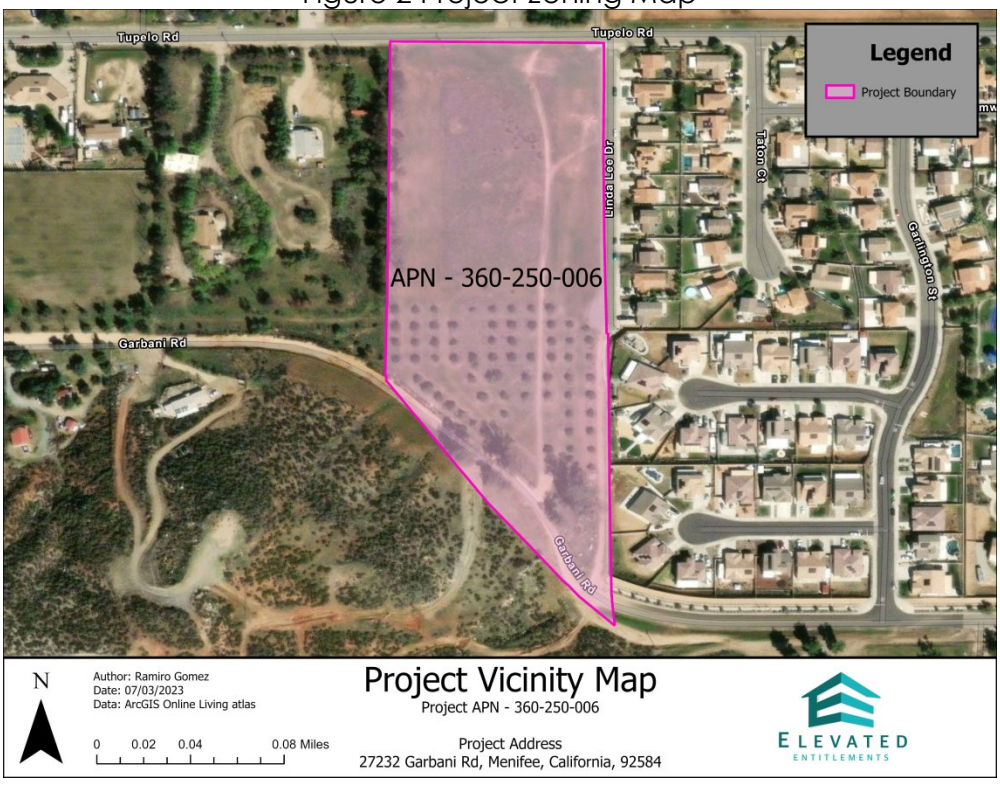


Figure 3 Project Vegetation Map

