

MEMORANDUM

To: Patrick Brown, BayWa Renewable Energy
From: David Hochart, Dudek
Subject: Biological Analysis for Jacumba Valley Ranch, San Diego County, California
Date: November 10, 2017
cc: Brock Ortega (Dudek)
Attachment(s): Figures 1–3;
Appendices A–B

This memorandum documents the results of biological resources literature review conducted by Dudek biologists in November 2017 within a 1,289-acre study area at Jacumba Valley Ranch site located in eastern San Diego County, California. This letter report is intended to describe the existing conditions of biological resources and potential biological constraints within the study area in terms of vegetation, flora, and fauna.

1 INTRODUCTION

1.1 Project Description and Location

The Jacumba Valley Ranch is planned for the development of approximately 100 MW's of solar energy facilities to be constructed on approximately 1,289 acres located south of Interstate 8 (I-8) within private lands located adjacent to the US/Mexico Border.

The 1,289-acre study area is located south of Interstate 8 (I-8) within private lands located adjacent to the US/Mexico Border in eastern San Diego County, California (Figure 1, Regional Location Map). The study area is situated south and west of Carrizo Gorge Road and immediately north of the US/Mexico Border. The study area lies within the Jacumba U.S. Geological Survey (USGS) 7.5-minute quadrangle, Townships 17 South and 18 South, Range 8 East, Sections 4, 5, 8, 9, 32, 33 (Figure 1, Project Location).

1.2 Existing Conditions

The general topography of the site is gently rolling. The site has been previously disturbed for agricultural purposes. The elevation range within the study area is from 2,720 feet to 3,360 feet above mean sea level. Soils mapped on site include Acid igneous rock land; Carrizo very gravelly sand, 0 to 9% slopes; Indio silt loam, 0 to 2% slopes, 2 to 5% slopes, and saline, 0 to 2% slopes; La Posta rocky loamy coarse sand, 5 to 30% slopes, eroded; Ramona sandy loam, 5 to 9% slopes, and

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9 to 15% slopes, eroded; Reiff fine sandy loam, 0 to 2% slopes; Rositas loamy coarse sand, 2 to 9% slopes; sloping gullied land; and stony land (USDA 2017).

2 METHODS

2.1 Literature Review

To assess biological resources and potential constraints, Dudek reviewed available relevant literature and data on sensitive habitats and species distribution to determine those resources that have the potential for occurrence within approximately 5 miles of the project site (i.e., biological study area). Other appropriate and available biological documentation, surveys, and published research and maps were compiled, reviewed, and analyzed.

A literature review was conducted to evaluate the environmental setting of the study area and identify potential special-status biological resources that may be found on the site. The review included the following:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CDFW 2017) including USGS quads Jacumba, Carrizo Mtn; Sweeney Pass; Sombrero Peak, In-ko-pah Gorge, Live Oak Springs, and Tierra del Sol;
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2017) for the Cucamonga Peak and surrounding 7.5-minute USGS quadrangles;
- U.S. Fish and Wildlife Service (USFWS) database (USFWS 2017a);
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2016a) was evaluated for the potential to support rare vegetation communities, plants, and/or wildlife;
- MSCP County of San Diego Subarea Plan (County of San Diego 1997);
- *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources* (County of San Diego 2010a);
- *County of San Diego Multiple Species Conservation Program South County Subarea Plan Annual Report* (County of San Diego 2010b);
- Google Earth (2017);
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (USFWS 2017b).

2.2 Vegetation Mapping

Vegetation communities were evaluated on an aerial map at a 200-scale (1 inch = 200 feet). These boundaries and locations were digitized and downloaded by Dudek Geographic Information Systems (GIS) technician using ArcGIS software. Vegetation communities and land covers were mapped using the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by the County and noted in Vegetation Communities of San Diego County (Oberbauer et al. 2008). The entire project site was analyzed.

2.3 Plants and Wildlife

All plant species encountered during the literature review were recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR; formerly CNPS List) follow the *California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2017). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2016) and common names follow the United States Department of Agriculture (USDA) Natural Resources Conservation Service Plants Database (USDA 2014).

Expected wildlife use of the Project Area was determined based on known habitat preferences of local species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU 2016) for birds, North American Butterfly Association (NABA 2016) for butterflies, and Wilson and Reeder (2005) for mammals.

2.4 Jurisdictional Aquatic Resources

Jurisdictional aquatic resources were reviewed and analyzed according to the USFWS National Wetlands Inventory (USFWS 2017b). Jurisdictional aquatic resources, including both wetlands/riparian areas and non-wetland waters/streambeds, are mapped in the study area.

The Project is located within the Anza-Borrego watershed in San Diego County (USFWS 2017b). These areas occur along portions of a riverine, which flows roughly in a north-south direction, eventually running east-west along the US/Mexico Border.

3 RESULTS

3.1 Vegetation Mapping

Fifteen vegetation communities and/or land covers occur within the study area, including fourteen sensitive communities (County of San Diego 2010a). The acreages of vegetation communities and

land covers in the study area are listed in Table 1 and their distribution on site are shown on the biological resources map (Figure 2, Biological Resources).

Table 1
Vegetation Communities and Land Covers

Vegetation Community or Land Cover	Code	Acres	Typical County Mitigation Requirement
<i>Sensitive Upland Communities</i>			
Sonoran Mixed Woody Scrub	33210	385.64	2:1
Sonoran Mixed Woody and Succulent Scrub	33220	34.88	2:1
Colorado Desert Wash Scrub	33300	110.26	2:1
Encelia Scrub	33600	1.21	2:1
Acacia Scrub	33700	49.69	2:1
Desert Saltbush Scrub	36110	60.60	2:1
Semi-Desert Chaparral	37400	110.25	3:1
Upper Sonoran Subshrub Scrub	39000	24.00	1:1
<i>Sensitive Upland Communities Subtotal</i>		776.53	-
<i>Jurisdictional Aquatic Resources</i>			
Alkali Seep	45320	171.81	3:1
Southern Riparian Forest	61300	6.33	3:1
Mesquite Bosque	61820	7.38	3:1
Desert Dry Wash Woodland	62200	0.02	3:1
Freshwater	64140	0.88	3:1
<i>Jurisdictional Aquatic Resources</i>		186.43	-
<i>Non-Sensitive Communities and Land Covers</i>			
Urban/Developed	12000	39.23	NA
Field/Pasture	18310	275.18	0.5:1
<i>Non-Sensitive Communities and Land Covers</i>		314.41	-
Total		1,289.37	-

3.1.1 Sonoran Mixed Woody Scrub (33210)

Sonoran mixed woody scrub is characterized as being predominantly woody shrubs, 0.5 to 3 meters tall, and includes a mixture of three or more woody species (Oberbauer et al. 2008). Characteristic species include creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and brittle bush (*Encelia farinosa*). In San Diego County, this vegetation community commonly occurs on lower alluvial fans, above the desert floor, and below the coarse mountain substrates (Oberbauer et al. 2008).

3.1.2 Sonoran Mixed Woody and Succulent Scrub (33220)

Sonoran mixed woody and succulent scrub occurs in the Colorado Desert and is dominated by 0.5 to 3 meter shrubs and cacti and other stem succulents (Oberbauer et al. 2008). Common characteristic species include desert agave (*Agave deserti*), brittle bush, and Mojave yucca (*Yucca schidigera*). In San Diego County, this vegetation community is dominated by more than 50% cover of succulent species (Oberbauer et al. 2008).

