

Heatherglen Planned Development, TTM 17604, CUP 15-006

Initial Study – Mitigated Negative Declaration

Appendix C – Updated General Biological and Spring Botanical Surveys West

**2015 UPDATED GENERAL BIOLOGICAL AND SPRING BOTANICAL SURVEYS
FOR THE GREENSPOT PARTNERS SITE WEST, CITY OF HIGHLAND,
COUNTY OF SAN BERNARDINO, CA**

±38.5 Acres Surveyed

APNs 1210-211-18, -21, -23, & a portion of 1210-281-01, & -02, TT 17604, City of Highland, Section 2, Township 1 South, Range 3 West, USGS Redlands 7.5' Topographic Quadrangle

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Report Summary:

Site conditions remain relatively unchanged from the 2014 survey. The site supports a mixture of agricultural land, disturbed areas, and relatively undisturbed alluvial fan sage scrub. Past and present surveys identified several special status species onsite, including coastal whiptail, black-tailed jackrabbit, loggerhead shrike, Cooper's hawk, Lawrence's goldfinch, northwestern San Diego pocket mouse, and Los Angeles pocket mouse. Occupied San Bernardino kangaroo rat habitat is present in the general area; however, the tract map and lot layout avoids the known and trapped locations of the rat in two consecutive studies (2005 & 2011). Habitat suitable for raptor and migratory bird nesting is present within and around the site. Burrowing owl is not currently occupying the site, but suitable habitat is present. USGS mapped ephemeral drainages onsite were reevaluated in 2015 and it has been determined that no state or federal jurisdictional features are present. 50 trees in the study area qualify as "heritage trees" as defined by the City of Highland municipal code. Scalebroom is present within portions of historic drainages onsite.

Surveys Conducted By: Guy Bruyey

Surveys Conducted On: April 6, 10, May 13, June 9, and July 29, 2015

Report Date: December, 2015

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MANAGEMENT SUMMARY

L&L Environmental, Inc. conducted biological surveys on Greenspot Partners, Inc.'s ±38.5-acre project in the City of Highland, California. The purpose of this study was to examine the subject property and update site data regarding the presence/absence and current condition of biological resources onsite, including vegetation, habitat, special status species, and jurisdictional drainages. L&L conducted surveys of the current study area and an adjacent area in 2005, 2011, and 2014.

Site conditions and the associated recommendations remain essentially unchanged from the 2014 survey. The subject property can be characterized as a mix of disturbed and native habitats. The western half of the site has been disturbed and is mostly converted for agricultural uses. It currently contains *Eucalyptus* groves, a jojoba plantation, and recently disked areas. Several structures within the southwestern portion of the site that were present during previous surveys by L&L have been removed, but some cement foundations remain. The eastern half of the site is relatively undisturbed alluvial fan sage scrub. Land use varies adjacent to the survey area and includes anthropogenic disturbances, such as low and high-density residential areas, commercial strip malls, gravel pit mines, paved and unimproved roads, power lines, and off-road vehicle (ORV) activity.

No state or federally listed endangered or threatened species were present or had high or moderate potential of occurring in the survey area following the surveys, with the exception of San Bernardino kangaroo rat (*Dipodomys merriami parvus*). San Bernardino kangaroo rat (SBKR) was trapped and occurs within adjacent habitat (2005 & 2011). The project site is located within critical habitat for the species.

The proponent has proposed a development (current study area) to avoid all of the occupied traps, approximately 71% of occupied habitat, and over 50% of the alluvial fan sage scrub (critical habitat). Consultation with the U. S. Fish and Wildlife Service and mitigation measures will be required prior to any habitat disturbance onsite.

The current survey identified the coastal whiptail (*Aspidoscelis tigris stejnegeri*) within the project area. Previous surveys in 2005, 2011, and 2014 identified four (4) other special status species in the current survey area; Cooper's hawk (*Accipiter cooperii*), loggerhead shrike (*Lanius ludovicianus*), Lawrence's goldfinch (*Spinus lawrencei*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). No special status botanical species were observed during current or previous surveys. All of the observed sensitive species are California Species

of Concern (with no federal or state listing) and are not generally regulated as individual species; however, all of the bird species are protected by the Migratory Bird Treaty Act (no federal or state listing), which is intended to prevent impacts to live individuals and active nests.

A preconstruction raptor and nesting bird survey (valid for 30 days) is recommended prior to any site disturbance during the nesting season (February 1 through August 31). If nesting raptors or migratory birds are present avoidance of nesting trees will be required and a buffer established until juvenile birds have fledged and/or an authorized biologist has verified that the nest has become inactive.

Burrowing owl (*Athene cunicularia*) surveys were conducted in 2005 and were negative. Currently no burrowing owl are believed to be occupying the site. Since this species is migratory and the site supports suitable habitat a preconstruction clearance survey (valid for 30 days) is recommended prior to site clearing and disturbance.

Other sensitive species trapped during the SBKR studies included San Diego pocket mouse (*Chaetodipus fallax fallax*) and L. A. pocket mouse (*Perognathus longimembris brevinasus*). Impacts to these species are generally not regulated.

The 2006 jurisdictional delineation identified one (1) jurisdictional feature; however, a 2015 reevaluation found that there is currently no flow from the site and no jurisdictional features are present. All three (3) USGS mapped ephemeral blue-line drainages that historically crossed the site have been cut off from their upstream sources during previous offsite flood control projects and road development and show no evidence of flow due to runoff of precipitation onsite.

A 2006 heritage tree survey identified 50 heritage trees within the current study area. If impacts to this site are proposed, consultation with the City of Highland will be necessary to determine required mitigation and minimization measures.

Scalebroom (*Lepidospartum squamatum*) is present within portions of the drainages onsite. This plant is a highly evolved and persistent species capable of lifting concrete improvements placed above graded areas that contain remnants of the plant. L&L recommends both a focused survey for the location of the plant on the property and eradication of the plant from any areas planned for development prior to soil disturbance.

1.0) INTRODUCTION

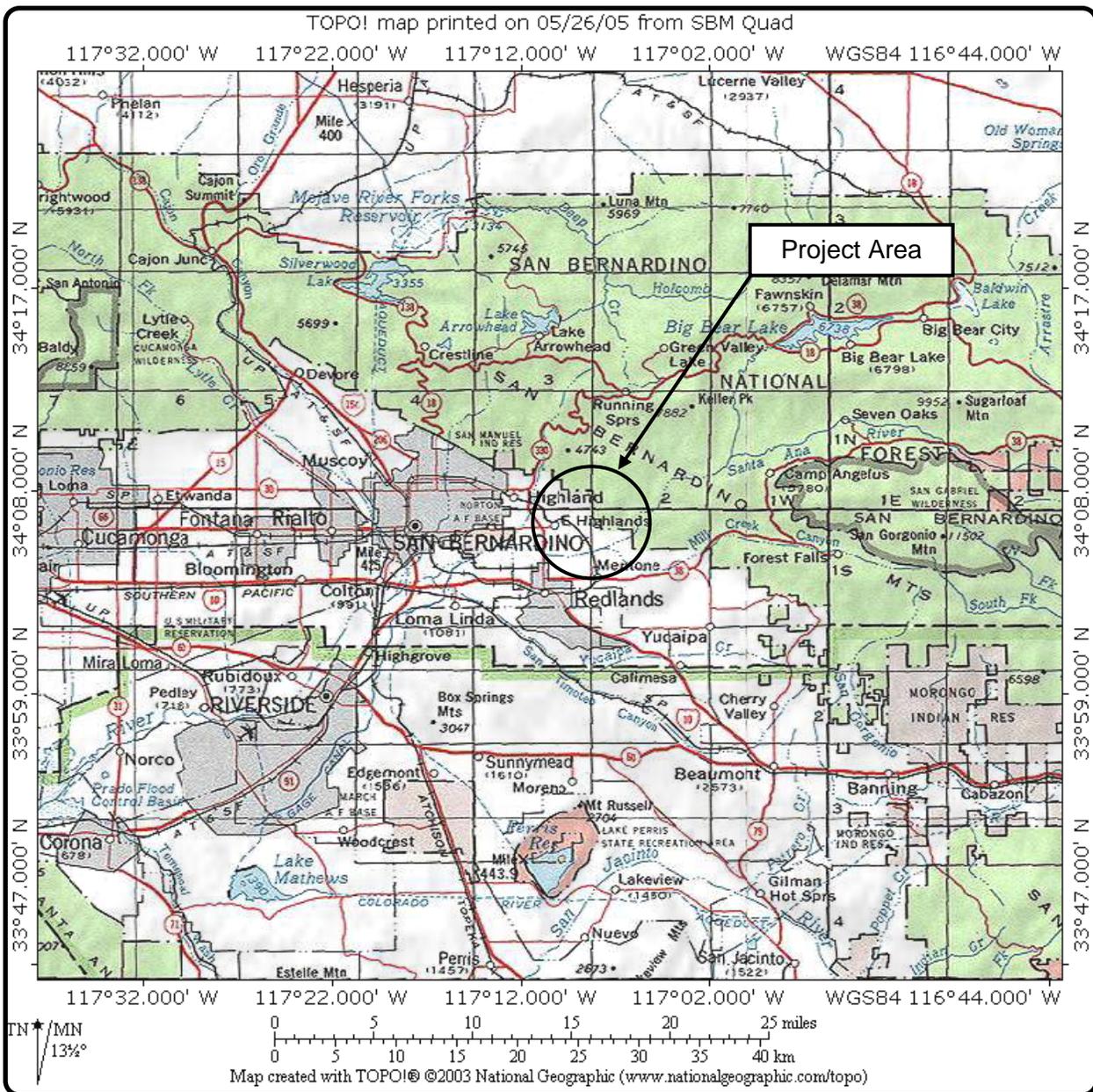
The following report was written by L&L Environmental, Inc. for Greenspot Partners, Inc. It describes the results of biological surveys, including general biological and spring botanical, conducted on a proposed development located on lands within the City of Highland. The project site consists of APNs 1210-211-18, -21, -23, and a portion of 1210-281-01, and -02 totaling ±38.5 acres.

Our assessment consisted of (1) a records search and literature review, conducted to determine what species of concern are in the project area and proximity to closest documented special status species and (2) field reconnaissance, intended to identify plants and animals on the property and presence/absence of habitat for species of concern. This report is intended to update and supplement existing data and reports.

1.1) Location

The subject property is generally located north of Interstate Highway 10 (I-10) (Figure 1). Specifically, the site is located east of Highway 30 and south of Greenspot Road in the City of Highland (Figure 2). The project site is situated within Section 2 of Township 1 south, Range 3 west of the USGS Redlands 7.5' series quadrangle map.

Portions of the southern boundary of the site are defined by the presence of a barbwire fence. The site is generally bounded as follows: to the west by disturbed open space and a mixture of low and high-density residential developments, Church Street, 5th Street, and Highway 30 beyond; to the east by mostly undisturbed open space with San Bernardino National Forest lands beyond; to the north by Greenspot Road and high-density residential developments, with Santa Ana Canyon Road, Baseline Road, and East Highland Reservoir beyond; and to the south by Abbey Way, a row of power lines, and the Santa Ana Wash basin, with the City of Redlands and I-10 beyond (Figure 3).



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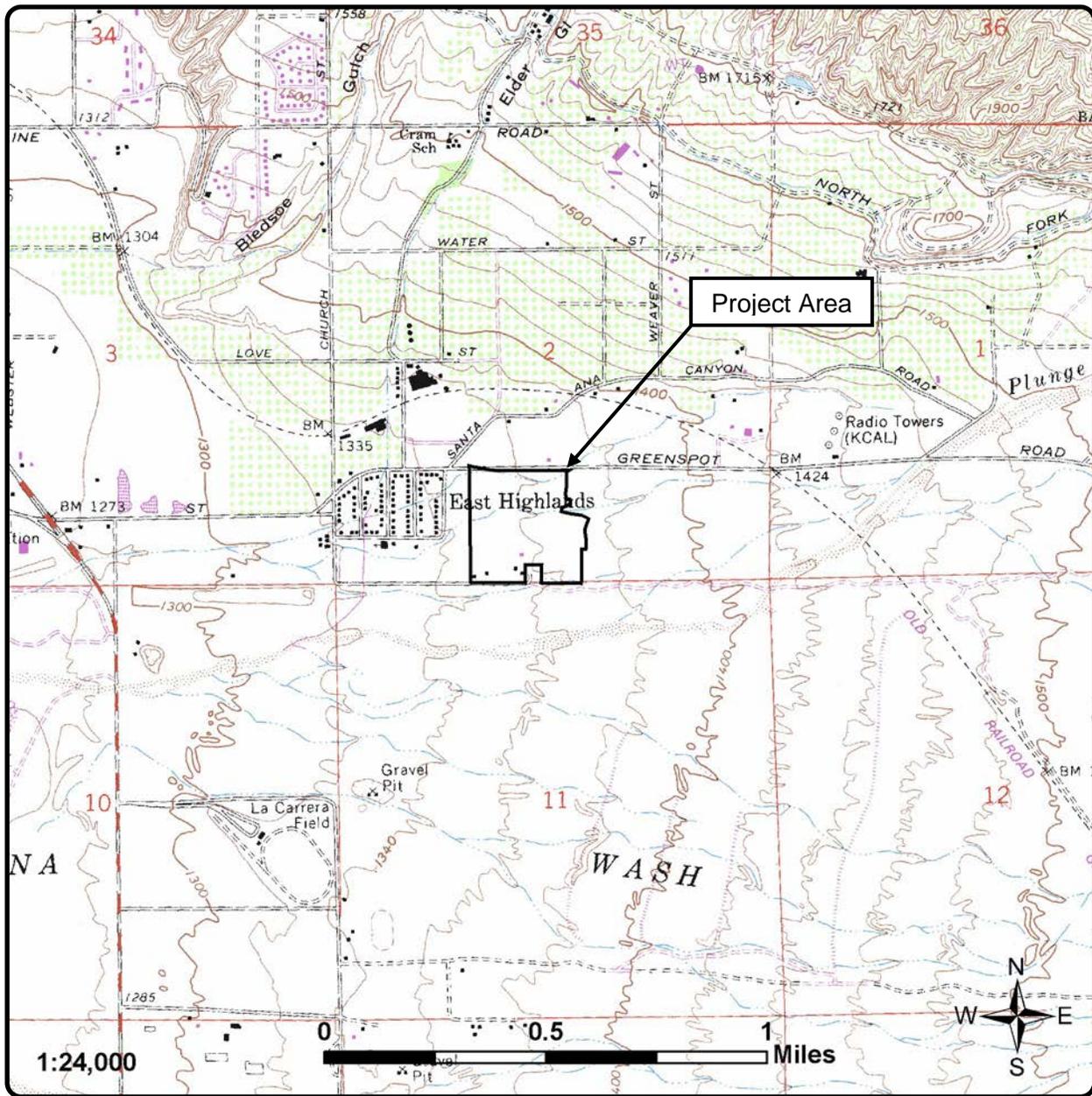
BIOLOGICAL AND CULTURAL
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 December 2015

Figure 1

Project Vicinity Map

Greenspot Partners, Inc.
 City of Highland, California



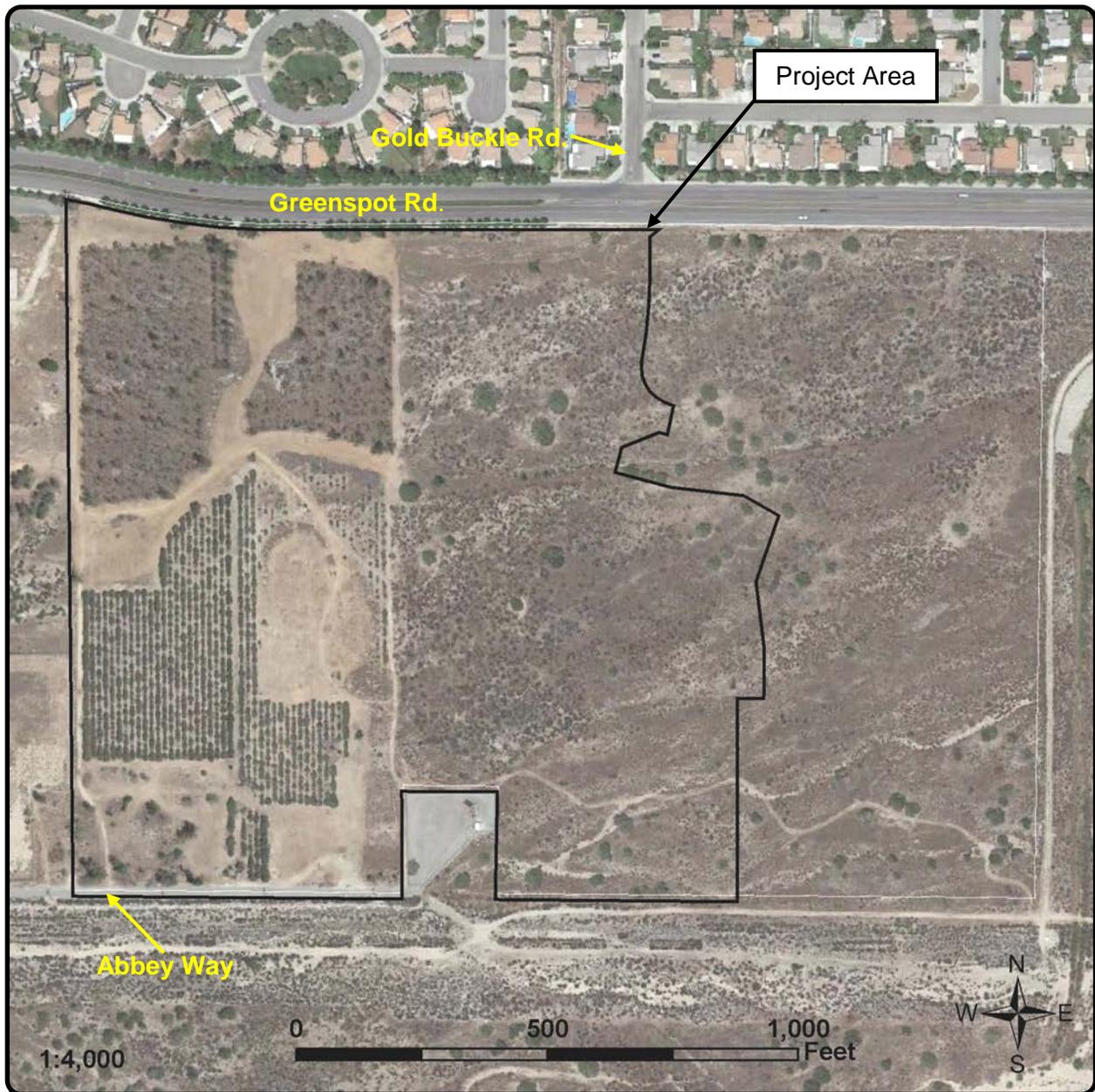
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Figure 2
Project Location Map
(USGS Redlands [1988] quadrangle,
Section 2, Township 1 South, Range 3 West)

Greenspot Partners, Inc.
City of Highland, California



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Figure 3

Aerial Photograph

(Photo obtained from Google Earth, 4-27-2014)

*Greenspot Partners, Inc.
City of Highland, California*

1.2) Vegetation and Setting

The western half of the site has been disturbed and is mostly converted for agricultural uses. The remnants of several structures that were present during previous surveys are located within the southwestern portion of the site in association with these disturbances. The eastern half of the survey area is relatively undisturbed alluvial fan sage scrub.