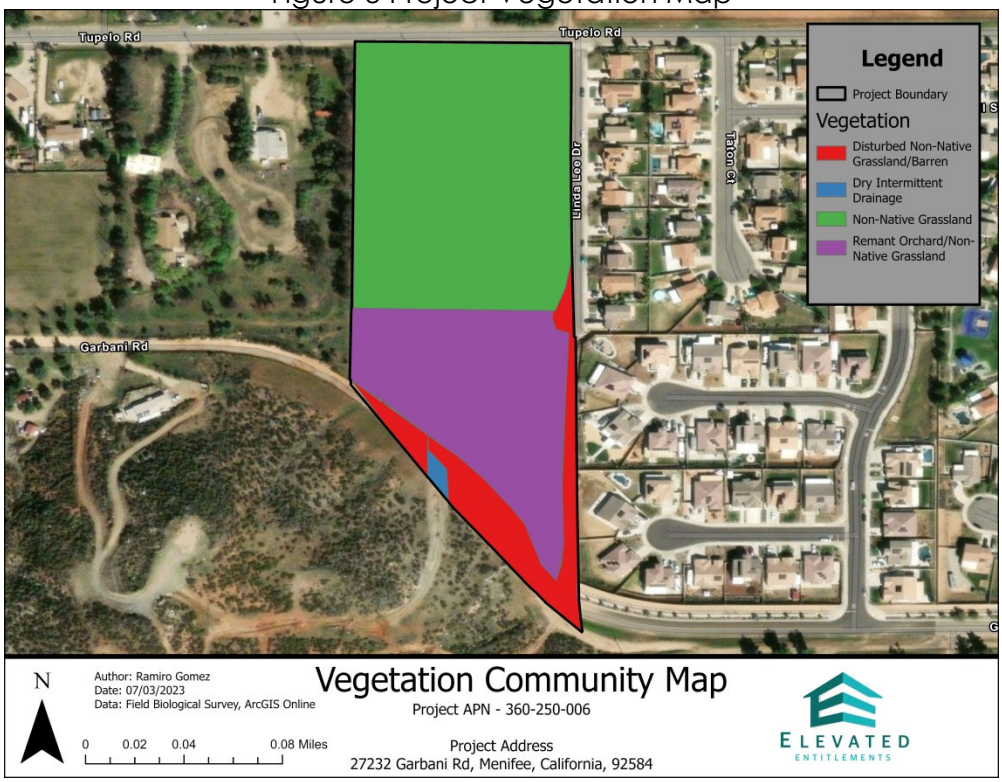
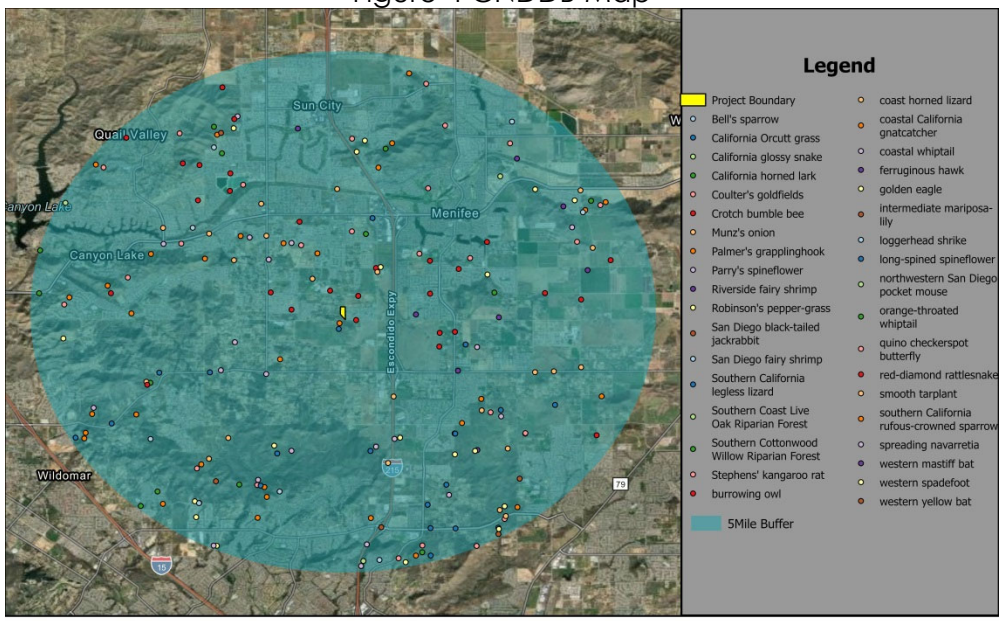


