

APPENDIX H-1
***Biological Technical Report(s)
and Memo(s)***

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BIOLOGICAL RESOURCES TECHNICAL REPORT
for the
MALIBU PARKS PUBLIC ACCESS ENHANCEMENT PLAN

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ACRONYM LIST

ACOE	U.S. Army Corps of Engineers
AMSL	above mean sea level
AOU	American Ornithologists' Union
BMP	best management practice
BTR	biological resources technical report
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSC	California Species of Concern
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
LCP	Local Coastal Plan
LUP	Land Use Plan
MBTA	Migratory Bird Treaty Act
MRCA	Mountains Recreation and Conservation Authority
NABA	North American Butterfly Association
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRA	National Recreation Area
OS	Open Space
RWQCB	Regional Water Quality Control Board
SMMC	Santa Monica Mountains Conservancy
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 INTRODUCTION

This section provides a brief description of the project. However, the full and detailed project description is included in the *Draft Environmental Impact Report for the Malibu Parks Public Access Enhancement Plan-Public Works Plan* (Santa Monica Mountains Conservancy/Mountains Recreation and Conservation Authority 2009b). This section also provides the purpose of the biological resources technical report (BTR).

1.1 Brief Project Description

Pursuant to Section 30605 of the California Coastal Act (Coastal Act), the Malibu Parks Public Access Enhancement Plan-Public Works Plan (the Plan) has been developed to serve as the facilities plan for lands subject to the Malibu Parks Public Access Enhancement Plan Overlay, as defined by Section 3.4.2 of the Malibu Local Coastal Program (LCP). The Plan is being pursued as a joint effort between the Santa Monica Mountains Conservancy (SMMC) and the Mountains Recreation and Conservation Authority (MRCA). The Plan also addresses facilities planning for specific park and recreation areas located within lands adjacent to the Malibu Parks Public Access Enhancement Plan Overlay in unincorporated Los Angeles County (County). These areas are collectively referred to as the "Plan area" (Figures 1 and 2). The "study area" for the biological resources technical report is a smaller sub-set (approximately 390 acres) of the Plan area focused on potential impact areas plus an additional 50-foot buffer (Figure 4). The Plan would enhance public access and recreation opportunities by completing the following tasks:

- By developing an interconnected system of trails, parks, open space, and habitats
- By improving alternative methods of transportation between parklands
- By identifying and completing recreational facility and program improvements for the park properties to support existing recreational demand and to facilitate an increased level of accessibility for visitors with disabilities.

Other project components include the widening of and improvements to existing roadways (i.e., Delaplane Road, Ramirez Canyon Road and Via Acero) and the removal of encroachments to meet emergency ingress/egress requirements. To address flooding and erosion hazards in a channelized portion of Ramirez Canyon, a segment of Ramirez Canyon Creek will be targeted for streambed and riparian habitat restoration/enhancement. The proposed restoration and enhancement efforts include removing existing gabions and installing pervious boulder berms and/or log deflection structures throughout the creek to control stream degradation; creating areas of overbank enhancement in two areas (by the existing tennis court and at the southerly portion of the park) by removing artificial creek wall linings, grading back the slopes,

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constructing rock toe protection, installing retaining walls, and planting native plants; and planting of native plant species and removing non-native plants throughout the creek and implementing corresponding best management practices. The creek enhancement area would also provide for educational displays associated with restoration efforts of the proposed creek restoration program.

A full description of the proposed project is included in the Draft Environmental Impact Report (EIR) for the Malibu Parks Public Access Enhancement Plan-Public Works Plan (Santa Monica Mountains Conservancy/Mountains Recreation and Conservation Authority 2009b).

1.2 Purpose of the Biological Resources Technical Report

This BTR summarizes the results of studies to describe the existing conditions of the biological resources in the study area, including on-site vegetation, wetlands, flora, wildlife, existing and potentially occurring special-status species, and wildlife movement. The biological significance of these resources and potential project impacts are evaluated, and measures are recommended to avoid, minimize, or mitigate potential impacts, where feasible, to less-than-significant levels.

Biological constraints to projects on land designated as an "Environmentally Sensitive Habitat Area" (ESHA) (Figure 3) by the County of Los Angeles Malibu Local Coastal Program Land Use Plan (County LUP) for the Malibu and Santa Monica Mountains area (1986), and by the City of Malibu's Local Coastal Program (LCP) (2002), are also discussed.