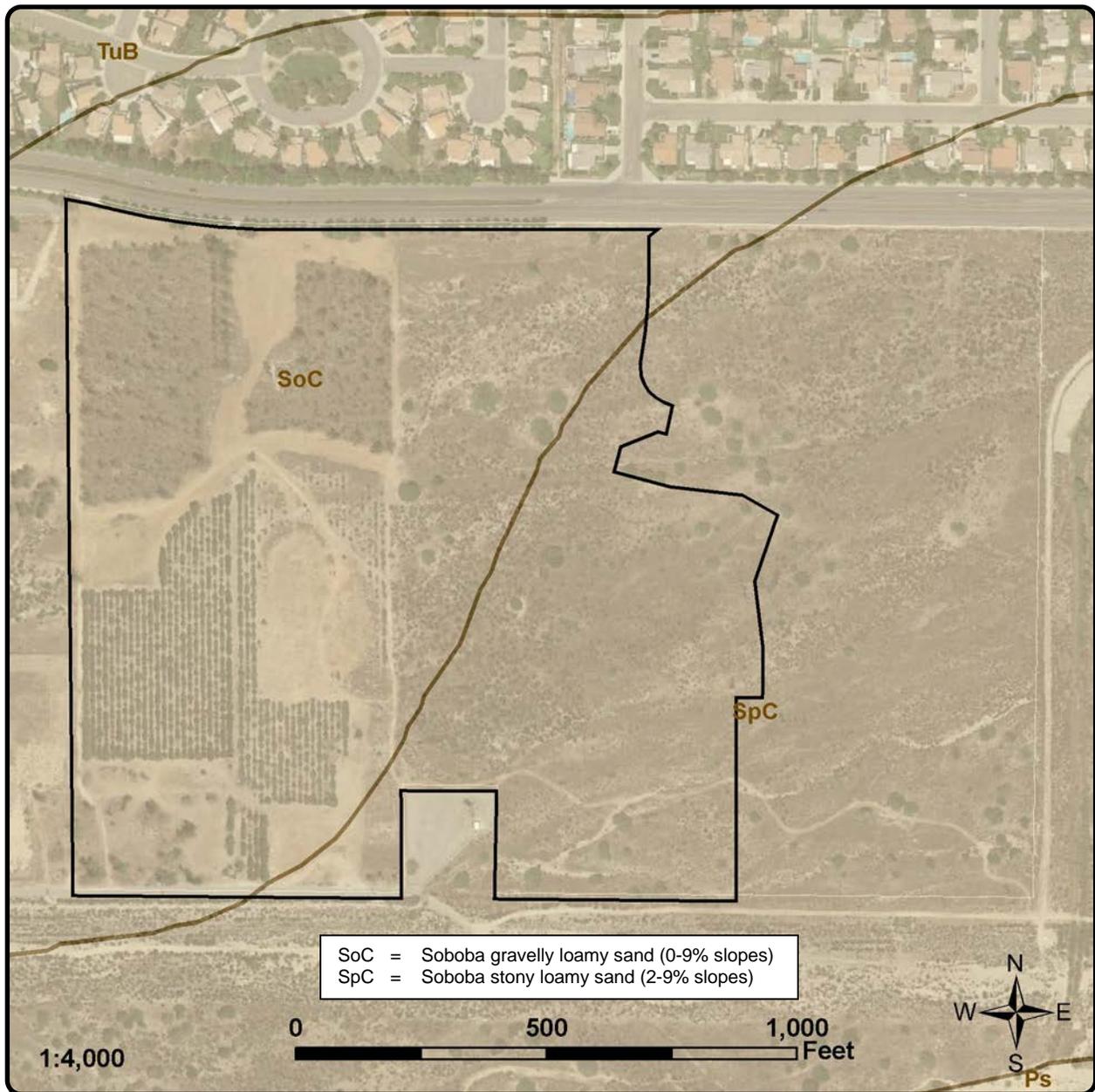
Land use varies adjacent to the survey area and includes anthropogenic disturbances, such as low and high-density residential areas, commercial strip malls, gravel pit mines, paved and unimproved roads, power lines, and off-road vehicle (ORV) activity. Redlands Municipal Airport is approximately 1.75 miles south of the subject property.

Three (3) USGS mapped ephemeral blueline stream areas are present on the subject property, trending from the northeast to the southwest away from the foothills of the San Bernardino Mountains. No evidence of water flow was observed within these mapped features. Most wetland indicator tree species were not found in association with the mapped blueline stream areas onsite, with the exception of western sycamore (*Platanus racemosa*). Mapped ephemeral blueline stream areas onsite can be characterized as being inhabited with common alluvial sage scrub perennial plants, including California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), California sagebrush (*Artemisia californica*), chaparral yucca (*Yucca whipplei*), yerba santa (*Eriodictyon* sp.), and various low-growing native annual plant species.

1.3) Soils and Topography

Soils on the project site (Figure 4) were mapped by the Soil Conservation Service (1971) as Soboba gravelly loamy sand (SoC) and Soboba stony loamy sand (SpC). Soils observed on the site are sandy-loamy to gravelly with and (mostly) without cryptobiotic crusts. Clay soils were not observed on the site.

Topographically, the site is primarily flat and contains low-relief rolling hills, shallow depressions, and open disturbed lands with a combined maximum vertical relief of roughly 32 feet between highest and lowest points on the property. Elevation onsite ranges from approximately 1,347 to 1,379 feet above mean sea level. Surrounding topographic features in the immediate project vicinity include mostly flat areas with low-relief rolling hills containing canyons and shallow drainages. Other areas south of the site (within the Santa Ana River Wash basin) and areas east and north of the site (within San Bernardino National Forest lands) contain significantly more topographic relief.



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Figure 4

Soils Map

(Photo obtained from Google Earth, 4-27-2014,
USDA Nat. Res. Cons. Serv. SSURGO Data)

Greenspot Partners, Inc.
City of Highland, California

2.0) REGULATORY ENVIRONMENT

2.1) Federal Endangered Species Act

The U. S. Fish and Wildlife Service (USFWS), under the auspices of the federal Endangered Species Act (FESA) of 1973 (as amended), manages and protects species listed as endangered or threatened. An endangered species is defined as a species “in danger of extinction throughout all or a significant portion of its range” while a threatened species is defined as “likely to become endangered in the foreseeable future.”

“Take” of listed species is prohibited under Section 9 (a)(1)(B) of the FESA. The term “take” is defined as follows in Section 3 (18) of the FESA: “harass, harm, pursue, hunt, shoot, wound, trap, kill, capture or collect or to engage in any such conduct.” Harm is further defined as significant habitat alteration that results in death or injury to listed species by significantly impairing behavior patterns such as breeding, feeding, or sheltering. The USFWS can issue a permit for “take” of listed species incidental to otherwise lawful activities. Procedures for obtaining a permit for incidental take are identified under Section 7 of FESA for federal properties or where federal actions are involved, and are identified under Section 10 of FESA for non-federal actions.

2.2) Jurisdictional Determination of Wetlands, “Waters of the U.S.”

Three agencies generally regulate activities within streams, wetlands, and riparian areas in California: (1) the Army Corps of Engineers (ACOE) regulates activities under section 404 of the federal Clean Water Act; (2) the Regional Water Quality Control Board (RWQCB) regulates activities under section 401 of the federal Clean Water Act (CWA); and (3) the California Department of Fish and Wildlife (CDFW) regulates activities within wetlands under Fish and Game Code Sections 1600-1616.

2.2.1) United States Clean Water Act, Section 404

The ACOE has jurisdiction over “Wetlands” and “Waters of the United States” under Section 404 of the Clean Water Act (CWA). Permitting is required for activities that will result in discharge of dredge or fill material into “Waters of the United States” or adjacent wetlands and associated habitat. By definition these include all waterways, streams, intermittent streams, and their tributaries that could be used for interstate commerce. The term “interstate commerce” has been broadly interpreted to include use by migratory waterfowl and out-of-state tourism. In non-tidal waters jurisdictional limits extend to the ordinary high water mark (OHWM), which is

defined as that line on the shore established by fluctuations of water and indicated by physical characteristics such as clear natural line impression on the bank, shelving, changes in the character of soil, and destruction of the surrounding area. The upstream limit of ACOE jurisdiction is that point on the stream where the OHWM is no longer perceptible. Since flow patterns vary drastically from event to event alluvial fans do not always exhibit an OHWM or other evidences of repeated water flow. That portion of an alluvial fan that experiences sheet flow is not generally regulated as Waters of the United States; however, an inter-braided streambed, evidenced by an OHWM, is within ACOE jurisdiction. Vernal pools and other types of wetlands are also regulated by the ACOE as "Waters of the United States".

2.2.2) United States Clean Water Act, Section 401

The RWQCB has jurisdiction over similar "Wetlands" and "Waters of the United States" under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act under the California Water Code. Permitting is required for activities that will result in a discharge of soils, nutrients, chemicals, detrital materials, or other pollutants into "Waters of the United States" or adjacent wetlands that will affect water quality of those bodies and the area watershed.

2.2.3) California Department of Fish and Game Code, Section 1600

The CDFW, through provisions of the CDFG Code (Sections 1600-1616), is empowered to issue agreements ("Streambed Alteration Agreement") for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. Streams and rivers are defined by the presence of a channel bed, banks, and intermittent flow. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW.

Determining limits of a wetland is not typically done in obtaining CDFW Agreements because the intent of the 1600 program is to safeguard riparian associated wildlife habitat. Riparian habitat includes willows (*Salix* sp.), mulefat (*Baccharis salicifolia*), and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations wetlands associated with a stream or lake will fall within the limits of riparian habitat. Thus, the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet ACOE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

2.3) California Department of Fish and Wildlife

2.3.1) California Endangered Species Act

California Endangered Species Act (CESA) definitions of endangered and threatened species parallel those defined in the FESA. The CESA defines an endangered species as “. . . a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes including loss of habitat, change in habitat, over exploitation, predation, competition or disease.” Endangered species are in serious danger of becoming extinct and threatened species are likely to become endangered species in the foreseeable future (according to Sections 2062 and 2067, respectively, of the California Fish and Game Code). Candidate species are those under formal review by the CDFW for listing as endangered or threatened (Section 2067). Prior to being considered for protected status the CDFW designates a species as being of special concern. Species of special concern are those for which the CDFW has information indicating decline.

2.3.2) California Department of Fish and Game Code, Section 1600

This section allows the CDFW to issue agreements (“Streambed Alteration Agreement”) for projects that will adversely affect wildlife habitat associated with any river, stream, or lake edges. A detailed discussion of Section 1600 under the Fish and Game Code can be found in section 2.2.3 above.

2.3.3) California Natural Diversity Database

The California Natural Diversity Database (CNDDDB) is a database that ranks overall condition of sensitive species and vegetation communities on global (throughout its range) and state (within California) levels. Additionally, subspecies and varieties are assigned a ranking for global condition as well. Ranking is numerical ranging from 1 to 5, with 1 indicating very few remaining individuals or little remaining habitat and 5 indicating a demonstrably secure to ineradicable population condition. State ranks may also include a threat assessment ranging from 1 (very threatened) to 3 (no current threats known).

2.4) California Native Plant Society

The California Native Plant Society (CNPS) has cataloged California's rare and endangered plants into lists according to population distributions and viability. These lists are numbered and indicate the following: (1A) presumed extinct in California; (1B) rare, threatened, or endangered

throughout their range; (2) rare, threatened, or endangered in California, but more common in other states; (3) more information is needed to establish rarity; and (4) plants of limited distribution in California (i.e., naturally rare in the wild) but whose populations do not appear to be susceptible to threat.

2.5) California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires identification of environmental effects from discretionary projects. Significant effects are to be mitigated by avoidance, minimization, rectification, or compensation whenever possible.

Effects to all state and federal listed species are considered significant under CEQA. In addition to formally listed species, CEQA Section 15380(d) considers effects to species that are demonstrably endangered or rare as important or significant. These definitions can include state designated species of special concern, federal candidate and proposed species, CNDDB tracked species, and California Native Plant Society 1B and 2 plants.

Appendix G of the CEQA Guidelines specifically addresses biological resources and encompasses a broad range of resources to be considered.

2.6) Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) is an international treaty that makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Sections 3503, 3503.5, and 3800 of the CDFG Code prohibit the take, possession, or destruction of birds, their nests, or eggs. The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (February 1 through August 31). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or loss of habitat upon which the birds depend could be considered “take” and constitute a violation of the MBTA.

2.7) City of Highland Municipal Code

Section 16.64.040 of the municipal code deals with preservation of heritage trees and specifies required conditions and permits necessary for removal of heritage trees. Section 16.06.080 defines heritage trees:

“Heritage tree” shall mean any live tree, shrub, or plant which meets at least one of the following criteria:

1. All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more, as measured four and one-half feet above ground level; or
2. Multitrunk trees having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or
3. A stand of trees, the nature of which makes each dependent upon the others for survival; or
4. Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities.

3.0) METHODS AND PERSONNEL

3.1) Literature Review

Pertinent literature was reviewed to identify local occurrences and habitat requirements of special status species and communities occurring in the region. Literature reviewed included compendia provided by resource agencies (CDFG 2003a, 2003b; USFWS 1999), CNDDDB (2015) reports for the vicinity, and reports from previous studies completed on the property.

Latin names of plants follow *The Jepson Manual* (Hickman 1993). Latin names of animals follow *A Field Guide to Western Reptiles and Amphibians* (Stebbins 1985) for reptiles and amphibians, *California Mammals* (Jameson and Peeters 1988) for mammals, American Ornithologists' Union (1983, 1989) and National Audubon Society, *The Sibley Guide to Birds* (2000) for birds, and *American Insects: A Handbook of the Insects of America North of Mexico* (Arnett 2000) for insects.

3.2) Surveys

L&L biologist Guy Bruyeya visited the project area on April 6, 10, May 13, June 9, and July 29, 2015 to describe vegetation and habitat, evaluate probabilities that special status animals and plants might occur within the project site, and conduct a focused botanical survey. Temperature ranged from 59° to 92° F and wind speed ranged from 0-8 mph. A total of about 16 person-hours were spent on the site.

3.2.1) General Biological Survey Methods

All habitat types on the site were visited on foot. The site was surveyed by conducting a series of transects across the subject property where possible, stopping periodically for observations and notations. A general habitat map and field notes were completed at the time of the survey. All field surveys were conducted during daylight hours. Digital photographs were taken to record condition of the site during the present surveys.

Table 1. Survey times and conditions.

Date	Time	° F	Cloud %	Wind	Biologist
	Start-End	Start/End	Start/End	Start/End	
April 6	0800-0900	Partly Cloudy, 59/65	100/80	0/2	Bruyeyea
April 10	0800-1230	Clear, 63/79	0/0	1/4	Bruyeyea
May 13	1330-1700	Partly Cloudy, 68/78	0/0	3/7	Bruyeyea
June 9	1030-1500	Clear, 70/86	0/0	0/4	Bruyeyea
July 29	1300-1530	Clear, 85/92	0/0	4/8	Bruyeyea

Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in Abrams (1923, 1944, 1951, 1960), Abrams and Ferris (1960), Hickman (1993), Munz (1974), and Parker (1999). These procedures provide a general assessment of habitat and vegetation on a site and act as a tool to determine probability of special status species occurring onsite. A species list is included in Appendix A.