Figure 4 CNDDB Map



California Natural Diversity Database Rare Finds Map

Figure 5 Northwest facing photo of drainage in northwest corner of project area

Figure 6 South facing photo of project area from west boundary

Figure 7 West facing photo of project area from west boundary

Figure 8 West facing photo of small mammal burrow on project site

Figure 9 Northwest facing photo of project area from southwest corner

Figure 10 Southwest facing photo of dry intermittent drainage in project area

Figure 11 North facing photo of project area from south boundary

Figure 12 East facing photo of project area from south boundary

Figure 13 South facing photo of project area from south boundary

Figure 14 West facing photo of project area from south boundary

Figure 15 North facing photo of project area from middle

Figure 16 East facing photo of project area from middle

Figure 17 South facing photo of project area from middle

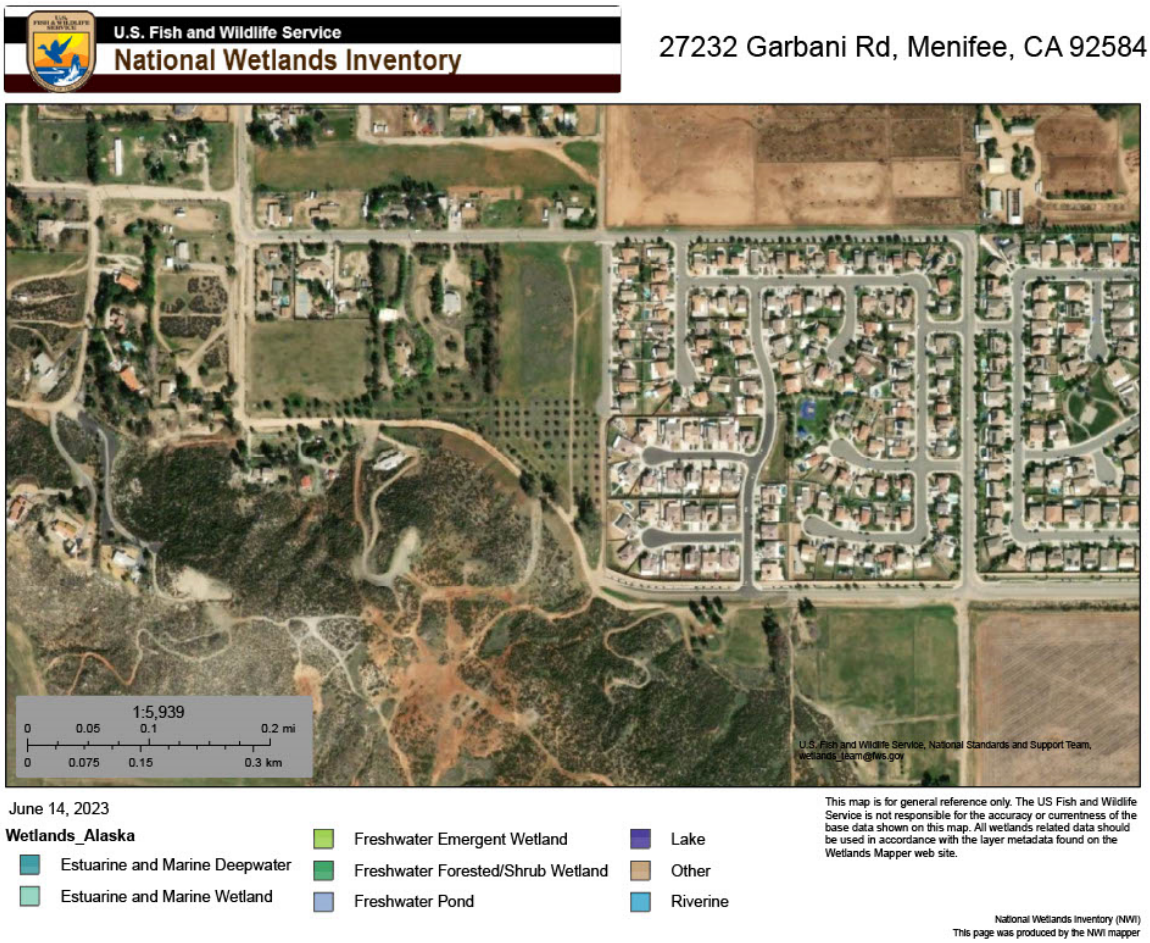
Figure 18 West facing photo of project area from middle

Figure 19 South facing of remnant orchard with non-native grassland under canopy

Figure 20 North facing photo of California thrasher


BRG: 351°N (T) POS: 33.657474°N, 117.185741°W ±13ft ALT: 1529ft
29 May 2023, 09:39:29 PDT

