Appendix B

Biological Resources Summary Memorandum for the
San Dieguito Local Coastal Program
(LCP) Update

To	Danny Serrano, County of San Diego
Subject	County of San Diego Local Coastal Program Update Biological Resources Summary Memorandum
From	Jessica Sisco and Dallas Pugh, AECOM
Date	February 29, 2016, updated November 7, 2016

This memorandum was prepared to support the development of the Local Coastal Program (LCP) Update for the County of San Diego. Specifically, this Biological Resources Summary Memorandum (memo) was prepared to address the first five elements of the natural resources component checklist on page 4-1 of Section 4 of the California Coastal Commission's (CCC) LCP Update Guide (CCC 2013):

- A definition of Environmentally Sensitive Habitat Area (ESHA) that is consistent with the Coastal Act §30107.5;
- A definition of wetland that is consistent with Coastal Act §30121 and §13577(b) of the Code of Regulations;
- A statement that the condition of the wetland does not affect its regulatory status as a wetland, as defined in your LCP;
- An ESHA map and descriptions of existing, known sensitive habitat areas;
- A statement that the ESHA maps are not an exhaustive compilation of the habitat areas that meet the ESHA definition;

The Biological Study Area (BSA) addressed in this memo consists of the portion of the Coastal Zone that falls within unincorporated San Diego County, which totals roughly 1,050 acres (Figure 1).

This memo includes the following sections:

- Section 1.0 – Methods
    - Section 1.1 – Natural Resource Definitions
    - Section 1.2 – Identification of ESHAs using Historical Records of Natural Resources within the BSA
- Section 2.0 – Results and Discussion
    - Section 2.1 – Vegetation Communities and Other Land Cover Types
    - Section 2.2 – Special-Status Resources
    - Section 2.3 – Delineation of ESHAs
- Attachment A – Special-Status Species with Potential to Occur in the BSA

1.0 Methods

The following section describes the methods used to define and identify the natural resources that occur, or have potential to occur, within the BSA. This includes rare terrestrial natural communities deemed sensitive by the CCC and the California Department of Fish and Wildlife (CDFW), special-status plant and wildlife species, and commonly occurring vegetation communities and other land cover types.

1.1 Natural Resource Definitions

The following section provides the natural resource definitions identified in the LCP Update Guide and suggested for inclusion in the LCP. These definitions include excerpts from the LCP Update Guide relevant to the identification of ESHA and wetlands.

1.1.1 ESHA

Coastal Act Section 30107.5 Definition of Environmentally Sensitive [Habitat] Areas (ESHAs)

> "Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development.

Section 30240(a) of the Coastal Act restricts development within ESHA to only those uses that are dependent on the resource, and requires that ESHA be protected against significant disruption of habitat values. It also requires that areas adjacent to ESHA and parks and recreation areas be sited and designed to prevent degradation of those areas and to be compatible with the continuance of those habitat and recreation areas. Pursuant to Section 30107.5, in order to determine whether an area constitutes an ESHA, and is therefore subject to the protections of Section 30240, the CCC has asked if either of the following conditions have been met:

> 1) There are rare species or habitat in the subject area;
>
> 2) There are especially valuable species or habitat in the area, which is determined based on:

a) whether any species or habitat that is present has a special nature, OR b) whether any species or habitat that is present has a special role in the ecosystem.Valuable species or habitats that have a special nature or a special role in the ecosystem include those resources defined as “special-status.” When the CCC has found that either of these two conditions is met, it has assessed whether the habitat or species meeting these conditions is easily disturbed or degraded by human activities and developments. If they are, the CCC has found the area to be an ESHA. It should be noted that disturbed or degraded habitats may constitute ESHA if the habitat meets the criteria for an ESHA designation.

1.1.2 Wetlands

Coastal Act Section 3021 Definition of Wetland

> "Wetland" means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

CCR §13577(b) (in part)

> Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate.

Based on these definitions, to be classified as a wetland under the Coastal Act, land areas need only display one of the three wetland parameters typically used to define wetland areas, unlike the U.S. Army Corps of Engineers, which uses a three-parameter definition under its federal authority. The presence of the hydrology parameter only raises additional criteria that must be met for a land area to be classified as a wetland, as described above in CCR Section 15677(b).

The Coastal Act definition of wetland (§ 30121) does not distinguish between wetlands according to their quality. Thus, under the Coastal Act, poorly functioning or degraded areas that meet the definition of wetlands are subject to wetland protection policies. To ensure consistency with the Coastal Act, therefore, the condition of the wetland would not affect its regulatory status as a defined wetland under the LCP.

1.1.3 Special-Status Resources

For the purposes of this memo, resources were considered special status, and potential ESHAs or indicators of ESHAs, if they met at least one of the following criteria:

- Listed or proposed for listing (including candidate species[1]) under the federal Endangered Species Act and California Endangered Species Act (CESA);
- CDFW Species of Special Concern;
- CDFW Watch List Species;
- CDFW Fully Protected species;

[1] Candidate species are those petitioned species that are actively being considered for listing under the federal Endangered Species Act (ESA), as well as those species for which the U.S. Fish and Wildlife Service (USFWS) has initiated an ESA status review, as announced in the Federal Register. Proposed species are those candidate species that warrant listing as determined by USFWS and have been officially proposed for listing in the Federal Register. Under the California Endangered Species Act, candidate species are those species currently petitioned for state-listing status.

- Listed by California Native Plant Society (CNPS) as California Rare Plant Ranks (CRPR) 1A (presumed extinct in California and rare/extinct elsewhere); 1B (rare, threatened, and endangered in California and elsewhere); 2A (presumed extinct in California, but more common elsewhere); or 2B (rare, threatened, or endangered in California, but more common elsewhere) (CNPS 2016). All plants constituting CRPR 1A, 1B, 2A, and 2B meet the definitions of Sections 2062 and 2067 (CESA) of the California Fish and Game Code (CNPS 2016);
- Some, but not all, CRPR 3 and 4 species. Some plants constituting CRPR 1A, 1B, 2A, and 2B meet the definitions of Sections 2062 and 2067 (CESA) of the California Fish and Game Code (CNPS 2016). CRPR 3 plants are those for which more information is needed (a review list) and CRPR 4 plants are those of limited distribution (watch list) (CNPS 2016);
- Species covered by the San Diego County Multiple Species Conservation Program (SanGIS 2016); and/or
- Rare Terrestrial Natural Communities as described in the CDFW Natural Communities List (CDFW 2010), which is based on *A Manual of California Vegetation, Second Addition* (Sawyer et al. 2009).
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1.2 Identification of ESHAs using Historical Records of Natural Resources within the BSA

The following section describes the methods used to identify the natural resources that have the potential to occur or have historically occurred within the BSA. As described in this section, the historical data were also gathered to delineate ESHAs throughout the BSA. No site visits were conducted as part of this preliminary assessment.

1.2.1 Historical Literature and Database Review

The following resources were reviewed to determine what historically recorded resources occur or have the potential to occur within the BSA, and whether an area should be considered an ESHA based on the presence of said resources. Select information pertaining to both common and special-status resources of the BSA was reviewed for the update of the LCP.

The following sources were consulted to obtain public information relevant to the County's Coastal Zone:

- U.S. Fish and Wildlife Service (USFWS) regional species database (USFWS 2015);
- County of San Diego SanGIS Geographic Information System (GIS) Data for Species (SanGIS 2016);
- County of San Diego SanGIS Data for Vegetation Communities (SanGIS 2006 and 2012);
- San Diego Bird Atlas (Unitt 2005);

- California Natural Diversity Data Base (CNDDB) (California Department of Fish and Wildlife [CDFW] 2016a);
- California Native Plant Society (CNPS) Electronic Inventory (CNPS 2016); and
- San Dieguito Community Plan - Escondido Creek Resource Conservation Area (RCA) Rare Species List (County of San Diego 2014).

For the CNDDB and CNPS database queries, special-status species records within the Del Mar, Encinitas, and Rancho Santa Fe United States Geological Survey (USGS) 7.5-minute topographic quadrangles were searched. These three quadrangles were included in the search because they contain the portion of the County's Coastal Zone that encompasses and surrounds the LCP area. The traditional nine-quadrangle search could not be implemented because the of the County's Coastal Zone's proximity to the Pacific Ocean.

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1.2.2 Delineation of ESHAs

Per the natural resource definitions described in Section 1.1, a preliminary identification of ESHAs within the County's Coastal Zone was based on the presence of one or more of the following parameters:

- Vegetation community mapped within the County's Coastal Zone by the County of San Diego SanGIS database (SanGIS 2006 and 2012) is considered a Rare Natural Terrestrial Community by CDFW (CDFW 2010);
- Vegetation community mapped within the County's Coastal Zone by the County of San Diego SanGIS database (SanGIS 2006 and 2012) qualifies as a wetland under the definition provided in Section 3.1.2;
- Vegetation community mapped within the County's Coastal Zone by the County of San Diego SanGIS database (SanGIS 2006 and 2012) has the potential to support one or more special-status species based on records yielded within the County's Coastal Zone during the historical literature and database review described in Section 3.1.1 (USFWS 2015, SanGIS 2016, Unitt 2005, CDFW 2016a, and County of San Diego 2014).

The preliminary delineation of ESHA boundaries does not include an exhaustive compilation of the habitat areas that meet the ESHA definition. Site-specific biological evaluations and field observations shall be required to identify ESHAs and other special-status resources that may not have been included in the literature and database review. A total of 305 acres of habitat were mapped as ESHA within the County's Coastal Zone per the aforementioned parameters.

2.0 Results and Discussion

The following section provides the results of the historical literature and database review, and delineation of ESHAs described in Section 1.2.

2.1 Vegetation Communities and Other Land Cover Types

Vegetation communities and other land cover types within the County's Coastal Zone were assessed using the aforementioned San Diego County SanGIS vegetation community databases (SanGIS 2006 and 2012). The most recent vegetation data (2012) were used to map and characterize the communities and land cover types while the 2006 data were used to fill gaps in the 2012 data. Nomenclature in the SanGIS data follows *Draft Vegetation Communities of San Diego County* (Oberbauer *et al*. 2008). Ground-truthing did not occur regarding the location and extent of the vegetation communities mapped in the SanGIS database.

Roughly 21 vegetation communities and other land cover types are estimated to occur within the County's Coastal Zone based on literature and database review, described in Section 1.3 (Figure 2). Table 1 includes the acreages for each vegetation community or land cover type within the County's Coastal Zone, as illustrated in Figure 2, Vegetation Communities and Other Cover Types.

Wetlands

Wetlands provide many benefits such as fish and wildlife habitats, natural water quality improvement, flood storage, shoreline erosion protection, opportunities for recreation and aesthetic appreciation, and natural products for our use at little or no cost. Protecting wetlands can, in turn, protect our health and safety by reducing flood damage and preserving water quality. Wetlands are among the most productive ecosystems in the world. They also are a source of substantial biodiversity in supporting numerous species from all of the major groups of organisms – from microbes to mammals.

Within the vicinity of the County's Coastal Zone, wetlands occur primarily along Escondido Creek and along a few urban drainages in the City. Jurisdictional areas include wetlands and non-wetland waters (e.g., reservoirs, lagoons, and streams) subject to California Fish and Game Code Section 1600 et seq. and Section 404 of the federal Clean Water Act. Table 1 provides a list of the wetland communities that occur within the County's Coastal Zone; each is briefly described below.

As shown on Figure 2 and listed in Table 1, approximately 2.5 acres of Alkali Marsh are located at the toe of a slope near the intersection of El Camino Real and La Orilla. Along Escondido Creek, wetland areas include 2.5 acres of Southern Riparian Scrub; several small, scattered patches of Southern Willow Scrub totaling around 0.04 acre; two patches of Coastal and Valley Freshwater Marsh, comprising 11 acres; approximately 0.6 acre of Alkali Seep located near the northern tip of the County's Coastal Zone; 31.5 acres of Southern Arroyo Willow Riparian Forest; three patches of Southern Coastal Salt Marsh, comprising 9.3 acres; and three patches of Southern Riparian Woodland totaling four acres. Each wetland community is described in more detail below.