3.2.2) Focused Botanical Field Methods

Information on special status rare plant species within the project vicinity was gathered from several sources including California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2015), CNDDDB (CDFW 2015), and CalFlora (2014). Maps depicting all known sensitive plant species locations within the project vicinity were produced to aid in determining the target species for survey.

L&L conducted a habitat assessment for the species in Table 4, Appendix A. The habitat assessment followed the recommendations of the California Native Plant Society (CNPS 2001). The survey area's suitability to support identified species was determined using indicators, including the presence of suitable habitat, moisture, and soil conditions.

A complete floristic study of the survey area, as required in a complete CEQA analysis, was conducted between April and July 2015 (Table 1). Focused plant surveys were conducted throughout the year (early, mid, and late season) to provide full coverage and to ensure surveys occurred during the typical blooming period for these species. The plant surveys followed protocols recommended in USFWS, CDFW (CDFG 2009), and CNPS guidelines for rare plant surveys. All plants encountered were identified to a level necessary to ensure detection of covered or special status species.

This methodology is consistent with recommendations by the California Native Plant Society (CNPS 2001) because it provides more than "reasonable coverage" of all habitat types and was "floristic in nature". Systematic field techniques in all habitats of the site (transects) were

employed to ensure thorough coverage of potential impact areas sufficient to provide comprehensive reporting.

A floral inventory of all botanical species observed during the course of the surveys is included in Table 3, Appendix A.

Rainfall in southern California in 2014-2015 was well below average and had been below average for the previous three (3) seasons. Insufficient early winter precipitation amounts resulted in a relatively “unproductive” year for spring annual germination and subsequent identification. Due to the ongoing drought in the region and low rainfall amounts, annual plants were relatively scarce and most surveys were performed after many spring annual plant species had begun to senesce. However, many annual plant species were identified from senescing or fully senesced plants during this study. In addition, drought conditions can take more than one year to recover from and not all seeds germinate every year. Surveys conducted over multiple years and at varying times throughout the year provide the most comprehensive data.

4.0) RESULTS

4.1) Literature Review Results

Certain plants and animals have been listed as threatened or endangered under state or federal Endangered Species Acts. Other species have not been formally listed but declining populations or habitat availability are reasons for concern in regard to their long-term viability. These species are included in lists compiled by resource management agencies or private conservation organizations. In this report the term “special status species” refers to all species included in one or more compendia or formal list of threatened or endangered species. The CNDDDB was examined to determine if sensitive species have been previously documented onsite.

Seven (7) previous reports for this site and a wider area were completed by L&L and two (2) previous reports by Natural Resources Assessment, Inc. were examined. These included surveys for burrowing owl and nesting raptor species in 2005 (L&L 2005), a focused survey in 2006 for trees classified as “heritage trees” by the City of Highland (L&L 2006a), a jurisdictional delineation in 2006 (L&L 2006b) and a reevaluation in 2015 (L&L 2015a), general biological and spring botanical surveys in 2011 (L&L 2011), updated general biological and focused botanical surveys for the Greenspot Partners site, separated into east and west (L&L 2015b and 2015c), and focused surveys for San Bernardino kangaroo (SBKR) rat by Natural Resources Assessment, Inc. conducted in 2005 and 2011.

Previous surveys, were conducted over a larger area than reported here, including adjacent parcels, so previously observed common species included in Table 4 (Appendix A) may have occurred immediately adjacent to, but not on the subject property. Sensitive species locations were recorded and GPS coordinates reported.

In 2005 no burrowing owls were identified using the site; however, where ground squirrel activity was present within the western half of the property suitable habitat was judged to be present and a preconstruction survey (valid for 30 days) was recommended to occur prior to site clearing and/or disturbance. Past nesting by raptors in the *Eucalyptus* trees present onsite was also identified and a preconstruction survey for nesting raptors was recommended if disturbance or site clearing is to occur between February 1 and August 31.

The 2006 survey for “heritage trees” identified 114 trees meeting City of Highland criteria within the current study area and a larger survey area. The survey also identified scattered occurrence of scalebroom within the site and a survey for full documentation of all locations and eradication prior to development was recommended.

The 2006 jurisdictional delineation and 2015 reevaluation found that there is presently no flow from the site and no jurisdictional features are present following the installation of flood control improvements on adjacent and upstream land to the east. As a result, all three (3) USGS mapped ephemeral blueline drainages that historically crossed the site have been cut-off from their upstream sources and no longer transmit water onto the study area.

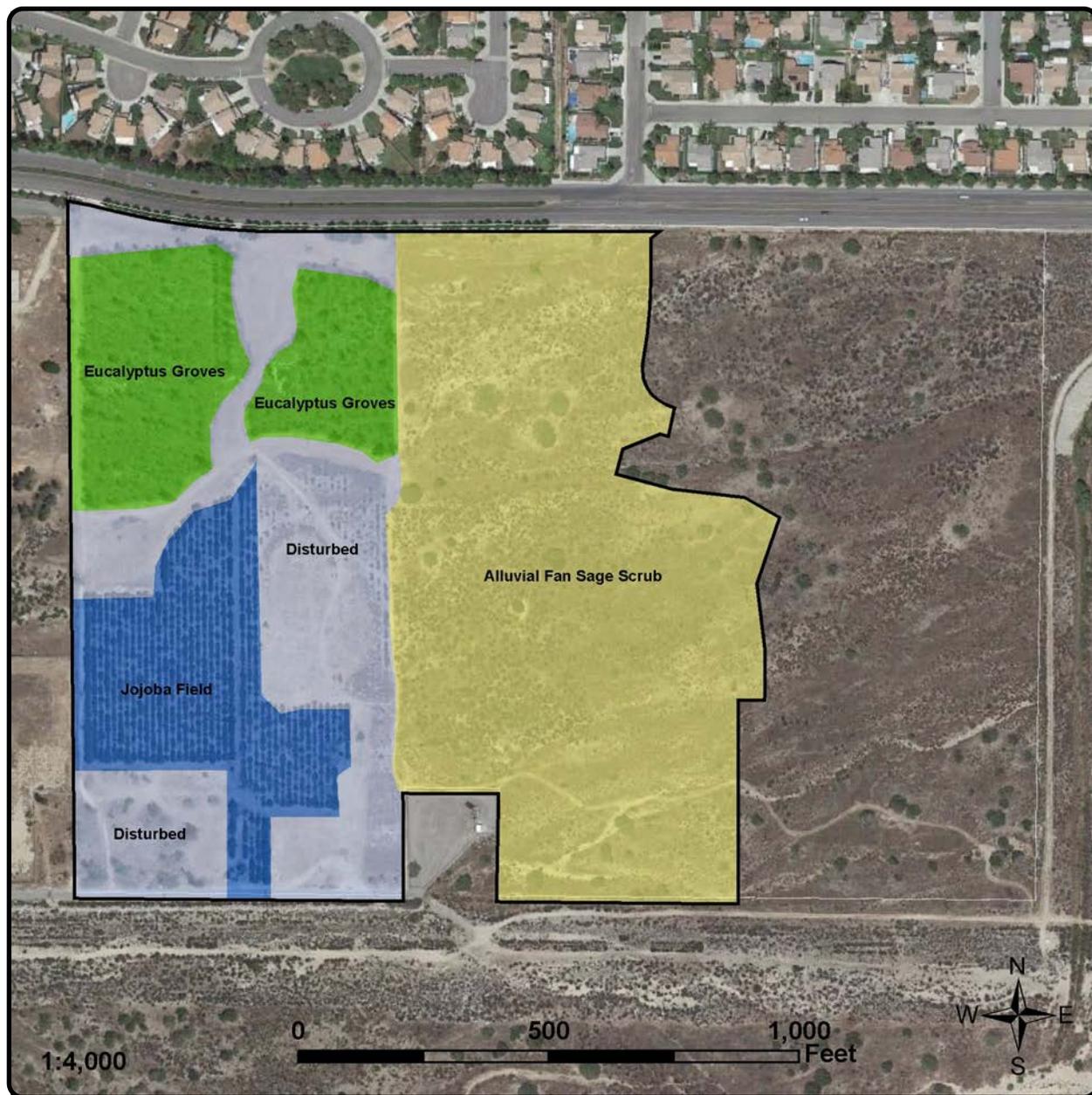
In 2011 two (2) special status wildlife species (loggerhead shrike and black-tailed jackrabbit, neither of which is listed by state or federal agencies) were observed onsite. No special status plant species were identified onsite.

Natural Resources Assessment, Inc. (NRAI) was contracted by L&L to conduct focused surveys for San Bernardino kangaroo rat (SBKR) in 2005 and 2011. Both surveys identified SBKR on adjacent habitat. The current study area and project design avoids all occupied trap lines.

In addition to SBKR, the following special status wildlife species were identified onsite during trapping: northwestern San Diego pocket mouse (in both 2005 and 2011) and Los Angeles pocket mouse in 2011. Density of SBKR occupying the area are considered to be “trace to low” and potentially occupied habitat as designated by NRAI in 2011 is primarily east of the current survey area, along and surrounding the loose sand of remnant drainages (NRAI 2011). The San Diego and Los Angeles pocket mouse species identified onsite are not listed by state or federal agencies, but are considered “California species of concern”.

4.2) Vegetation Series

Site conditions remained essentially unchanged from the 2014 survey. Approximately half of the subject property (estimated at 48%) can be characterized as relatively undisturbed alluvial fan sage scrub inhabited by a mixture of non-native and mostly native plants (Figure 5). Areas within the western half of the site are more disturbed in association with past and ongoing human activities, such as cultivation of *Eucalyptus* and jojoba and the presence of several structures (now removed, but with remnant foundations). Other disturbances observed on the western portion of the site include introduction of invasive non-native plant species, previously cleared and/or recently disked areas, debris piling, and pedestrian and ORV activity. Based on the results of this study, most of the site probably supports a diverse group of native low-growing annuals and other herbs away from these disturbances. Vegetative cover ranges from approximately 0 to 99 percent, depending on location within the site.



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Figure 5

Habitat Map

(Photo obtained from Google Earth, 4-27-2014)

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Table 2. Habitat Onsite

Habitat	Acres
Alluvial Fan Sage Scrub	18.4
Active Agricultural (jojoba)	5.1
Eucalyptus Groves	5.6
Disturbed/Non-Native Semi-natural Stands/ Ornamental	9.4
Total	38.5

4.2.1) *Eriogonum fasciculatum* – (*Lepidospartum squamatum*) alluvial fan (32.070.01), *Artemisia californica* – *Lepidospartum squamatum* (32.010.09) Alliances; Previously Identified as Alluvial Fan Sage Scrub (Holland Element Code 32720)

Alluvial fan sage scrub (AFSS) contains mostly drought-deciduous shrubs with soft leaves and occurs in association with washes and gently sloping alluvial fans. Areas containing AFSS are usually subject to periodic flooding and mature phases of this vegetation community can contain significant cover of larger perennials. Scalebroom (*Lepidospartum squamatum*) is typically an indicator plant species of this vegetation community and is present (uncommonly) within alluvial scrub areas of the site in association with other large plants, including California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), California sagebrush (*Artemisia californica*), yerba santa (*Eriodictyon* sp.), and chaparral yucca (*Yucca whipplei*). Other larger shrubs less commonly observed within these areas include chamise (*Adenostoma fasciculatum*), spiny redberry (*Rhamnus crocea*), holly-leaved cherry (*Prunus illicifolia*), blue elderberry (*Sambucus mexicana*), and sugar bush (*Rhus ovata*). This vegetation community is present throughout the east half of the current study area away from disturbances within the western portion of the site. Alluvial fan sage scrub is state listed “very threatened” sensitive habitat.

Other shrubs, such as white sage (*Salvia apiana*), brittlebush (*Encelia farinosa*), sweetbush (*Bebbia juncea*), coast cholla (*Opuntia parryi*), interior bush lupine (*Lupinus excubitus*), sand washed butterweed (*Senecio flaccidus*), Thurber’s buckwheat (*Eriogonum thurberi*), jimsonweed (*Datura wrightii*), chia (*Salvia columbariae*), California croton (*Croton californicus*), and telegraph weed (*Heterotheca grandiflora*), are present. Small patches of tamarisk (*Tamarix* sp.) were observed on portions of the site within historic drainage areas.

Native plants commonly found within this community on the subject property include (but are not limited to) deerweed (*Lotus scoparius*), phacelia (*Phacelia* sp.), morning glory (*Calystegia macrostegia*), lanceleaf dudleya (*Dudleya lanceolata*), wild hyacinth (*Dichelostemma capitatum*), and horseweed (*Conyza canadensis*). Less disturbed areas (especially in areas

containing a cryptobiotic surface crust or in areas away from dense non-native grass cover) were inhabited with dot-seed plantain (*Plantago erecta*), sun cups (*Cammissonia* sp.), purple clarkia (*Clarkia purpurea*), forget me not (*Cryptantha* sp.), popcorn flower (*Plagiobothrys* sp.), purple nightshade (*Solanum xanti*), yellow pincushion (*Chaenactis glabruiscula*), sapphire woolstar (*Eriastrum sapphirinum*), silver puffs (*Uropappus lindleyi*), and other low-growing herbs. Fiddleneck (*Amsinckia menziesii* var. *intermedia*) was observed sporadically throughout disturbed and undisturbed portions of the site.

4.2.2) *Juniperus californica* – *Eriogonum fasciculatum* – *Artemisia californica* Alliance (89.100.00); Previously Identified as Peninsular (Cismontane) Juniper Woodland and Scrub (Holland Element Code 72400)

This plant community is characterized by the presence of California juniper (*Juniperus californica*) within cismontane sage scrub areas. Peninsular juniper woodland and scrub (PJW) is typically found above 2,500 feet AMSL. This community is most often associated with the eastern slopes of the peninsular ranges and is found in association with other desert edge plants, including pinyon pine (*Pinus monophylla* and/or *P. quadrifolia*), chamise, yucca (*Yucca* sp.), and ceanothus (*Ceanothus* sp.) However, PJW has been documented to occur in other low-lying areas of southwestern San Bernardino County and western Riverside County.

On the subject property, PJW occurs in low-density patches and is found in association with undisturbed portions of the site, mostly within relatively undisturbed AFSS vegetated areas. Many herbaceous annuals are also present.

4.2.3) *Eucalyptus (globulus, camaldulensis)* (Eucalyptus groves) Semi-natural Stands (79.100.00); Previously Identified as Non-Native *Eucalyptus* Woodland (Holland Element Code 11300 or 11000)

Eucalyptus trees, native to Australia, are commonly found in southern California and have been widely utilized as shade trees in the area since the 1850s. Two (2) separate *Eucalyptus* groves are present within the northwestern corner of the subject property. A diverse shrub understory is not present at this location. Mostly weedy low-growing annuals and grasses were observed in association with these groves. During a previous assessment (in June 2005) the trees were being watered by drip irrigation and appeared healthy overall. Surveys since 2006 appear to indicate the trees are no longer irrigated and are declining in health.

4.2.4) Disturbed / *Bromus rubens* (42.024.01) / *Bromus diandrus* – *Avena* spp. (42.026.22)
Semi-natural Stands; Previously Identified as Ruderal Habitat (Holland Element Code 11300)

Disturbed habitat includes areas that contain mostly non-native plant species, including ornamentals and ruderal exotics. Disturbed areas within the western portion of the site that are not currently inhabited by *Eucalyptus*, jojoba, or other ornamental plants are now largely ruderal. Mostly non-native weedy species have invaded these areas, including short-pod mustard (*Hirschfeldia incana*), red-stemmed filaree (*Erodium cicutarium*), long-beaked storksbill (*Erodium botrys*), tumble pigweed (*Amaranthus albus*), prickly lettuce (*Lactuca serriola*), and Russian thistle (*Salsola tragus*). Very dense non-native grasses, including red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*Bromus diandrus*), cheatgrass (*Bromus tectorum*), fescue (*Vulpia* sp.), and oats (*Avena* sp.), were observed in disturbed and undisturbed areas choking out low-growing plant species.

Other plant species less commonly observed within disturbed areas of the subject property include calabazilla (*Cucurbita foetidissima*), tocalote (*Centaurea melitensis*), annual bur weed (*Ambrosia acanthicarpa*), puncture vine (*Tribulus terrestris*), vinegar weed (*Trichostemma lanceolatum*), and cheeseweed (*Malva parviflora*).

4.2.5) Ornamental (Holland Element Code None or 11000)

Remnants of non-native ornamental landscaping are present within the southwestern portion of the site in association with remaining signs of residences along Abbey Way. Trees such as gum tree, pine (*Pinus* sp.), Peruvian pepper tree (*Schinus molle*), and olive (*Olea europea*) were observed. A single Fremont's cottonwood (*Populus fremontii*) is also present. A single Peruvian pepper tree was also identified within the southeastern portion of the site and is surrounded by native peninsular juniper woodland.