Appendix B USFWS NATIONAL WETLANDS INVENTORY



Appendix C USDA NRCS SOIL REPORT

United States Department of Agriculture

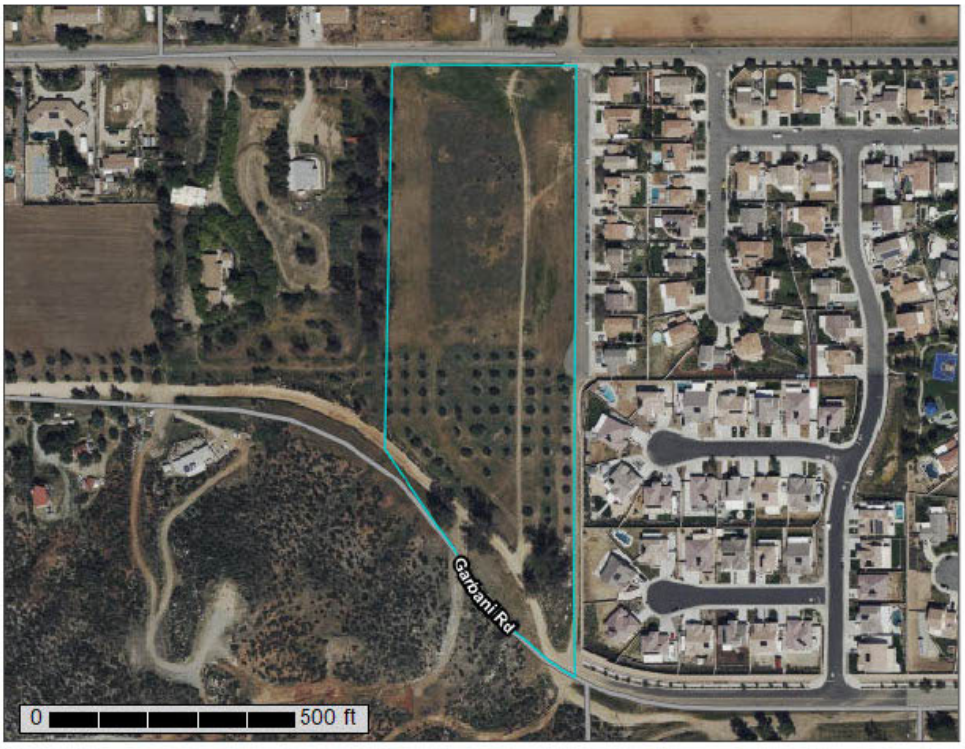
NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Western Riverside Area, California

27232 Garbani Rd, Menifee



July 1, 2023

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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


Custom Soil Resource Report
Soil Map
Tupelo Rd
YbC
WxD2
LaD2
LkF3
Garbani Rd
Soil Map may not be valid at this scale.
Map Scale: 1:2,200 if printed on A portrait (8.5" x 11") sheet.
Meters
0 30 60 120 180
Feet
0 100 200 400 600
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

Custom Soil Resource Report

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 15, Sep 6, 2022

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

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

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

Custom Soil Resource Report

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LaD2	Las Posas loam, 8 to 15 percent slopes, eroded	1.1	12.5%
LkF3	Las Posas rocky loam, 15 to 50 percent slopes, severely eroded	1.5	16.4%
WxD2	Wyman fine sandy loam, 8 to 15 percent slopes, eroded	2.0	22.1%
YbC	Yokohl loam, 2 to 8 percent slopes	4.4	48.9%
Totals for Area of Interest		**9.1**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Custom Soil Resource Report

Western Riverside Area, California

LaD2—Las Posas loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcwk
Elevation: 200 to 3,000 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Las Posas

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from gabbro

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 30 inches: clay loam
H3 - 30 to 54 inches: weathered bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

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

Minor Components

Murrieta

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

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

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

LkF3—Las Posas rocky loam, 15 to 50 percent slopes, severely eroded

Map Unit Setting
National map unit symbol: hcwp
Elevation: 200 to 3,000 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition
Las posas and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Las Posas

Setting
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from gabbro

Typical profile
H1 - 0 to 6 inches: stony loam
H2 - 6 to 20 inches: clay loam
H3 - 20 to 24 inches: weathered bedrock

Properties and qualities
Slope: 15 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R019XD060CA - SHALLOW LOAMY
Hydric soil rating: No

Minor Components

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

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

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

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

WxD2—Wyman fine sandy loam, 8 to 15 percent slopes, eroded

Map Unit Setting
National map unit symbol: hd0d
Elevation: 300 to 2,500 feet
Mean annual precipitation: 9 to 25 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Not prime farmland

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

Description of Wyman

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

Typical profile
H1 - 0 to 12 inches: fine sandy loam

H2 - 12 to 36 inches: clay loam
H3 - 36 to 60 inches: stratified loam to clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

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

Minor Components

Honcut

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

Buren

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

YbC—Yokohl loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: hd0g
Elevation: 500 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 260 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Custom Soil Resource Report

Description of Yokohl

Setting

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

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 26 inches: clay loam
H3 - 26 to 30 inches: indurated
H4 - 30 to 60 inches: stratified sandy loam to gravelly loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 20 to 39 inches to duripan
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R019XD061CA - CLAYPAN
Hydric soil rating: No

Minor Components

Wyman

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

Porterville

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

Buren

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

Unnamed

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Custom Soil Resource Report

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Appendix C USDA NRCS Soil Report
November 17, 2023