3.1.3 Colorado Desert Wash Scrub (33300)

This vegetation community is no longer included in Oberbauer's (2008) *Draft Vegetation Communities of San Diego County*. However, Colorado desert wash scrub was classified in the 1996 draft (Oberbauer et al. 1996). Colorado desert wash scrub is located in dryer parts of desert streams and is characterized as a desert wash with shrubby vegetation. Characteristic species include singlewhorl burrobrush (*Ambrosia monogyra*), chuparosa (*Justicia californica*), and desert lavender (*Condea emoryi*).

3.1.4 Encelia Scrub (33600)

Encelia scrub is characterized as a low desert scrub community dominated by brittle bush (Oberbauer et al. 2008). This vegetation community occurs on desert slopes and alluvial fans. Brittle bush composes more than 50% cover, and includes other desert species. Additional characteristic species include ocotillo (*Fouquieria splendens*) and creosote bush. In San Diego County, Encelia scrub occurs on the lower steep east desert escarpment and alluvial fans (Oberbauer et al. 2008).

3.1.5 Acacia Scrub (33700)

Acacia scrub is characterized by a shrub community dominated by Catclaw acacia thorn (*Senegalia greggii*), including at least 50% relative cover (Oberbauer et al. 2008). This vegetation community occurs on slopes where it grades into Sonoran wash scrub, mesquite stands, and phases of chaparral.

3.1.6 Desert Saltbush Scrub (36110)

Desert saltbush scrub is characterized by widely spaced low, microphyllous 0.3 to 1 meter tall shrubs dominated by allscale (*Atriplex polycarpa*) and alkali goldenbush (*Isocoma acradenia*) (Oberbauer et al. 2008). This vegetation community commonly occurs on fine-textured, poorly drained soils with high alkalinity in drier areas. Characteristic species include silverscale saltbush (*Atriplex argentea*), fourwing saltbush (*Atriplex canescens*), and spiny hop sage (*Grayia spinosa*).

3.1.7 Semi-Desert Chaparral (37400)

Semi-desert chaparral is characterized by open, 1.5 to 3 meter sclerophylls found in dry, rockier soils or recently burned sites (Oberbauer et al. 2008). Characteristic species include chamise (*Adenostoma fasciculatum*), bigberry manzanita (*Arctostaphylos glauca*), and wedge leaf ceanothus (*Ceanothus cuneatus*). This vegetation community occurs on the high desert plateaus and escarpment of the Peninsular Range in San Diego County (Oberbauer et al. 2008).

3.1.8 Upper Sonoran Subshrub Scrub (39000)

Upper Sonoran subshrub scrub is characterized by low, soft-wooded, summer-dormant shrubs with annuals spread in between (Oberbauer et al. 2008). This vegetation community consists of fairly well drained soils derived from sandstone, shale, or sterile white diatomaceous deposits, and occurs at high elevations in San Diego County. Characteristic species include narrowleaf goldenbush (*Ericameria linearifolia*), California buckwheat, bladderpod spiderflower (*Peritoma arborea*), and California joint fir (*Ephedra californica*).

3.1.9 Alkali Seep (45320)

Alkali seep is characterized by low-growing perennial herbs in permanently moist or wet alkaline seeps (Oberbauer et al. 2008). Characteristic species include salt grass (*Distichlis spicata*), spiny naiad (*Najas marina*), boraxweed (*Nitrophila occidentalis*), and San Diego marsh-elder (*Iva hayesiana*). In San Diego County, alkali seep commonly occurs in desert regions as part of narrow drainages or springs.

3.1.10 Southern Riparian Forest (61300)

Southern riparian forest is characterized by a dense forest found along streams and river dominated by riparian species (Oberbauer et al. 2008). Characteristic species include California sycamores (*Platanus racemosa*) and willow species (*Populus* spp.), as well as oaks species (*Quercus* spp.).

3.1.11 Mesquite Bosque (61820)

Mesquite Bosque is characterized by an open to fairly dense, drought-deciduous streamside thorn forest with open annual and perennial grass understory (Oberbauer et al. 2008). This vegetation community is dominated by mesquite (*Prosopis glandulosa*) and additional characteristic species include carelessnessweed (*Amaranthus palmeri*), white bursage, fourwing saltbush, and allscale. Mesquite Bosque occurs on higher alluvial terraces and near washes, streambanks, alkali sinks, or outwash plains with substantial groundwater.

3.1.12 Desert Dry Wash Woodland (62200)

Desert dry wash woodland is characterized as open to dense, drought-deciduous, microphyllous riparian thorn scrub woodland 30 to 60 feet tall (Oberbauer et al. 2008). This vegetation community is dominated by fabaceous trees, including ironwood (*Olneya tesota*), desert willow (*Chilopsis linearis*), and blue palo verde (*Parkinsonia florida*). Desert dry wash woodland occurs on sandy or gravelly washes and arroyos with braided channels and large drainages.

3.1.13 Freshwater (64140)

Oberbauer et al. (2008) characterizes freshwater as year-round bodies of fresh water, or extremely low salinity, in the form of lakes, streams, ponds, or rivers. Freshwater includes portions of water bodies that are usually covered by water and contain less than 10% vegetative cover (Oberbauer et al. 2008).

3.1.14 Urban/Developed (12000)

Urban/developed land refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported. Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large amount of debris or other materials (Oberbauer et al. 2008).

3.1.15 Field/Pasture (18310)

Field/Pasture is characterized by dense habitat with approximately 100 percent cover (Oberbauer et al. 2008). This land includes planted fields that are usually monoculture crops and are irrigated and artificially seeded and maintained. Characteristic species include oat (*Avena* sp.), Bermudagrass (*Cynodon dactylon*), barley (*Hordeum* sp.), and Sorghum (*Sorghum* sp.) (Oberbauer et al. 2008).

3.2 Biological Resources

3.2.1 Plants

Dudek has reviewed the physical characteristics of the Jacumba Valley Ranch project area (including biogeography, elevation, vegetation, soils, etc.) and CDFW's CNDDDB and CNPS records to compile a list of special-status plants with potential to occur on site (CDFW 2017, CNPS 2017). Based on the preliminary analysis of the study area, Dudek anticipates the need for a focused rare plant survey for special-status species within the biological study area. The majority of the special-status target species can be observed in early spring (March), late spring (June), and fall (August). Therefore, Dudek recommends conducting three survey passes on the

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Jacumba Valley Ranch project area to survey for special-status target plants. Special-status species known to occur within the vicinity of the Project boundary include slender-leaved ipomopsis (*Ipomopsis tenuifolia*) (CDFW 2017). There are 35 special-status plant species covered under the County of San Diego Sensitive Plant List as List A or B that occur within the surrounding quads (County of San Diego 2010a; CDFW 2017; Appendix A).