Table 1. Vegetation Communities and Other Land Cover Type Acreages in the County's Coastal Zone

Vegetation Community/Land Cover Type	Acreage
Marsh/Wetland/Riparian	
Alkali Marsh*	2.5
Alkali Seep*	0.6
Coastal Valley Freshwater Marsh*	11.0
Non-Native Riparian*	0.8
Southern Arroyo-Willow Riparian Forest*	31.5
Southern Coastal Salt Marsh*	9.3
Southern Riparian Scrub*	2.6
Southern Riparian Woodland*	4.0
Southern Willow Scrub*	0.04
Uplands	
Coastal Sage-Chaparral Transition*	0.8
Coast Live Oak Woodland*	3.1
Diegan Coastal Sage Scrub*	61.7
Disturbed Diegan Coastal Sage Scrub*	0.5
Eucalyptus Woodland	57.8
Maritime Succulent Scrub*	1.2
Non-Native Grassland*	25.3
Southern Maritime Chaparral*	141.7
Southern Mixed Chaparral*	8.9
Other Land Cover Types	
Field/Pasture	8.8
Orchards and Vineyards	10.1
Urban/Developed	677.2
TOTAL	**1,059.4**

*Considered an ESHA based on the preliminary analysis described in this chapter.

Alkali Marsh

Alkali marsh is a community dominated by perennial, emergent monocots that grow in either standing water, or in soils that are saturated during most or all of the year. High evaporation rates combined with low flow levels of fresh water create high saline conditions, which are particularly prevalent during the summer months (Holland, 1986). This community occurs along ephemeral streams and floodplains. Common species include yerba mansa (*Anemopsis calfornica*), salt grass (*Distichlis spicata* var. *stricta*), cattails (*Typha latifolia*), spiny rush (*Juncus acutus* ssp. *leopoldii*), Mexican rush (*Juncus mexicanus*), and San Diego marsh elder (*Iva hayesiana*).

Alkali Seep

The alkali seep community is generally composed of low-growing perennial herbs. The species that make up this community usually form relatively complete cover, and grow throughout the year in areas with mild winters. This community is made up of relatively few species, which often include *Distichlis spicata* var. *stricta, Najas marina*, *Nitrophila occidentalis, Potomogeton latifolius, P. pectinatus, Ruppia maritima, Zannichellia palustris, Malvella leprosa, Heliotropum curvassavicum, Sporobolus airoides, Iva hayesiana, Juncus sphaerocarpus* var. *acutis, Hemizonia acutis,* and/or *H. laevis* (Oberbauer et al. 1986).

Coastal Valley Freshwater Marsh

Coastal and freshwater marsh is a community dominated by perennial, emergent monocots, which grow in standing fresh water. This community occurs around lagoons and river mouths along the coast, and around lake margins at more inland locations (Beauchamp, 1986). It can also commonly be found along streamsides often in association with riparian forest. Common species within this community include: cattails (*Typha* spp.), bulrush (*Scirpus* spp.), umbrella sedge (*Cyperu*s spp.), sedge (*Carex* spp.), and spike sedge (*Eleocharis* spp.).

Non-Native Riparian

Non-native riparian is typically a riparian woodland dominated by non-native species. This community is often moderate-density dominated by small trees or shrubs, along marjor river systems where flood scour occurs and smaller major tributaries. Non-native-dominated riparian communities in San Diego County are often dominated by invasive species associations such as tamarisk scrub and tree tobacco. Tamarisk scrub is generally a weedy, virtual monoculture of any of several Tamarix species, usually out-competing native riparian vegetation. Similarly, tree tobacco (*Nicotiana glauca*) and often forms a nearly monotypic stand that out-competes native riparian species.

Southern Arroyo-Willow Riparian Forest

Southern arroyo willow riparian forest is a tall, densely vegetated riparian forest that is dominated by arroyo willow (*Salix lasiolepis*), and other willow species such as Goodding's black willow (*Salix gooddingii),* red willow (*Salix laevigata),* and narrow-leaved willow (*Salix exigua*). This community is generally greater than 6 m (20 ft) high and occupies drainages and floodplains supporting perenially wet streams. Understory species such as mule fat (*Baccharis salicifolia*), mugwort *(Artemisia douglasiana*), and stinging nettle (*Urtica dioica* ssp. *holosericea*), may also be present (Holland 1986). This community is sometimes dominated almost exclusively by arroyo willow (Oberbauer, 1992).

Southern Coastal Salt Marsh

Southern coastal saltmarsh is a highly productive association of herbaceous and suffrutescent, salt-tolerant hydrophytes that form a moderate to dense cover and can reach a height of 1 meter (3 ft). Most species are active in summer and dormant in winter (Holland 1986). Coastal salt marsh plants are distributed along distinct zones depending upon such environmental factors as frequency and length of tidal inundation, salinity levels and nutrient status (MacDonald 1977). This association is usually segregated horizontally with cordgrass (*Spartina foliosa*) nearest the open water, dwarf glasswort (*Salicornia bigelovii*), woody glasswort (*Salicornia virginica*), and American saltwort (*Batis maritima*) at mid-littoral levels, and a richer mixture of species, including alkali-heath, sea-blite, and/or Parish's glasswort (*Salicornia subterminalis*) at higher elevations (Holland 1986). Other characteristic species include coastal salt-grass, alkali-weed (*Cressa truxillensis* var. *vallicola*), and fleshy jaumea (*Jaumea carnosa*).

Southern Riparian Scrub

Southern riparian scrub typically consists of riparian zones dominated by small trees or shrubs, lacking taller riparian trees. It is a vegetation community that sometimes encroaches into coastal salt marsh habitats and mostly occurs in major river systems where flood scour occurs. Typical characteristic species include arroyo willow, *Salix* spp., and broom baccharis (*Baccharis sarothroides*). Southern riparian scrub is an inclusive term for several riparian, shrub-dominated communities such as southern willow scrub, mulefat scrub, and tamarisk scrub. Southern willow scrub is defined in greater detail below. Mulefat scrub is a riparian shrub community that is

strongly dominated by mulefat (*Baccharis salicifolia*), in association with several willow species (*Salix* sp.). Mulefat-dominated scrub occurs along intermittent streams with a fairly coarse substrate and moderately deep water table. Understory vegetation is usually composed of non-native, weedy species or is lacking altogether. This community is maintained by frequent flooding. In the absence of periodic flooding, this community may develop into cottonwood- or sycamore-dominated riparian communities (Holland 1986). Tamarisk scrub is a riparian scrub community, sometimes an almost exclusive monoculture, of non-native species of the genus *Tamarix*. This community occurs in drainages where major disturbance(s) have eliminated native species. Tamarisk is a phreatophyte, a species with an extensive root system which allows it to obtain water from a low water table. This allows tamarisk species to out-compete native riparian species by lowering the water table to levels below the root zone of other species. Tamarisk also have high evaporation rates which increase soil salinity levels which would also result in the displacement of other species. A high seed production allows tamarisk species to colonize the areas where it has displaced native species (Holland 1986).

Southern Riparian Woodland

Southern riparian woodlands are tall, open riparian woodlands that are dominated by western cottonwood (*Populus fremontii* ssp. *fremontii*), black cottonwood (*Populus balmsamifera* ssp. *trichocarpa*), arroyo willow (*Salix lasiolepis*), and narrow-leaved willow (*Salix exigua*). Understory species such as mule fat (*Baccharis salicifolia*), mugwort *(Artemisia douglasiana*), and stinging nettle (*Urtica dioica* ssp. *holosericea*), may also be present (Holland 1986). Riparian woodlands dominated almost exclusively by arroyo willow are classified as southern arroyo willow riparian forest (Oberbauer, 1992). Communities that have a mix of cottonwood and willows are classified as southern cottonwood-willow riparian forests (Holland, 1986).

Southern Willow Scrub

Southern willow scrub is a dense, broad-leaved, winter deciduous riparian thicket dominated by several species of willows (*Salix* sp.) in association with mule fat (*Baccharis salicifolia*). Scattered individuals of cottonwood (*Populus* sp.) and western sycamore (*Platanus racemosa*) may exist as canopy emergents. This is an early seral community that requires periodic flooding for its maintenance (Holland 1986). In the absence of periodic flooding, this community would develop into a riparian woodland or forest. Over time as individuals grow, intra- and interspecific competition increases as resources diminish, resulting in an increase in mortality. A small portion of individuals will survive by out-competing others and will form the tree stratum. Those other individuals which do not die or become established in the upper stratum will exist as suppressed juveniles in the understory.

Coastal Sage-Chaparral Transition

This community, though not well described, reflects the ecotone between coastal sage scrub and chaparral communities. Holland (1986) claims it to be a post-fire successional community. Species characteristic of each community such as California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), *Ceanothu*s spp., and chamise *(Adenostoma fasciculatum*) occur here. Coastal sage - chaparral scrub generally is considered sensitive and is regulated similarly to Diegan coastal sage scrub as described below.

Coast Live Oak Woodland

Coast live oak woodland is an open to dense tree community with coast live oak (*Quercus agrifolia*) the dominant overstory species with Engelmann oak (*Quercus engelmannii*) as an occasional associate. This community can occur on mesic north facing slopes and in canyon bottoms. This community is well represented in the cismontane, interior valleys and foothills of the Peninsular Ranges (Beauchamp, 1986; Barbour, 1988), however, is not well

protected (CBI 2005). The shrub understory of this community is well developed in undisturbed sites and may include: Mexican elderberry (*Sambucus mexicana*), gooseberry (*Ribes* sp.), poison oak (*Toxicodendron diversilobum*), and toyon (*Heteromeles arbutifolia*) (Beauchamp, 1986; Holland, 1986). An herbaceous stratum is usually present including miner's lettuce (*Claytonia perfoliata* var. *perfoliata*), chickweed (*Stellaria media*), and non-native grasses.

Diegan Coastal Sage Scrub

Coastal sage scrub is comprised of low, soft-woody subshrubs to about 1 meter (3 ft) high, and is one of the major shrub dominated (scrub) communities within California. This community occurs on xeric sites with shallow soils or on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Sage scrub species are typically drought deciduous plants with shallow root systems. Both of these adaptations allow for the occurrence of sage scrub species on these xeric sites. Within San Diego County, Oberbauer (1992) recognized coastal and inland forms of Diegan Sage Scrub. Sproul and Coleman (1995) described the distinction between these two associations.

Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub describes areas of Diegan coastal sage scrub with a high percentage of non-native or invasive species in addition to the native dominants described above. Often, these areas typically include sea lavender (*Limonium perezii*) and iceplant (*Carpobrotus* sp.) as dominants in addition to California sagebrush and California brittlebush.

Eucalyptus Woodland

This community is dominated by several species of eucalyptus (*Euclayptus spp.*). These introduced species produce large amounts of leaf and bark litter, the chemical composition of which may inhibit the establishment and growth of other species, especially natives, in the understory. Generally these species were planted for aesthetic and horticultural purposes, but many species of eucalyptus have become naturalized and have been quite successful in invading riparian areas.

Maritime Succulent Scrub

Maritime succulent scrub reaches its northern distributional limits in San Diego County on the mainland and offshore on the California Channel Islands. It is confined to thin, rocky or sandy soils on dry, south-facing slopes along the coastal areas, from Torrey Pines State Park south to El Rosario in northern Baja California. This community is a low, open vegetation type with a poorly developed understory (Holland 1986). The dominant shrub species in this community include some of the coastal sage scrub dominants, as well as a number of cacti and other succulent species. Typical shrub and suffrutescent species include California sagebrush, California copperleaf (*Acalypha californica*), Shaw's agave (*Agave shawii*), California encelia (*Encelia californica*), and cliff spurge (*Euphorbia misera*). Cacti include velvet cactus (*Bergerocactus emoryi*), coast barrel cactus, coastal prickly pear, and coastal cholla (*Opuntia prolifera*). Stands of the shrub species jojoba (*Simmondsia chinensis*) are also scattered to common on the slopes of this community toward the southern portion of the study area.

Non-Native Grassland

Non-native grassland generally occurs on fine-textured loam or clay soils which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. It is characterized by a dense to sparse cover of annual grasses, often with native and non-native annual forbs (Holland 1986). Typical grasses within the

region include ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), soft chess (Bromus hordeaceus), wild oats (*Avena* spp.), and rat-tail fescue (*Vulpia myuros*). Non-native disturbance related annuals such as stork's bill and fillaree (*Erodium* spp), and horseweed (Conyza canadensis), are common to this community. Though named as a non-native community, this community often has significant biological value since it typically supports native grassland species, such as tarweeds (*Hemizonia* spp.), California goldfields (Lasthenia californica), and owl's clover (*Orthocarpus purpurascens*), and provides foraging habitat for raptors and often supports other sensitive wildlife species.