Appendix D CDFW RAREFINDS CNDDB RESULTS

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Lakeview (3311771) OR Perris (3311772) OR Steele Peak (3311773) OR Lake Elsinore (3311763) OR Romoland (3311762) OR Winchester (3311761) OR Bachelor Mtn. (3311751) OR Murrieta (3311752) OR Wildomar (3311753))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali marsh aster *Almutaster pauciflorus*	PDASTEL010	None	None	G4	S1S2	2B.2
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
arroyo chub *Gila orcuttii*	AFCJB13120	None	None	G2	S2	SSC
arroyo toad *Anaxyrus californicus*	AAABB01230	Endangered	None	G2G3	S2	SSC
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
Bell's sparrow *Artemisiospiza belli belli*	ABPBX97021	None	None	G5T2T3	S3	WL
bottle liverwort *Sphaerocarpos drewiae*	NBHEP35030	None	None	G1	S1	1B.1
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California ayenia *Ayenia compacta*	PDSTE01020	None	None	G4	S3	2B.3
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California Orcutt grass *Orcuttia californica*	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California screw moss *Tortula californica*	NBMUS7L090	None	None	G2G3	S2?	1B.2
Campbell's liverwort *Geothallus tuberosus*	NBHEP1C010	None	None	G2	S2	1B.1
chaparral sand-verbena *Abronia villosa var. aurita*	PDNYC010P1	None	None	G5T2?	S2	1B.1
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
coast patch-nosed snake *Salvadora hexalepis virgultea*	ARADB30033	None	None	G5T4	S3	SSC
Coast Range newt *Taricha torosa*	AAAAF02032	None	None	G4	S4	SSC
coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	ABPBG02095	None	None	G5T3Q	S2	SSC
coastal California gnatcatcher *Polioptila californica californica*	ABPBJ08081	Threatened	None	G4G5T3Q	S2	SSC
coastal whiptail *Aspidoscelis tigris stejnegeri*	ARACJ02143	None	None	G5T5	S3	SSC
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
Davidson's saltscale *Atriplex serenana var. davidsonii*	PDCHE041T1	None	None	G5T1	S1	1B.2
Dulzura pocket mouse *Chaetodipus californicus femoralis*	AMAFD05021	None	None	G5T3	S3	SSC
ferruginous hawk *Buteo regalis*	ABNKC19120	None	None	G4	S3S4	WL
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
Hammitt's clay-cress *Sibaropsis hammittii*	PDBRA32010	None	None	G2	S2	1B.2
Icenogle's socalchemmis spider *Socalchemmis icenoglei*	ILARAU7020	None	None	G1	S1	
intermediate mariposa-lily *Calochortus weedii var. intermedius*	PMLIL0D1J1	None	None	G3G4T3	S3	1B.2
intermediate monardella *Monardella hypoleuca ssp. intermedia*	PDLAM180A4	None	None	G4T2?	S2?	1B.3
Jacumba pocket mouse *Perognathus longimembris internationalis*	AMAFD01044	None	None	G5T2T3	S2	SSC
Jaeger's milk-vetch *Astragalus pachypus var. jaegeri*	PDFAB0F6G1	None	None	G4T1	S1	1B.1
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S3	
lemon lily *Lilium parryi*	PMLIL1A0J0	None	None	G3	S3	1B.2
little mousetail *Myosurus minimus ssp. apus*	PDRAN0H031	None	None	G5T2Q	S2	3.1