The following special-status species may have potential to occur within the biological study area based on the project site's location, special-status species ranges and habitat preferences, and Dudek's knowledge of the region: pygmy lotus (*Acmispon haydonii*; List A); Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*; List A); Higgins barberry (*Berberis higginsiae*); Tecate tarplant (*Deinandra floribunda*; List A); sticky geraea (*Geraea viscida*; List B); slender-leaved ipomopsis (*Ipomopsis tenuifolia*; List B); desert beauty (*Linanthus bellus*; List B); Mountain Springs bush lupine (*Lupinus albifrons* var. *medius*; List A); spearleaf (*Matelea parvifolia*; List B); desert spike-moss (*Selaginella eremophila*; List B); southern jewelflower (*Streptanthus campestris*; List A); and Parry's tetracoccus (*Tetracoccus dioicus*; List A)

3.2.2 Wildlife

Dudek anticipates the need for a general biological resources survey and habitat assessment for special-status species within the biological study boundary. Special-status wildlife species known to occur within the vicinity of the project boundary include Cooper's hawk and pallid bat (CDFW 2017). There are 24 special-status wildlife species covered under the County of San Diego Sensitive Plant List as Group 1 or 2 that occur within the 9 quad search vicinity (County of San Diego 2010a; CDFW 2017; Appendix B).

The following special-status species may have the potential to occur within the biological study area based on the project site's location, special-status species ranges and habitat preferences, and Dudek's knowledge of the region: California glossy snake (*Arizona elegans occidentalis*; SSC); red diamondback rattlesnake (*Crotalus ruber*; SSC/Group 2); Blainville's horned lizard (*Phrynosoma blainvillii*; SSC/MSCP Covered/Group 2); Cooper's hawk (*Accipiter cooperii*; WL/MSCP Covered/Group 1); tricolored blackbird (*Agelaius tricolor*; BCC/PSE, SSC/MSCP Covered/Group 1); golden eagle (*Aquila chrysaetos*; BCC/FP, WL/MSCP Covered/Group 1); long-eared owl (*Asio otus*; SSC/Group 1); burrowing owl (*Athene cunicularia*; BCC/SSC/MSCP Covered/Group 1); prairie falcon (*Falco mexicanus*; BCC/WL/Group 1); pallid bat (*Antrozous pallidus*; SSC/Group 2); pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*; SSC/Group 2); San Diego desert woodrat (*Neotoma lepida intermedia*; SSC/Group 2); and quino checkerspot butterfly (*Euphydryas editha quino*; FE/Group 1). Additionally, Peninsular bighorn sheep (*Ovis canadensis*) may have some potential depending on the site conditions.

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Focused protocol species surveys are anticipated for the following special-status species:

- Burrowing owl surveys in accordance with state or county guidelines;
- Tricolored blackbird surveys if suitable freshwater marsh habitat still exists on site;
- Raptor usage survey to determine migration use (by Swainson’s hawk (*Buteo swainsoni*), ferruginous hawk (*Buteo regalis*), falcons, and golden eagle) and nesting use by raptors;
- Quino checkerspot butterfly survey in accordance with federal protocols;
- Peninsular bighorn sheep habitat assessment and focused survey depending on the site conditions/connectivity to desert or Mexican populations;
- A golden eagle assessment would need to occur, but it would be best to attempt to leverage existing data gathered recently by the U.S.G.S and older data collected within the last 10 years for numerous other projects in the vicinity. If the agencies don’t approve of this, then focused nest surveys (or occupancy surveys using the U.S.G.S. hexagon survey grid method);
- Possible wildlife corridor study to determine movement patterns across the site and vicinity.

The project location is too far east to support listed arroyo toad and California gnatcatcher; there does not appear to be suitable riparian habitat for least Bell’s vireo (*Vireo bellii pusillus*) or southwestern willow flycatcher (*Empidonax traillii extimus*), and too far west to support flat-tailed horned lizard (*Phrynosoma mcallii*). It is not anticipated that other wildlife surveys would be required.

3.2.3 Jurisdictional Aquatic Resources

Jurisdictional aquatic resources, including both wetlands/riparian areas and non-wetland waters/streambeds, mapped in the study area are shown in Figure 3, Jurisdictional Aquatic Resources. Tables 2 provides a summary, in acreages, of these jurisdictional aquatic resources. Many of these resources are also likely to satisfy County RPO criteria.

Table 2
Jurisdictional Aquatic Resources

Jurisdictional Aquatic Resources	Acres
Freshwater Emergent Wetland	0.76
Freshwater Forested/Shrub Wetland	64.68
Riverine	15.34
Total	80.78

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4 CONCLUSION

A variety of focused surveys are anticipated to be required through coordination with the County and wildlife agencies. Further, basic vegetation mapping and jurisdictional delineations would be required.

However, no critical fatal flaw issues are apparent.

Please feel free to call me at 760.479.4259 or Brock Ortega at 760.479.4254 if you have any questions regarding the contents of this memorandum.

Sincerely,



David Hochart

*Att: Figure 1, Project Location
Figure 2, Biological Resources
Figure 3, Jurisdictional Aquatic Resources
Appendix A, Special-Status Plant Species Potential to Occur on Site
Appendix B, Special-Status Wildlife Species Potential to Occur on Site*

LITERATURE CITED

AOU (American Ornithologists' Union). 2016. *Check-List of North and Middle American Birds: List of the 2,127 Bird Species Known from the AOU Check-List Area*. Accessed October 14, 2016. <http://checklist.aou.org/>.

CDFW (California Department of Fish and Wildlife). 2017. *California Natural Diversity Database (CNDDDB)*. RareFind, Version 5.2.14 (Commercial Subscription). Sacramento, California. CDFW, Biogeographic Data Branch. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.

CNPS (California Native Plant Society). 2017. *Inventory of Rare, Threatened, and Endangered Plants of California* (online edition, v8-03). Sacramento, California. CNPS, Rare Plant Program. <http://www.rareplants.cnps.org>.

County of San Diego. 1997. *Multiple Species Conservation Plan. County of San Diego Subarea Plan*. Adopted October 22, 1997. Prepared by the County of San Diego in conjunction with the U.S. Fish and Wildlife Service, California Department of Fish and Game.

County of San Diego. 2010a. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources*. Fourth Revision. Land

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Subject: Biological Analysis for Jacumba Valley Ranch Project, San Diego County, California

Use and Environment Group, Department of Land Use and Planning & Development Services, Department of Public Works. September 15, 2010.

County of San Diego. 2010b. *County of San Diego Multiple Species Conservation Program South County Subarea Plan Annual Report*. South County Subarea Plan Annual Report Year 12, Reporting Period: January 1, 2009–December 31, 2009. April 14, 2010. Accessed March 2017. http://www.sandiegocounty.gov/content/dam/sdc/parks/RMD/RMPs%20and%20Trails/2009_MSCP_AnnualReport.pdf

Crother, B.I. 2012. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*, edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles (SSAR). Herpetological Circular, no. 39. August 2012. Accessed 2015. http://home.gwu.edu/~rpyron/publications/Crother_et_al_2012.pdf.

Google Earth. 2017. *Aerial imagery from U.S. Geological Survey, USDA Farm Service Agency, and DigitalGlobe 1994 to 2016*.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Sacramento, California. CDFG.

Jepson Flora Project. 2016. *Jepson eFlora*. Berkeley, California. University of California. Accessed October 18, 2016. http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl.