4.2.6) Agriculture (Holland Element Code 18300)

Several rows of cultivated jojoba (*Simmondsia chinensis*) plants are present within the southwestern portion of the site, south of the *Eucalyptus* groves.

4.3) Plant Species

Annual plant growth remained low in 2015. A total of 106 plant species were commonly observed during the 2015 general biological and botanical investigations in the current survey area (Table 3, Appendix A). Data from previous reports that include information from both the current survey area and the general area in 2005, 2011, and 2014 list a total of 128 species

observed. A list of all species reported in past L&L surveys is included in Table 4 (Appendix A). Table 5 (Appendix A) includes all sensitive species identified in the CNDDDB (2015) occurring within the project quadrangle or eight adjacent quadrangles. The table details the species habitats, range, and sensitivity rating and L&L's probability determination for the species occurring in the survey area.

No special status plant species were identified during past or current surveys conducted by L&L onsite. Three (3) sensitive species were identified as having moderate potential to occur onsite within the native habitat: Parry's spineflower (*Chorizanthe parryi* var. *parryi*), Mesa horkelia (*Horkelia cuneata* ssp. *puberula*), and Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*). Due to the presence of suitable habitat, consecutive seasons of drought, and close proximity of recorded locations potential for these species to occur could not be ruled out. Impacts to these species is generally not regulated.

4.3.1) Heritage Trees

The City of Highland regulates impacts to trees that qualify as "heritage trees". A heritage tree count and survey was conducted by L&L in 2006 and identified 114 trees meeting the City of Highland criteria within the larger survey area. Approximately 50 qualifying trees were present within the current survey area in 2006, the majority of which were California juniper or western sycamore (*Platanus racemosa*). Other species present include blue elderberry, holly-leaved cherry, sugar bush, *Eucalyptus*, tamarisk, tobacco tree (*Nicotiana glauca*), pine sp., olive, and Peruvian pepper.

4.4) Wildlife Species

A total of 31 wildlife species were observed during the 2015 general biological and botanical investigations in the current survey area (Table 3, Appendix A). Data from previous reports that include data from both the current survey area and the general area in 2005, 2011, and 2014 list a total of 46 wildlife species observed. A list of all bird, mammal, and reptile species reported in past L&L surveys is included in Table 4. Table 5 (Appendix A) includes all sensitive species identified in the CNDDDB (2015) in the area and details the species habitats, range, and sensitivity rating and L&L's probability determination for the species occurring in the survey area.

4.4.1) Invertebrates

No habitat suitable for use by the federally listed endangered Delhi sands flower-loving fly (*Raphiomidas terminatus abdominalis*) or Riverside fairy shrimp (*Streptocephalus woottoni*) was

identified onsite during past or present surveys. One (1) sensitive species, Crotch bumble bee (*Bombus crotchii*), was determined to have moderate potential of occurring in the survey area based on habitat suitability and range. Impacts to this species are generally not regulated.

4.4.2) Amphibians and Reptiles

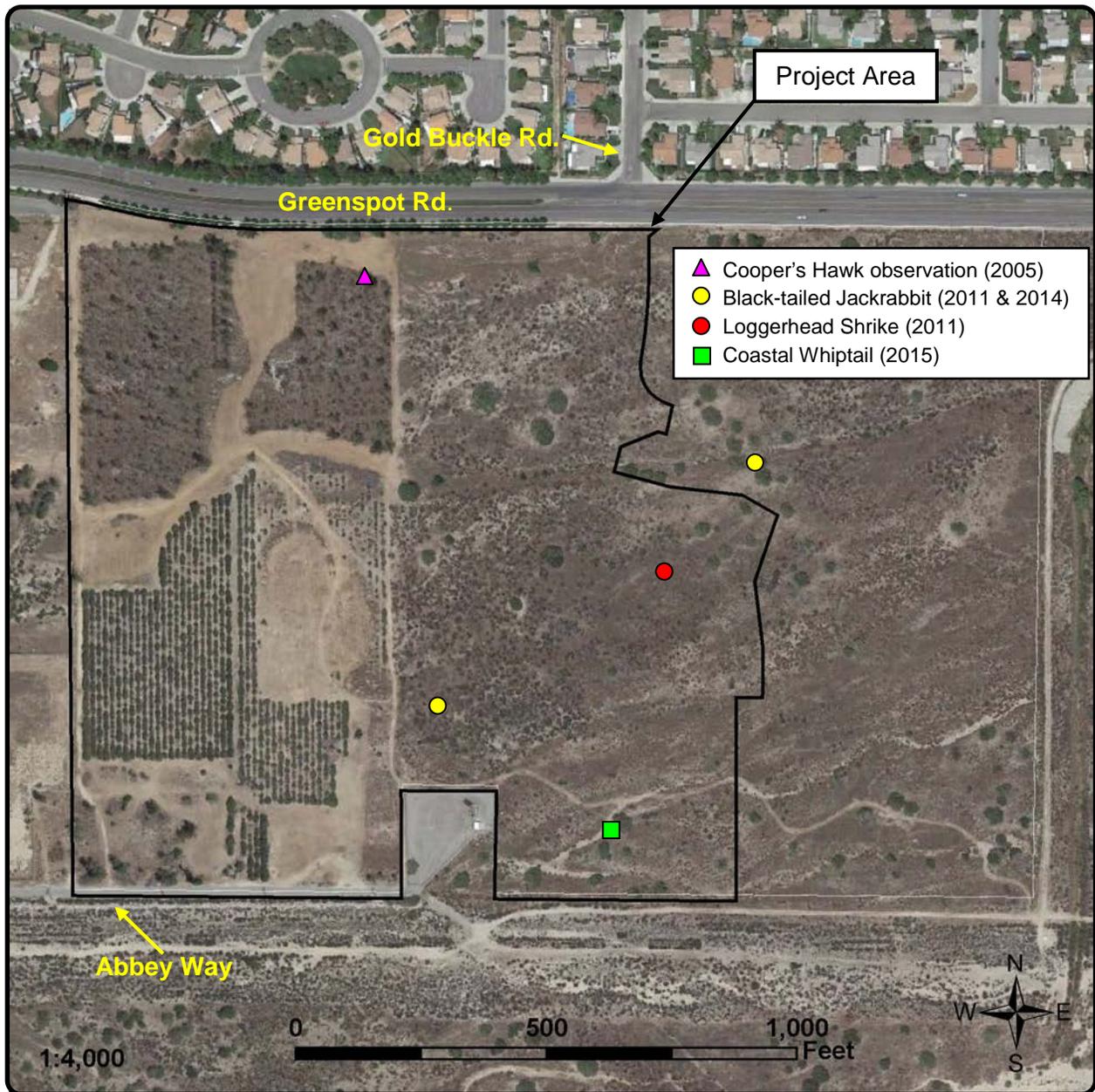
Two (2) reptile species were observed during the current survey effort. Coastal whiptail (*Aspidoscelis tigris stejnegeri*) is considered a sensitive species (Figure 6). Two (2) additional common reptile species were observed during investigations of the current survey area and in the general area in 2005, 2011, and 2014. No threatened or endangered species were observed or were determined to have high or moderate potential to occur in the survey area. No sensitive species were observed. Four (4) sensitive species were determined to have high or moderate potential to occur in the survey area: California silvery legless lizard (*Anniella pulchra pulchra*), orange-throated whiptail (*Aspidoscelis hyperythra*), northern red-diamond rattlesnake (*Crotalus ruber*), and San Bernardino ringneck snake (*Diadophis punctatus ssp. modestus*). Impacts to these species are generally not regulated.

4.4.3) Birds

A total of 27 bird species were observed or detected by vocalizations during the current survey effort, none of which were sensitive species. 37 bird species were observed or detected by vocalizations during investigations of the current survey area and in the general area in 2005, 2011, and 2014. No threatened or endangered species were observed or determined to have high or moderate potential to occur in the survey area. Three (3) sensitive species were observed during previous surveys within the current study area: Cooper's hawk (*Accipiter cooperii*), loggerhead shrike (*Lanius ludovicianus*), and Lawrence's goldfinch (*Spinus lawrencei*). Three (3) other sensitive species have high or moderate potential to occur in the survey area: southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Artemisiospiza belli belli*), and California horned lark (*Eremophila alpestris actia*). Impacts to these species are generally not regulated, with the exception of active nests.

Western Burrowing Owl

Based upon presence of relatively flat open areas with low-growing vegetation on portions of the site, close proximity to a fresh water source, and recent records of BUOW in other areas of southwestern San Bernardino County and western Riverside County, vegetative habitat suitable for use by BUOW was determined to be present on portions of the subject property. Focused BUOW surveys were conducted onsite and in surrounding buffer areas by L&L personnel in 2005 with negative results.



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Figure 6

Sensitive Species Map
(Photo obtained from Google Earth, 4-27-2014)

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No BUOW, occupied burrows, or burrowing owl sign (pellets, scat, feathers, tracks, etc.) were observed on the subject property during the current general biological study of the site. Based on results of earlier focused studies (2005) and the results of the 2011, 2014, and current 2015 general biological surveys, it can be reasonably concluded that BUOW is not presently utilizing the subject property.

Nesting Birds

Potential habitat for raptor and migratory bird nest sites exists within alluvial fan sage scrub, sycamore trees, California juniper, and other tree species onsite. Specific nests and total numbers were not search for or identified during the present surveys. Suitable foraging habitat is present for numerous species onsite.

4.4.4) Mammals

Two (2) mammal species were observed during the current survey effort, neither of which are sensitive species. Five (5) mammal species were observed during L&L investigations of the current survey area and the general area in 2005, 2011, and 2014, including San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), a sensitive species. No threatened or endangered species were observed onsite within the current study area; however, one (1) federally listed endangered species, San Bernardino kangaroo rat (*Dipodomys merriami parvus*) (SBKR), is known to be in the area based on a 2011 SBKR trapping study. Two (2) additional sensitive species were observed onsite during the trapping studies: northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) and L. A. pocket mouse (*Perognathus longimembris brevinasus*). One (1) other sensitive species has high or moderate potential to occur in the survey area, San Diego desert wood rat (*Neotoma lepida intermedia*). Impacts to these species, with the exception of San Bernardino kangaroo rat, are generally not regulated.

San Bernardino kangaroo rat

A San Bernardino kangaroo rat (SBKR) trapping study was conducted in 2005 and again in 2011 by Natural Resources Assessment, Inc. for L&L Environmental, Inc. onsite and over a larger area. Habitat quality is considered to be low due to density of vegetation cover; however, the site is located within U. S. Fish and Wildlife Service designated critical habitat for the species.

Two (2) trapping studies conducted over the site and a larger area in 2005 and 2011 found the adjacent habitat to the east to be occupied by SBKR. Traps onsite did not contain SBKR.

The NRSI trapping program included six (6) trap lines in 2005 and eight (8) in 2011 across a larger area. Three (3) of the trap lines from 2005 and five (5) from 2011 fall within the physical boundary of the subject map and current study area. Trap line locations were based on habitat, topography, and soils.

SBKR were not trapped within the current study area during either study; however, occupied trap lines are present within adjacent habitat to the east. The current map design avoids known locations of SBKR based on the trapping studies; however, accurate densities can only be determined through a grid trapping mark/recapture program, which was not conducted.

5.0) IMPACTS AND RECOMMENDATIONS

The purpose of this study was to update existing data for the project site with current conditions and/or changes in biological resources on the subject property. The effects and recommendations identified are based on the literature review (including previous L&L surveys), L&L's biological knowledge of species and habitats in the site vicinity, and the biological field survey. The information in this section is intended to serve as a planning tool for making decisions about future development of the project site.

One (1) special status species (coastal whiptail) was observed onsite during the current surveys. Previous L&L surveys in 2005, 2011, and 2014 identified four (4) other special status species (Cooper's hawk, Lawrence's goldfinch, loggerhead shrike, and San Diego black-tailed jackrabbit) either onsite or immediately adjacent to the current study area. No special status botanical species were observed during current or previous surveys. All of the observed sensitive species are California Species of Concern (with no federal or state listing) and are not generally regulated as individual species; however, all of the bird species are protected by the Migratory Bird Treaty Act (no federal or state listing), which is intended to prevent impacts to active nests.

Habitat suitable for raptor and migratory bird nesting is present within and around the site. Presence of this potential habitat is the basis for recommendation of a preconstruction survey (valid for 30 days) for nesting birds (raptors in particular) prior to any site disturbance during the nesting season (February 1 through August 31). If nesting raptors or migratory birds are present avoidance of nesting trees will be required and a buffer determined by the project biologist is recommended until juvenile birds have fledged and/or an authorized biologist has verified that the nest has become inactive.

Based on the results of surveys this year (and those of previous years), it can be reasonably concluded that burrowing owl is not currently occupying any portion of the site. Although no BUOW or sign has been observed on the subject property during several biological surveys of the site, a 30-day preconstruction clearance survey should be conducted prior to site clearing and disturbance. This is based upon presence of suitable vegetative habitat for BUOW, California ground squirrel activity, and other information presented in this and previous biological reports for the property.

Suitable critical habitat to support SBKR is present onsite and in the general area. Trapping studies conducted onsite and over a larger study area in 2005 and 2011 did not find SBKR present within the current study area/planned impact area. SBKR occupied critical habitat is

present adjacent to the project area (to the east), based on 2005 and 2011 SBKR trapping studies of the general area.

The proponent has planned the project to avoid known occupied habitat based on the occupied trap lines of two (2) trapping studies. The plan was designed to avoid all of the occupied SBKR trap locations, 71% of potentially occupied habitat as designated by NRAI in 2011 and more than 50% of the alluvial fan sage scrub/critical habitat within the full survey area. Consultation with the U. S. Fish and Wildlife Service and mitigation measures will be required prior to any habitat disturbance on the site.

Other sensitive species trapped during SBKR studies included northwestern San Diego pocket mouse and Los Angeles pocket mouse. Impacts to these species are generally not regulated.

The 2006 jurisdictional delineation identified one (1) jurisdictional feature onsite; however, the 2015 reevaluation found that the site is cut off from upstream drainages by the placement of a flood control structure. The site no longer receives water from the immediate east. No jurisdictional features are currently present on the property. No evidence of flow due to runoff of precipitation was found onsite.

A 2006 heritage tree survey identified 50 heritage trees within the current study area. If impacts to this site are proposed the survey should be updated and consultation with the City of Highlands initiated to determine any required mitigation and minimization measures.

Scalebroom is present within portions of the drainages onsite. This plant is a persistent species capable of lifting concrete improvements placed above graded areas containing remnants of the plant. We recommend both a focused survey for the location of the plant on the property and eradication of the plant from any areas planned for development prior to soil disturbance.



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Figure 7

Proposed Development
(PDF provided by Albert A. Webb Associates, 12/8/2015)

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APPENDIX A

Table 3. List of plant (N=106) and wildlife (N=31) species observed/identified on the Greenspot Partners West site by L&L during the current 2015 survey effort. Plants were identified using keys, descriptions, and illustrations in Abrams (1923-1960), Hickman (1993), Munz (1974), and Parker (1999). Plant taxonomy and nomenclature generally follows Hickman. A single asterisk (*) indicates non-native plant taxa. Two asterisk (**) indicate a special status species.

<u>Scientific Name</u>	<u>Plants (N=106)</u>	<u>Common Name</u>
Amaranthaceae <i>Amaranthus albus</i>		Pigweed Family Tumble Pigweed
Anacardiaceae <i>Rhus ovata</i> <i>Schinus molle</i>		Sumac Family Sugar Bush Peruvian Pepper*
Areaceae <i>Washingtonia robusta</i>		Palm Family Mexican Fan Palm*
Asteraceae <i>Ambrosia acanthicarpa</i> <i>Artemisia californica</i> <i>Baccharis salicifolia</i> <i>Bebbia juncea</i> <i>Carduus pycnocephalus</i> <i>Centaurea melitensis</i> <i>Chaenactis artemisiifolia</i> <i>Chaenactis glabriuscula</i> <i>Chamomilla suaveolens</i> <i>Conyza bonariensis</i> <i>Conyza canadensis</i> <i>Deinandra species</i> <i>Encelia farinosa</i> <i>Ericameria species</i> <i>Erigeron foliosus</i> <i>Filago californica</i> <i>Gnaphalium luteo-album</i> <i>Gutierrezia species</i> <i>Helianthus annuus</i> <i>Heterotheca grandiflora</i> <i>Lactuca serriola</i> <i>Lasthenia californica</i> <i>Senecio flaccidus</i> <i>Senecio vulgaris</i> <i>Sonchus oleraceus</i> <i>Stephanomeria virgata</i> <i>Uropappus lindleyi</i>		Sunflower Family Annual Bur-Sage California Sagebrush Mulefat Sweetbush Italian Thistle* Tocalote* White Pincushion Yellow Pincushion Pineapple Weed* Flax-leaved Fleabane Horseweed Unidentified Tarweed Brittlebush Goldenbush Fleabane Aster California Filago Everlasting Cudweed Matchweed Annual Sunflower Telegraph Weed Prickly-lettuce* Goldfields Sand Washed Butterweed Common Groundsel* Sow-thistle* Twiggy Wreath Plant Silver Puffs

Scientific Name

Plants (continued)

Common Name

Boraginaceae

Amsinckia menziesii var. *intermedia*
Cryptantha sp.
Pectocarya linearis
Plagiobothrys sp.