Southern Maritime Chaparral

Southern maritime chaparral is a low, relatively open chaparral characterized by such species as wart-stemmed ceanothus (*Ceanothus verrucosus*), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Del Mar sand aster (*Corethrogyne filaginifoila* var. *linifolia*), and sea dahlia (*Coreopsis maritima*), among others. Other species that commonly occur in this habitat are chamise, mission manzanita (*Xylococcus bicolor*), and toyon. As with other chaparral associations, fire appears to be necessary for continued reproduction of many of the characteristic species within southern maritime chaparral (Holland 1986).

Distinguishing between southern maritime chaparral and southern mixed chaparral can be difficult, especially in coastal areas where ecotonal or transitional associations between the two types often occur. Important differences between these habitat types include the number and dominance of characteristic southern maritime chaparral species (some of which are listed above), the structural characteristics of the vegetation, and the range of soil types and geographical areas over which these habitats occur. Species such as Del Mar manzanita, wart-stemmed ceanothus, summer-holly, and others tend to be more frequent and have increased dominance in southern maritime chaparral, while species such as chamise, toyon, and mission manzanita typically dominate southern mixed chaparral. Species richness (the number of species per unit area) also seems to be higher in southern maritime than in southern mixed chaparral. Southern maritime chaparral is also often more open and lower growing, possibly as a result of its apparent restriction to relatively infertile, weathered sandstone soils. Geographically, southern maritime chaparral is restricted primarily to the coastal fog belt and currently occurs only at Torrey Pines State Reserve, Del Mar Mesa, and a few other scattered nearby localities. In contrast, southern mixed chaparral is more wide ranging and occurs on a variety of soil types both along the coast and well inland.

Southern Mixed Chaparral

Southern mixed chaparral is a diverse mixture of sclerophyllous shrubs that occurs in the foothills of San Diego County and northern Baja California (Holland 1986). The community structure of southern mixed chaparral is more complex than other chaparral communities, having greater canopy height and higher cover values. Southern mixed chaparral typically occurs on north-facing slopes where microenvironmental conditions are more mesic. This community is widespread in San Diego County and as such exhibits a great deal of floristic variablility between localities (Beauchamp, 1986). Only a few significant stands are found outside San Diego County (Sproul and Coleman 1995). Chamise, mission manzanita, scrub oak (*Quercus berberidifolia*), and the blue colored lilacs (eg., *Ceanothus tomentosus, C. leucodermis*) are the most widespread species, with other species becoming locally important. This community is found on a variety of substrates, including granitic and mafic derived soils.

Field/Pasture

The field/pasture vegetation community is often associated with extensive agriculture. This community forms a dense habitat with a high percent cover. Planted fields are usually monoculture crops that are irrigated and usually artificially seeded, maintained, and harvested (Oberbauer et al. 1986).

Orchards and Vineyards

Orchards and vineyards are usually comprised of artificially irrigated habitat dominated by one or several tree or shrub species. The trees are typically low and bushy with and open understory. Vineyards include single species crops planted in rows that are usually supported by wood and wire trellises. Understory growth of both orchard and vineyard crops often include short grasses and other herbaceous plants between rows (Oberbauer et al. 1986).

Urban/Developed

Urban/developed areas have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation.

2.2 Special-Status Resources

The following section provides the results of the historical literature and database review described in Section 1.2.1.

2.2.1 Rare Terrestrial Natural Communities

Rare Terrestrial Natural Communities were considered special-status if they were listed and described in the CDFW Natural Communities List (CDFW 2010), which is based on *A Manual of California Vegetation, Second Addition* (Sawyer *et al*. 2009). The CNDDB was not used to determine the location of historically occurring sensitive vegetation communities, as the CDFW List of Natural Communities replaced all other lists of terrestrial natural communities and vegetation types developed for the CNDDB (CDFW 2016b). Instead, the SanGIS vegetation communities (Oberbauer *et al.* 2008) mapped in Figure 2 and listed in Table 1 were used to determine the location of Rare Terrestrial Natural Communities by creating a crosswalk between the SanGIS (Oberbauer *et al.* 2008) and the CDFW (Sawyer *et al*. 2009) classification systems. The crosswalk was created by looking at the community descriptions in each system and determining which were the most similar based on dominant, co-dominant and associated species. More weight was given to dominants over co-dominants and co-dominants over associated species. Table 2 is included in Section 2.3.1 – *Rare Terrestrial Natural Communities and Wetlands*, along with a list of the Rare Terrestrial Natural Communities found within the BSA area.

2.2.2 Special-Status Species

Special-status species considered for potential to occur in the BSA were based on a review of the literature and database searches described in Section 1.2.1. A total of 107 special-status plant species and 71 special-status wildlife species were considered to have potential to occur within the BSA

(Attachment A). For this preliminary analysis, the level of potential for a species to occur within the BSA (i.e., none, low, moderate, high, present) was not included in Attachment A as there have not been recent field efforts (e.g., current vegetation mapping, habitat assessments, etc.) with specific data on which to confidently make those determinations. The specific level of potential should be determined on a case-by case basis as development projects or plan amendments move through the environmental review process, using the comprehensive list in Attachment A as a baseline for species to consider. Note: all databases and literature should be reevaluated for each project or plan amendment to ensure the table in Attachment A represents the most current set of available data.

Figure 3 illustrates the locations of those species found within the vicinity of the BSA according to the GIS databases queried during the literature search. These include the SanBIOS (SanGIS 2016), San Diego Bird Atlas (Unitt 2005), and USFWS GIS (USFWS 2015) databases. The accuracy of mapped historical locations was also considered when evaluating species potential to occur within the BSA. For example, occurrences located in developed areas were often a result of low accuracy and only represent a center point of a larger radius in which the species may have been found. Note that the CNDDB locations are not included in Figure 3 as it is against CDFW regulations to disclose their data without prior authorization. Additionally, Figure 3 does not include the locations of species identified in the San Dieguito Community Plan as the exact locations are unknown; estimating unpublished locations would be speculative and could be problematic for adjacent land owners. However, Attachment A provides a comprehensive list of species yielded from the literature and database review that have potential to occur within the BSA. Attachment A includes details on each species' listing status and general habitat requirements.

2.3 Delineation of ESHAs

This section provides a preliminary assessment of existing ESHAs and wetlands within the BSA based on the methods described in Section 1.2.2. No site visits were conducted as part of this preliminary assessment. This section and the associated figure (Figure 4) do not represent an exhaustive compilation of the areas that meet ESHA or wetland definition. Rather, they are an illustrative tool to help identify potential resources and it is the actual presence of ESHA on the site that should dictate whether ESHA policies apply to a site.

As the methods in Section 1.2.2 describe, the ESHAs delineated in Figure 4 represent those areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development.

2.3.1 Rare Natural Terrestrial Communities and Wetlands

The following vegetation communities mapped within the County's Coastal Zone by the County of San Diego SanGIS database (SanGIS 2006 and 2016) are either considered a Rare Natural Terrestrial Community by CDFW (CDFW 2010) or qualify as a wetland under the Coastal Act. Therefore, the following vegetation communities were delineated as ESHAs (Figure 4):

Table 2. Rare Natural Terrestrial Communities and Wetlands in the County's Coastal Zone

SanGIS Database (Oberbauer *et al.* 2008)	CDFW Natural Communities List (Sawyer *et al.* 2009)
Wetlands	
Alkali Marsh	Warm Semi-Desert/Mediterranean Alkali–Saline Wetland
Alkali Seep	*Juncus acutus* Provisional Alliance
Coastal Valley Freshwater Marsh	*Schoenoplectus americanus* Alliance
Non-Native Riparian	Naturalized Warm-Temperate Riparian and Wetland Semi-Natural Stands
Southern Arroyo-Willow Riparian Forest	*Salix lasiolepis* Alliance
Southern Coastal Salt Marsh	*Frankenia salina* Alliance
Southern Riparian Scrub	Southwestern North American Riparian, Flooded and Swamp Forest
Southern Riparian Woodland	*Salix gooddingii* Alliance
Southern Willow Scrub	Southwestern North American Riparian, Flooded and Swamp Forest
Rare Terrestrial Natural Communities	
Coastal Sage-Chaparral Transition	N/A
Coast Live Oak Woodland	*Quercus agrifolia* Alliance
Diegan Coastal Sage Scrub	*Artemisia californica-Eriogonum fasciculatum* Alliance
Disturbed Diegan Coastal Sage Scrub	N/A
Maritime Succulent Scrub	*Opuntia littoralis* Alliance
Non-Native Grassland	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands
Southern Maritime Chaparral	*Adenostoma fasciculatum* Alliance
Southern Mixed Chaparral	*Quercus berberidifolia* Alliance

2.3.2 Special-Status Species

Two historical special-status species records fall within the BSA: coastal California gnatcatcher (*Polioptila californica californica*), a special-status bird (federally threatened) that nests in Diegan coastal sage scrub (CNDDB 2016); and Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), a perennial special-status plant (federally endangered/CNPS List 1B.1) that occurs in southern maritime chaparral (CNPS 2016). While these are historical records from databases that may be slightly inaccurate with regard to exact location, the ESHA boundary was delineated around these data points per the requirements of the LCP Update Guide. For the coastal California gnatcatcher location, the ESHA includes all Diegan coastal sage scrub habitat within the BSA, including the coastal sage-chaparral transition areas (see Figures 2 and 4). For the Del Mar manzanita location, the ESHA includes all southern maritime chaparral habitat within the BSA (see Figures 2 and 4). In addition, although no records of historical occurrence were identified within the CZ, the potential for Encinitas baccharis (*Baccharis vanessae*), coastal cactus wren (*Campylorhynchus brunneicapillus*), least Bell's vireo (*Vireo bellii pusillus)* and Belding's savannah sparrow (*Passerculus sandwichensis beldingi)* to occur within the County's Coastal Zone should be considered on a case-by-case basis, due to the proximity of known

occurrences and suitable habitat adjacent to the County's Coastal Zone. Because these four species and their habitats are in close proximity, they were included in the ESHA.

Because these four species and their habitats are in close proximity, they were included in the ESHA. Suitable habitat for Encinitas baccharis includes several chaparral habitat types below 3,000 feet; therefore, the ESHA includes all Southern Maritime Chaparral and Southern Mixed Chaparral within the County's Coastal Zone. The closest known occurrence of Encinitas baccharis is located approximately 1.75 miles north of the County's Coastal Zone (pers.com. Jonathan Dunn 2016). Suitable habitat for coastal cactus wren includes Maritime Succulent Scrub and Diegan Coastal Sage Scrub with abundant prickly pear (*Opuntia littoralis* and *O. oricola*) and coastal cholla (*O. prolifera*) for nesting; therefore, the ESHA includes all Maritime Succulent Scrub and Diegan Coastal Sage Scrub within the County's Coastal Zone. The closest known occurrence of coastal cactus wren is located 0.5 mile west of the County's Coastal Zone (CDFW 2016a). Suitable habitat for least Bell's vireo includes riparian woodland and riparian scrub communities; therefore, the ESHA includes all Southern Riparian Scrub, Southern Willow Scrub, Southern Arroyo Willow Riparian Forest, and Southern Riparian Woodland within the County's Coastal Zone. The closest known occurrence of least Bell's vireo is located approximately 1,000 feet south of the County's Coastal Zone within the San Dieguito River (USFWS 2015)(Figure 3). Suitable habitat for Belding's savannah sparrow includes grasslands with few trees, including meadows, grassy roadsides, and sedge wetlands. Near oceans, they also inhabit tidal saltmarshes and estuaries. The ESHA includes all Non-native Grassland, Coastal and Valley Freshwater Marsh, and Southern Coastal Salt Marsh within the County's Coastal Zone. The closest known occurrence of Belding's savannah sparrow is just outside of the western boundary of the County's Coastal Zone within the San Elijo Lagoon Ecological Reserve (Unitt 2004)(Figure 3).