NABA (North American Butterfly Association). 2016. “Checklist of North American Butterflies Occurring North of Mexico.” Adapted from “North American Butterfly Association (NABA) Checklist and English Names of North American Butterflies,” eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey. NABA. Accessed October 14, 2016. <http://www.naba.org/pubs/enames2.html>.

Oberbauer, T, M. Kelly, and J. Buegge. March 2008. *Draft Vegetation Communities of San Diego County*. Based on “Preliminary Descriptions of the Terrestrial Natural Communities of California.” Robert F. Holland, Ph.D. October 1986.

USDA (U.S. Department of Agriculture). 2014. *Natural Resources Conservation Service (NRCS). Web Soil Survey*. Accessed 2014. <http://websoilsurvey.nrcs.usda.gov/app/>.

USDA. 2017. *Web Soil Survey*. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed March, 2016. <http://websoilsurvey.nrcs.usda.gov/>.

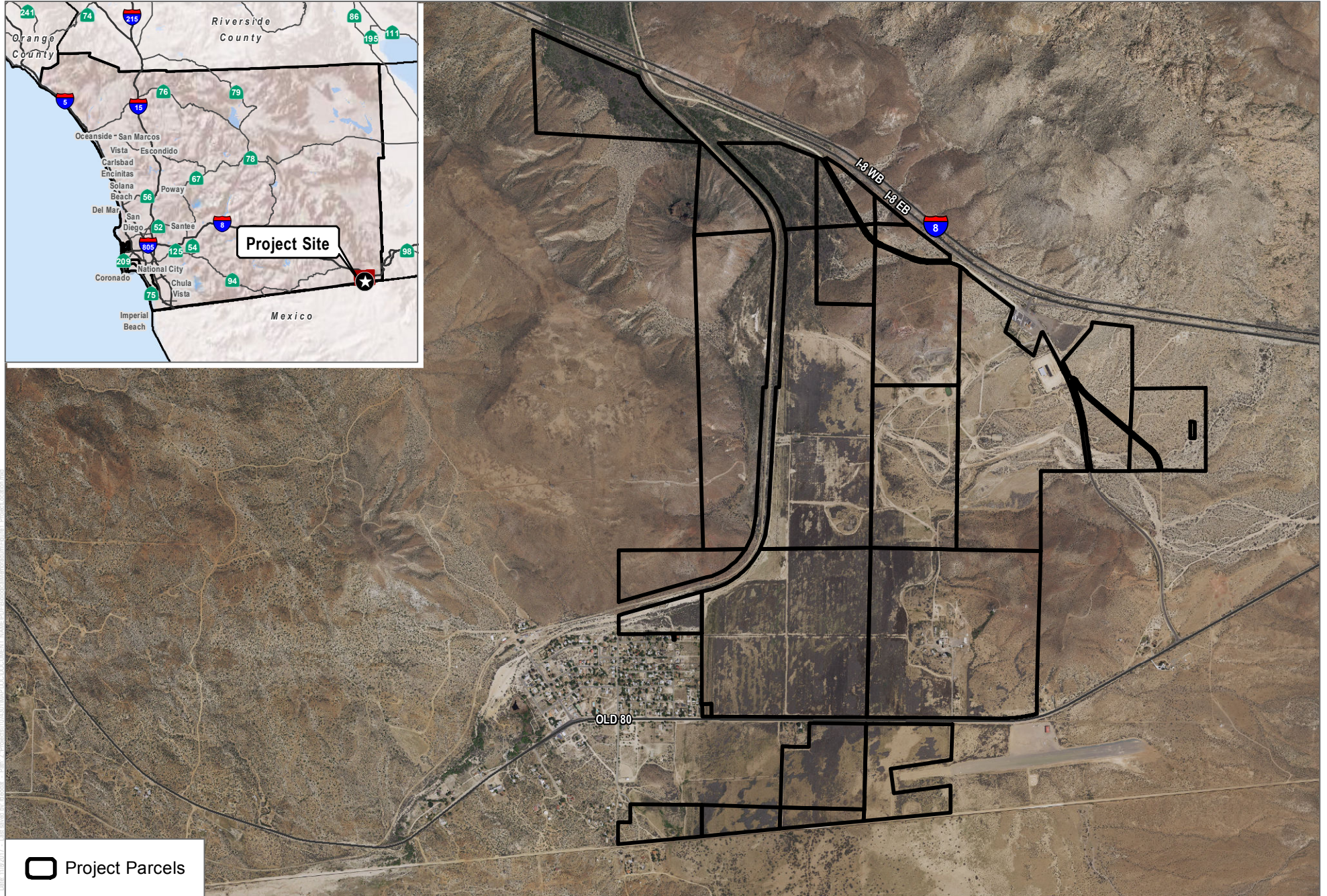
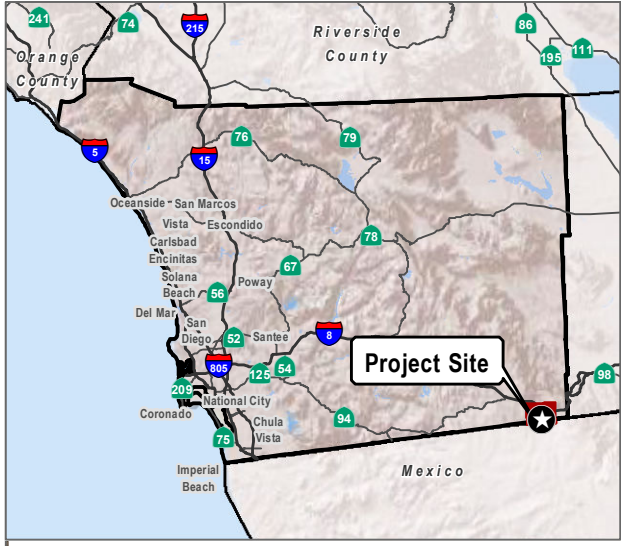
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USFWS. 2017a. "Critical Habitat and Occurrence Data" [map]. Accessed November 2017.
<http://www.fws.gov/data>.

USFWS. 2017b. "NWI Wetlands for California" [Shapefiles]. National Wetlands Inventory.
Data last updated March 5, 2013. Accessed November 2017. <http://www.fws.gov/wetlands/Data/State-Downloads.html>.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*, 3rd ed. (MSW3 database). Accessed 2015.
<http://www.departments.bucknell.edu/biology/resources/msw3/browse.asp>.