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
long-eared owl *Asio otus*	ABNSB13010	None	None	G5	S3?	SSC
long-spined spineflower *Chorizanthe polygonoides var. longispina*	PDPGN040K1	None	None	G5T3	S3	1B.2
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	AMAFD01041	None	None	G5T2	S1S2	SSC
many-stemmed dudleya *Dudleya multicaulis*	PDCRA040H0	None	None	G2	S2	1B.2
mud nama *Nama stenocarpa*	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Munz's onion *Allium munzii*	PMLIL022Z0	Endangered	Threatened	G1	S1	1B.1
northern harrier *Circus hudsonius*	ABNKC11011	None	None	G5	S3	SSC
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	AMAFD05031	None	None	G5T3T4	S3S4	SSC
orange-throated whiptail *Aspidoscelis hyperythra*	ARACJ02060	None	None	G5	S2S3	WL
Palmer's grapplinghook *Harpagonella palmeri*	PDBOR0H010	None	None	G4	S3	4.2
Parish's brittlescale *Atriplex parishii*	PDCHE041D0	None	None	G1G2	S1	1B.1
Parish's meadowfoam *Limnanthes alba ssp. parishii*	PDLIM02052	None	Endangered	G4T2	S2	1B.2
Parry's spineflower *Chorizanthe parryi var. parryi*	PDPGN040J2	None	None	G3T2	S2	1B.1
Payson's jewelflower *Caulanthus simulans*	PDBRA0M0H0	None	None	G4	S4	4.2
Plummer's mariposa-lily *Calochortus plummerae*	PMLIL0D150	None	None	G4	S4	4.2
pocketed free-tailed bat *Nyctinomops femorosaccus*	AMACD04010	None	None	G5	S3	SSC
prostrate vernal pool navarretia *Navarretia prostrata*	PDPLM0C0Q0	None	None	G2	S2	1B.2
quino checkerspot butterfly *Euphydryas editha quino*	IILEPK405L	Endangered	None	G5T1T2	S1S2	
Rainbow manzanita *Arctostaphylos rainbowensis*	PDERI042T0	None	None	G2	S2	1B.1
red-diamond rattlesnake *Crotalus ruber*	ARADE02090	None	None	G4	S3	SSC

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Riverside fairy shrimp *Streptocephalus woottoni*	ICBRA07010	Endangered	None	G1G2	S2	
Robinson's pepper-grass *Lepidium virginicum var. robinsonii*	PDBRA1M114	None	None	G5T3	S3	4.3
salt spring checkerbloom *Sidalcea neomexicana*	PDMAL110J0	None	None	G4	S2	2B.2
San Bernardino aster *Symphyotrichum defoliatum*	PDASTE80C0	None	None	G2	S2	1B.2
San Bernardino kangaroo rat *Dipodomys merriami parvus*	AMAFD03143	Endangered	Candidate Endangered	G5T1	S1	SSC
San Bernardino ringneck snake *Diadophis punctatus modestus*	ARADB10015	None	None	G5T2T3	S2?	
San Diego ambrosia *Ambrosia pumila*	PDAST0C0M0	Endangered	None	G1	S1	1B.1
San Diego banded gecko *Coleonyx variegatus abbotti*	ARACD01031	None	None	G5T5	S1S2	SSC
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	AMAEB03051	None	None	G5T3T4	S3S4	
San Diego button-celery *Eryngium aristulatum var. parishii*	PDAPI0Z042	Endangered	Endangered	G5T1	S1	1B.1
San Diego desert woodrat *Neotoma lepida intermedia*	AMAFF08041	None	None	G5T3T4	S3S4	SSC
San Diego fairy shrimp *Branchinecta sandiegonensis*	ICBRA03060	Endangered	None	G2	S1	
San Jacinto Valley crownscale *Atriplex coronata var. notatior*	PDCHE040C2	Endangered	None	G4T1	S1	1B.1
San Miguel savory *Clinopodium chandleri*	PDLAM08030	None	None	G2G3	S2	1B.2
Santa Lucia dwarf rush *Juncus luciensis*	PMJUN013J0	None	None	G3	S3	1B.2
Santa Rosa Basalt brodiaea *Brodiaea santarosae*	PMLIL0C0G0	None	None	G1	S1	1B.2
Santa Rosa Plateau fairy shrimp *Linderiella santarosae*	ICBRA06020	None	None	G1G2	S1	
senile tiger beetle *Cicindela senilis frosti*	IICOL02121	None	None	G2G3T1T3	S1	
slender-horned spineflower *Dodecahema leptoceras*	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
smooth tarplant *Centromadia pungens ssp. laevis*	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
Southern California legless lizard *Anniella stebbinsi*	ARACC01060	None	None	G3	S3	SSC