It is noted that other vegetation communities within the BSA have the potential to support special-status species and therefore possibly qualify as an ESHA. These include disturbed habitat, eucalyptus woodland, non-native grassland, and the margins of agricultural fields that are capable of supporting special-status species such as burrowing owl (*Athene cunicularia*) and white-tailed kite (*Elanus leucurus*), among others. Given that none of the species listed in Attachment A rely exclusively on the vegetation communities noted above, these community types are not included as ESHAs herein. Additional analyses through field investigations would be required on a case-by-case basis.

References

Barbour, M. 1988. Californian upland forests and woodlands. In. Barbour and Billings (eds.) *North American Terrestrial Vegetaton*. pp. 131-164.

Beauchamp, R. M. 1986. *A Flora of San Diego County*. Sweetwater River Press, 241pp. Beauchamp, R. 1986

California Coastal Commission (CCC). 2013. *Local Coastal Program (LCP) Update Guide*. Part I: Published April 2007; revised July 2013. Part II: Published 2010. San Francisco, California.

California Department of Fish and Wildlife (CDFW). 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Wildlife. Sacramento, CA. September 2010. https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List [accessed: August 3, 2016].

California Department of Fish and Wildlife (CDFW). 2016. RareFind 3 computer program. California Natural Diversity Database (CNDDB) Search. California Department of Fish and Game, State of California Resources Agency. Sacramento, California. Available at http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp [accessed February 2016].

California Native Plant Society (CNPS), Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Available at http://www.rareplants.cnps.org [accessed February 2016].

County of San Diego. 1997. Multiple Species Conservation Program. County of San Diego Subarea Plan. Adopted October 22, 1997.

County of San Diego. 2014. San Dieguito Community Plan – San Diego County General Plan. Adopted December 31, 1974, Amended June 18, 2014 (GRP 12-007).

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. State of California, The Resources Agency.Holland, R. 1986

Jackson, L. 1985. Ecological Oorigins of California's Mediterranean Grasses. *Journal of Biogeography* (1985) 12, 349-361.

MacDonald, K. 1977. Coastal salt marsh. In. Barbour and Major (eds.). *Terrestrial Vegetation of California*. Wiley. N.Y. pp. 263-275.MacDonald. 1977.

Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge. March 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California", Robert F. Holland, Ph.D., October 1986.

Oberbauer, T. 1996. *Terrestrial Vegetation Communities in San Diego County based on Holland's Descriptions*. February 1996. 6pp.

O'Leary, J. 1990. Californian coastal sage scrub: General characteristics and considerations for biological conservation. In. Endangered Plant Communities of Southern California. A Schoenherr (ed.). *Proceedings of the 15th Annual Symposium*. Southern California Botanists. Special Publication No. 3. pp.24-41.

Pavlik, B., P. Muick, S. Johnson, and M. Popper. 1991. *Oaks of California*. Cachuma Press. Los Olivos. California. 184pp.

Rundel, P. 1986. Structure and function in California chaparral. *Fremontia*. Vol. 14. No. 3. Oct. 1986. pp. 3-10.

SanGIS. 2006. SANDAG Regional Data Warehouse. SanGIS and SANDAG authoritative regional GIS data. Vegetation Mapping. Available at http://www.sangis.org/download/index.html [accessed April 2016].

SanGIS. 2016. SANDAG Regional Data Warehouse. SanGIS and SANDAG authoritative regional GIS data. SanBIOS Species Data and Vegetation Mapping. Available at http://www.sangis.org/download/index.html [accessed February 2016].

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento. 1300 pp.https://www.wildlife.ca.gov/Data/VegCAMP/Publications-and-Protocols/Vegetation-Manual.

Smith, R. L., 1980. Alluvial scrub vegetation of the San Gabriel River floodplain, California. *Madrono*. Vol. 27. No. 3. pp. 126-138. 23 July 1980.

Sproul, F.T., and V. Coleman. 1995. Plant Communities of the San Diego County Vegetation Mapping Project. Prepared for the County of San Diego Department of Planning and Land Use. San Diego, CA.

Stebbins, G. 1976. Ecological Islands and Vernal Pools of California. In. S. Jain (ed.), *Vernal Pools: Their Ecology and Conservation*, pp. 1-4. Institute of Ecology Publication No. 9. University of California, Davis.

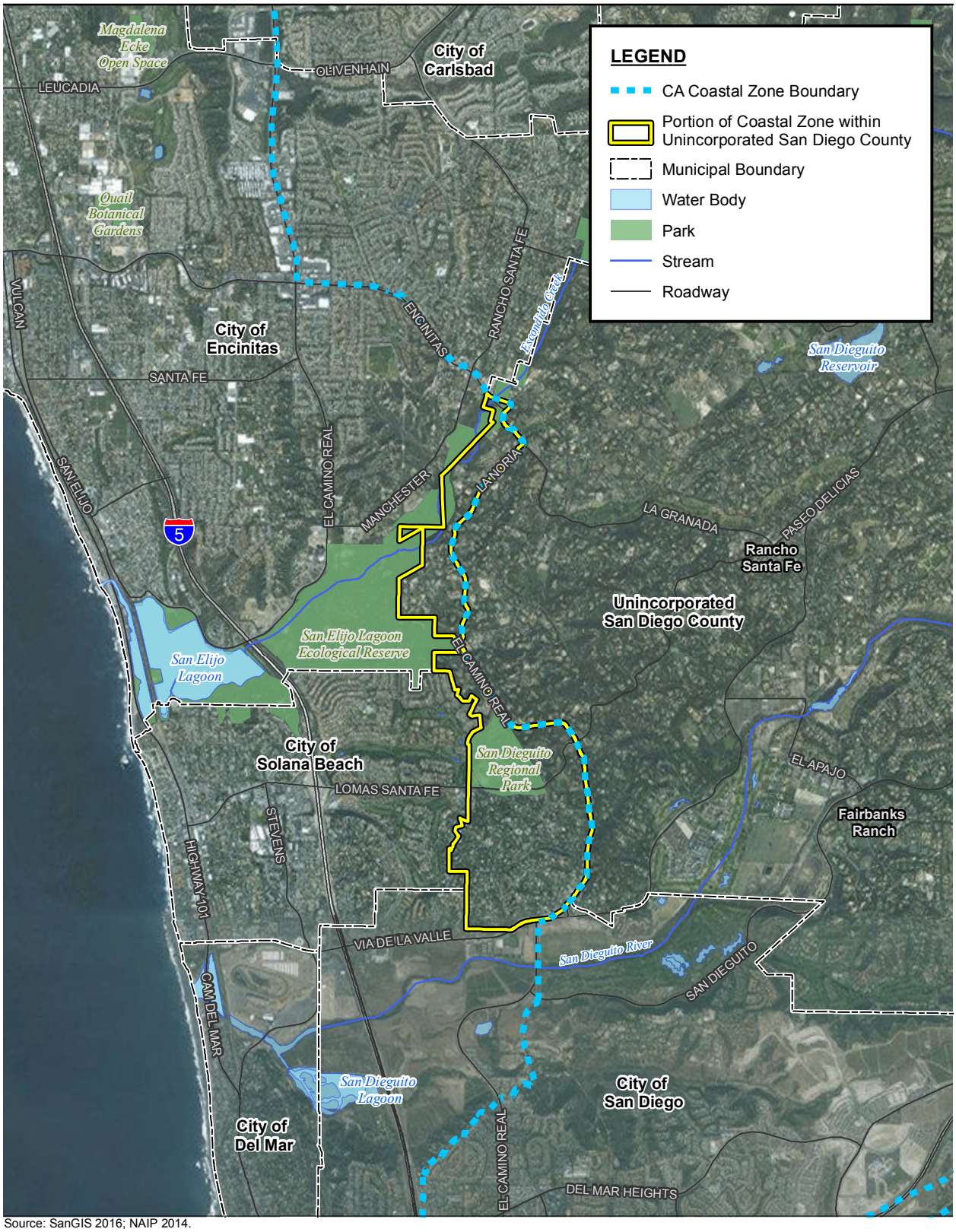
Stone, R. 1990. California's Endemic Vernal Pool Plants: Some Factors Influencing their Rarity and Endangerment. pp. 89-107. In. D. Ikeda and R. Schlising (eds.), *Vernal Pool Plants: Their Habitat and Biology*.

U.S. Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP). 2014. Aerial Imagery. Available at http://www.fsa.usda.gov/programs-and-services/aerial-photography/imagery-programs/naip-imagery/ [accessed February 2016].

U.S. Fish and Wildlife Service (USFWS). 2015. Carlsbad Fish and Wildlife Office GIS division. Available at http://www.fws.gov/carlsbad/GIS/CFWOGIS.html. Last updated October 2015 [accessed February 2016].

Unitt, Phillip. 2005. *San Diego County Bird Atlas* GIS Database. San Diego Natural History Museum & Ibis Publishing Company, San Diego. 645 pp. Literature published in 2004; GIS database published in January 2005 [accessed February 2016].

Zedler, P. 1984. Micro-distribution of Vernal Pool Plants of Kearny Mesa, SanDiego County. pp. 185-197. In. S. Jain and P. Moyle (eds.), *Vernal Pools and Intermittent Streams*. pp. 198-209. Institute of Ecology Publications No. 28. University of California, Davis.



Source: SanGIS 2016; NAIP 2014.

Figure 1
Local Context

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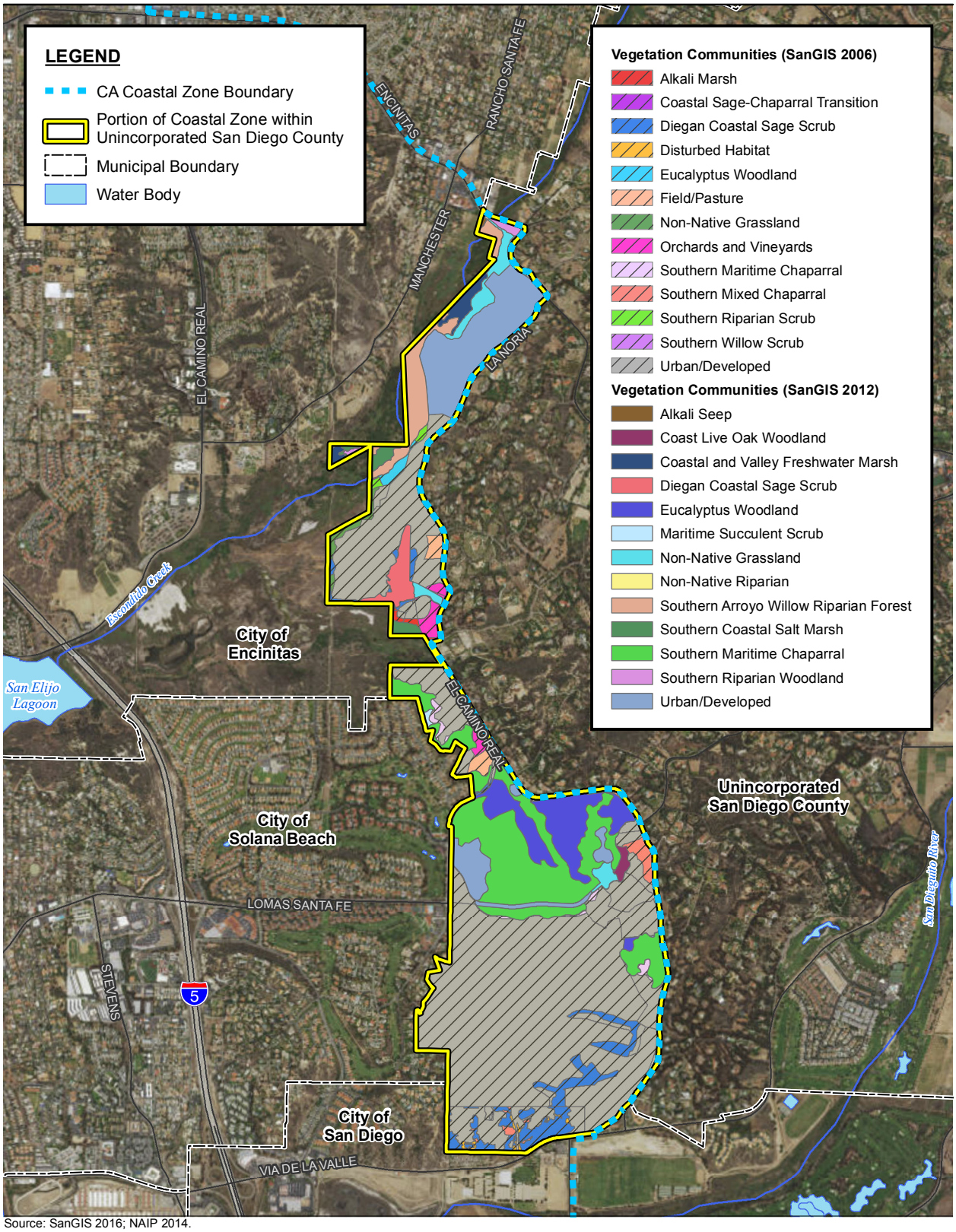