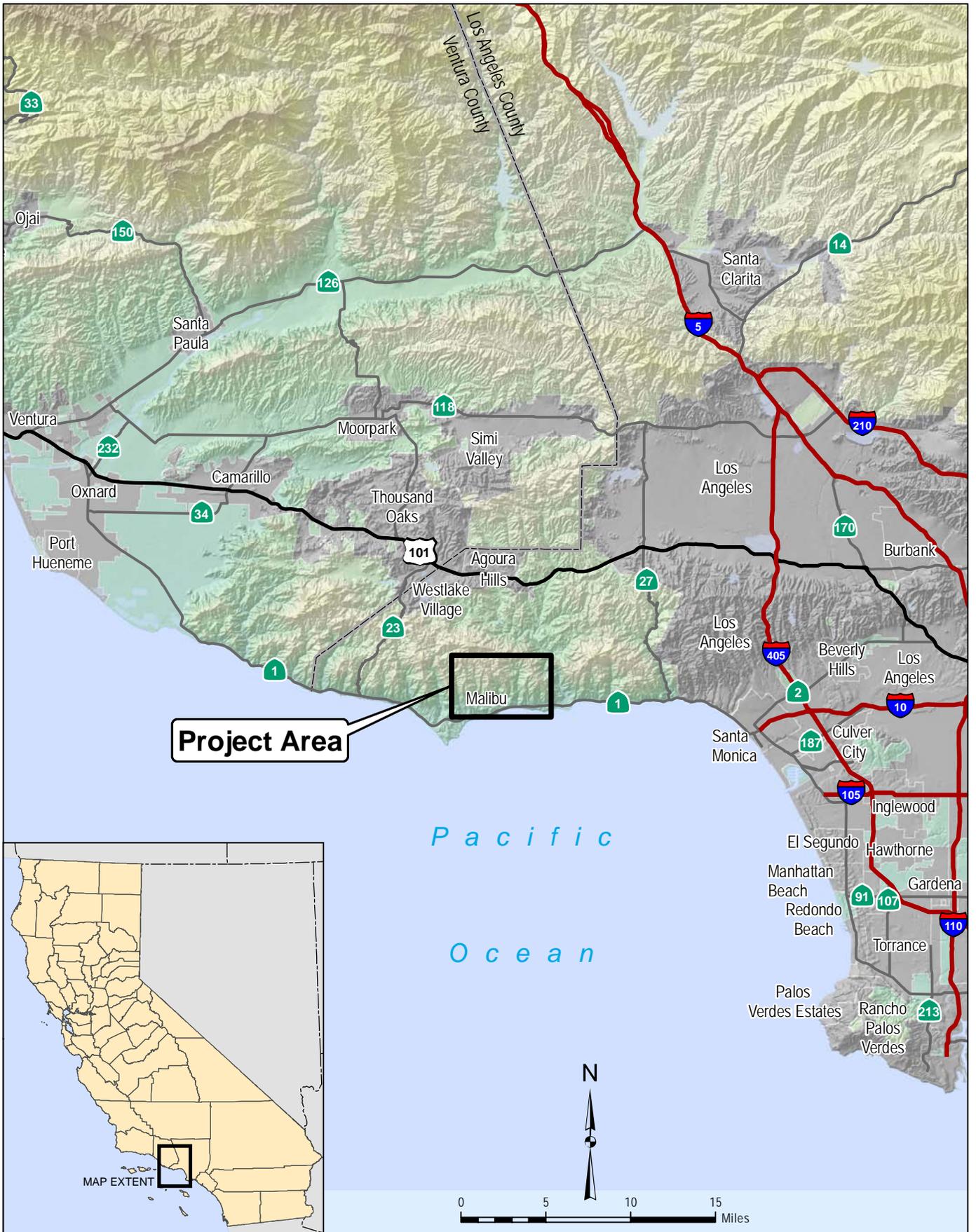
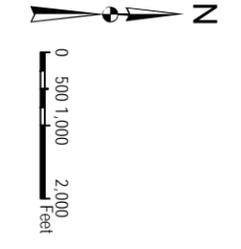