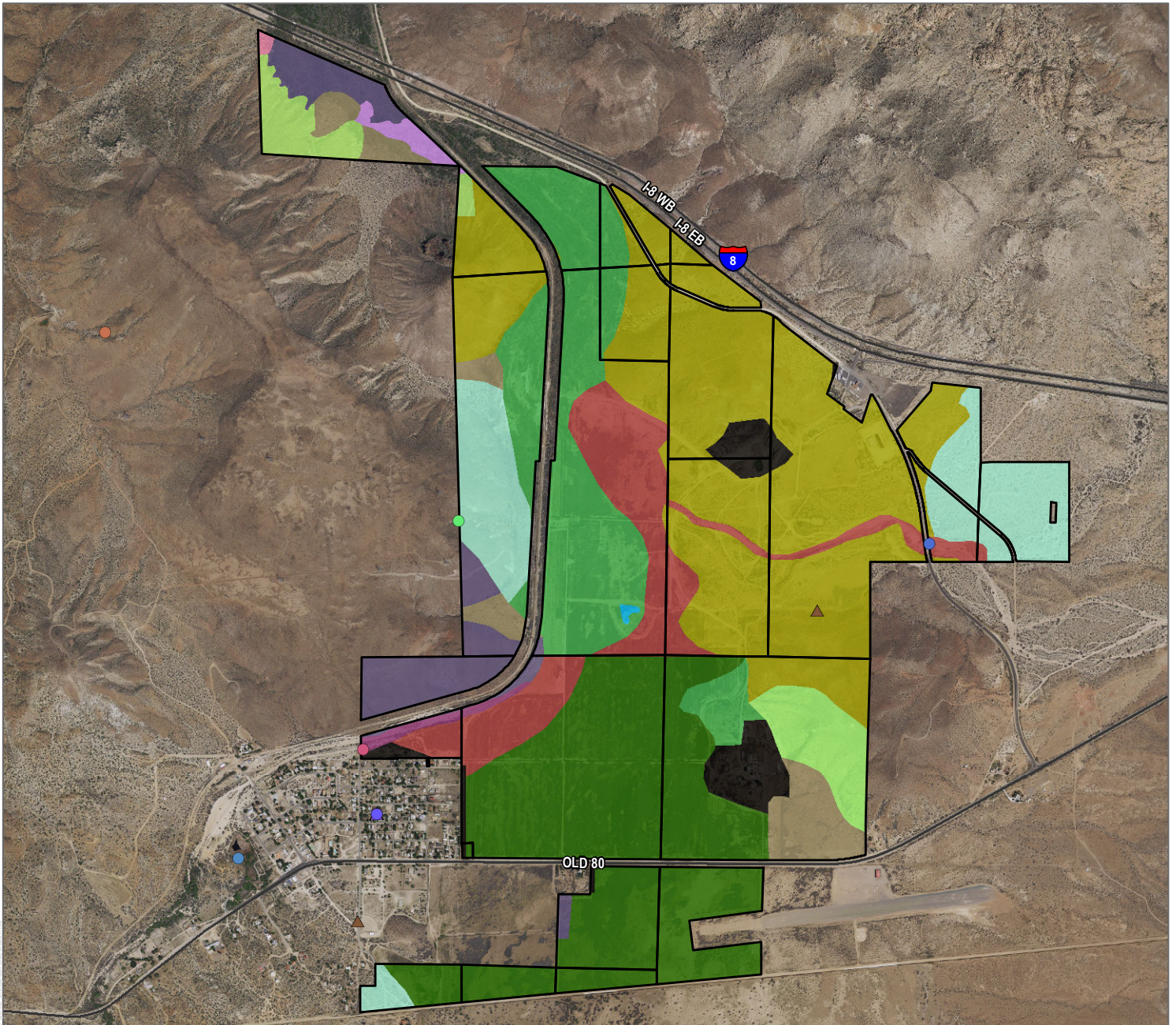


 Project Parcels

SOURCE: NAIP 2016



FIGURE 1
Project Location



Project Parcels

CNDDB Plant Species

- ▲ Higgin's barberry, *Berberis higginsiae*
- ▲ Mountain Springs bush lupine, *Lupinus albifrons var. medius*
- ▲ Parry's tetracoccus, *Tetracoccus dioicus*
- ▲ Tecate tarplant, *Deinandra floribunda*
- ▲ chaparral ragwort, *Senecio aphanactis*
- ▲ slender-leaved ipomopsis, *Ipomopsis tenuifolia*

CNDDB Wildlife Species

- California glossy snake, *Arizona elegans occidentalis*
- Cooper's hawk, *Accipiter cooperii*
- coast horned lizard, *Phrynosoma blainvillii*
- pallid bat, *Antrozous pallidus*
- quino checkerspot butterfly, *Euphydryas editha quino*
- red-diamond rattlesnake, *Crotalus ruber*
- southern grasshopper mouse, *Onychomys torridus ramona*
- tricolored blackbird, *Agelaius tricolor*

LEGEND

- Urban/Developed
- Field/Pasture
- Sonoran Mixed Woody Scrub
- Sonoran Mixed Woody and Succulent Scrub
- Colorado Desert Wash Scrub
- Encelia Scrub
- Acacia Scrub
- Desert Saltbush Scrub
- Semi-Desert Chaparral
- Upper Sonoran Subshrub Scrub
- Alkali Seep
- Southern Riparian Forest
- Mesquite Bosque
- Desert Dry Wash Woodland
- Freshwater