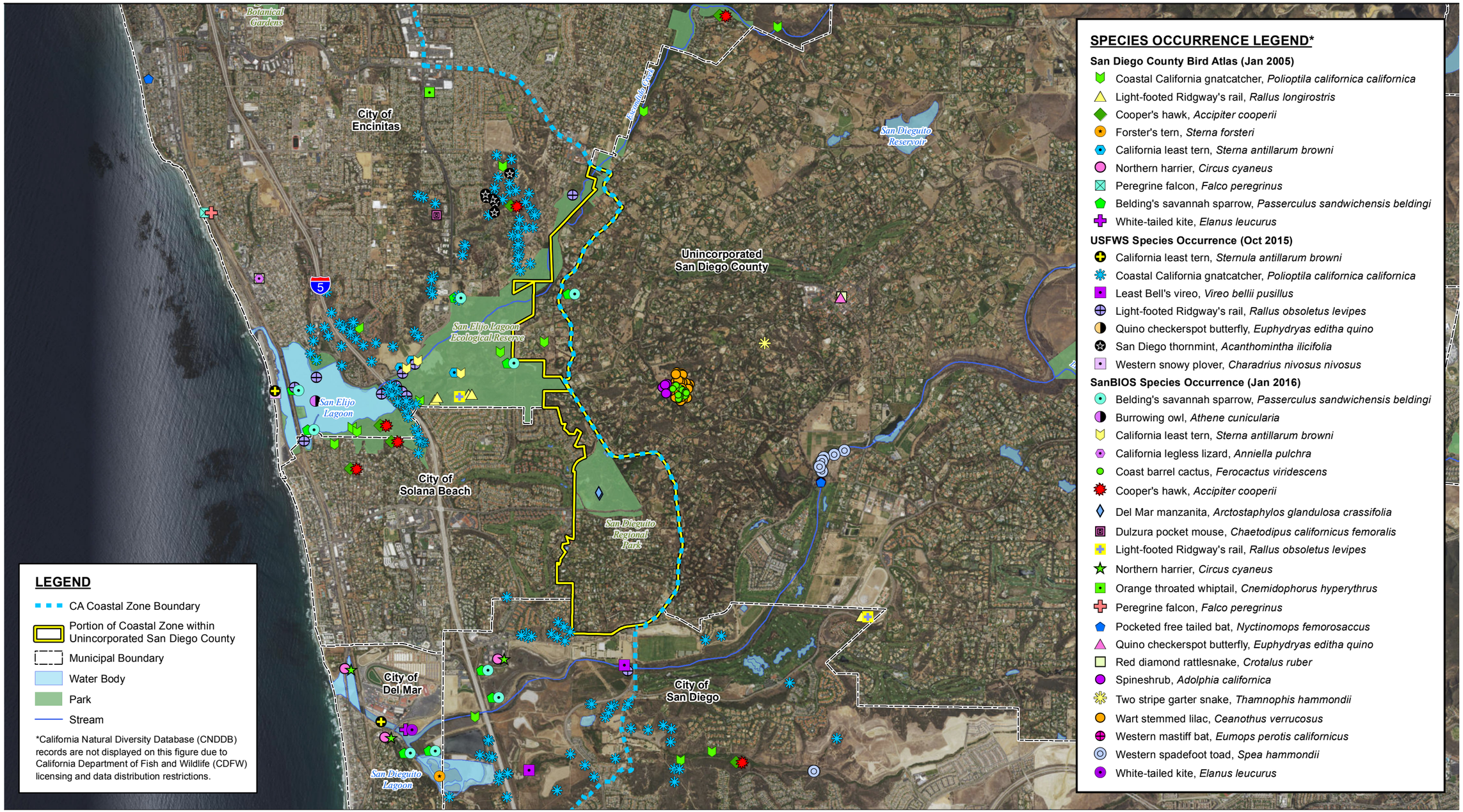
Source: SanGIS 2016; NAIP 2014.

3,000 1,500 0 3,000 Feet

Scale: 1:36,000; 1 inch = 3,000 feet

Figure 2
Vegetation Communities and Other Cover Types

Path: P:_6048\60484703_Local_Coastal_Program_Update\800-CAD-GIS\822_Maps\LUP_Maps\Bio_Veg_Rev2.mxd, 8/4/2016, daniel_arellano



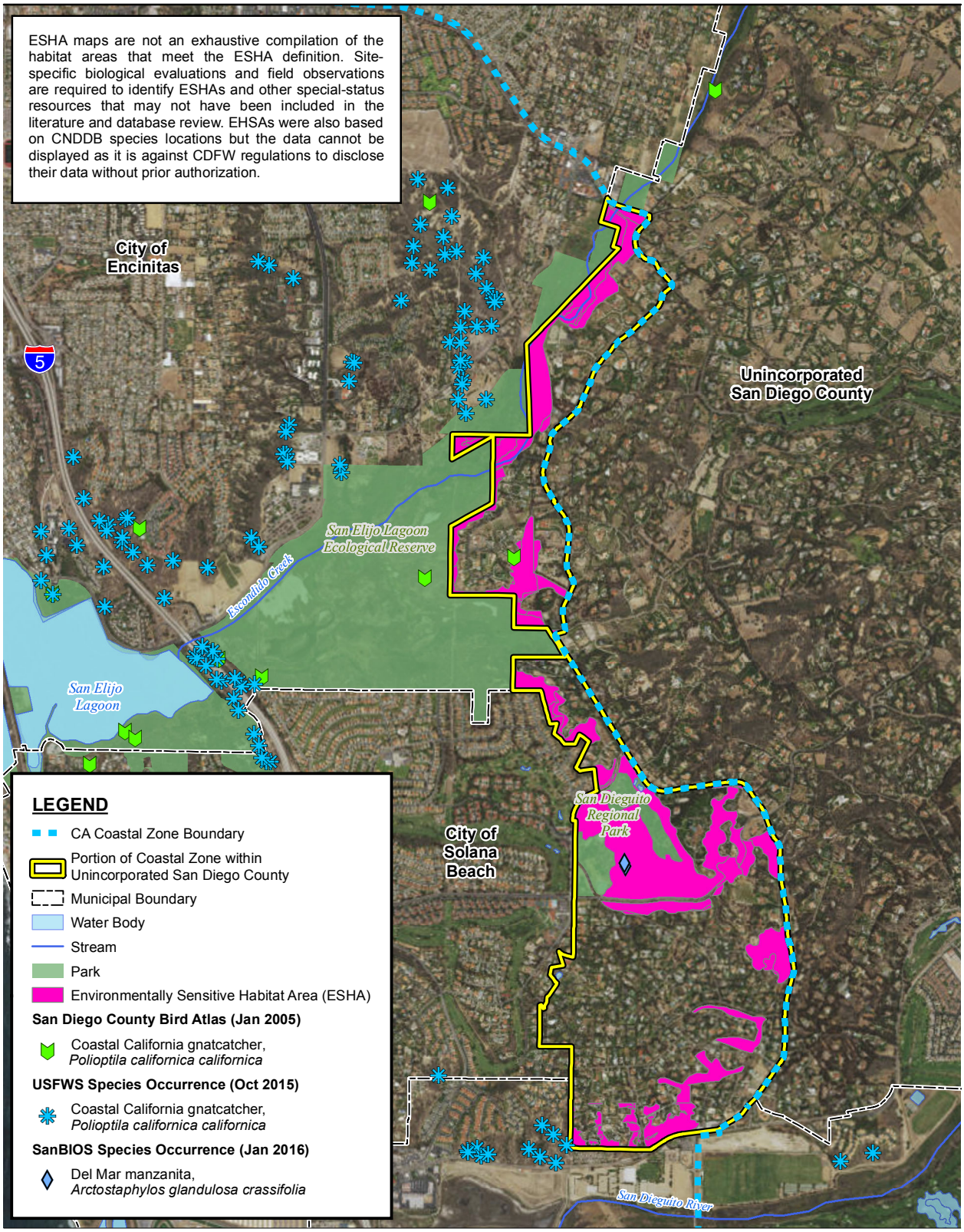
Source: NAIP 2014; SanGIS 2016 (SanBIOS Species Occurrence); USFWS 2015 (Species Occurrence); San Diego County Bird Atlas 2005.

4,000 2,000 0 4,000 Feet

Scale: 1:48000; 1 inch = 4,000 feet

Figure 3
Historical Special-Status Species Records

Path: P:_6048\60484703_Local_Coastal_Program_Update\800-CAD-GIS\822_Maps\LUP_Maps\Bio_Species.mxd, 7/28/2016, daniel_arellano



Source: NAIP 2014; SanGIS 2016 (SanBIOS Species Occurrence); USFWS 2015 (Species Occurrence); San Diego County Bird Atlas 2005.

3,000 1,500 0 3,000 Feet

Scale: 1:36,000; 1 inch = 3,000 feet

Figure 4
Environmentally Sensitive Habitat Areas (ESHAs)

Path: P:_6048\60484703_Local_Coastal_Program_Update\800-CAD-GIS\822_Maps\LUP_Maps\Bio_ESHA.mxd, 8/5/2016, daniel_arellano

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
Invertebrates		
Riverside fairy shrimp *Streptocephalus woottoni*	ESA: Endangered MSCP: Covered	Deep vernal pool habitat in southern California. May occur in road ruts, vernal pools, or other temporarily ponded waters where the water remains ponded for several weeks.
San Diego fairy shrimp *Branchinecta sandiegonensis*	ESA: Endangered MSCP: Covered	Vernal pool habitat in southern California. May occur in road ruts, vernal pools, or other temporarily ponded waters.
wandering (saltmarsh) skipper *Panoquina errans*	MSCP: Covered	Restricted to estuarine and tideland habitats where adults are often associated with salt grass (*Distichlis spicata*).
Quino checkerspot butterfly *Euphydryas editha quino*	ESA: Endangered	Primarily scrublands, however adult butterflies will only deposit eggs on species they recognize as host plants including species of *Plantago*.
Riverside fairy shrimp *Streptocephalus woottoni*	ESA: Endangered MSCP: Covered	Vernal pool habitat in southern California. May occur in road ruts, vernal pools, or other temporarily ponded waters.
western spadefoot *Spea hammondii*	CDFW: Species of Special Concern	Temporary ponds, vernal pools, and backwaters of slow-flowing creeks for breeding and upland habitats

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		such as grasslands and coastal sage scrub for aestivation.
western pond turtle *Emys marmorata*	CDFW: Species of Special Concern MSCP: Covered	Associated with permanent water or nearly permanent water from sea level to 6,000 feet. Prefers habitats with basking sites such as floating mats of vegetation, partially submerged logs, rocks, or open mud banks.
coast horned lizard *Phrynosoma blainvillii*	CDFW: Species of Special Concern MSCP: Covered	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands (Stebbins 2003). Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.
coastal whiptail *Aspidoscelis tigris stejnegeri*	CDFW: Species of Special Concern	Inhabits low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats.
Coronado island skink *Eumeces skitonianus interparietalis*	CDFW: Species of Special Concern	Most commonly found in open areas, sparse brush, and in oak woodlands, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		(CDFG 1994).
orange-throated whiptail *Aspidoscelis hyperythra*	CDFW: Species of Special Concern MSCP: Covered	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands (Stebbins 2003). Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.
silvery legless lizard *Anniella pulchra pulchra*	CDFW: Species of Special Concern	Loose soil in a number of vegetation communities including coastal dunes; chaparral; pine-oak woodland; and streamside growth of sycamores, cottonwoods, or oaks. Small shrubs such as bush lupine (*Lupinus* sp.) growing in sandy soils indicate suitable conditions. Occurs often near intermittent and permanent streams.
coast patch-nosed snake *Salvadora hexalepis virgultea*	CDFW: Species of Special Concern	A variety of habitats including coastal sage scrub, chaparral, riparian, grasslands, and agricultural fields. Prefers open habitats with friable or sandy soils, burrowing rodents for food, and enough cover to escape