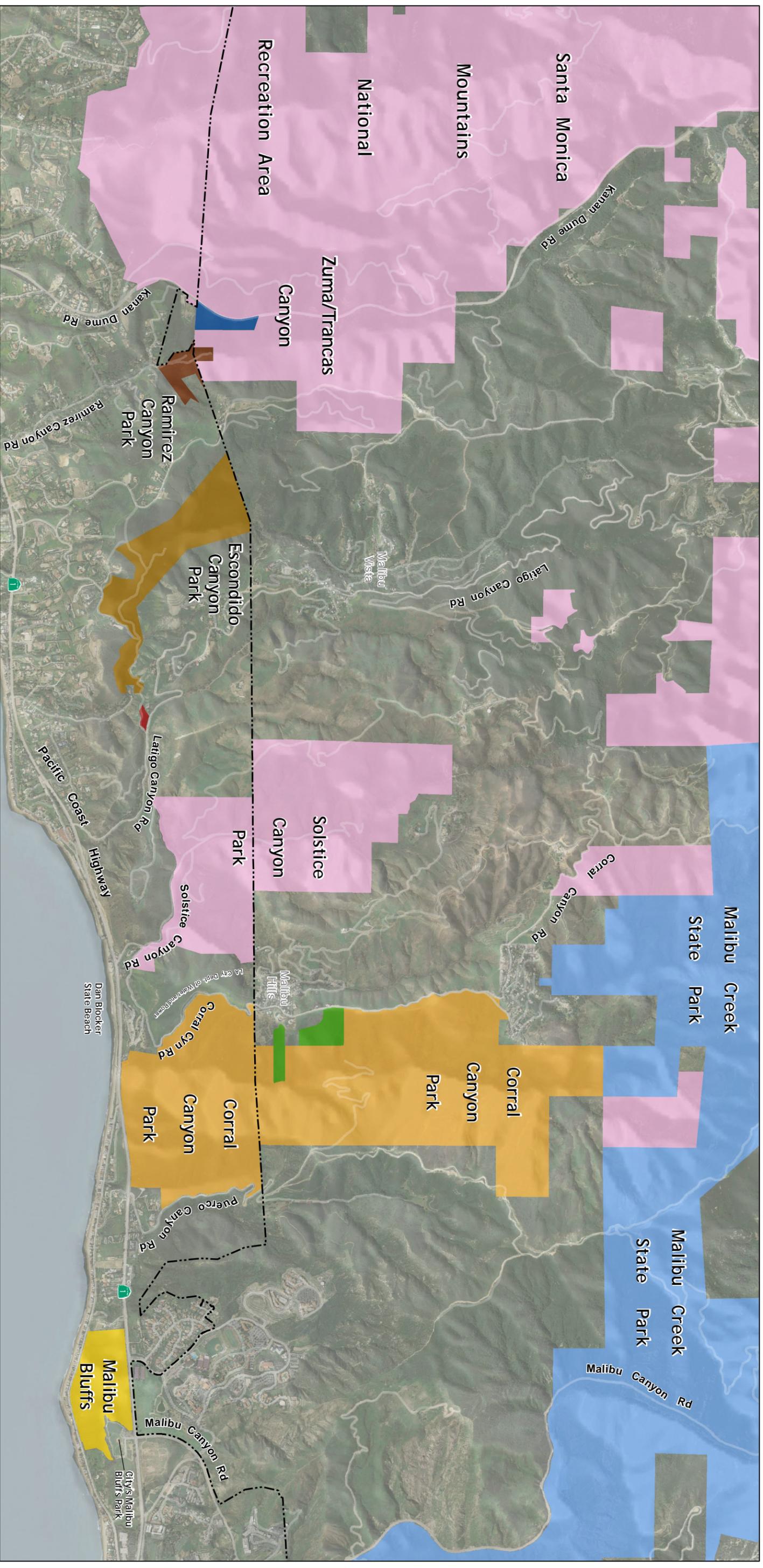