SOURCE: NAIP 2016; CDFW; SanGIS

DUDEK

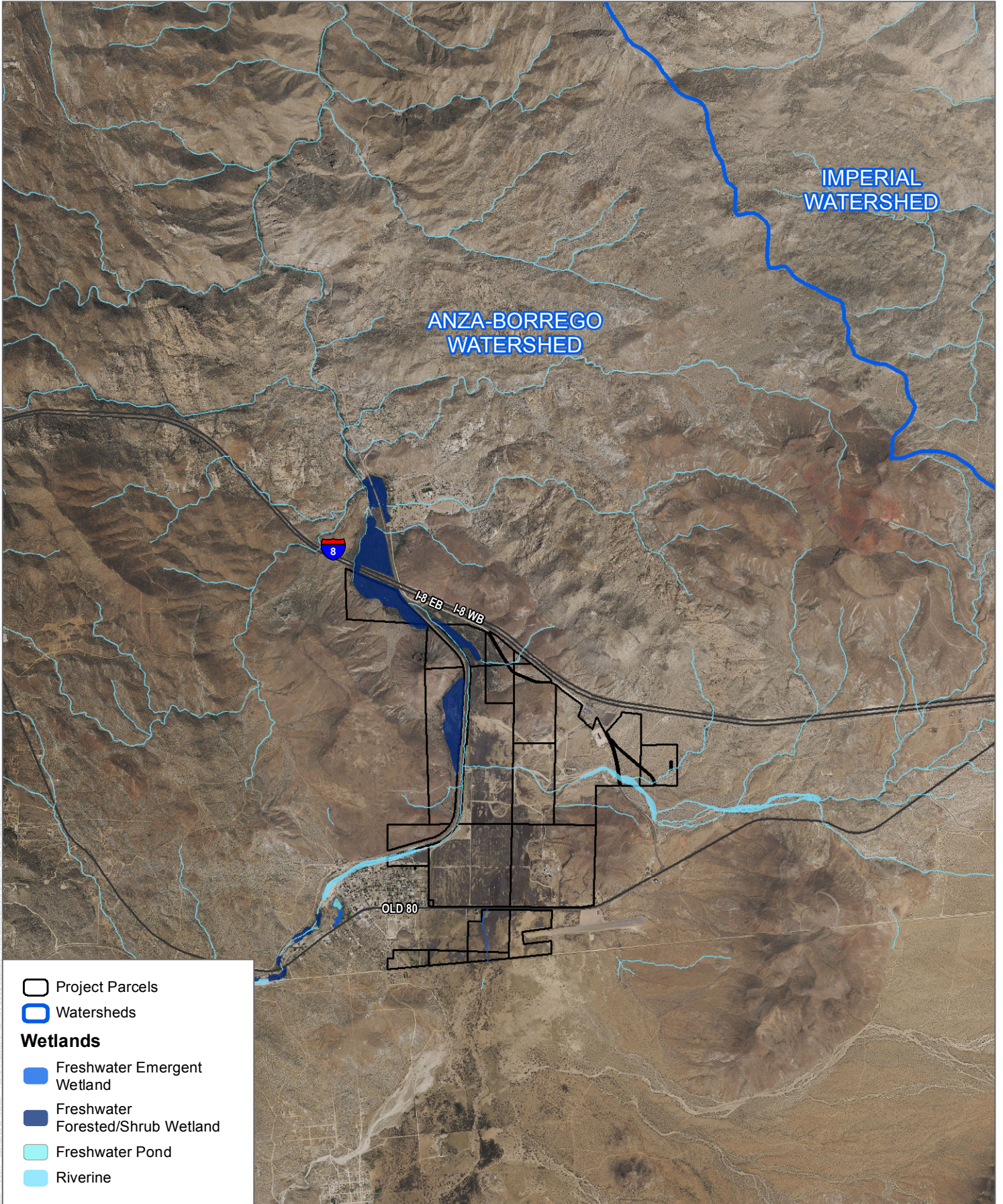


0 1,000 2,000 Feet

FIGURE 2

Biological Resources

Biological Memorandum for Jacumba Valley Ranch, San Diego County, California



SOURCE: NAIP 2016; USFWS; SanGIS

FIGURE 3

Jurisdictional Aquatic Resources

APPENDIX A
*Special-Status Plant Species
Potential to Occur on Site*

Appendix A

Special-Status Plant Species Potential to Occur on Site

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Acmispon haydonii</i>	pygmy lotus	None/None/ List A/1B.3/None	Pinyon and juniper woodland, Sonoran desert scrub; rocky/perennial herb/Jan–June/1705–3935	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Astragalus douglasii</i> var. <i>perstrictus</i>	Jacumba milk-vetch	None/None/ List A/1B.2/None	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Riparian scrub, Valley and foothill grassland; rocky/perennial herb/Apr–June/2950–4495	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Astragalus insularis</i> var. <i>harwoodii</i>	Harwood's milk-vetch	None/None/List B/2B.2/None	Desert dunes, Mojavean desert scrub; sandy or gravelly/annual herb/Jan–May/0–2330	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. Occurrence within 5 miles (CDFW 2017).
<i>Ayenia compacta</i>	California ayenia	None/None/ List B/2B.3/None	Mojavean desert scrub, Sonoran desert scrub; rocky/perennial herb/Mar–Apr/490–3595	Potential to occur.
<i>Berberis fremontii</i>	Fremont barberry	None/None/ List C/2B.3/None	Joshua tree woodland, Pinyon and juniper woodland; Rocky, sometimes granitic/perennial evergreen shrub/Mar–May/3755–5645	Not expected to occur. The site is outside of the species' known elevation range.
<i>Berberis higginsiae</i>	Higgins? barberry	None/None/None/3.2/ None	Chaparral, Sonoran desert scrub; Rocky, sometimes granitic/perennial shrub/Mar–Apr/2620–3495	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Bursera microphylla</i>	little-leaf elephant tree	None/None/ List B/2B.3/None	Sonoran desert scrub (rocky)/perennial deciduous tree/June–July/655–2295	Not expected to occur. The site is outside of the species' known elevation range.
<i>Calliandra eriophylla</i>	pink fairy-duster	None/None/ List B/2B.3/None	Sonoran desert scrub (sandy or rocky)/perennial deciduous shrub/Jan–Mar/390–4920	Potential to occur.
<i>Carlwrightia</i>	Arizona	None/None/ List	Sonoran desert scrub (sandy, granitic	Not expected to occur. The site is

Appendix A (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>arizonica</i>	carlowrightia	B/2B.2/None	alluvium)/perennial deciduous shrub/Mar–May/935–1410	outside of the species' known elevation range.
<i>Caulanthus simulans</i>	Payson's jewelflower	None/None/ List D/4.2/None	Chaparral, Coastal scrub; sandy, granitic/annual herb/(Feb)Mar–May(June)/295–7220	Potential to occur.
<i>Chorizanthe leptotheca</i>	Peninsular spineflower	None/None/ List D/4.2/None	Chaparral, Coastal scrub, Lower montane coniferous forest; alluvial fan, granitic/annual herb/May–Aug/980–6235	Potential to occur.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	None/None/ List A/1B.2/None	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr–July/95–5020	Potential to occur.
<i>Clarkia delicata</i>	delicate clarkia	None/None/ List A/1B.2/None	Chaparral, Cismontane woodland; often gabbroic/annual herb/Apr–June/770–3280	Potential to occur.
<i>Cylindropuntia fosbergii</i>	pink teddy-bear cholla	None/None/None/1B.3/None	Sonoran desert scrub/perennial stem succulent/Mar–May/275–2790	Potential to occur.
<i>Cylindropuntia wolfii</i>	Wolf's cholla	None/None/ List D/4.3/None	Sonoran desert scrub/perennial stem succulent/Mar–May/325–3935	Potential to occur.
<i>Deinandra floribunda</i>	Tecate tarplant	None/None/ List A/1B.2/None	Chaparral, Coastal scrub/annual herb/Aug–Oct/225–4005	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Delphinium parishii</i> ssp. <i>subglobosum</i>	Colorado Desert larkspur	None/None/ List D/4.3/None	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Sonoran desert scrub/perennial herb/Mar–June/1965–5905	Potential to occur.
<i>Dieteria asteroides</i> var. <i>lagunensis</i>	Mt. Laguna aster	None/SR/ List B/2B.1/None	Cismontane woodland, Lower montane coniferous forest/perennial herb/(May)July–Aug/2590–7875	Not expected to occur. No suitable vegetation present. Occurrence within 5 miles (CDFW 2017).
<i>Diplacus aridus</i>	low bush monkeyflower	None/None/ List D/4.3/None	Chaparral (rocky), Sonoran desert scrub/perennial evergreen shrub/Apr–July/2460–3935	Potential to occur.
<i>Ericameria</i>	Laguna	None/None/ List	Chaparral (granitic)/perennial shrub/Sep–	Not expected to occur. The site is

Appendix A (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>cuneata</i> var. <i>macrocephala</i>	Mountains goldenbush	A/1B.3/None	Dec/3920–6070	outside of the species' known elevation range.
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE/SE/ List A/1B.1/Covered	Coastal scrub, Valley and foothill grassland, Vernal pools; mesic/annual / perennial herb/Apr–June/65–2035	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. Occurrence within 5 miles (CDFW 2017).
<i>Erythranthe diffusa</i>	Palomar monkeyflower	None/None/ List D/4.3/None	Chaparral, Lower montane coniferous forest; sandy or gravelly/annual herb/Apr–June/4000–6005	Not expected to occur. The site is outside of the species' known elevation range.
<i>Eucnide rupestris</i>	annual rock-nettle	None/None/ List B/2B.2/None	Sonoran desert scrub/annual herb/Dec–Apr/1640–1970	Not expected to occur. The site is outside of the species' known elevation range.
<i>Euphorbia abramsiana</i>	Abrams' spurge	None/None/None/2B.2/None	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/(Aug)Sep–Nov/-15–4300	Potential to occur.
<i>Euphorbia arizonica</i>	Arizona spurge	None/None/ List B/2B.3/None	Sonoran desert scrub (sandy)/perennial herb/Mar–Apr/160–985	Not expected to occur. The site is outside of the species' known elevation range. Occurrence within 5 miles (CDFW 2017).
<i>Galium angustifolium</i> ssp. <i>borregoense</i>	Borrego bedstraw	None/SR/ List A/1B.3/None	Sonoran desert scrub (rocky)/perennial herb/Mar(May)/1145–4100	Potential to occur.
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	San Jacinto Mountains bedstraw	None/None/ List A/1B.3/None	Lower montane coniferous forest/perennial herb/June–Aug/4425–6890	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Geraea viscida</i>	sticky geraea	None/None/ List B/2B.2/None	Chaparral (often in disturbed areas)/perennial herb/(Apr)May–June/1475–5575	Potential to occur. Occurrence within 5 miles (CDFW 2017).