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	ABPBX91091	None	None	G5T3	S3	WL
Southern Coast Live Oak Riparian Forest *Southern Coast Live Oak Riparian Forest*	CTT61310CA	None	None	G4	S4	
Southern Cottonwood Willow Riparian Forest *Southern Cottonwood Willow Riparian Forest*	CTT61330CA	None	None	G3	S3.2	
southern grasshopper mouse *Onychomys torridus ramona*	AMAFF06022	None	None	G5T3	S3	SSC
Southern Interior Basalt Flow Vernal Pool *Southern Interior Basalt Flow Vernal Pool*	CTT44310CA	None	None	G1	S1.2	
southern mountains skullcap *Scutellaria bolanderi ssp. austromontana*	PDLAM1U0A1	None	None	G4T3	S3	1B.2
Southern Riparian Scrub *Southern Riparian Scrub*	CTT63300CA	None	None	G3	S3.2	
Southern Sycamore Alder Riparian Woodland *Southern Sycamore Alder Riparian Woodland*	CTT62400CA	None	None	G4	S4	
spreading navarretia *Navarretia fossalis*	PDPLM0C080	Threatened	None	G2	S2	1B.1
Stephens' kangaroo rat *Dipodomys stephensi*	AMAFD03100	Threatened	Threatened	G2	S2	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Tecate cypress *Hesperocyparis forbesii*	PGCUP040C0	None	None	G2	S2	1B.1
thread-leaved brodiaea *Brodiaea filifolia*	PMLIL0C050	Threatened	Endangered	G2	S2	1B.1
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
two-striped gartersnake *Thamnophis hammondii*	ARADB36160	None	None	G4	S3S4	SSC
Valley Needlegrass Grassland *Valley Needlegrass Grassland*	CTT42110CA	None	None	G3	S3.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover *Charadrius nivosus nivosus*	ABNNB03031	Threatened	None	G3T3	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3S4	SSC

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western yellow bat *Lasiurus xanthinus*	AMACC05070	None	None	G4G5	S3	SSC
white cuckoo bee *Neolarra alba*	IIHYM81010	None	None	GH	SH	
white rabbit-tobacco *Pseudognaphalium leucocephalum*	PDAST440C0	None	None	G4	S2	2B.2
white-faced ibis *Plegadis chihi*	ABNGE02020	None	None	G5	S3S4	WL
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP
Wiggins' cryptantha *Cryptantha wigginsii*	PDBOR0A400	None	None	G2	S1	1B.2
woven-spored lichen *Texosporium sancti-jacobi*	NLTEST7980	None	None	G3	S2	3
Wright's trichocoronis *Trichocoronis wrightii var. wrightii*	PDAST9F031	None	None	G4T3	S1	2B.1
yellow warbler *Setophaga petechia*	ABPBX03010	None	None	G5	S3S4	SSC
yellow-breasted chat *Icteria virens*	ABPBX24010	None	None	G5	S3	SSC
yellow-headed blackbird *Xanthocephalus xanthocephalus*	ABPBXB3010	None	None	G5	S3	SSC
Yucaipa onion *Allium marvinii*	PMLIL02330	None	None	G1	S1	1B.2

Record Count: 114

Commercial Version -- Dated April, 30 2023 -- Biogeographic Data Branch

Report Printed on Sunday, May 28, 2023

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Information Expires 10/30/2023

Appendix D CDFW RareFinds CNDDB Results
November 17, 2023

Appendix E USFWS IPAC REPORT

IPaC U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Riverside County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat Dipodomys merriami parvus Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat Dipodomys stephensi (incl. D. cascus) Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3495	Threatened

Birds

NAME	STATUS
Coastal California Gnatcatcher Polioptila californica californica Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Quino Checkerspot Butterfly Euphydryas editha quino (=E. e. wrighti) Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5900	Endangered

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp Streptocephalus woottoni Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Orcutt Grass Orcuttia californica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4923	Endangered
Munz's Onion Allium munzii Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2951	Endangered

San Diego Ambrosia Ambrosia pumila — Endangered
Wherever found
There is final critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8287

San Jacinto Valley Crownscale Atriplex coronata var. notatior — Endangered
Wherever found
There is final critical habitat for this species. However, no *actual* acres or miles were designated due to exemptions or exclusions. See Federal Register publication for details.
https://ecos.fws.gov/ecp/species/4353

Spreading Navarretia Navarretia fossalis — Threatened
Wherever found
There is final critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1334

Thread-leaved Brodiaea Brodiaea filifolia — Threatened
Wherever found
There is final critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/6087

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

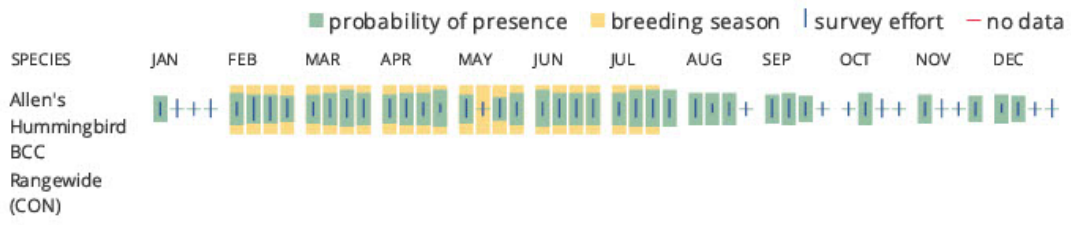
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