FIGURE 1
Regional Map



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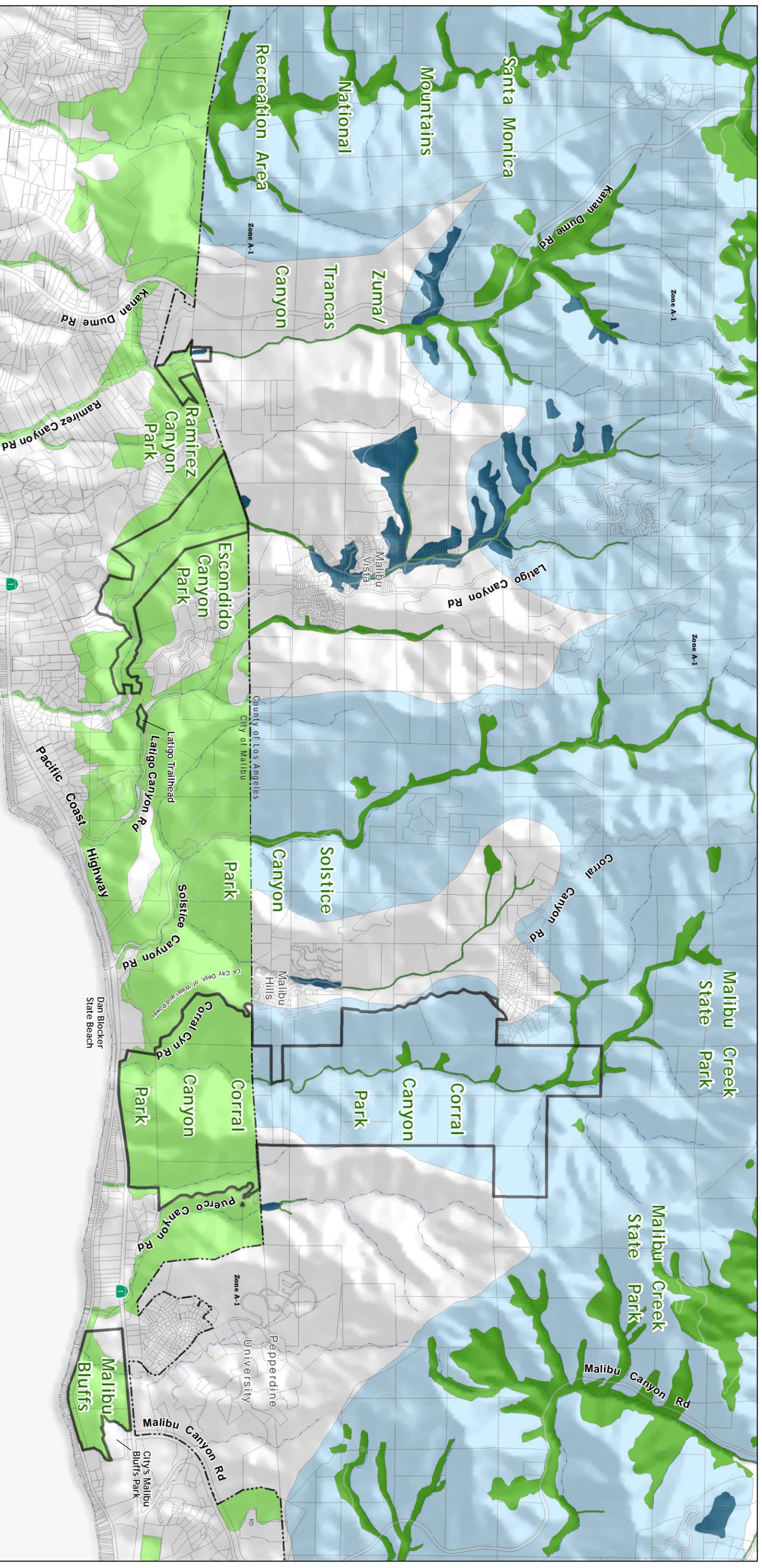


- Malibu City Limits
- National Park Service Owned Land
- California State Parks Owned Land
- LA County Owned Land to be Acquired by MRCA
- Other Protected Land
- Ramirez Canyon Park (SMMC - 21.7 acres)
- Escondido Canyon Park (SMMC/MRCA - 138.4 acres)
- Latigo Trailhead (MRCA - 2.4 acres)
- Corral Canyon Park (SMMC/MRCA - 772.2 acres)
- Malibu Bluffs Open Space (SMMC - 83.7 acres)

SOURCE: Aerial: DigitalGlobe 2008, MRCA 2009

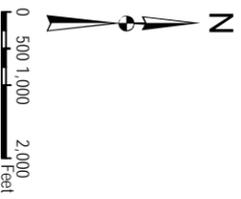
FIGURE 2
Vicinity Map

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* Note: This map reflects ESHA, as well as Significant Oak Woodland and Savannahs, which is another category of Sensitive Environmental Resources designated by the County of Los Angeles (1984) of the Malibu Local Coastal Program Land Use Plan, part of the Los Angeles County Local Coastal Program, as certified by the California Coastal Commission, December 11, 1986. ESHA designation for the Proposed Santa Monica Mountains Local Coastal Program, County of Los Angeles (September 2007), is unavailable at this time and has yet to be certified by the California Coastal Commission.