Appendix A (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	None/None/ List D/4.2/None	Chaparral, Coastal scrub, Valley and foothill grassland; Clay; open grassy areas within shrubland/annual herb/Mar–May/65–3135	Potential to occur.
<i>Herissantia crispa</i>	curly herissantia	None/None/ List B/2B.3/None	Sonoran desert scrub/annual / perennial herb/(Apr)Aug–Sep/2295–2380	Not expected to occur. The site is outside of the species' known elevation range. Occurrence within 5 miles (CDFW 2017).
<i>Heuchera brevistaminea</i>	Laguna Mountains alumroot	None/None/ List A/1B.3/None	Broadleaved upland forest, Chaparral, Cismontane woodland, Riparian forest; rocky/perennial rhizomatous herb/Apr–July(Sep)/4490–6560	Not expected to occur. The site is outside of the species' known elevation range.
<i>Horsfordia newberryi</i>	Newberry's velvet-mallow	None/None/ List D/4.3/None	Sonoran desert scrub (rocky)/perennial shrub/Feb, Apr, Nov, Dec/5–2625	Not expected to occur. The site is outside of the species' known elevation range.
<i>Hulsea californica</i>	San Diego sunflower	None/None/ List A/1B.3/None	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest; openings and burned areas/perennial herb/Apr–June/3000–9565	Potential to occur.
<i>Hulsea mexicana</i>	Mexican hulsea	None/None/ List B/2B.3/None	Chaparral (volcanic, often on burns or disturbed areas)/annual / perennial herb/Apr–June/3935–3935	Not expected to occur. The site is outside of the species' known elevation range. Occurrence within 5 miles (CDFW 2017).
<i>Ipomopsis tenuifolia</i>	slender-leaved ipomopsis	None/None/ List B/2B.3/None	Chaparral, Pinyon and juniper woodland, Sonoran desert scrub; gravelly or rocky/perennial herb/Mar–May/325–3935	Potential to occur. Occurrence overlapping project boundary (CDFW 2017).
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush	None/None/ List A/1B.2/None	Chaparral, Coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/30–445	Not expected to occur. The site is outside of the species' known elevation range. Occurrence within 5 miles (CDFW 2017).
<i>Johnstonella</i>	winged	None/None/ List	Mojavean desert scrub, Sonoran desert	Potential to occur.

Appendix A (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>holoptera</i>	cryptantha	D/4.3/None	scrub/annual herb/Mar–Apr/325–5545	
<i>Juncus acutus</i> <i>ssp. leopoldii</i>	southwestern spiny rush	None/None/ List D/4.2/None	Coastal dunes (mesic), Meadows and seeps (alkaline seeps), Marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar)May–June/5–2955	Not expected to occur. No suitable vegetation present.
<i>Lathyrus splendens</i>	pride-of-California	None/None/ List D/4.3/None	Chaparral/perennial herb/Mar–June/655–5005	Potential to occur.
<i>Linanthus bellus</i>	desert beauty	None/None/ List B/2B.1/None	Chaparral (sandy)/annual herb/Apr–May/3280–4595	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Linanthus maculatus</i> <i>ssp. emaculatus</i>	Jacumba Mountains linanthus	None/None/None/1B. 1/None	Desert dunes (edges), Sonoran desert scrub; Sandy or coarse, opaque-white, decomposed granite soils of washes and on flats near wash margins/annual herb/(Mar)Apr(May)/1295–1920	Not expected to occur. The site is outside of the species' known elevation range.
<i>Lupinus albifrons</i> <i>var. medius</i>	Mountain Springs bush lupine	None/None/ List A/1B.3/None	Pinyon and juniper woodland, Sonoran desert scrub/perennial shrub/Mar–May/1390–4495	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Lycium parishii</i>	Parish's desert-thorn	None/None/ List B/2B.3/None	Coastal scrub, Sonoran desert scrub/perennial shrub/Mar–Apr/440–3280	Potential to occur.
<i>Malperia tenuis</i>	brown turbans	None/None/ List B/2B.3/None	Sonoran desert scrub (sandy, gravelly)/annual herb/(Feb)Mar–Apr/45–1100	Not expected to occur. The site is outside of the species' known elevation range.
<i>Matelea parvifolia</i>	spearleaf	None/None/ List B/2B.3/None	Mojavean desert scrub, Sonoran desert scrub; rocky/perennial herb/Mar–May(July)/1440–3595	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Mentzelia hirsutissima</i>	hairy stickleaf	None/None/ List B/2B.3/None	Sonoran desert scrub (rocky)/annual herb/Mar–May/0–2295	Not expected to occur. The site is outside of the species' known elevation range. Occurrence within 5 miles (CDFW 2017).

Appendix A (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Mentzelia tricuspis</i>	spiny-hair blazing star	None/None/None/2B. 1/None	Mojavean desert scrub; sandy, gravelly, slopes, and washes/annual herb/Mar– May/490–4200	Not expected to occur. No suitable vegetation present. Occurrence within 5 miles (CDFW 2017).
<i>Mentzelia tridentata</i>	creamy blazing star	None/None/None/1B. 3/None	Mojavean desert scrub; rocky, gravelly, sandy/annual herb/Mar–May/2295–3855	Not expected to occur. No suitable vegetation present.
<i>Mirabilis tenuiloba</i>	slender-lobed four o'clock	None/None/ List D/4.3/None	Sonoran desert scrub/perennial herb/(Feb)Mar–May/750–3595	Potential to occur.
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None/None/ List B/2B.2/None	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/-160–1310	Not expected to occur. The site is outside of the species' known elevation range.
<i>Petalonyx linearis</i>	narrow-leaf sandpaper- plant	None/None/None/2B. 3/None	Mojavean desert scrub, Sonoran desert scrub; Sandy or rocky canyons/perennial shrub/(Jan– Feb)Mar–May(June–Dec)/-80–3660	Potential to occur.
<i>Pholistoma auritum</i> var. <i>arizonicum</i>	Arizona pholistoma	None/None/None/2B. 3/None	Mojavean desert scrub/annual herb/Mar/900– 2740	Not expected to occur. No suitable vegetation present. Occurrence within 5 miles (CDFW 2017).
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	None/None/None/4.3/ None	Chaparral; Gabbroic, granitic, clay/evergreen shrub/May–Aug/0–5575	Potential to occur.
<i>Pilostyles thurberi</i>	Thurber's pilostyles	None/None/ List D/4.3/None	Sonoran desert scrub/perennial herb (parasitic)/Dec–Apr/0–1200	Not expected to occur. The site is outside of the species' known elevation range.
<i>Proboscidea althaeifolia</i>	desert unicorn- plant	None/None/ List D/4.3/None	Sonoran desert scrub; gently sloping sandy flats and washes, sometimes roadsides/perennial herb/May–Sep(Oct)/275– 3280	Potential to occur.
<i>Pseudorontium cyathiferum</i>	Deep Canyon snapdragon	None/None/None/2B. 3/None	Sonoran desert scrub (rocky)/annual herb/Feb–Apr/0–2625	Not expected to occur. The site is outside of the species' known elevation range.