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		predation.
two-striped garter snake *Thamnophis hammondii*	CDFW: Species of Special Concern	Aquatic habitats, preferably rocky streams with protected pools, cattle ponds, marshes, vernal pools, and other shallow bodies of water.
red-diamond rattlesnake *Crotalus ruber ruber*	CDFW: Species of Special Concern	Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Habitat preferences include dense vegetation in rocky areas.
Birds		
Bell's sage sparrow *Artemisiospiza belli belli*	CDFW: Watch List USFW: Birds of Conservation Concern	Chaparral and coastal sage scrub.
burrowing owl *Athene cunicularia*	CDFW: Species of Special Concern USFW: Birds of Conservation Concern MSCP: Covered	Prefers grassland and open scrub. Take over the burrows of mammals, especially those of the California ground squirrel (*Spermophilus beecheyi*) as well as culverts and artificial burrows.
coastal cactus wren *Campylorhynchus brunneicapillus sandiegonensis*	CDFW: Species of Special Concern MSCP: Covered	Breeds and winters in coastal sage scrub, including prickly pear and/or cholla cacti; found only in coastal and near-coastal portions of California, generally below 3,000 feet.
coastal California	ESA: Threatened	Diegan coastal sage

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
gnatcatcher *Polioptila californica californica*	CDFW: Species of Special Concern MSCP: Covered	scrub dominated by California sagebrush (*Artemisia californica*) and flat-topped buckwheat (*Eriogonum fasciculatum*) below 2,500 feet elevation in Riverside County and below 1,000 feet elevation along the coastal slope. Generally avoids steep slopes above 25% and dense, tall vegetation for nesting.
California black rail *Laterallus jamaicensis coturniculus*	CESA: Threatened CDFW: Fully Protected USFW: Birds of Conservation Concern	Found in southern California coastal marshes.
California Clapper Rail *Rallus longirostris obsoletus*	ESA: Endangered CESA: Endangered MSCP: Covered	Salty and brackish water marshes with pickleweed and cordgrass.
light-footed Ridgway's rail *Rallus longirostris levipes*	ESA: Endangered CESA: Endangered MSCP: Covered	Salty and brackish water marshes with pickleweed and cordgrass.
common Loon *Gavia immer*	CDFW: Species of Special Concern	Widespread along the coast both in the ocean and within tidal bays and estuaries.
Costa's hummingbird (nesting) *Calypte costae*	USFW: Birds of Conservation Concern	Primarily found in desert wash, edges of desert riparian and valley foothill riparian, coastal

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		scrub, desert scrub, desert succulent shrub, lower-elevation chaparral, and palm oasis.
Cooper's hawk *Accipiter cooperii*	CDFW: Watch List (nesting) MSCP: Covered	Known to nest in a variety of woodland habitats including oak, willow, eucalyptus and other large trees that provide suitable cover. May nest in urban riparian vegetation.
grasshopper sparrow *Ammodramus savannarum*	CDFW: Species of Special Concern (nesting)	Arid grasslands with shrubs.
Catalina Hutton's vireo *Vireo huttoni*	CDFW: Species of Special Concern	Endemic to Catalina, but known to breed in San Diego. Habitat consists of oak woodland (primarily coast live oak), riparian woodland and chaparral habitats (Shuford and Gardali 2008).
Lawrence's goldfinch *Spinus lawrencei*	USFW: Birds of Conservation Concern	Desert riparian, palm oasis, pinyon-juniper, and lower montane habitats.
least bittern *Ixobrychus exilis*	CDFW: Species of Special Concern (nesting)	Marsh habitats or large emergent wetlands with cattails (*Typha* sp.) and tules.
California least tern *Sternula antillarum browni*	ESA: Endangered CESA: Endangered	A ground nesting bird that requires undisturbed stretches of beach

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
	CDFW: Fully Protected (nesting colony) MSCP: Covered	and coastline. Adults are highly philopatric to natal colonies, and forage in bays and estuaries near their colonies.
Clark's marsh wren *Cistothorus palustris clarkae*	CDFW: Species of Special Concern	Year-round resident of coastal freshwater and brackish marshes in coastal southern California.
northern harrier *Circus cyaneus*	CDFW: Species of Special Concern (nesting) MSCP: Covered	Breeds predominantly in wetland habitats but will also use upland habitats. Prefers grasslands and agricultural fields during migration and in winter.
osprey *Pandion haliaetus*	CDFW: Watch List (nesting)	Primarily along rivers, lakes, reservoirs, and seacoasts, occurring widely in migration, often crossing land between bodies of water. Nests in dead snags, live trees, cliffs, utility poles, wooden platforms, channel buoys, chimneys, windmills, etc. Usually near or above water.
Reddish Egret *Egretta rufescens*	MSCP: Covered	Salt and brackish water wetlands
southern California rufous-crowned sparrow *Aimophila ruficeps*	CDFW: Watch List MSCP: Covered	Grassy or rocky slopes with open scrub at elevations from sea level to 2,000 feet. Occurs

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
canescens		mainly in coastal sage scrub.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	CESA: Endangered MSCP: Covered	Resident in salt marshes with dense pickleweed, particularly *Salicornia virginica*, within which most nests are found. Found in areas with tidal flow.
large-billed savannah sparrow *Passerculus sandwichensis rostratus*	CDFW: Species of Special Concern (wintering) MSCP: Covered	Breeds in open, low salt marsh vegetation, including grasses, pickleweed, and iodine bush (does not breed in North America). Winters along rocky shorelines in Southern California.
tricolored blackbird *Agelaius tricolor*	CDFW: Species of Special Concern (nesting colony) MSCP: Covered	Breeds near freshwater, especially marshy areas. The most favored sites for colonies are heavy growths of cattails and tules. Winters near pastures, dry seasonal pools, agricultural fields, rice fields, feedlots, and dairies.
vermilion flycatcher *Pyrocephalus rubinus*	CDFW: Species of Special Concern (nesting)	Prefers open riparian woodland, arid lands, and mesquite bosques on desert floodplains. Nests in native trees such as willows and cottonwoods.
western snowy plover *Charadrius nivosus nivosus*	ESA: Threatened CDFW: Species of Special Concern	Nests on beaches, dunes, and salt flats in San Diego County, with the

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
	(nesting) MSCP: Covered	highest concentrations in two areas: Marine Corps Base Camp Pendleton and Silver Strand. Outside the breeding season species is more widespread but not common along the county's coast.
white-tailed kite *Elanus leucurus*	CDFW: Fully Protected (nesting)	Breeds and winters in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields.
golden eagle *Aquila chrysaetos*	CDFW: Fully Protected (nesting and wintering) MSCP: Covered	Nests on cliff ledges and trees on steep slopes. Hunts for prey in nearby grasslands, sage scrub, or broken chaparral. Requires very large territories.
ferruginous hawk *Buteo regalis*	CDFW: Watch List (wintering) MSCP: Covered	Does not breed in California. Only winters in San Diego County in open country, primarily plains, prairies, badlands, sagebrush, and shrubland.

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
Swainson's hawk *Buteo swainsoni*	CESA: Threatened (nesting) MSCP: Covered	Open grasslands; however it has become increasingly dependent on agriculture, especially alfalfa crops, as native grassland communities are converted to agricultural lands.
prairie falcon *Falco mexicanus*	CDFW: Watch List (nesting) MSCP: Covered	Forages in open grasslands, agricultural fields, and desert scrub. Prefers ledges on rocky cliffs for nesting.
American peregrine falcon *Falco peregrinus anatum*	CDFW: Fully Protected (nesting) MSCP: Covered	Nests in open areas from tundra, moorlands, steppe, and seacoasts to mountains and open forested regions, especially where there are suitable nesting cliffs.
light-footed Ridgway's rail *Rallus obsoletus levipes*	ESA: Endangered CESA: Endangered CDFW: Fully Protected MSCP: Covered	Found in southern California in coastal salt marshes, especially those dominated by cordgrass. Nearby breeding locations include San Elijo Lagoon and to the east of the BSA.
long-billed curlew	CDFW: Watch List MSCP: Covered	Tidal mudflats, coastal strand, salt marshes, fallow agricultural fields, and grasslands along the coast. Uncommon migrant and winter visitor to San Diego County.

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
black skimmer *Rynchops niger*	CDFW: Species of Special Concern (nesting)	Breeds in loose groups on sand banks or bare dirt areas near water sources. May utilize the same habitat as terns.
burrowing owl *Athene cunicularia*	CDFW: Species of Special Concern (burrow sites and some winter sites) MSCP: Covered	Breeds and winters in flat, open terrain with soft soil, short grass, sparsely distributed vegetation, or exposed ground. Strongly associated with California ground squirrel burrows.
least Bell's vireo *Vireo bellii pusillus*	ESA: Endangered CESA: Endangered MSCP: Covered	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets (Unitt 2004).
California horned lark *Eremophila alpestris actia*	CDFW: Watch List	Found year-round in coastal strand, grasslands, and sandy deserts of San Diego County. This species requires open, low-growing vegetation for nesting and prefers sandy areas with occasional vegetation.
yellow-breasted chat *Icteria virens*	CDFW: Species of Special Concern (nesting)	Riparian woodland, with dense undergrowth.
grasshopper sparrow *Ammodramus savannarum perpallidus*	CDFW: Species of Special Concern (nesting)	Breeds and winters in open grasslands and prairies with patches of bare ground. This species tends to

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		nest in open native grassland.
Bell's sparrow *Amphispiza belli*	CDFW: Watch List	Occurs mainly in coastal sage scrub and semi-open chaparral habitats several years after fire events have opened up the vegetation.
western bluebird *Sialia mexicana*	MSCP: Covered	Frequents open woodlands for foraging, but requires suitable roosting and nesting cavities usually in snags. Availability of snags may limit population density.
Mammals		
big free-tailed bat *Nyctinomops macrotis*	CDFW: Species of Special Concern	Rocky and rugged terrain including desert shrub, woodlands, and evergreen forests
Dulzura pocket mouse *Chaetodipus californicus femoralis*	CDFW: Species of Special Concern	Slopes covered with chaparral and live oaks.
pallid bat *Antrozous pallidus*	CDFW: Species of Special Concern	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect them from high temperatures.
Mexican long-tongued bat *Choeronycteris mexicana*	CDFW: Species of Special Concern	In San Diego County, occurs primarily in urban areas. In Arizona and Mexico, found

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		in deep canyons and in the mountains, foraging in riparian, desert scrub, and pinyon-juniper habitats, in particular on *Yucca* sp.
pocketed free-tailed bat *Nyctinomops femorosaccus*	CDFW: Species of Special Concern	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.
western red bat *Lasiurus blossevillii*	CDFW: Species of Special Concern	Obligate foliage-roosting species that roosts in trees and forages along wooded edges and riparian areas. Feeds over grasslands, shrublands, open woodlands, forests, and croplands.
western mastiff bat *Eumops perotis californicus*	CDFW: Species of Special Concern	Colonial roosting species that prefers steep rocky cliffs, but occasionally may use buildings. Chaparral, live oaks, and arid, rocky regions. Requires downward-opening crevices.
western yellow bat *Lasiurus xanthinus*	CDFW: Species of Special Concern	Below 600 meters in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	CDFW: Species of Special Concern	Inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities.
pacific pocket	ESA: Endangered	Plant communities

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
mouse *Perognathus longimembris pacificus*	CDFW: Species of Special	suitable for the Pacific pocket mouse consist of shrublands with firm, fine-grain, sandy substrates in the immediate vicinity of the ocean. These communities include coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CDFW: Species of Special Concern	Typical habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush.
San Diego desert woodrat *Neotoma lepida intermedia*	CDFW: Species of Special Concern	Common to abundant in Joshua tree, piñyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats.
Mule deer *Odocoileus hemionus*	MSCP: Covered	This species requires large areas of chaparral or coastal sage scrub and riparian vegetation for cover and foraging.
mountain lion *Felis concolor*	MSCP: Covered	This species requires vast areas of rugged mountains, forests, riparian vegetation, deserts, and other areas with plenty of cover and a mammalian prey

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		base.
American badger *Taxidea taxus*	CDFW: Species of Special Concern MSCP: Covered	Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon-juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils.