- City of Malibu ESHA
- County of Los Angeles ESHA *
- County of Los Angeles Significant Oak Woodland and Savannahs *
- County of Los Angeles Significant Watershed



SOURCE: City of Malibu, County of Los Angeles

FIGURE 3
City of Malibu/County of Los Angeles Environmentally Sensitive Habitat Area (ESHA)

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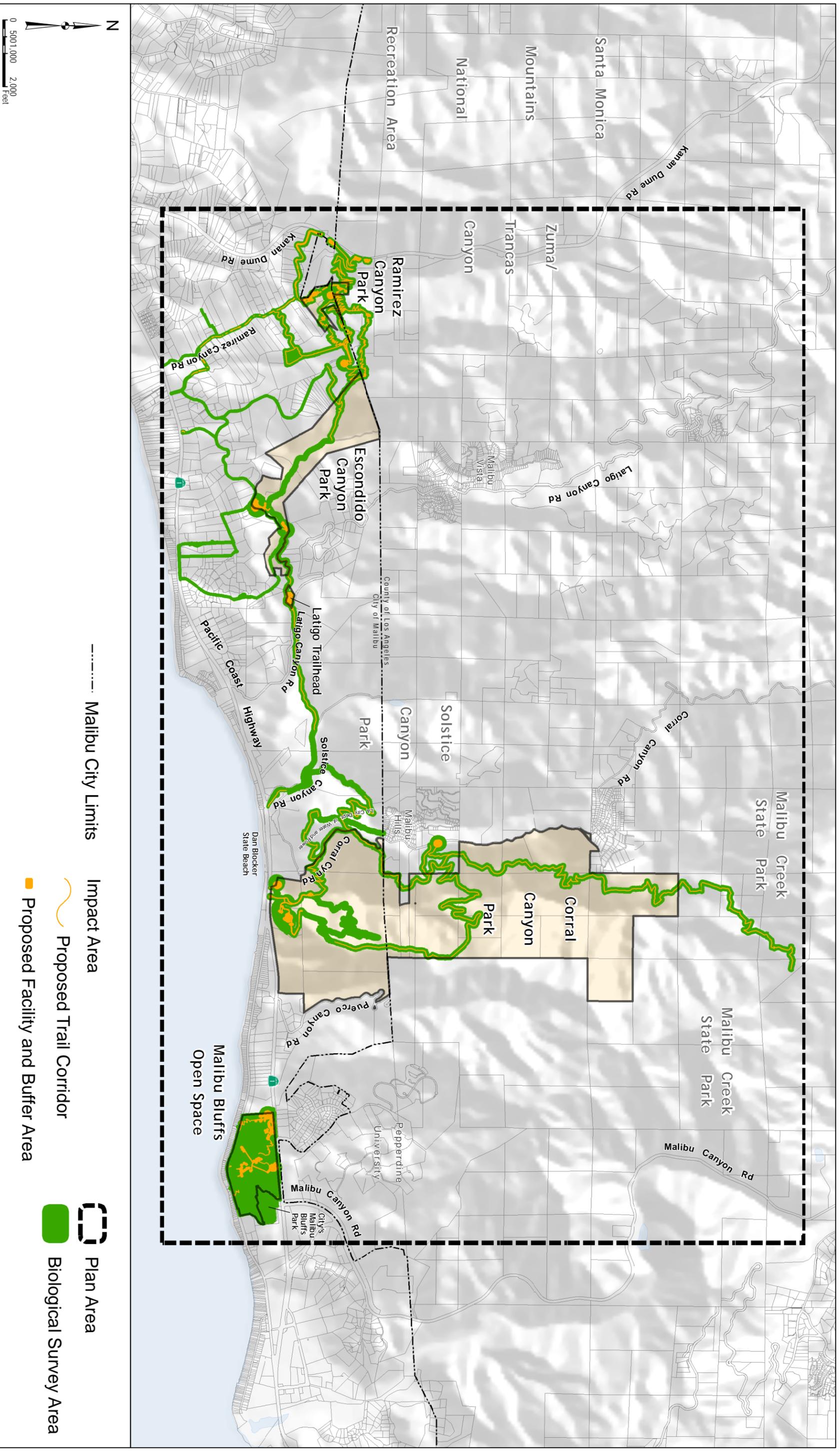