Borage Family

Fiddleneck
Unidentified Forget-Me-Not
Slender Pectocarya
Popcorn Flower

Brassicaceae

Hirschfeldia incana
Raphinus sativus
Sisymbrium irio

Mustard Family

Short-pod Mustard*
Wild Radish*
London Rocket*

Cactaceae

Opuntia parryi
Opuntia sp.

Cactus Family

Valley Cholla
Beavertail Cactus

Caprifoliaceae

Sambucus mexicana

Honeysuckle Family

Blue Elderberry

Chenopodiaceae

Salsola tragus
Chenopodium album

Goosefoot Family

Russian Thistle
Lamb's Quarters*

Convolvulaceae

Calystegia macrostegia

Mourning-Glory Family

Morning Glory

Crassulaceae

Crassula connata

Stonecrop Family

Pygmy Stonecrop

Cucurbitaceae

Cucurbita foetidissima
Marah macrocarpus

Gourd Family

Calabazilla
Wild-cucumber

Cupressaceae

Juniperus californica

Cypress Family

California Juniper

Euphorbiaceae

Chamaesyce albomarginata
Croton californicus
Euphorbia sp.

Spurge Family

Rattlesnake Weed
California Croton
Ground Spurge*

Fabaceae

Albizia lophantha
Lotus scoparius
Lotus species
Lupinus bicolor
Lupinus excubitus
Medicago polymorpha
Melilotus alba

Pea Family

Plume Acacia*
Deerweed
Unidentified Lotus
Dove Lupine
Interior Bush Lupine
Burclover*
White Sweetclover*

Scientific Name

Plants (continued)

Common Name

Geraniaceae

Erodium cicutarium

Erodium botrys

Geranium Family

Red-stemmed Filaree*

Long-beaked Storksbill*

Hydrophyllaceae

Eriodictyon sp. (*crassifolium*?)

Phacelia sp. (*distans*?)

Waterleaf Family

Yerba Santa

Distant Phacelia

Lamiaceae

Salvia apiana

Salvia columbariae

Trichostemma lanceolatum

Mint Family

White Sage

Chia

Vinegar Weed

Liliaceae

Dichelostemma capitatum

Yucca whipplei

Lily Family

Wild Hyacinth

Chaparral Yucca

Lythraceae

Lagerstroemia sp.

Loosestrife Family

Crepe Myrtle*

Malvaceae

Malva parviflora

Mallow Family

Cheeseweed*

Myrtaceae

Eucalyptus sp.

Myrtle Family

Gum Tree*

Oleaceae

Fraxinus sp.

Olea europea

Olive Family

Ash*

Olive*

Onagraceae

Cammissonia californica

Cammissonia sp.

Evening Primrose Family

Mustard Evening Primrose

Evening Primrose or Sun Cups

Plantaginaceae

Plantago erecta

Plantain Family

Dot-seed Plantain

Plantanaceae

Platanus racemosa

Sycamore Family

Western Sycamore

Pinaceae

Pinus sp.

Pine Family

Pine*

Poaceae

Avena barbata

Avena sp.

Bromus diandrus

Bromus madritensis ssp. *rubens*

Bromus tectorum

Grass Family

Slender Wild Oat*

Oat*

Ripgut Brome*

Foxtail Chess*

Cheatgrass*

Scientific Name

Plants (continued)

Common Name

Poaceae (continued)

Cynodon dactylon
Digitaria sanguinalis
Lamarckia aurea
Schismus barbatus
Vulpia sp.

Grass Family

Bermuda Grass*
Large Crabgrass*
Goldentop*
Mediterranean Grass
Fescue*

Polemoniaceae

Eriastrum sapphirinum

Phlox Family

Sapphire Woolstar

Polygonaceae

Eriogonum fasciculatum var. *foliolosum*
Eriogonum sp.
Eriogonum thurberi
Polygonum aviculare

Buckwheat Family

California Buckwheat
Unidentified Buckwheat
Thurber's Buckwheat
Knotweed*

Primulaceae

Anagallis arvensis

Primrose Family

Scarlet Pimpernel*

Rhamnaceae

Rhamnus crocea

Buckthorn Family

Spiny Redberry

Rosaceae

Adenostoma fasciculatum
Heteromeles arbutifolia
Prunus illicifolia

Rose Family

Chamise
Toyon
Holly-leaved Cherry

Salicaceae

Populus fremontii

Willow Family

Western Cottonwood

Simaroubaceae

Ailanthus altissima

Ailanthus Family

Tree of Heaven*

Simmondsiaceae

Simmondsia chinensis

Joboba Family

Joboba*

Solanaceae

Datura wrightii
Nicotiana glauca
Solanum xanti

Nightshade Family

Western Jimsonweed
Tobacco Tree*
Purple Nightshade

Tamaricaceae

Tamarix sp.

Tamarisk Family

Tamarisk*

Viscaceae

Phorodendron sp.

Mistletoe Family

Unidentified Mistletoe (Juniper)

Zygophyllaceae

Tribulus terrestris

Caltrop Family

Puncture Vine*

<u>Scientific Name</u>	Birds (N=27)	<u>Common Name</u>
Acciptiridae <i>Buteo jamaicensis</i>		Hawk Family Red-tail Hawk
Aegithalidae <i>Psaltriparus minimus</i>		Long-tailed Tit Family Bushtit
Bombycillidae <i>Phainopepla nitens</i>		Waxwing Family Phainopepla
Cardinalidae <i>Pheuclicus melanocephalus</i>		Cardinal Family Black-headed Grosbeak
Charadriidae <i>Charadrius vociferus</i>		Plover Family Killdeer
Columbidae <i>Zenaida macroura</i>		Pigeon Family Mourning Dove
Corvidae <i>Aphelocoma californica</i> <i>Corvus brachyrhynchos</i> <i>Corvus corax clarionensis</i>		Jay and Crow Family Western Scrub Jay American Crow Common Raven
Emberizidae <i>Melospiza melodia</i> <i>Pipilo crissalis</i> <i>Pipilo maculatus</i>		Emberizine Sparrow Family Song Sparrow California Towhee Spotted Towhee
Falconidae <i>Falco sparverius</i>		Falcon Family American Kestrel
Icteridae <i>Euphagus cyanocephalus</i>		Icterid Family Brewer's Blackbird
Fringillidae <i>Carduelis psaltria</i> <i>Carpodacus mexicanus</i>		Finch Family Lesser Goldfinch House Finch
Mimidae <i>Mimus polyglottos polyglottos</i>		Mockingbird Family Northern Mockingbird
Odontophoridae <i>Callipepla californica californica</i>		Quail Family California Quail
Picidae <i>Colaptes auratus</i>		Woodpecker Family Northern Flicker
Sturnidae <i>Sturnus vulgaris</i>		Starling Family European Starling

Scientific Name

Birds (continued)

Common Name

Trochilidae

Calypte anna
Calypte costae

Hummingbird Family

Anna's Hummingbird
Costa's Hummingbird

Troglodytidae

Thryomanes bewickii

Wren Family

Bewick's Wren

Turdidae

Sialia currucoides

Thrush Family

Mountain Bluebird

Tyrannidae

Sayornis nigricans
Sayornis saya
Tyrannus verticalis

Tyrant Flycatchers

Black Phoebe
Say's Phoebe
Western Kingbird

Mammals (N=2)

Leporidae

Sylvilagus audubonii

Rabbit Family

Desert Cottontail

Sciuridae

Spermophilus beecheyi

Squirrel Family

California Ground Squirrel

Reptiles & Amphibians (N=2)

Iguanidae

Uta stansburiana

Iguanid Family

Side-blotched Lizard

Teiidae

Aspidoscelis tigris stejnegeri

Teiid Lizard Family

Coastal Whiptail**

* Excludes invertebrates

Table 4. List of plant (N=128) and wildlife (N=46) species identified on the full Greenspot Partners site. This list includes plant species detected during previous studies on the site by L&L in 2005, 2006, 2011 & 2014. Not all plants included on this list were observed during the present study due to season. Plants were identified using keys, descriptions, and illustrations in Abrams (1923-1960), Hickman (1993), Munz (1974), and Parker (1999). Plant taxonomy and nomenclature generally follows Hickman. A single asterisk (*) indicates non-native plant taxa.

<u>Scientific Name</u>	Plants (N=128)	<u>Common Name</u>
Amaranthaceae		Pigweed Family
<i>Amaranthus albus</i>		Tumble Pigweed
Anacardiaceae		Sumac Family
<i>Rhus ovata</i>		Sugar Bush
<i>Schinus molle</i>		Peruvian Pepper*
<i>Schinus teribenthifolius</i>		Brazilian Pepper*
Asteraceae		Sunflower Family
<i>Ambrosia acanthicarpa</i>		Annual Bur-Sage
<i>Ambrosia psilostachya</i>		Western Ragweed
<i>Artemisia californica</i>		California Sagebrush
<i>Baccharis salicifolia</i>		Mulefat
<i>Bebbia juncea</i>		Sweetbush
<i>Carduus pycnocephalus</i>		Italian Thistle*
<i>Centaurea melitensis</i>		Tocalote*
<i>Chaenactis glabriuscula</i>		Yellow Pincushion
<i>Chamomilla suaveolens</i>		Pineapple Weed*
<i>Cirsium</i> sp.		Thistle
<i>Conyza boniarenensis</i>		Flax-leaved Fleabane
<i>Conyza canadensis</i>		Horseweed
<i>Deinandra fasciculata</i>		Slender Tarweed
<i>Encelia farinosa</i>		Brittlebush
<i>Ericameria</i> sp.		Goldenbush
<i>Erigeron foliosus</i>		Fleabane Aster
<i>Filago californica</i>		California Filago
<i>Gazinia</i> sp.		Gazinia*
<i>Gnaphalium luteo-album</i>		Everlasting Cudweed
<i>Gutierrezia</i> sp.		Matchweed
<i>Helianthus annuus</i>		Annual Sunflower
<i>Heterotheca grandiflora</i>		Telegraph Weed
<i>Lactuca serriola</i>		Prickly-lettuce*
<i>Lasthenia californica</i>		Goldfields
<i>Lepidospartum squamatum</i>		Scalebroom
<i>Senecio flaccidus</i>		Sand Washed Butterweed
<i>Senecio vulgaris</i>		Common Groundsel*
<i>Sonchus oleraceus</i>		Sow-thistle*
<i>Sonchus asper</i>		Prickly Sow-thistle*
<i>Stephanomeria virgata</i>		Twiggy Wreath Plant
<i>Uropappus lindleyi</i>		Silver Puffs
<i>Xanthium strumarium</i>		Cocklebur

Scientific Name

Plants (continued)

Common Name

Boraginaceae

Amsinckia menziesii var. *intermedia*
Cryptantha sp.
Heliotropium curassavicum
Plagiobothrys sp.

Borage Family

Fiddleneck
Unidentified Forget-Me-Not
Wild Heliotrope
Popcorn Flower

Brassicaceae

Brassica nigra
Hirschfeldia incana
Lobularia maritime
Raphanus sativus
Sisymbrium altissimum
Sisymbrium irio

Mustard Family

Black Mustard*
Short-pod Mustard*
Sweet Alyssum*
Wild Radish*
Tumble Mustard*
London Rocket*

Cactaceae

Opuntia parryi
Opuntia sp.

Cactus Family

Valley Cholla
Beavertail Cactus

Caprifoliaceae

Sambucus mexicana

Honeysuckle Family

Blue Elderberry

Chenopodiaceae

Salsola tragus
Chenopodium album

Goosefoot Family

Russian Thistle
Lamb's Quarters*

Convolvulaceae

Calystegia macrostegia

Mourning-Glory Family

Morning Glory

Crassulaceae

Crassula sp.
Dudleya lanceolata

Stonecrop Family

Unidentified Stonecrop
Lanceleaf Dudleya

Cucurbitaceae

Cucurbita foetidissima
Cucurbita palmata

Gourd Family

Calabazilla
Coyote Gourd

Cupressaceae

Juniperus californica

Cypress Family

California Juniper

Cyperaceae

Cyperus eragostris

Sedge Family

Tall Umbrella Nutsedge

Euphorbiaceae

Chamaesyce albomarginata
Croton californicus
Eremocarpus setigerus
Euphorbia sp.

Spurge Family

Rattlesnake Weed
California Croton
Doveweed
Ground Spurge*

Scientific Name

Plants (continued)

Common Name

Fabaceae

Lotus scoparius
Lotus sp.
Lupinus bicolor
Lupinus excubitus
Medicago polymorpha
Melilotus alba
Melilotus indica

Pea Family

Deerweed
Unidentified Lotus
Dove Lupine
Interior Bush Lupine
Burclover*
White Sweetclover*
Sourclover*

Geraniaceae

Erodium cicutarium
Erodium botrys

Geranium Family

Red-stemmed Filaree*
Long-beaked Storksbill*

Hydrophyllaceae

Eriodictyon sp. (*crassifolium*?)
Phacelia sp. (*distans*?)

Waterleaf Family

Yerba Santa
Distant Phacelia

Lamiaceae

Salvia apiana
Salvia columbariae
Trichostemma lanceolatum

Mint Family

White Sage
Chia
Vinegar Weed

Liliaceae

Dichelostemma capitatum
Yucca whipplei

Lily Family

Wild Hyacinth
Chaparral Yucca

Lythraceae

Lagerstroemia sp.

Loosestrife Family

Crepe Myrtle*

Malvaceae

Malva parviflora

Mallow Family

Cheeseweed*

Myrtaceae

Eucalyptus sp.

Myrtle Family

Gum Tree*

Oleaceae

Olea europea

Olive Family

Olive*

Onagraceae

Cammissonia sp.
Clarkia purpurea
Oenothera elata ssp. *hookeri*
Epilobium ciliatum var. *ciliatum*

Evening Primrose Family

Evening Primrose or Sun Cups
Purple Clarkia
Hooker's Evening Primrose
Green Willowherb

Oxalidaceae

Oxalis corniculata

Oxalis Family

Creeping Wood-sorrel*

Pinaceae

Pinus sp.

Pine Family

Pine*

Scientific Name

Plants (continued)

Common Name

Plantaginaceae

Plantago erecta

Plantain Family

Dot-seed Plantain

Plantanaceae

Platanus racemosa

Sycamore Family

Western Sycamore

Poaceae

Avena barbata.

Bromus diandrus

Bromus madritensis ssp. rubens

Bromus tectorum

Cynodon dactylon

Digitaria sanguinalis

Lamarckia aurea

Leptochloa univerva

Poa annua

Polypogon monspiliensis

Schismus barbatus

Vulpia sp.

Grass Family

Slender Wild Oat*

Ripgut Brome*

Foxtail Chess*

Cheatgrass*

Bermuda Grass*

Large Crabgrass*

Goldentop*

Spangletop*

Annual Bluegrass*

Rabbit's Foot Grass

Mediterranean Grass

Fescue*

Polemoniaceae

Eriastrum sapphirinum

Phlox Family

Sapphire Woolstar

Polygonaceae

Eriogonum fasciculatum var. foliolosum

Eriogonum sp.

Eriogonum thurberi

Polygonum aviculare

Rumex crispus

Buckwheat Family

California Buckwheat

Unidentified Buckwheat

Thurber's Buckwheat

Knotweed*

Curly Dock*

Portulacaceae

Portulaca oleracea

Purslane Family

Common Purslane*

Primulaceae

Anagallis arvensis

Primrose Family

Scarlet Pimpernel*

Rhamnaceae

Ceanothus crassifolius

Rhamnus crocea

Buckthorn Family

Hoaryleaf Ceanothus

Spiny Redberry

Rosaceae

Adenostoma fasciculatum

Prunus illicifolia

Rose Family

Chamise

Holly-leaved Cherry

Salicaceae

Populus fremontii

Salix sp.