[1] Species listed in this table were found to have been historically recorded within the vicinity of the LCP area (San Diego County Bird Atlas [Unitt 2004], U.S. Fish and Wildlife Service [USFWS 2016], California Natural Diversity Database [CNDDB 2016], and San Diego County [County 2016]) during a desktop analysis of the USGS 7.5-minute Topographic Quadrangles that include and surround the LCP area (Del Mar, Encinitas, Rancho Santa Fe). The traditional nine-quadrangle search could not be implemented because the LCP area is directly adjacent to the Pacific Ocean, for which there are no designated quadrangles. Focused surveys and detailed vegetation mapping are required on a project-by-project basis to determine the presence, absence or potential for a species to occur within the LCP area.

[2]Sensitivity status taken from CDFW Special Animals List July 2016 and the MSCP list of covered species.

Sensitivity Status Key

ESA: Federal Endangered Species Act (ESA)

CESA: California Endangered Species Act (CESA)

CDFW: California Department of Fish and Wildlife

REFERENCES

California Natural Diversity Database (CNDDB). 2016. California Department of Fish and Wildlife Biogeographic Data Branch. Sacramento, California. Website http://www.dfg.ca.gov/biogeodata/cnddb/cnddb_info.asp [accessed 11 July 2016].

California Department of Fish and Game (CDFG). 1994. Amphibian and Reptile Species of Special Concern in California. Final Report Submitted to the California Department of Fish and Game Inland Fisheries Division. November 1994.

County of San Diego (County). 2016. SanGIS-SANDAG Regional Data Warehouse. SanGIS and SANDAG authoritative regional GIS data. Available at http://www.sangis.org/download/index.html

Stebbins, R. C. 2003. A Field Guide to Western Reptiles and Amphibians. Third Edition. Peterson Field Guide Series Boston: Houghton Mifflin Company

Shuford, W. D., and Gardali, T. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

U.S. Fish and Wildlife Service (USFWS). 2016. Carlsbad Fish and Wildlife Office GIS division. Available at http://www.fws.gov/carlsbad/GIS/ CFWOGIS.html.

Unitt, Phillip. 2004. *San Diego County Bird Atlas*. San Diego Natural History Museum & Ibis Publishing Company, San Diego. 645 pp.

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Red-sand verbena *Abronia maritima*	CNPS: List 4.2	Perennial herb. Found in coastal dunes. Elevation 0-100 meters.	February - November
San Diego thorn-mint *Acanthomintha ilicifolia*	CNPS: List 1B.1 ESA: Threatened CESA: Endangered MSCP: Covered	Annual herb. Found in clay (openings), chaparral, coastal scrub, valley and foothill grassland, vernal pools. Elevation 10 – 960 meters.	April – June
Nuttal's acmispon *Acmispon prostratus*	CNPS: List 1B.1	Annual herb. Found in coastal dunes, coastal scrub. Elevation 0-10 meters.	March – July
California adolphia *Adolphia californica*	CNPS: List 2B.1	Deciduous shrub. Found in chaparral, coastal scrub, and valley and foothill grassland/clay soils. Elevation 45 – 740 meters.	December– May

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Shaw's agave *Agave shawii* var. *shawii*	CNPS: List 2B.1	Perennial leaf succulent. Found in maritime succulent scrub, coastal bluff scrub, and coastal scrub. Elevation 10 – 120 meters.	September – May
singlewhorl burrobrush *Ambrosia monogyra*	CNPS: List 2B.2	Perennial shrub. Found in chaparral and Sonoran desert scrub. Elevation 10 – 50 meters.	August – November
San Diego ambrosia *Ambrosia pumila*	CNPS: List 1B.1 ESA: Endangered MSCP: Covered	Perennial rhizomatous herb. Found in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 20 – 450 meters.	April – October
aphanisma *Aphanisma blitoides*	CNPS: List 1B.2 MSCP: Covered	Annual herb. Found in coastal bluff scrub, coastal dunes, and coastal scrub in sandy soils. Elevation 3–920 meters.	March –June
Del Mar manzanita *Arctostaphylos glandulosa* ssp. *Crassifolia*	ESA: Endangered CNPS: List 1B.1 MSCP: Covered	Evergreen shrub. Found in chaparral maritime scrub in sandy soils. Elevation 0–350 meters.	December– June
Rainbow manzanita *Arctostaphylos rainbowensis*	CNPS: List 1B.1	Perennial evergreen shrub Found in chaparral. Elevation 205-670 meters.	December – March

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
San Diego sagewort *Artemisia palmeri*	CNPS: List 4.2	Deciduous shrub. Found in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland. Elevation 15 – 915 meters.	May–September
Western spleenwort *Asplenium vespertinum*	ESA: Endangered CESA: Endangered CNPS: List 4.2	Perennial rhizomatous herb. Found in chaparral, cismontane woodland, coastal scrub. Elevation 180 – 1000 meters.	February – June
coastal dunes milkvetch *Astragalus tener* var. *titi*	ESA: Endangered CESA: Endangered CNPS: List 1B.1	Annual herb. Found in coastal bluff scrub, coastal dunes, and coastal prairie. Elevation 0–50 meters.	March–May
Coulter's saltbush *Atriplex coulteri*	CNPS: List 1B.2	Perennial herb. Found in coastal bluff scrub, coastal dunes, and coastal scrub, valley and foothill grassland. Elevation 3 – 460 meters.	March–October
south coast saltscale *Atriplex pacifica*	CNPS: List 1B.2	Annual herb. Found in coastal bluff scrub, coastal dunes, coastal scrub, and playas. Elevation 0 – 140 meters.	March–October
Parish's brittlescale *Atriplex parishii*	CNPS: List 1B.1	Annual herb. Found in chenopod scrub, playas, and vernal pools Elevation 25 - 1900 meters.	June – October

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Encinitas baccharis *Baccharis vanessae*	ESA: Threatened CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial deciduous shrub. Found in chaparral (maritime) and Cismontane woodland. Elevation 60 - 720 meters.	August – November
golden-spined cereus *Bergerocactus emoryi*	CNPS: List 2 B.2	Perennial stem succulent. Found in closed-cone coniferous forest, chaparral, and coastal scrub. Elevation 3 – 395 meters.	May – June
San Diego goldenstar *Bloomeria clevelandii*	CNPS: List 1B.1 MSCP: Covered	Perennial bulbiferous herb. Found in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 50 – 465 meters.	April – May
thread-leaved brodiaea *Brodiaea filifolia*	ESA: Threatened CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial bulbiferous herb. Found in chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools. Elevation 25 – 1120 meters.	March – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Orcutt's brodiaea *Brodiaea orcuttii*	CNPS: List 1B.1 MSCP: Covered	Perennial bulbiferous herb. Found in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 30 – 1692 meters.	May – July
Brewer's calandrinia *Calandrinia breweri*	CNPS: List 4.2	Annual herb. Found in chaparral and coastal scrub. Elevation 10 – 1220 meters.	January – June
Dunn's mariposa lily *Calochortus dunnii*	CESA: Rare CNPS: List 1B.2 MSCP: Covered	Perennial bulbiferous herb. Found in closed-cone coniferous forest, chaparral, and valley and foothill grassland. Elevation 185 – 1830 meters.	February – June
Lewis's evening-primrose *Camissonia lewisii*	CNPS: List 3	Annual herb. Found in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Elevation 0 – 300 meters.	March–May

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Lakeside ceanothus *Ceanothus cyaneus*	CNPS: List 1B.2	Perennial evergreen shrub. Found in closed-cone coniferous forest and chaparral. Elevation 235 - 455 meters.	April – June
Otay Mountain ceanothus *Ceanothus otayensis*	CNPS: List 1B.2	Perennial evergreen shrub. Found in chaparral in metavolcanic or gabbroic soils. Elevation 600 - 1000 meters.	January – April
wart-stemmed ceanothus *Ceanothus verrucosus*	CNPS: List 2.2 MSCP: Covered	Evergreen shrub. Found in chaparral. Elevation 1 – 380 meters.	December– May
southern tarplant *Centromadia parryi* ssp. *australis*	CNPS: List 1B.1	Annual herb. Found in marshes and swamps, valley and foothill grassland, and vernal pools. Elevation 0 – 480 meters.	May– November
smooth tarplant *Centromadia pungens* ssp. *laevis*	CNPS: List 1B.1	Annual herb. Found in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland. Elevation 0 – 640 meters.	April– September
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	CNPS: List 1B.1	Annual herb. Found in coastal bluff scrub and coastal dunes. Elevation 0 – 100 meters.	January– August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
southern mountain misery *Chamaebatia australis*	CNPS: List 4.2	Perennial evergreen. Found in chaparral. Elevation 300 – 1020 meters.	November – May
salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	ESA: Endangered CESA: Endangered CNPS: List 1B.2 MSCP: Covered	Annual herb (hemiparasitic). Found in coastal dunes, marshes and swamps (coastal salt). Elevation 0 – 30 meters.	May – October
Orcutt's spineflower *Chorizanthe orcuttiana*	ESA: Endangered CESA: Endangered CNPS: List 1B.1	Annual herb. Found in closed-cone coniferous forest, chaparral (maritime), coastal scrub. Elevation 3 - 125 meters.	March – May
long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	CNPS: List 1B.2	Annual herb. Found in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 30 – 1530 meters.	April – July
seaside cistanthe *Cistanthe maritima*	CNPS: List 4.2	Annual herb. Found in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Elevation 5 - 300 meters.	February – August
delicate clarkia *Clarkia delicata*	CNPS: List 1B.2	Annual herb. Found in chaparral and cismontane woodland. Elevation 235 - 1000 meters.	April–June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	CNPS: List 1B.2	Evergreen shrub. Found in chaparral and cismontane woodland. Elevation 30 – 790 meters.	April–June
small-flowered morning-glory *Convolvulus simulans*	CNPS: List 4.2	Annual herb. Found in chaparral, coastal scrub, and valley and foothill grassland. Elevation 30 – 740 meters.	March – July
San Diego sand aster *Corethrogyne filaginifolia* var. *incana*	CNPS: List 1B.1	Perennial herb. Found in coastal bluff scrub, chaparral, and coastal scrub. Elevation 3 – 115 meters.	June – September
Del Mar Mesa sand aster *Corethrogyne filaginifolia* var. *linifolia*	CNPS: List 1B.1	Perennial herb. Found in coastal bluff scrub, chaparral, and coastal scrub. Elevation 15 – 150 meters.	May – September
Wiggins' cryptantha *Cryptantha wigginsii*	CNPS: List 1B.2	Annual herb. Found in coastal scrub. Elevation 20 – 275 meters.	February – June
snake cholla *Cylindropuntia californica* var. *californica*	CNPS: List 1B.1 MSCP: Covered	Perennial stem succulent. Found in chaparral and coastal scrub. Elevation 30 – 150 meters.	April – May

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
paniculate tarplant *Deinandra paniculata*	CNPS: List 4.2	Annual herb. Found in coastal scrub, valley and foothill grassland, and vernal pools. Elevation 25-940 meters.	March – November
western dichondra *Dichondra occidentalis*	CNPS: List 4.2	Rhizomatous herb. Found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 50 - 500 meters.	March–July
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	CNPS: List 1B.1	Perennial herb. Found in chaparral, coastal scrub, and valley and foothill grassland. Elevation 5 - 450 meters.	April – June
short-leaved dudleya *Dudleya brevifolia*	CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial herb. Found in chaparral and coastal scrub. Elevation 30 - 250 meters.	April – May
variegated dudleya *Dudleya variegata*	CNPS: List 1B.2 MSCP: Covered	Perennial herb. Found in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 3 – 580 meters.	April – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
sticky dudleya *Dudleya viscida*	CNPS: List 1B.2	Perennial herb. Found in coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub. Elevation 10 – 550 meters.	May – June
Palmer's goldenbush *Ericameria palmeri* var. *palmeri*	CNPS: List 1B.1 MSCP: Covered	Perennial evergreen shrub. Found in chaparral and costal scrub. Elevation 30 – 600 meters.	July – November
San Diego button-celery *Eryngium aristulatum* var. *parishii*	ESA: Endangered CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Annual / perennial herb. Found in coastal scrub, valley and foothill grassland, and vernal pools. Elevation 20 – 620 meters.	April – June
Pendleton button-celery *Eryngium pendletonense*	CNPS: List 1B.1	Perennial herb. Found in coastal bluff scrub, valley and foothill grassland, and vernal pools. Elevation 15-110 meters.	April – July
cliff spurge *Euphorbia misera*	CNPS: List 2B.2	Perennial shrub. Found in coastal bluff scrub, coastal scrub, and Mojave and desert scrub. Elevation 10 – 500 meters.	December – October