FIGURE 4
Plan Area and Biological Survey Area

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2.0 PROJECT SETTING

2.1 Plan Area

The Plan addresses public parkland recreation areas (parklands and trails) that extend from the Zuma/Trancas Canyon Unit of the Santa Monica Mountains National Recreation Area east to the Conservancy's Malibu Bluffs area. The Plan area extends south to Pacific Coast Highway and to the shoreline at Corral Canyon Park and Malibu Bluffs. At its northernmost point, the Plan area extends beyond the City/Unincorporated Los Angeles County Boundary to the Santa Monica Mountains "ridgeline" in Malibu Creek State Park (Figure 2).

Specifically, the Plan area includes the following:

- Zuma/Trancas Canyon Units of the Santa Monica Mountains National Recreation Area
- Ramirez Canyon Park
- Escondido Canyon Park
- Solstice Canyon Park
- Corral Canyon Park
- Latigo Trailhead and Camp Area property
- Conservancy-owned Malibu Bluffs
- Malibu Creek State Park.

Public parklands that are owned and maintained by the National Park Service (the Zuma/Trancas Canyon Units and Solstice Canyon Park) and the California State Parks (Malibu Creek State Park) are included in the Plan to allow for comprehensive and strategic planning for developing trail connectors. The goal is to establish a network of parks, trails, and open space for public use. Therefore, priority trail linkages to trails already established or planned in Solstice Canyon Park, and Malibu Creek State Park are addressed in the Plan; however, the Plan does not discuss in detail the existing conditions and facilities or future plans of the National Park Service and California State Parks for these parklands. The Plan focuses on establishing trail connections to the National Park Service and California State Parks parklands, in addition to specific trail, transit, and park-specific improvements proposed for Ramirez Canyon Park, Escondido Canyon Park, Latigo Trailhead and Camp property, Corral Canyon Park, and Malibu Bluffs.

A general description of each park property subject to proposed park improvements and existing trail resources is provided below along with a brief description of the natural resources in these areas.

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2.1.1 Ramirez Canyon Park

Ramirez Canyon Park consists of approximately 22 acres of land located in Ramirez Canyon off the Malibu coastline. The park is bordered by National Park Service land in its northern portion and private residential land in its southern portion. The park contains five primary structures that historically served as residences on six separate lots, each with a uniquely designed landscape. Because Ramirez Canyon Park contains a number of unique structures, gardens, and formed hardscape on the majority of the property the park is well suited to provide a diverse range of environmental, cultural, and educational opportunities for both passive and active recreation activities. Ramirez Canyon Park is bisected by the City of Malibu-County of Los Angeles County jurisdictional boundary. The portion of the park property located within the City is designated and zoned as Public Open Space (OS), while the balance of the property located in Los Angeles County is designated and zoned agriculture (AG) and rural residential (RR).

Ramirez Canyon Park is traversed by Ramirez Canyon Creek within the west and southernmost portions of the property, and it contains extensive stands of native coastal sage scrub habitat along the canyon walls and northern portion of the property, which is adjacent to National Park Service land. Ramirez Canyon Creek is a blue-line stream with regular water flow that is conveyed to the Pacific Ocean at Paradise Cove. Given the occurrence of Ramirez Canyon Creek and those areas vegetated with native coastal sage scrub habitat outside of the developed areas of the park, the majority of the park property is mapped as an ESHA in the City's LCP (Figure 3), as well as in the County's LUP.

2.1.2 Escondido Canyon Park

Escondido Canyon Park is located approximately 1 mile east of Kanan Dume Road in Malibu. The park is approximately 140 acres in size and for the most part is surrounded by privately owned land. The park consists of open land heavily vegetated with a variety of native and non-native plant and tree species. The entire park property is designated and zoned as Public Open Space (POS) in the City.

There presently are few support facilities at Escondido Canyon Park, with the exception of one picnic table near the park entrance. The primary public amenity at the park is the trail system through the Escondido Canyon Natural Area that leads hikers, mountain bikers, and equestrians along a 4.2-mile trail through oak woodland, riparian woodland, and coastal sage scrub habitat to the spectacular, multi-tiered 150-foot Escondido Falls.