Willow Family

Western Cottonwood

Willow

<u>Scientific Name</u>	Plants (continued)	<u>Common Name</u>
Scrophulariaceae <i>Mimulus guttatus</i> <i>Veronica anagallis-aquatica</i>		Figwort Family Seep Monkeyflower Water Speedwell*
Simmondsiaceae <i>Simmondsia chinensis</i>		Joboba Family Joboba*
Solanaceae <i>Datura wrightii</i> <i>Nicotiana glauca</i> <i>Solanum xanti</i>		Nightshade Family Western Jimsonweed Tobacco Tree* Purple Nightshade
Tamaricaceae <i>Tamarix</i> sp.		Tamarisk Family Tamarisk*
Typhaceae <i>Typha</i> sp.		Cattail Family Unidentified Cattail
Urticaceae <i>Urtica urens</i>		Nettle Family Dwarf Nettle*
Viscaceae <i>Phorodendron</i> sp. <i>Phorodendron</i> sp.		Mistletoe Family Unidentified Mistletoe (Juniper) Unid. Mistletoe (Sycamore)
Zygophyllaceae <i>Tribulus terrestris</i>		Caltrop Family Puncture Vine*
	Birds (N=37)	
Accipitridae <i>Accipiter cooperii</i> <i>Buteo jamaicensis</i>		Hawk Family Cooper's Hawk Red-tail Hawk
Aegithalidae <i>Psaltriparus minimus</i>		Long-tailed Tit Family Bushtit
Apodidae <i>Aeronautes saxatalis</i>		Swift Family White-Throated Swift
Ardeidae <i>Ardea herodias wardi</i>		Heron Family Great Blue Heron
Bombycillidae <i>Phainopepla nitens</i>		Waxwing Family Phainopepla
Cardinalidae <i>Pheuclicus melanocephalus</i>		Cardinal Family Black-headed Grosbeak

<u>Scientific Name</u>	Birds (continued)	<u>Common Name</u>
Charadriidae <i>Charadrius vociferus</i>		Plover Family Killdeer
Columbidae <i>Zenaida macroura</i>		Pigeon Family Mourning Dove
Corvidae <i>Aphelocoma californica</i> <i>Corvus brachyrhynchos</i> <i>Corvus corax clarionensis</i>		Jay and Crow Family Western Scrub Jay American Crow Common Raven
Emberizidae <i>Pipilo crissalis</i> <i>Pipilo maculatus</i>		Emberizine Sparrow Family California Towhee Spotted Towhee
Falconidae <i>Falco sparverius</i>		Falcon Family American Kestrel
Icteridae <i>Euphagus cyanocephalus</i> <i>Icterus bullockii</i>		Icterid Family Brewer's Blackbird Bullock's Oriole
Fringillidae <i>Carduelis lawrencei</i> <i>Carduelis psaltria</i> <i>Carpodacus mexicanus</i>		Finch Family Lawrence's Goldfinch Lesser Goldfinch House Finch
Laniidae <i>Lanius ludovicianus</i>		Shrike Family Loggerhead Shrike
Mimidae <i>Mimus polyglottos polyglottos</i> <i>Toxostoma redivivum redivivum</i>		Mockingbird Family Northern Mockingbird California Thrasher
Odontophoridae <i>Callipepla californica californica</i>		Quail Family California Quail
Passeridae <i>Passer domesticus</i>		Old World Sparrow Family House Sparrow
Picidae <i>Colaptes auratus</i> <i>Picoides nuttallii</i>		Woodpecker Family Northern Flicker Nuttall's Woodpecker
Sturnidae <i>Sturnus vulgaris</i>		Starling Family European Starling
Trochilidae <i>Calypte anna</i> <i>Calypte costae</i>		Hummingbird Family Anna's Hummingbird Costa's Hummingbird

<u>Scientific Name</u>		<u>Common Name</u>
	Birds (continued)	
Troglodytidae <i>Thryomanes bewickii</i> <i>Troglodytes aedon</i>		Wren Family Bewick's Wren House Wren
Turdidae <i>Sialia mexicana</i>		Thrush Family Western Bluebird
Tyrannidae <i>Myiarchus cinerascens</i> <i>Sayornis nigricans</i> <i>Sayornis saya</i> <i>Tyrannus verticalis</i>		Tyrant Flycatchers Ash-throated Flycatcher Black Phoebe Say's Phoebe Western Kingbird
	Mammals (N=5)	
Canidae <i>Canis latrans</i> <i>Canis domesticus</i>		Dog, Fox & Coyote Family Coyote Domestic Dog
Leporidae <i>Lepus californicus</i> <i>Sylvilagus audubonii</i>		Rabbit Family Black-tailed Jackrabbit Desert Cottontail
Sciuridae <i>Spermophilus beecheyi</i>		Squirrel Family California Ground Squirrel
	Reptiles & Amphibians (N=4)	
Colubridae <i>Pituophis catenifer</i>		Colubrid Snake Family Gopher Snake
Iguanidae <i>Sceloporus occidentalis</i> <i>Uta stansburiana</i>		Iguanid Family Western Fence Lizard Side-blotched Lizard
Teiidae <i>Cnemidophorus tigris</i>		Teiid Lizard Family Coastal Western Whiptail

* Excludes invertebrates

Table 5: Sensitive Species Probability Table

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
PLANTS (n=50)				
<i>Ambrosia monogyra</i> Singlewhorl burrobrush	Chaparral and Sonoran desert scrub. Sandy soils Washes and dry river beds. Elev. 32-1902 ft.	Aug - Nov	Fed: None Calif: S2 CNPS: List 2B.2	Low
<i>Arenaria paludicola</i> Marsh sandwort	Mainly wetlands & freshwater marshes in a Mediterranean climate, 0- 1476 feet. can grow in saturated acidic bog soils and sandy soils with a high organic content. Occur in WA as well as San Fran, Santa Cruz, San Luis Obispo, and San Bern Cos. in Cal.	May- August	Fed: END Ca: END CNPS: List 1B.1	Absent
<i>Astragalus hornii</i> var. <i>hornii</i> Horn's milk-vetch	Sandy flats, Meadows and seeps, playas. Along lake margins, alkali sites 60-850m.s. San Joaquin Valley, South Coast, Western Transverse Ranges, w. edge of the Mojave Desert	May - Oct	Fed: None Calif: S1 CNPS: List 1B.1	Absent
<i>Atriplex coronata</i> var. <i>notatior</i> San Jacinto Valley crownscale	Alkali sink, saltbush scrub; endemic to Perris and Elsinore Basin areas, Riverside Co.	May - August	Fed: END Calif: S 1 CNPS: List 1B.1	Absent
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltscale	Correct identification is uncertain; coastal bluff scrub, coastal scrub on alkaline soils; Channel Islands, coastal S Calif., also very uncommon in San Jacinto Val near Lakeview (Riv. Co.).	April- Oct	Fed: None Calif: S1 CNPS: List 1B.2	Absent
<i>Berberis nevinii</i> Nevin's barberry	Coastal sage scrub, chaparral, oak woodland, riparian scrub on sandy or gravelly soils usually below 2700 ft.; scattered localities in LA, San Bern, Riv, and San Diego Cos.	Mar – June (can ID all year)	Fed: END Calif: END CNPS: List 1B.1	Absent
<i>Brodiaea filifolia</i> Thread-leaved brodiaea	Grassland, vernal pools /alkali sink in inland valleys; on upland heavy clay soils nearer coast; scattered in S Ca. foothills and valleys (LA Co to S Bern. & San Diego Cos.), below ±2500 ft. el.	May - June	Fed: THR Calif: END CNPS: List 1B.1	Absent
<i>California macrophylla</i> Round-leaved filaree	Clay soils, open places in shrubland or grassland, below about 3500 ft. elev.; Central Valley South to N Mexico and east to Utah.	March- May	Fed: None Calif: S3? CNPS: List 1B.2 USFS: S	Absent
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa-lily	Usually in wetlands, in meadows, chaparral, riparian and pine forest. Elevational range 1000-2390 m In the San Jacinto Mts., Tehachapi Mt, Transvers Ranges,	April - July	Fed: None Calif: S3? CNPS: List 1B.2 USFS: S	Absent (elev.range)
<i>Calochortus plummerae</i> Plummer's mariposa-lily	Chaparral, coastal scrub, pine forest, valley, foothill grassland, 100-1700m el.; widespread but uncommon throughout S Ca. mtns., foothills, and valleys	May - July	Fed: None Calif: S4 CNPS: List 4.2	Low-Mod
<i>Carex comosa</i> Bristly sedge	Marshes and swamps, lake margins, valley and foothill grassland, coastal prairie, wet places -5 to 1005m.	May - Sept	Fed: None Calif: S2 CNPS: List 2B.1	Absent
<i>Castilleja cinerea</i> Ash-gray paintbrush	Typically found in meadows, clay openings and pebble-plains within Creosote bush scrub, pinyon-juniper woodland & red fir forest habitats. Elev. 1800-2960m. Mainly in the San Bernardino Mnts.	June- August	Fed: THR Calif: S2 CNPS: List 1B.2	Absent (elev.range)
<i>Castilleja lasiorhyncha</i> San Bernardino Mountain's owl's-clover	Montane Meadows, Pebble Pavement/ Plain. moist edges of springs/ seeps on clay soil in San Bernardino Mnts. Wet meadows, openings in coniferous forest. Soil at Cuyamaca Lake historic pop Holland stony fine sandy loam, loamy alluvial land. San Bern. Co. near Big Bear Lake and Lake Arrowhead Elev range 1300-2390 m	May - Aug	Fed: None Calif: S2 CNPS: List 1B.2 USFS: S	Absent (elev.range)
<i>Centromadia pungens</i> ssp. <i>laevis</i> (<i>Hemizonia pungens</i> ssp. <i>laevis</i>) Smooth tarplant	Seasonally wet low elev. Grassland, also fallow fields, drainage ditches; primarily in SW Riv. Co. but a few sites in interior valleys of LA, San Bern., San Diego Cos. Elevational range from 0-640 m	April – Sept	Fed: None Calif: S2 CNPS: List 1B.1	Absent
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> Salt marsh bird's-beak	Coastal salt marsh and coastal dunes. Limited to the higher zones of the salt marsh habitat. Below 100 ft. elevation	May - Oct	Fed: END Calif: END CNPS: List 1B.2	Absent

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	LA, San Bernardino, and Riverside Cos.; sandy places in alluvial washes, coastal or desert scrublands, valley and foothill grasslands," +/- 1000-4000 ft. elev.	April - June	Fed: None Calif: S3 CNPS: List 1B.1 USFS: S	Moderate
<i>Chorizanthe xanti</i> var. <i>leucotheca</i> White-bracted spineflower	Sandy or gravelly soil, desert shrubland, pinyon-juniper woodland, 300-1200m elev.; E San Bernardino and N San Jacinto Mts.	April-June	Fed: None Calif: S3 CNPS: List 1B.2 USFS: S	Low
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> Peruvian dodder	Freshwater marshes and swamps. 15-280m	July - Oct	Fed: None Calif: SH CNPS: List 2B.2	Absent
<i>Dodecahema leptocerus</i> Slender-horned spineflower	Open, sandy alluvial benches in valleys & canyons. Shrubland, cismontane woodland; San Fernando Valley, Santa Ana River Valley, W Riverside Co. Range 650 – 2500 ft. El.	April - June	Fed: END Calif: END CNPS: List 1B.1	Low
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> Santa Ana River woollystar	Shrubland, alluvial fans and plains; endemic to Santa Ana River watershed, Orange Co. to San Bernardino Co. (Zembel & Kramer 1984)	May - Sept.	Fed: END CA: END CNPS: List 1B.1	Low
<i>Fimbristylis thermalis</i> Hot springs fimbristylis	Found in fresh water wetlands, freshwater marsh, Mineralized sands of springs, meadows and alkaline seeps. El. range 360 – 4400ft.	July - Sept	Fed: None Calif: S2 CNPS: List 2B.2	Absent
<i>Galium californicum</i> ssp. <i>Primum</i> Alvin Meadow bedstraw	Chaparral, lower montane coniferous forest. Granitic, sandy soils. Grows in shade of trees and shrubs at the lower edge of the pine forest (pine/chaparral ecotone) 1350-1700m	May - July	Fed: None Calif: S1 CNPS: List 1B.2 USFS: S	Absent
<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	Coastal fresh water marshes and swamps below 5500 ft elev. Distributed in SW Calif. PRESUMED EXTINCT. Last seen in 1937.	Aug – Oct	Fed: None Calif: SH CNPS: List 1A	Absent
<i>Heuchera parishii</i> Parish's alumroot	Rocky areas, Alpine boulder and rock field, lower and upper montane and subalpine coniferous forest in the San Bernardino Mountains. Elevation 1500–3800 m.	June - August	Fed: None Calif: S3 CNPS: List 1B.3 USFS: S	Absent (elev.range)
<i>Horkelia cuneata</i> ssp. <i>puberula</i> Mesa horkelia	Perennial herb found in chaparral, cismontane woodland and coastal scrub on sandy or gravelly soils. Elevational range 229 – 2296 feet.	Feb – July (Sept rare)	Fed: None Calif: S1 CNPS: List 1B.1 USFS: S	Moderate
<i>Imperata brevifolia</i> California satintail	Perennial herb found in wet springs, meadows, streamsides, flood plains in chaparral, coastal scrub, Mojavean desert scrub. San Joaquin Valley, San Gabriel Mts, San Bernardino Mts., Elevational range 0 – 1640ft.	Sept - May	Fed: None Calif: S3 CNPS: List 2B.1 USFS: S	Absent
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i> Silver-haired ivesia	Meadows and seeps, pebble plains in Upper montane coniferous forest. Elev. Range 1463-2960m. Found in the San Bernardino Mountains	June-August	Fed: None Calif: S2 CNPS: List 1B.2 USFS: S	Absent (elev.range)
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	Coastal salt marsh, inland saline playas, vernal pools; coastal sites Santa Barb. to Baja Ca, scattered inland sites incl. Kern Co., deserts, and W Riverside Co. 1-1220m elevation	Feb - June	Fed: None Calif: S2 CNPS: List 1B.1	Absent
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper grass	Shrublands (chaparral & coastal sage scrub) below about 2900 ft. elev.; LA Co, inland to Riverside & San Bernardino Cos, and S to Baja Calif	Jan - July	Fed: None Calif: S3 CNPS: List 4.3	Moderate
<i>Lilium parryi</i> Lemon lily	Meadows, seeps and streambanks; 1220-2745m elev; in the mountains of S Calif. and SE Arizona	July - August	Fed: None Calif: S3 CNPS: List 1B.2 USFS: S	Absent (elev.range)
<i>Lycium parishii</i> Parish's desert-thorn	Arid slopes and sand flats, below ±3300 ft. elev.; W low desert (Riv. and San Diego Cos.), and interior valleys (Riv Co.); disjunct to Ariz, and Sonora (Mexico); historic locations in San Bernardino Val now extinct	March - April	Fed: None Calif: S1 CNPS: List 2B.3	Absent
<i>Malacothamnus parishii</i> Parish's bush-mallow	Chaparral and coastal scrub. Elev. Range 305-455 m. "Known only from the type collection (in 1895). Extirpated by urbanization. RIV Co. record from the Santa Rosa Mtns. probably erroneous, based on a misidentification of <i>Sphaeralcea</i> . Field surveys unsuccessful." (CNPS, 2015)	June-July	Fed: None Calif: SX CNPS: List 1A USFS: S	Absent

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Monardella macrantha</i> ssp. <i>hallii</i> Hall's monardella	Montane forests valley and foothill grassland and mixed chaparral; 730-2195m elev; San Bern and San Gabriel Mts., Peninsular Ranges (Riverside and San Diego Cos.)	June – Oct	Fed: None Calif: S3 CNPS: List 1B.3 USFS: S	Absent (elev.range)
<i>Monardella pringlei</i> Pringle's monardella	Coastal scrub. Sandy hills 300-400m	May - June	Fed: None Calif: SX CNPS: List 1A	Absent
<i>Nama stenocarpum</i> Mud nama	Saline or alkaline mud flats of lakes, playa lakes, etc. Generally below about 1500 ft. elev.; occurrence near Mystic Lake	Jan. – July	Fed: None Calif: S1S2 CNPS: List 2B.2	Absent
<i>Nasturtium gambelii</i> Gambel's watercress	Montane streams, marshes and lake margins, 16 - 1083 ft. historically on south central and southern coast of California. Three populations known in CA from San Luis Obispo & Santa Barbara Cos. One Record from each S. San Bernardino, LA and Orange Cos from the early 1900 from collections locations vague and believed developed.	May - August	Fed: END Calif: THR CNPS: List 1B.1	Absent
<i>Packera bernardina</i> San Bernardino ragwort	Meadows and seeps, pebble plains in Upper montane coniferous forest. Elev. Range 1800-2300m. Found in the San Bernardino Mountains	May-July	Fed: None Calif: S2 CNPS: List 1B.2 USFS: S	Absent (elev.range)
<i>Perideridia parishii</i> ssp. <i>parishii</i> Parish's yampah	Meadows and seeps in lower and upper montane coniferous forest. Elev. Range 1465-3000m. Found in the San Bernardino Mountains.	June-August	Fed: None Calif: S2 CNPS: List 2B.2 USFS: S	Absent (elev.range)
<i>Ribes divaricatum</i> var. <i>parishii</i> Parish's gooseberry	Riparian woodland. On the banks of creeks in damp land, meadows or swamps. Willow swales in riparian habitats 65-100m	Feb - April	Fed: None Calif: SH CNPS: List 1A	Absent
<i>Schoenus nigricans</i> Black bog-rush	Marsh & Swamps often alkaline. 150 – 2000 m.	Aug - Sept	Fed: None Calif: S2 CNPS: List 2B.2 USFS: S	Absent
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i> Parish's checkerbloom	Chaparral, open conifer forest, sometimes on serpentine soils. Elevation 50–2200 m. Outer South Coast Ranges & Western Transverse Ranges (Santa Barbara Co.), San Bernardino Mts .	June - August	Fed: None Calif: RARE CNPS: List 1B.2 USFS: S	Low
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i> Bear Valley checkerbloom	Meadows and seeps in lower and upper montane coniferous forests and riparian woodlands. Elev. Range 1495-2685 m. Known only from the San Bernardino Mountains	May-August	Fed: None Calif: S2S3 CNPS: List 1B.2 USFS: S	Absent (elev.range)
<i>Sidalcea neomexicana</i> Salt Spring checkerbloom	Coastal scrub, desert scrub, chaparral, yellow pine forest (Alkaline playas and wetlands); 50-5000 ft. elevation SW Calif., Baja Ca., SW US, mainland Mexico	March - June	Fed: none Calif: S2S3 CNPS: List 2B.2 USFS: S	Low
<i>Sidalcea pedata</i> Bird-foot checkerbloom	Meadows and seeps. Mesic soils. Pebble plains. Elev. Range 1600-2500m. Known from the San Bernardino Mountains. thought to be Extirpated according to the CNDDDB.		Fed: END Calif: END CNPS: List 1B.1	Absent (elev.range)
<i>Sphenopholis obtusata</i> Prairie wedge grass	Mesic soils, meadows, seeps, cismontane woodland. Between 980-6560 ft. elev. ne South Coast (Santa Ana River), San Bernardino Mountains, south-central Peninsular Ranges (Cuyamaca Mtns), White and Inyo Mountains	April-July	Fed: none Calif: S2 CNPS: List 2B.2	Absent
<i>Streptanthus bernardinus</i> Laguna Mountain jewelflower	Moist canyons; 180-300m elev.; desert slopes of San Jacinto Mts., San Diego area, Arizona, tropical Mexico	May - Aug	Fed: None Calif: S3S4 CNPS: List 4.3	Absent
<i>Streptanthus campestris</i> Southern jewelflower	Chaparral or lower montane coniferous Forest. Elev. Between 670-2500 meters. San Bernardino, Riverside and San Diego Cos.	May - July	Fed: None Calif: S3 CNPS: List 1B.3 USFS: S	Absent (elev.range)
<i>Symphytotrichum defoliatum</i> San Bernardino aster	Near ditches, streams and springs. Cismontane woodland, lower montane coniferous forest, coastal scrub, meadows and seeps, marshes, swamps valley & foothill grassland. El. ≤ 6500 ft.	July-Nov	Fed: None Calif: S2 CNPS: List 1B.2 USFS: S	Absent
<i>Thelypteris puberula</i> var. <i>sonorensis</i> Sonoran maiden fern	Meadows, Seeps /streambanks between ±150 and 1800 ft. el; coastal foothills of Santa Monica, San Gabriel, San Bernardino Mts, desert foothills of San Jacinto Mts; to Az and Baja Ca.	Jan - Sept	Fed: None Calif: S2 CNPS: List 2B.2 USFS: S	Absent