Appendix A (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/CRPR/ MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Selaginella eremophila</i>	desert spike-moss	None/None/ List B/2B.2/None	Chaparral, Sonoran desert scrub (gravelly or rocky)/perennial rhizomatous herb/(May)June(July)/655–4250	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Senecio aphanactis</i>	chaparral ragwort	None/None/ List B/2B.2/None	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan–Apr(May)/45–2625	Not expected to occur. The site is outside of the species' known elevation range. Occurrence within 5 miles (CDFW 2017).
<i>Streptanthus campestris</i>	southern jewelflower	None/None/ List A/1B.3/None	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland; rocky/perennial herb/(Apr)May–July/2950–7545	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	None/None/None/1B.2/None	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–Nov/5–6695	Not expected to occur. No suitable vegetation present. Occurrence within 5 miles (CDFW 2017).
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	None/None/ List A/1B.2/Covered	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/540–3280	Potential to occur. Occurrence within 5 miles (CDFW 2017).

FE = federally endangered

SE = state endangered

SR = state rare

CRPR = California Rare Plant Rank

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere

CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

CRPR 3: Plants about which More Information is Needed – A Review List

CRPR 4: Plants of Limited Distribution – A Watch List

.1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2 Moderately threatened in California (20–80% occurrences threatened/moderate degree and immediacy of threat)

.3 Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

APPENDIX B

*Special-Status Wildlife Species
Potential to Occur on Site*

Appendix B

Special-Status Wildlife Species Potential to Occur on Site

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/ MSCP)	Habitat	Potential to Occur
<i>Reptiles</i>				
<i>Arizona elegans occidentalis</i>	California glossy snake	None/SSC/None/None	Commonly occurs in desert regions throughout southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	None/SSC/Group 2/None	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Potential to occur.
<i>Coleonyx switaki</i>	Switak's banded gecko	None/ST/Group 2/None	Rocklands, especially massive rocks and rock formations at the heads of canyons	Potential to occur.
<i>Crotalus ruber</i>	red diamondback rattlesnake	None/SSC/Group 2/None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Gopherus agassizii</i>	Mohave Desert tortoise	FT/ST/None/None	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides	Not expected to occur. The site is outside of the species' known geographic range.
<i>Phrynosoma blainvillii</i>	Blainville's horned lizard	None/SSC/Group 2/Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland habitats	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Phrynosoma mcallii</i>	flat-tailed horned lizard	None/SSC/Group 1/None	Desert washes and flats with sparse low-diversity vegetation cover and sandy soils	Potential to occur.

Appendix B (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/ MSCP)	Habitat	Potential to Occur
<i>Birds</i>				
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	None/WL/Group 1/Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Potential to occur. Occurrence overlapping project boundary (CDFW 2017).
<i>Agelaius tricolor</i> (nesting colony)	tricolored blackbird	BCC/PSE, SSC/Group 1/Covered	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Aquila chrysaetos</i> (nesting & wintering)	golden eagle	BCC/FP, WL/Group 1/Covered	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Asio otus</i> (nesting)	long-eared owl	None/SSC/Group 1/None	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Athene cunicularia</i> (burrow sites & some wintering sites)	burrowing owl	BCC/SSC/Group 1/Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Falco mexicanus</i> (nesting)	prairie falcon	BCC/WL/Group 1/None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Laterallus jamaicensis coturniculus</i>	California black rail	BCC/ST, FP/Group 2/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. The site is outside of the species' known geographic range.

Appendix B (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/ MSCP)	Habitat	Potential to Occur
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE/SE/Group 1/Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Potential to occur.
<i>Mammals</i>				
<i>Antrozous pallidus</i>	pallid bat	None/SSC/Group 2/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Potential to occur. Occurrence overlapping project boundary (CDFW 2017).
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	None/SSC/Group 2/None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Potential to occur.
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	None/SSC/Group 2/None	Desert wash, desert scrub, desert succulent scrub, and pinyon–juniper woodland	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC/Group 2/None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Potential to occur.
<i>Eumops perotis californicus</i>	western mastiff bat	None/SSC/Group 2/None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Potential to occur.

Appendix B (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/ MSCP)	Habitat	Potential to Occur
<i>Lasiurus cinereus</i>	hoary bat	None/None/None/None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes	Potential to occur.
<i>Lasiurus xanthinus</i>	western yellow bat	None/SSC/None/None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Potential to occur.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	None/SSC/Group 2/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Not expected to occur. No suitable vegetation present.
<i>Macrotus californicus</i>	Californian leaf-nosed bat	None/SSC/Group 2/None	Riparian woodlands, desert wash, desert scrub; roosts in mines and caves, occasionally buildings	Potential to occur.
<i>Myotis volans</i>	long-legged myotis	None/None/Group 2/None	Primarily coniferous forests, but also seasonally in riparian and desert habitats; roosts in crevices in cliffs, caves, mines, buildings, exfoliating tree bark, and snags	Potential to occur.
<i>Neotoma albigula venusta</i>	Colorado Valley woodrat	None/None/None/None	Desert areas; closely associated with patches of beavertail cactus and mesquite	Potential to occur.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC/Group 2/None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Potential to occur. Occurrence within 5 miles (CDFW 2017).
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	None/SSC/Group 2/None	Grassland and sparse coastal scrub	Not expected to occur. No suitable vegetation present. Occurrence within 5 miles (CDFW 2017).

Appendix B (Continued)

Scientific Name	Common Name	Status (Federal/State/ County of San Diego/ MSCP)	Habitat	Potential to Occur
<i>Ovis canadensis nelsoni</i> pop. 2 DPS	Peninsular bighorn sheep DPS	FE/ST, FP/None/None	Dry, rocky, low-elevation desert slopes, canyons, and washes; females near water during lambing season	Potential to occur.
<i>Invertebrates</i>				
<i>Euphydryas editha quino</i>	quino checkerspot butterfly	FE/None/Group 1/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include <i>Plantago erecta</i> , <i>Antirrhinum coulterianum</i> , and <i>Plantago patagonica</i> (Silverado Occurrence Complex)	Potential to occur. Occurrence within 5 miles (CDFW 2017).

FE: Federally Endangered
 FT: Federally Threatened
 BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
 SSC: California Species of Special Concern
 FP: California Fully Protected Species
 WL: California Watch List Species
 SE: State Endangered
 ST: State Threatened
 PST: Proposed State Threatened
 SDL: State Delisted
 SS: List Special Animals List, but no other status