Escondido Canyon Park is naturally vegetated with native and non-native plant species. The majority of the park area can be characterized as relatively undisturbed coastal sage scrub

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habitat; however, Escondido Creek, which winds its way through the park, has riparian woodland as its dominating habitat. In addition, areas containing a mix of native and non-native grassland occur in various areas of the park. Various pocket areas of disturbance are evident through the park. The majority of the park property is designated as an ESHA in the City's LCP. Elevation ranges within the park range from 100 feet above mean sea level (AMSL) at the eastern limit of Escondido Creek to 720 feet AMSL along the northern boundary of the park.

2.1.3 Latigo Trailhead and Camp Area

Latigo Trailhead and Camp Area consists of approximately 2.4 acres of vegetated and disturbed land located in the City of Malibu. The property is accessed via Latigo Canyon Road and is surrounded by privately owned land, but is within easy walking distance of the easternmost boundary of Escondido Canyon Park. The property is designated and zoned rural residential (1 unit/2 acres) in the City of Malibu LCP.

There are presently no park facilities at Latigo Trailhead and Camp Area. Remnants of a burned-out residential development occur on the site, which is otherwise vacant.

The majority of the Latigo Trailhead and Camp Area property is naturally vegetated with native and non-native species, with the exception of highly disturbed areas around the driveway access to the property and the burned-out single-family residence location. Vegetation communities on the property include annual grassland, coastal sage scrub, oak woodland, and southern willow scrub. In addition, a blue-line stream traverses the northern boundary of the property adjacent and parallel to Latigo Canyon Road. The majority of the park property is designated as an ESHA in the City of Malibu LCP.

2.1.4 Corral Canyon Park

Corral Canyon Park is a regionally significant park that encompasses approximately 772 acres of coastal land in the City and contains the last undeveloped coastal canyon in Los Angeles County that flows freely to the ocean. The park is surrounded by privately owned land with the exception of where Dan Blocker County Beach lies just south along the shoreline. Corral Canyon Park stretches all the way to the Santa Monica Mountains "ridgeline" in Malibu Creek State Park. The entire parkland area consists of open land heavily vegetated with a variety of native and non-native plant and tree species. Corral Canyon Park is designated and zoned as Public Open Space (POS) in the City of Malibu LCP, and Upper Corral Canyon is designated Mountain Land (1 unit/20 acres) and zoned A-2, Heavy Agriculture and R-1, Single Family Residence, in the County's LUP.

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Given the unique terrain of Corral Canyon Park, its proximity to the Pacific Ocean, and its large undeveloped watershed, the park contains a wide variety of habitat, including coastal sage scrub, coastal bluffs, native and annual grassland, and the riparian corridor of Corral Creek. Corral Creek contains, among other species white alder (*Alnus rhombifolia*), coast live oak (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), and willow (*Salix* spp.) trees. A pocket of coastal salt marsh is located where the creek meets the Pacific Ocean at the Pacific Coast Highway bridge crossing. Pockets of disturbance are evident in the southernmost portion of the park where a number of structures once existed. The park property is designated as an ESHA in the City's LCP and is designated as an ESHA and Significant Watershed Area in the County's LUP (Figure 3).

2.1.5 Malibu Bluffs Conservancy Property

The Malibu Bluffs Conservancy Property (Malibu Bluffs) encompasses 84 acres of blufftop land in the City of Malibu and contains a large expanse of undeveloped open space directly adjacent to Pacific Coast Highway, Malibu Road, and the shoreline. The park is surrounded by privately owned land to the west; the City's 10-acre Malibu Bluffs Park and private land to the east; Malibu Road, residential development, and the shoreline to the south; and Pacific Coast Highway and Pepperdine University to the north. The park consists of open land heavily vegetated with a variety of native and non-native plant and tree species. Malibu Bluffs is designated and zoned as Public Open Space (POS) in the City of Malibu LCP.

Malibu Bluffs contains very few support facilities, with the exception of limited trailhead improvements (e.g., signs, trash receptacles) at key entry locations to the property and picnic areas, although picnic areas, restrooms, sitting benches, and other active recreation areas can be accessed on the adjacent City-owned Malibu Bluffs Park. Malibu Bluffs contains a web of trails that traverse the bluff, and with up-coast and down-coast ocean views. Trails also descend to Malibu Road, where a number of vertical beach access easements exist and are open to the public, providing year-round access to the beach.