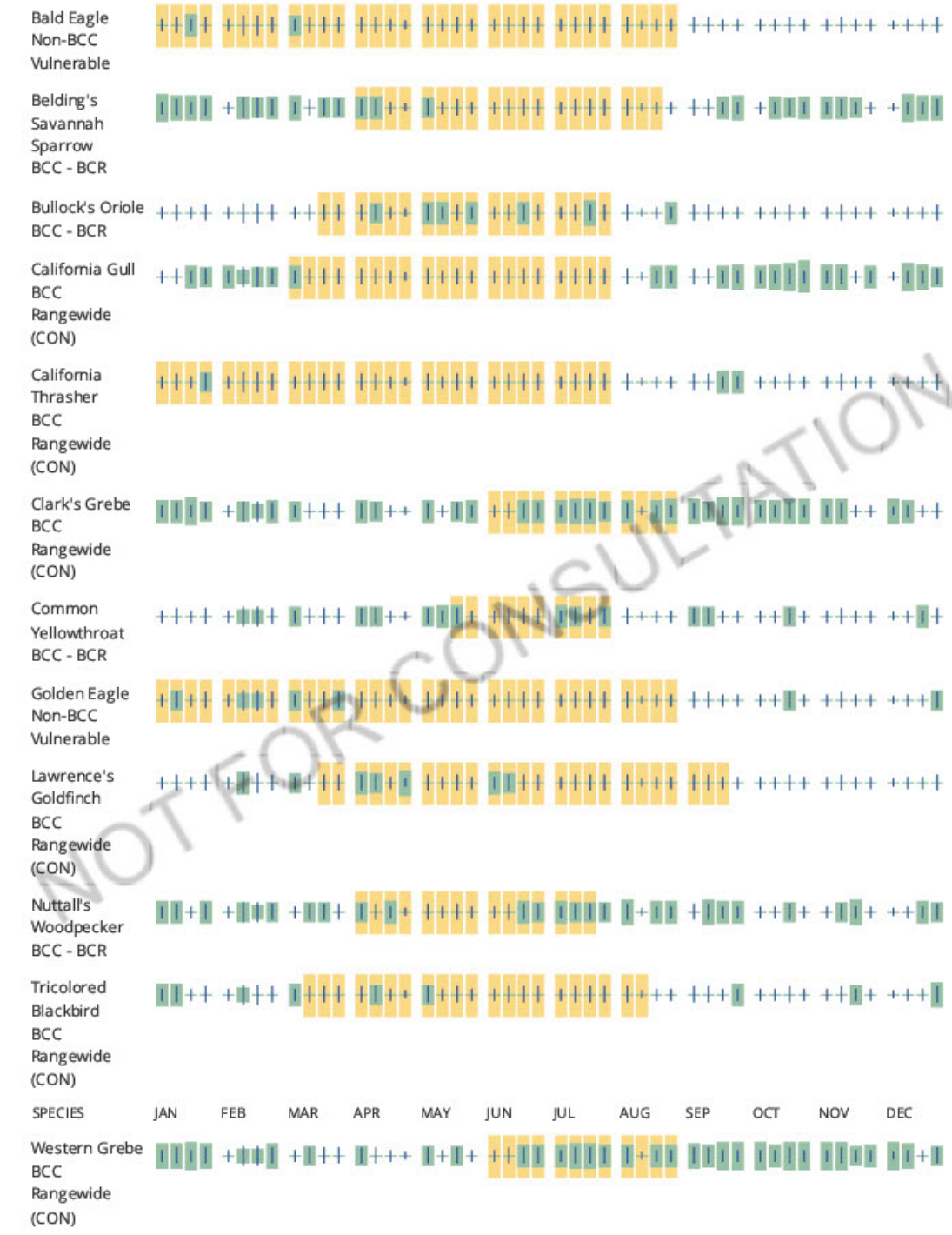
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Wrentit
BCC
Rangewide
(CON)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a

bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your

exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does not replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix E USFWS IPaC Report
November 17, 2023