Special Status Species	Habitat and Distribution	Flower season	Status Designation	Occurrence Probability
<i>Trichocoronis wrightii</i> var. <i>wrightii</i> Wright's trichocoronis	Alkaline meadows, marshes, vernal pools; San Joaquin Valley (now extinct), San Jacinto Valley, disjunct to Texas	May - Sept	Fed: None Calif: S1 CNPS: List 2B.1	Absent
Plant references: CDFW (1998, 1999, 2015), Hickman (ed., 1993) Munz (1974), Skinner & Pavlik (1994), USFWS (1993, 1996), CNPS 2015, Calflora 2015.				

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Occurrence Probability
FISH (3)			
<i>Catostomus santaanae</i> Santa Ana sucker	Silver fish with dark irregular blotches on the dorsal surface. 200m. in length. In small to medium permanent streams. LA and San Gabriel drainage, lower Santa Ana River.	Fed: THR Calif: SSC NDDB: S1	Absent
<i>Rhinichthys osculus</i> "subspecies 3" Santa Ana speckled dace	Endemic to Santa Ana and San Gabriel Riv. watersheds, historic in Big Tujunga Cyn. Santa Ana River populations in lower San Bernardino Mtn foothills & washes	Fed: None Calif: SSC NDDB: S1 USFS: S	Absent
<i>Gila orcuttii</i> Arroyo chub	Slow -moving or backwater sections of warm/ cool streams with mud or sand substrates. LA, San Gabriel, San Luis Rey, Santa Ana & Santa Margarita Rivers and Malibu and San Juan creeks.	Fed: None Calif: SSC NDDB: S2 USFS: S	Absent
REPTILES AND AMPHIBIANS (14)			
<i>Anniella pulchra pulchra</i> California silvery legless lizard	Various habitats, mainly shrublands, <6000' elevation; Coast Ranges from Bay area to northern Baja Calif., sw Sierra Nevada, parts of the Central Valley, Trans. and Peninsular. ranges	Fed: None Calif: SSC NDDB: S3 USFS: S	Moderate
<i>Aspidoscelis hyperythra</i> Orange-throated whiptail	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood. Sandy areas, patches of rock. Southern Ca., west of desert, to tip of Baja California.	Fed: None Calif: SSC NDDB: S2 USFS: S	Low
<i>Aspidoscelis tigris stejnegeri</i> Coastal whiptail	Woodlands, shrublands; SW Ca. through much of Baja Ca. , below ±7500 ft. elev.	Fed: None Calif: None NDDB: S2S3	Occurs
<i>Batrachoseps gabrieli</i> San Gabriel slender salamander	Lives and lays eggs in moist places on land. Found under large rocks, logs, and bark. A relict species, found only in a few locations in the San Gabriel Mts. and the western end of the San Bernardino Mts. 1,200 - 5,085 ft. elev. Inhabits forested talus slopes, and shaded areas near a stream.	Fed: None Calif: None NDDB: S2S3 USFS: S	Absent-Low
<i>Charina trivergata</i> Rosy boa	Rocky brushlands and desert. Attracted to permanent and intermittent streams. Death Valley, CA., to the tip of Baja California, and coastal southern CA to south-central Arizona.	Fed: None Calif: None NDDB: S3S4 USFS: S	Absent
<i>Charina umbratica</i> Southern rubber boa	Found in a few locales in the San Bernardino and San Jacinto mntn ranges. Woodland and coniferous forest. Usually they are found within several hundred meters of water. From 5000-9,150 ft. ele	Fed: None Calif: THR NDDB: S2S3 USFS: S	Absent
<i>Crotalus ruber</i> Northern red-diamond rattlesnake	Desert scrub, thorn scrub, and chaparral habitats below 4,000ft. San Bernardino County south through most of Baja California, Mexico.	Fed: None Calif: SSC NDDB: S2? USFS: S	High
<i>Diadophis punctatus</i> (ssp. <i>modestus</i> and <i>similis</i>) San Bernardino ringneck snake	Open relatively rocky areas within valley-foothill locales; mixed chaparral / annual grasslands; Riv. County, southwest SB, Vent. and LA counties, northwest Baja Calif.	Fed: None Calif: None NDDB: S2? USFS: S	Moderate
<i>Lampropeltis zonata parvirubra</i> California mountain Kingsnake (San Bernardino pop.)	Forests and chaparral with rock outcrops or talus, often riparian, 1200-8100 ft. elev.; San Gabriel, San Bernardino, & San Jacinto Mts	Fed: None Calif: SSC NDDB: S2 ? USFS: S	Low
<i>Phrynosoma blainvillii</i> Coast horned lizard	Open areas of sandy soil and low veg. in valleys, foothills and semiarid mts. 0-8000ft. Coastal sage scrub, low elevation chaparral, annual grassland, oak and riparian woodlands, and coniferous forests. SW CA to NW Baja CA, Mex	Fed: None Calif: SSC NDDB: S3S4	High

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Occurrence Probability
<i>Rana draytonii</i> California red-legged frog	Pools in low-gradient foothill and valley streams (esp. intermittent) to ±4000 ft.; only extant S CA pops are in Ventura Co. and Santa Rosa Plateau (Riv. Co.)	Fed: THR Calif: SSC NDDB: S2S3	Absent
<i>Rana muscosa</i> Southern Mountain yellow-legged frog	Always encountered within a few feet of water. Tadpoles may require up to 2 years to complete development	Fed: END Ca: END NDDB: S1 USFS: S	1.7 mi e in the mountains Absent
<i>Scaphiopus hammondii</i> Western spadefoot toad	Breeds in quiet streams & vernal pools, burrows beneath sand during dry season; W Ca., Cent. Val. To Baja Ca.	Fed: None Ca: SSC NDDB: S3	Low
<i>Thamnophis hammondii</i> Two-striped garter snake	In or near perennial fresh water and adjacent riparian habitat, usu. about pools in streams; SW Ca & NW Baja Ca	Fed: None Calif: SSC NDDB: S3S4 USFS: S	Low
BIRDS (20):			
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	Cismontane woodland, riparian forest/woodland (including oak or walnut woodland and gum trees), upper montane coniferous forest. Forages open areas over scrublands; CA, Mex, Central America.	Fed: None Calif: WL NDDB: S4	Nesting: Mod Foraging: Occurs
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	Breeds colonially in freshwater marshes, nomadic among marshes and fields in winter; almost completely endemic to Calif.	Fed: None Calif: END NDDB: S1S2	Low
<i>Aimophila ruficeps canescens</i> Southern California Rufous-crowned sparrow	Sparse, mixed chaparral, scrub, rocky, brushy slopes. Central California to Baja California.	Fed: None Calif: WL NDDB: S2S3	Moderate-High
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	Sage scrub and chaparral communities. Central Washington southward to Baja California, Mexico.	Fed: None Calif: WL NDDB: S2?	Moderate-High
<i>Aquila chrysaetos</i> Golden eagle (nesting & wintering)	Nests on rock ledge of cliff or in large tree (e.g., oak or eucalyptus in CA). Pair may have several alternate nests; may use same nest in consecutive years or shift to alternate nest used in different years. Forages in grassland and open habitats in rolling foothills, mtn areas, sage-juniper flats, and deserts. W. North America. This species is very sensitive to disturbance.	Fed: None Calif: FP, WL NDDB: S3	Nesting: Absent Foraging: Low
<i>Athene cunicularia</i> Burrowing owl (burrow sites and some wintering sites)	Open dry grassland, desert or shrubland areas. Small mammal burrows are an essential element of burrowing owl habitat. Although they can occasionally occupy man-made structures. SW Canada south to Tierra del Fuego.	Fed: None Calif: SSC NDDB: S3	Low (survey)
<i>Buteo regalis</i> Ferruginous hawk (wintering)	Foraging in agricultural fields, grasslands and desert scrub. California.	Fed: None Calif: WL NDDB: S3S4	Low
<i>Buteo swainsoni</i> Swainson's Hawk (nesting)	Grassland/agricultural; large trees for nesting, desert scrub w Joshua Tree & freemont cottonwood overstory, near streams and open fields. Breeds overwhelmingly in Great Basin and Cent Valley of Ca.	Fed: None Calif: THR NDDB: S3	Nesting: Low Foraging: Low
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	Inhabits extensive, relatively broad, well-shaded riparian forests. Declined to only a handful of tiny populations in California. Historically it occurred in most of the United States (excluding the northwestern states), and into Baja Ca and northern Mexico.	Fed: THR Calif: END NDDB: S1 USFS: S	Absent
<i>Elanus leucurus</i> White-tailed kite (nesting)	Breeds in woodlands and riparian forests or near marshes at the edge of open terrain/foraging areas such as savanna, partially cleared lands and cultivated fields, mostly in lowland situations. Pacific Coast (CA, no. Baja CA, OR), other scattered localities	Fed: None Calif: FP NDDB: S3S4	Nesting: Low Foraging: Mod
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher (nesting)	Rare and local is southern Calif.; breeds in extensive thickets of willow riparian forests; southwest US and northern Baja Calif.	Fed: END Calif: END NDDB: S1 USFS: S	Absent
<i>Eremophila alpestris actia</i> California horned lark	Short-grass prairie, "bald" hills, mtn meadows, open coastal plains, fallow fields and alkali flats. W/i coastal Sonoma Co. to San Diego Co., San Joaquin Valley and east to foothills	Fed: None Calif: WL NDDB: S3	Moderate
<i>Haliaeetus leucocephalus</i> Bald eagle (nesting & wintering)	Breed in large trees, usually near major rivers or lakes; winters more widely; wide but scattered distribution in N America; esp. coastal regions	Fed: Delisted Calif: END/FP NDDB: S2 USFS: S	Nesting: Absent Foraging: Low

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Occurrence Probability
<i>Icteria virens</i> Yellow-breasted chat (nesting)	Summer resident, inhabits riparian thickets of willow near watercourses, low dense riparian willow.	Fed: None Calif: SSC NDDB: S3	Absent
<i>Lanius ludovicianus</i> Loggerhead shrike (nesting)	Open areas where small trees, shrubs, and fences can provide suitable perches. Nests in small trees and large shrubs. Throughout much of North America.	Fed: None Calif: SSC NDDB: S4	Nesting: High Foraging: Occurs
<i>Plegadis chihi</i> White-faced ibis (nesting colony)	Fresh and saltwater marshes containing rushes and sedges for nesting. Also near ponds, rivers and some agricultural fields. 0-4300m elev. Widespread in western and mid-west US.	Fed: None Calif: WL NDDB: S3S4	Low
<i>Polioptila californica californica</i> coastal California gnatcatcher	Sage scrub comms. also chaparral, grasslands & riparian comms adjacent to or mixed w/ sage scrub. So Ventura Co to LA, Orange, Riv., San Bern., San D. Cos into Baja Ca, Mexico.	Fed: THR Calif: SSC NDDB: S2	Low (survey)
<i>Setophaga petechia</i> Yellow Warbler	Riparian, inc. willow, cottonwood, sycamore Alders and aspen for nesting and foraging, also conifer forest.	Fed: None Calif: SSC NDDB: S3S4	Absent
<i>Spinus lawrencei</i> Lawrence's goldfinch (nesting)	Nests in open oak or other woodlands. Dry grassy slopes with weed patches and chaparral, but is generally associated with oaks. near water and herbaceous habitats for feeding.	Fed: None Calif: None NDDB: S3	Nesting: Low-Mod Foraging: Occurs
<i>Vireo bellii pusillus</i> Least Bell's vireo	Found in riparian woodlands, bottomlands, and mesquite. Ranges from northern Mex and Baja Ca, into so Ca, and the so. mid-western US	Fed: END Calif: END NDDB: S2	Absent
MAMMALS (15):			
<i>Chaetodipus fallax fallax</i> Northwestern San Diego pocket mouse	Open shrublands and sandy areas; SW Calif. and NW Baja Calif. (inland to San Bernardino Val)	Fed: None Calif: SSC NDDB: S3S4	Occurs (SBKR trapping study)
<i>Dipodomys merriami parvus</i> San Bernardino kangaroo rat	Sparse, gently sloping grassland, sometimes at margins of cultivated or disturbed lands; San Bernardino County W Riverside Co. and adjacent San Diego Co.	Fed: END Calif: SSC NDDB: S1	High (SBKR trapping study)
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	Sparse, gently sloping grassland, sometimes at margins of cultivated or disturbed lands; San Bernardino County W Riverside Co. and adjacent San Diego Co.	Fed: END Ca: THR NDDB: S2	Absent
<i>Eumops perotis californicus</i> Western mastiff bat	Lowlands (with rare exceptions); Cent and So Ca., southern AZ, NM, southwest TX; roosts in deep rock crevices, often cliff faces. Forages over wide area. Can roost in trees.	Fed: None Calif: SSC NDDB: S3S4	Roosting: Abs Foraging: Mod
<i>Glaucomys sabrinus californicus</i> San Bernardino flying squirrel	Mature mixed conifer forest (white fir, Jeffrey pine and black oak) with large trees and snags, closed canopy, downed woody debris and riparian areas. from 4000 – 8500 ft. elevation. San Bernardino and San Jacinto Mnt. Ranges (near extirpated in the San Jacinto Mts.)	Fed: None Calif: SSC NDDB: S1S2 USFS: S	Absent
<i>Lasiurus xanthinus</i> Western yellow bat	Roosts in trees, hanging from the underside of leaves. Desert regions of the sw. US. With a particular association to palm trees. Distributed in So. CA, AZ, NM and TX, into Mexico.	Fed: None Calif: SSC NDDB: S3	Roosting: Abs Foraging: Low
<i>Leptonycteris yerbabuenae</i> Lesser long-nosed bat	Thorn scrub and deciduous forest. Roosts in caves and mines, often in large colonies. Suitable roost sites and extensive populations of columnar cacti and agaves are critical resources for this bat. Ranges from central California, southern Arizona and New Mexico south into Mexico and Central America. USFWS identifies the range and recovery as AZ. And NM in the US.	Fed: END Calif: None NDDB: S1	Absent
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	Chaparral, coastal or Riversidean sage scrub with adjacent open grassland. Los Angeles County south to San Quintin, Baja Ca, Mex.	Fed: None Calif: SSC NDDB: S3S4	Occurs
<i>Neotamias speciosus speciosus</i> Lodgepole chipmunk	Subalpine mixed conifer forest containing lodgepole pine, red fir and Jeffrey pine and other woodland vegetation including fir, pine cedar and black oak. Elev. Range 1500-3300m. Found in the San Bernardino, San Jacinto & San Gabriel Mtns in CA.	Fed: None Calif: None NDDB: S2S3	Absent
<i>Neotoma lepida intermedia</i> San Diego desert wood rat	Arid shrublands, and rocky outcrops and crevices; cismontane Calif., San Luis Obispo to San Diego County and northwest Baja Calif. Found at elevations between 0- 7000ft.	Fed: None Calif: SSC NDDB: S3S4	Moderate
<i>Nyctinomops femorosaccus</i> Pocketed free-tailed bat	Deserts and arid lowlands; E Riv and San Diego Cos, through SW US, Baja Calif., mainland Mexico; Roost mainly in crevices of high cliffs	Fed: None Calif: SSC NDDB: S3	Roosting: Abs Foraging: Abs