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
San Diego barrel cactus *Ferocactus viridescens*	CNPS: List 2B.1 MSCP: Covered	Perennial stem succulent. Found in chaparral, coastal scrub, valley and foothill grassland, vernal pools. Elevation 3 – 450 meters.	May – June
Palmer's frankenia *Frankenia palmeri*	CNPS: List 2B.1	Perennial herb. Found in coastal dunes, marshes and swamps (coastal salt), and playas. Elevation 0 – 10 meters.	May - July
Campbell's liverwort *Geothallus tuberosus*	CNPS: List 1B.1	Ephemeral liverwort. Found in coastal scrub (mesic), and vernal pools. Elevation 10 – 600 meters.	N/A
Mission Canyon bluecup *Githopsis diffusa* ssp. *filicaulis*	CNPS: List 3.1	Annual herb. Found in chaparral. Elevation 450 - 700 meters.	April – June
San Diego gumplant *Grindelia hallii*	CNPS: List 1B.2	Perennial herb. Found in chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Elevation 185 – 1745 meters.	May – October
Palmer's grapplinghook *Harpagonella palmeri*	CNPS: List 4.2	Annual herb. Found in chaparral, coastal scrub, and valley and foothill grassland. Elevation 20 – 955 meters.	March–May

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Orcutt's goldenbush *Hazardia orcuttii*	CESA: Threatened CNPS: List 1B.1	Evergreen shrub. Found in chaparral and coastal scrub. Elevation 80 – 85 meters.	August– October
beach goldenaster *Heterotheca sessiliflora* ssp. *sessiliflora*	CNPS: List 1B.1	Perennial herb. Found in chaparral (coastal), coastal dunes, and coastal scrub. Elevation 0 – 1225 meters.	March – December
graceful tarplant *Holocarpha virgata* ssp. *elongata*	CNPS: List 4.2	Annual herb. Found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 60 – 1100 meters	May – November
vernal barley *Hordeum intercedens*	CNPS: List 3.2	Annual herb. Found in coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), and vernal pools. Elevation 5 - 1000 meters.	March – June
Ramona horkelia *Horkelia truncata*	CNPS: List 1B.3	Perennial herb. Found in chaparral, cismontane woodland. Elevation 400 - 1300 meters.	May – June
decumbent goldenbush *Isocoma menziesii* var. *decumbens*	CNPS: List 1B.2	Perennial shrub. Found in chaparral and coastal scrub. Elevation 10 – 135 meters.	April – November

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
San Diego marsh-elder *Iva hayesiana*	CNPS: List 2.2 MHCP	Perennial herb. Found in marshes, swamps, and playas. Elevation 10 – 500 meters.	April–October
southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	CNPS: List 4.2	Perennial herb. Found in coastal dunes, meadows and seeps, and marshes and swamps. Elevation 3 – 900 meters.	May–June
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	CNPS List 1B.1	Annual herb. Found in marshes and swamps, playas, and vernal pools Elevation 1 – 1220 meters.	February–June
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	CNPS List 4.3	Annual herb. Found in chaparral and coastal scrub. Elevation 1 – 885 meters.	January – July
sea dahlia *Leptosyne maritima*	CNPS List 2B.2	Perennial herb. Found in coastal bluff scrub and coastal scrub. Elevation 5 – 150 meters.	March – May
California desert thorn *Lycium californicum*	CNPS: List 4.2	Perennial shrub. Found in coastal bluff scrub and coastal scrub. Elevation 5 – 150 meters.	March–August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	CNPS: List 4.2	Annual herb. Found in cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 15 – 1070 meters.	March – May
low bush monkeyflower *Mimulus aurantiacus* var. *aridus*	CNPS: List 4.3	Perennial evergreen shrub. Found in chaparral (rocky), Sonoran desert scrub. Elevation 750 – 1200 meters.	April – July
Palomar monkeyflower *Mimulus diffusus*	CNPS: List 4.3	Annual herb. Found in chaparral and lower montane coniferous forest. Elevation 1220 – 1830 meters.	April – June
light gray lichen *Mobergia calculiformis*	CNPS: List 3	Crustose lichen (saxicolous). Found in coastal Scrub. Elevation 10 meters.	N/A
felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	CNPS List 1B.2 MSCP: Covered	Perennial rhizomatous herb. Found in chaparral and cismontane woodland. Elevation 300 - 1575 meters.	June – August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
willowy monardella *Monardella viminea*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Perennial herb. Found in coastal scrub/alluvial ephemeral washes with adjacent coastal scrub, chaparral, riparian forest, and/or riparian scrub. Elevation 50-225 meters	June-August
little mousetail *Myosurus minimus* ssp. *apus*	CNPS List 3.1	Annual herb. Found in valley and foothill grassland and vernal pools. Elevation 20 - 640 meters.	March – June
mud nama *Nama stenocarpa*	CNPS List: 2B.2	Annual herb. Found in marshes and swamps. Elevation 5-500 meters.	January- July
spreading navarretia *Navarretia fossalis*	ESA: Threatened CNPS List: 1B.1	Annual herb. Found in vernal pools, chenopod scrub, marshes and swamps, and playas. Elevation 30-655 meters.	April-June
prostrate vernal pool navarretia *Navarretia prostrata*	CNPS List: 1B.1	Annual herb. Found in coastal scrub, valley and foothill grassland, and vernal pools. Elevation 3 - 1210 meters.	April-July
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	CNPS: List 1B.1	Annual herb. Found in coastal Dunes. Elevation 0-100 meters.	April-September

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
slender cottonheads *Nemacaulis denudata* var. *gracilis*	CNPS: List 2B.2	Annual herb. Found in coastal dunes, desert dunes, and Sonoran desert scrub. Elevation -50 - 400 meters.	March – May
California adder's-tongue *Ophioglossum californicum*	CNPS: List 4.2	Perennial rhizomatous herb. Found in chaparral, valley and foothill grassland, and vernal pools. Elevation 60-525 meters.	December – June
California Orcutt grass *Orcuttia californica*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Annual herb. Found in vernal pools. Elevation 15-660 meters	April-August
short-lobed broomrape *Orobanche parishii* ssp. *brachyloba*	CNPS List: 4.2	Perennial herb. Found in coastal bluff scrub, coastal dunes, and coastal scrub. Elevation 3-305 meters	April-October
golden-rayed pentachaeta *Pentachaeta aurea* ssp. *aurea*	CNPS List: 4.2	Annual herb. Found in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, and valley and foothill grassland. Elevation 80-1850 meters.	March – July

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
south coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	CNPS List: 3.2	Perennial herb. Found in chaparral, coastal dunes, coastal scrub, and marshes and swamps. Elevation 5-300 meters.	March – August
Brand's star phacelia *Phacelia stellaris*	CNPS List: 1B.1	Annual herb. Found in coastal scrub and coastal dunes Elevation 1-400 meters	March-June
Torrey pine *Pinus torreyana* var. *torreyana*	CNPS: List 1B.2 MSCP: Covered	Evergreen coniferous tree. Found in closed-cone coniferous forest and chaparral in sandstone soils. Elevation 75-160 meters	N/A
chaparral rein orchid *Piperia cooperi*	CNPS List: 4.2	Perennial herb. Found in chaparral, cismontane woodland, and valley and foothill grassland. Elevation 15-1585 meters.	March – June
San Diego mesa mint *Pogogyne abramsii*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Annual herb. Found in vernal pools. Elevation 90-200 meters.	March-July
Otay Mesa mint *Pogogyne nudiuscula*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Annual herb. Found in vernal pools. Elevation 90-250 meters.	May-July

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Delta woolly-marbles *Psilocarphus brevissimus* var. *multiflorus*	CNPS List: 4.2	Annual herb. Found in vernal pools. Elevation 10-500 meters.	May – June
Nuttall's scrub oak *Quercus dumosa*	CNPS: List 1B.1	Evergreen shrub. Found in closed-cone coniferous forest, chaparral, and coastal scrub. Elevation 15-400 meters.	February-April
Engelmann oak *Quercus engelmannii*	CNPS List: 4.2	Perennial deciduous tree. Found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elevation 50-1300 meters.	March – June
Munz's sage *Salvia munzii*	CNPS: List 2B.2	Perennial evergreen shrub. Found in chaparral and coastal scrub. Elevation 115-1065 meters.	February – April
ashy spike-moss *Selaginella cinerascens*	CNPS: List 4.1	Perennial rhizomatous herb. Found in chaparral and coastal scrub. Elevation 20-640 meters.	N/A

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
chaparral ragwort *Senecio aphanactis*	CNPS List: 2B.2	Annual herb. Found in chaparral, cismontane woodland, and coastal scrub. Elevation 15-800 meters	January-April
bottle liverwort *Sphaerocarpos drewei*	CNPS List: 1B.1	Ephemeral liverwort. Found in chaparral and coastal scrub. Elevation 90-600 meters.	N/A
purple stemodia *Stemodia durantifolia*	CNPS List: 2B.1	Perennial herb. Found in Sonoran desert scrub. Elevation 180-300 meters	January – December
San Diego County needle grass *Stipa diegoensis*	CNPS List: 4.2	Perennial herb. Found in chaparral and coastal scrub. Elevation 10-800 meters.	February – June
estuary seablite *Suaeda esteroa*	CNPS List: 1B.2	Perennial herb. Found in marshes and swamps. Elevation 0-5 meters.	May - January
woolly seablite *Suaeda taxifolia*	CNPS List: 4.2	Perennial evergreen shrub. Found in coastal bluff scrub, coastal dunes, and marshes and swamps. Elevation 0-50 meters.	January – December

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name Scientific Name	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Parry's tetracoccus *Tetracoccus dioicus*	CNPS List: 1B.2	Perennial deciduous shrub. Found in chaparral and coastal scrub. Elevation 165-1000 meters.	April – May
woven-spored lichen *Texosporium sancti-jacobi*	CNPS List: 3	Crustose lichen (terricolous). Found in chaparral. Elevation 290-660 meters.	N/A
San Diego County viguiera *Viguiera laciniata*	CNPS List: 4.2	Perennial shrub. Found in chaparral and coastal scrub. Elevation 60-750 meters.	February – August
rush-like bristleweed *Xanthisma junceum*	CNPS List: 4.3	Perennial herb. Found in chaparral and coastal scrub. Elevation 240 – 1000 meters.	May – January

[1]**Historical Occurrence:** Species listed in this table were found to have been historically recorded within the vicinity of the LCP area (CNPS 2016;CNDDB 2016) during a desktop analysis of the USGS 7.5-minute Topographic Quadrangles that include and surround the LCP area (Del Mar, Encinitas, Rancho Santa Fe). The traditional nine-quadrangle search could not be implemented because the LCP area is directly adjacent to the Pacific Ocean, for which there are no designated quadrangles. Focused surveys and detailed vegetation mapping are required on a project-by-project basis to determine the presence, absence or potential for a species to occur within the LCP area.

[2]**Sensitivity Status Key**

ESA: Federal Endangered Species Act (ESA)
CESA: California Endangered Species Act (CESA)
CNPS: California Native Plant Society California Rare Plant Rank Lists:
1B: Considered rare, threatened, or endangered in California and elsewhere
2: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants for which we need more information – review list
4: Plants of limited distribution a watch list
Decimal notations: .1 – Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California

Multiple Species Conservation Program (MSCP)

Literature Cited

California Department of Fish and Wildlife. 2016. California Natural Diversity Database (CNDDB). California Department of Fish and Wildlife Biogeographic Data Branch. Sacramento, California. Website http://www.dfg.ca.gov/biogeodata/cnddb/cnddb_info.asp [accessed 11 July 2016].

California Native Plant Society (CNPS). 2016. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 11 July 2016].

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