Special Status Species	HABITAT AND DISTRIBUTION	Status Designation	Occurrence Probability
<i>Onychomys torridus ramona</i> So. grasshopper mouse	Arid cismontane lowlands, LA through SD counties and northwest Baja Calif.	Fed: None Calif: SSC NDDB: S3	Low
<i>Perognathus alticolus alticolus</i> White-eared pocket mouse	Open grassy/weedy/dry bracken areas among sagebrush and other shrubs in ponderosa/Jeffrey pine, pinyon/juniper, or montane hardwood-conifer associations. Secondary habitat open areas in Joshua tree and high desert shrub assoc. Known from the San Bernardino and Tehachapi Mountains. Elev. Range 3500-6000 ft. asl. No specimens identified despite trapping since the 1930s.	Fed: None Calif: SSC NDDB: SH USFS: S	Absent
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	Annual grassland, sage scrub, alluvial sage scrub. So California from Rancho Cucamonga (west boundary), San Gorgonio (east), Aguanga and Oak Grove, San Diego (south).	Fed: None Calif: SSC NDDB: S1S2	Occurs (SBKR trapping study)
<i>Taxidea taxus</i> American badger	Mountains, deserts, interior valleys where burrowing animals are available prey and soil permits digging; throughout Central and western North America	Fed: None Calif: SSC NDDB: S3	Low
INVERTEBRATES (7):			
<i>Bombus crotchii</i> Crotch bumble bee	Open grassland and scrub habitats. Nesting underground. Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California, southwest NV and Baja California.	Fed: None Calif: None NDDB: S1S2	High
<i>Bombus morrisoni</i> Morrison bumble bee	Open dry scrub. Nests underground, in structures and grass hummocks. Mountain west from CA east of the Sierra-Cascade Ranges to southern British Columbia. In the desert west especially the highlands. East to NM, TX and north to W. SD.	Fed: None Calif: None NDDB: S1S2	Low
<i>Carolella busckana</i> Busck's gallmoth	Beaches, salt marshes, sand dunes and coastal scrub dunes, presumed extirpated	Fed: None Calif: None NDDB: SH	Absent
<i>Ceratochrysis longimata</i> Desert cuckoo wasp	Flowers in arid soils. This species lays their eggs in the nests of bees, wasps and other host insects.	Fed: None Calif: None NDDB: S1	Low
<i>Euchloe hyantis andrewsi</i> Andrew's marble butterfly	Rocky canyons, cliffs, moraines and gravelly flats. Larvae host plants, mustard, especially <i>Streptanthus</i> sp. Southern Oregon south through California west of Sierra Nevada crest to northern Baja California.	Fed: None Calif: None NDDB: S1	Absent
<i>Raphiomidas terminatus abdominalis</i> Delhi sands flower-loving fly	Delhi fine sands, often with unconsolidated dunes present. Southwestern San Bernardino County and northwestern Riverside County	Fed: END Calif: None NDDB: S1	Absent
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	Vernal pools near Murrieta (Riv.Co.), Miramar and Otay Mesa (San Diego Co.), one site in Orange Co., and two sites in Baja.	Fed: END Calif: None NDDB: S1S2	Absent (range and habitat)
CNPS 2015, Calflora 2015, CNDDB 2015, IUCNRedlist.org 2015, animaldiversity.org 2015			

Federal designations: (federal Endangered Species Act, US Fish and Wildlife Service):

END: Federally listed, endangered.

THR: Federally listed, threatened.

C1: Category I candidate. Sufficient data are available to support federal listing, but not listed at this time (equivalent to "candidate" (USDI Fish and Wildlife Service 1996).

Former C2: Formerly a Category 2 candidate species. Threat and/or distribution data are not sufficient to support federal listing at this time. No longer recognized by FWS.

C3a: Extinct.

C3b: Taxonomically invalid.

C3c: Too widespread and/or not threatened. No longer considered as a federal candidate for listing.

FSC: Federal Species of Concern

State designations: (California Endangered Species Act, California Dept. of Fish and Game)

END: State listed, endangered.

THR: State listed, threatened.

RARE: State listed as rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)

SSC: Species of Special Concern (DFG)

CDF&G Natural Diversity Data Base Designations: Applied to special status plants and sensitive plant communities; where correct category is uncertain, CDF&G uses two categories or question marks.

S1: Fewer than 6 occurrences or fewer than 1000 individuals or less than 2000 acres.

S1.1: Very threatened

S1.2: Threatened

S1.3: No current threats known

S2: 6-20 occurrences or 1000-3000 individuals or 2000-10,000 acres (decimal suffixes same as above).

S3: 21-100 occurrences or 3000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).

S4: Apparently secure in California; this rank is clearly lower than S3 but factors exist to cause some concern, i.e., there is some threat or somewhat narrow habitat. No threat rank.

S5: Demonstrably secure or ineradicable in California. No threat rank.

SH: All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists.

SX: All sites are extirpated; this element is extinct in the wild.

California Native Plant Society (CNPS) designations: (Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions; see text.)

List 1A: Plants presumed extinct in California.

List 1B: Plants rare and endangered in California and throughout their range.

List 2: Plants rare, threatened or endangered in California but more common elsewhere in their range.

List 3: Plants about which we need more information; a review list.

List 4: Plants of limited distribution; a watch list.

USFS designations:

S: Sensitive

Definitions of occurrence probability:

Occurs: Observed on the site during surveys described here, or recorded on-site by other qualified biologists.

High: Observed in similar habitat in region by qualified biologists, or often occurs in habitat similar to that on the site, and within the known range of the species.

Moderate: Reported sightings in surrounding region, or site is within the known range of the species and often occurs in habitat similar to that on the site.

Low: Site is within the known range of the species but habitat on the site is rarely used by the species.

Absent: A focused study failed to detect the species, or, no suitable habitat is present, or the site is well outside known geographic or elevational ranges.

Unknown: No focused surveys have been performed in the region, and the species' distribution and habitat are poorly known.

Table 6. Location of special status species identified during the current survey.

Taxon	Number	Date	GPS Location	Elevation (ft.)
CW	1	5-13-2015	N 34.106402, W -117.164833	1362'
BTJA	1	5-13-2014	N 34.10844, W -117.16383	1385'
BTJA	1	6-18-2014	N 34.10697, W -117.16275	1393'
LOSH	1	7-15-2011	N 34.10780, W -117.16442	1370
BTJA	1	8-11-2011	N 34.10612, W -117.16109	1391
BTJA	1	9-16-2011	N 34.10712, W -117.16592	1364
CH	1	2005	N 34.109427, W -117.166382	1368

Black-tailed Jackrabbit [BTJA].
 Loggerhead shrike (LOSH)

Cooper's hawk (CH)
 Coastal whiptail (CW)

Table 7: Climatic Data.

Redlands, CA – KCAREDLA2 - (wunderground.com)			
Year/Month	High	Low	Precipitation
14-Sept	109.3	56.8	0.00
14-Oct	104.3	50.9	0.32
14-Nov	93.3	39.7	0.38
14-Dec	82.9	28.8	3.58
15-Jan	85.4	28.8	0.50
15-Feb	89.1	38.6	1.05
15-Mar	93.8	38.4	0.37
15-Apr	96.5	43.0	0.47
15-May	95.1	46.9	0.75
15-Jun	106.1	55.1	0.00
15-Jul	100.8	57.1	1.08
15-Aug	109	58.8	0.00
Total 2014-15 season			8.50

- Redlands station used because the Highlands and San Bernardino Airport stations did not consistently report precipitation.

APPENDIX B

Site Photographs

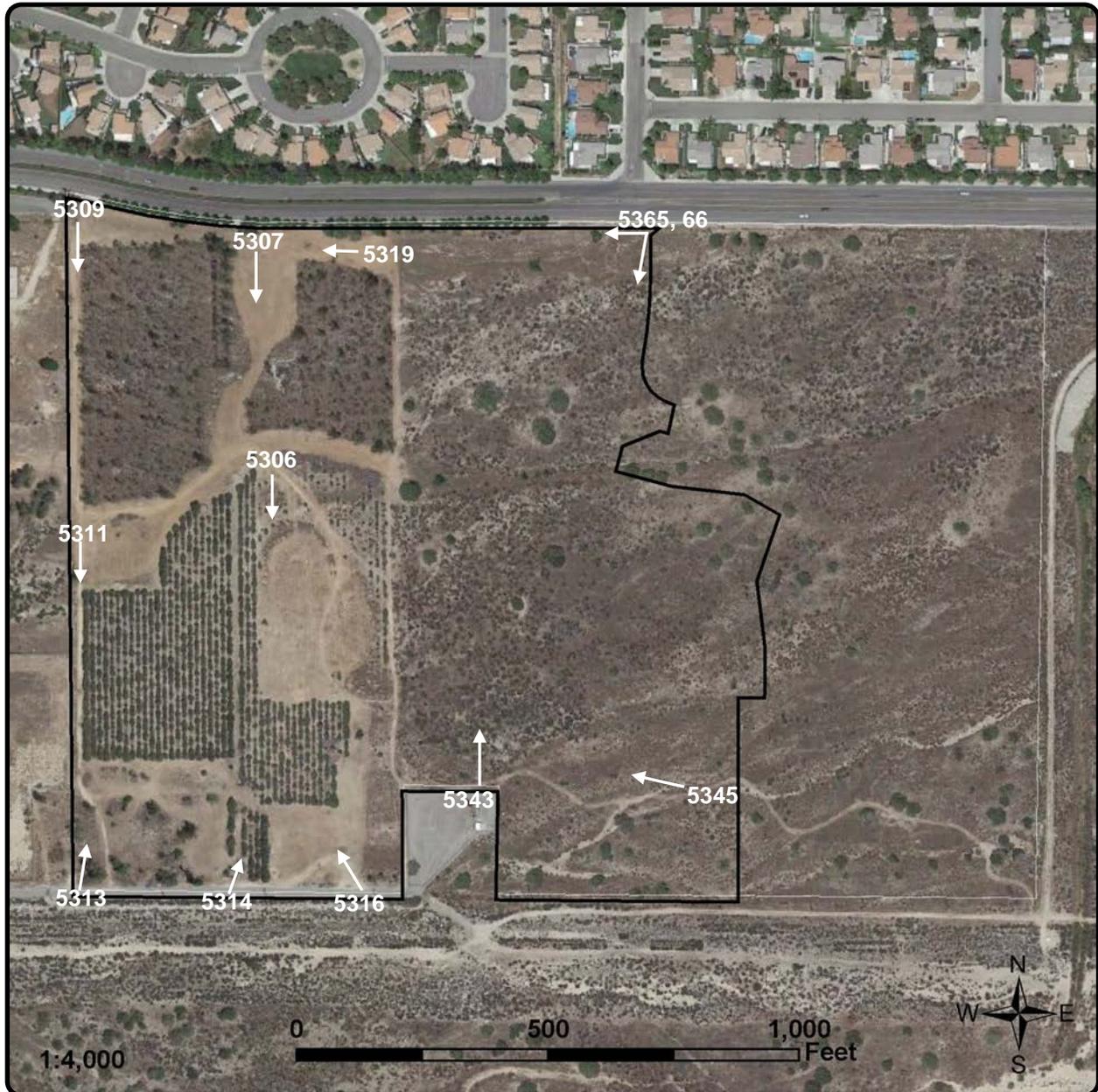




Photo 5365

Taken on the northeast corner facing west. Alluvial fan sage scrub.



Photo 5366

Taken on the northeast corner facing south. Alluvial fan sage scrub.



Photo 5345

Taken near the southeast corner facing northwest. Alluvial Fan sage scrub.



Photo 5319

Taken near the center of the north boundary facing west. Cleared area along the northern boundary of the eucalyptus groves.



Photo 5307

Taken at the north/central end of the agricultural area facing south. Disced land in the foreground. Eucalyptus fields on the right.



Photo 5309

Taken at the northwest corner facing south. Eucalyptus groves on the left, access road down the center and orange fencing along the boundary.



Photo 5306

Taken at the center of the agricultural area facing south. Jojoba fields.



Photo 5311

Taken at the center of the west boundary facing south. Jojoba groves on the left.

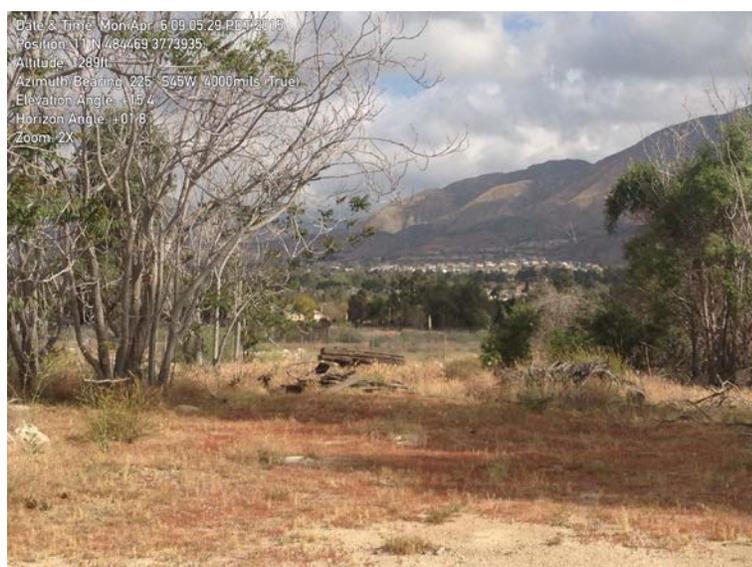


Photo 5313

Southwest corner facing north. Near the old residence. Ornamentals and disturbed areas.



Photo 5314

Near the southwest corner facing northeast. Old structure foundation. Ornamental species.

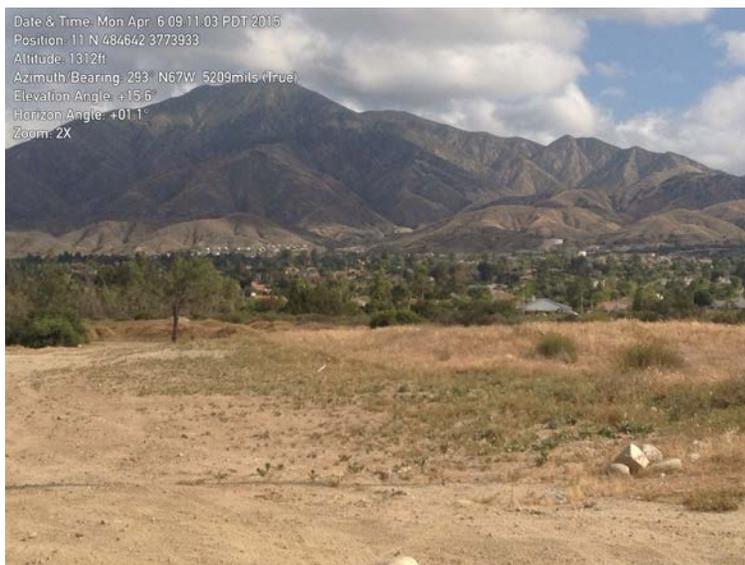


Photo 5316

On the southern boundary facing north. Heavily disturbed area east of the old structure foundation.

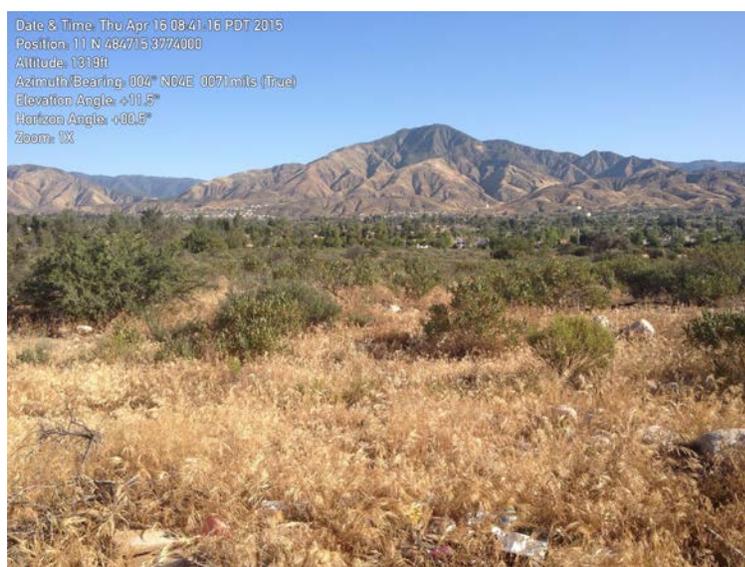


Photo 5343

Southern boundary near the center of the project facing north. Alluvial fan sage scrub.

Certification

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

DATE: December 15, 2015

SIGNED: 
Leslie Irish, Principal, L&L Environmental, Inc.
909-335-9897

1) Fieldwork Performed By:

Guy Bruyea
Name

2) Fieldwork Performed By:

Name

3) Fieldwork Performed By:

Name

4) Fieldwork Performed By:

Name

5) Fieldwork Performed By:

Name

6) Fieldwork Performed By:

Name

Check here if adding any additional names / signatures below or on other side of page.