Malibu Bluffs is naturally vegetated with native and non-native plant species. The majority of the park area can be characterized as annual grassland and coastal sage scrub habitat; however, two drainages traverse the open space in a general north-south direction, and southern willow scrub habitat occurs along the drainages. In addition, areas containing a mix of native and non-native grassland occur in various areas of the park. The majority of the property, particularly along the site's drainages and where large stands of coastal sage scrub occur, is designated as an ESHA in the City of Malibu LCP. The park ranges in elevation from near sea level at Malibu Road to 203 feet AMSL

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2.1.6 Trails

A number of existing trail resources exist in the Plan area, particularly within the public parklands that have well-developed and maintained trail systems. A fully accessible riparian interpretative trail exists in the northern portion of Ramirez Canyon Park and extends slightly into adjacent National Park Service lands to the north providing creekside access opportunities for visitors with mobility impairments. Escondido Canyon Park contains approximately 1.3 miles of improved trails. Corral Canyon Park contains a 2-mile loop trail from which one can also gain seasonal access to Dan Blocker County Beach. The Conservancy's Malibu Bluffs property offers approximately 2.3 miles of trails overlooking the Malibu coastline and providing access to the shoreline area along Malibu Road. The Zuma and Trancas Canyon Units of the Santa Monica Mountains Recreation Area include more than 13 miles of improved trails and fire roads. Solstice Canyon Park provides approximately 7.3 miles of established trail resources. In addition to the trail resources currently provided on public lands in the Plan area, approximately 2.7 miles of public trails also exist within or adjacent to private properties subject to trail easements previously dedicated to public use as part of the entitlement process or donated by private landowners.

2.2 Physical Characteristics

The Plan area is located within the portion of the Santa Monica Mountains within the City and north of the City in unincorporated Los Angeles County, California just north of Pacific Coast Highway (Figure 1). The Plan area includes portions of Ramirez Canyon Park, Escondido Canyon Park, Latigo Trailhead and Camp Property, Corral Canyon Park, the Conservancy's Malibu Bluffs, and existing and proposed trail connectors (Figure 2). The Plan area is generally characterized by rugged steep topography, coastal bluffs and terraces, and rolling hills and valleys with densely vegetated canyons and hillsides comprised mostly of coastal sage and chaparral habitats cut by incised canyons and streams.

2.2.1 Soils

The primary soils in the Plan area are discussed in more detail in Section 5-3, Geology, Soils, and Seismic section of the *Draft EIR for the Malibu Parks Public Access Enhancement Plan-Public Works Plan* (Santa Monica Mountains Conservancy/Mountains Recreation and Conservation Authority 2009b). However, a brief summary of the soils located in the Plan area is provided herein because biological resources can often be associated with various substrates; this is particularly true of some special-status plant species. The U.S. Department of Agriculture, Natural Resource Conservation Service has mapped 18 soil series in the Plan area with over 18

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distinct soil associations. These soils vary widely in depth, fertility, and permeability. The following soil associations are located in the Plan area:

- Calcic Argixerolls, 30% to 75% slopes
- Chumash-Boades-Malibu association, 30% to 75% slopes
- Corralitos, coastal-Beach-Urban land complex, 0% to 5% slopes
- Cotharin loam, 30% to 75% slopes, dry
- Cotharin-Talepop association, 15% to 50% slopes
- Cotharin-Talepop association, 30% to 75% slopes
- Cropley, coastal-Urban land-Haploxererts complex, 0% to 30% slopes
- Cumulic Haploxerolls, 0% to 9% slopes
- Danville-Urban land complex, 0% to 9% slopes
- Danville-Urban land complex, 9% to 15% slopes
- Gazos gravelly loam, coastal, 30% to 75% slopes
- Lockwood-Urban land complex, 0% to 15% slopes
- Malibu-Chumash-Boades association, 15% to 50% slopes
- Topanga-Mipolomol-Sapwi association, 30% to 75% slopes
- Urban land-xerorthents, landscaped complex, 0% to 5% slopes
- Zumaridge-Kawenga association, 30% to 75% slopes
- Zumaridge-Rock outcrop complex, bouldery, 30% to 75% slopes
- Zumaridge-Sapwi-Kawenga association, bouldery, 30% to 75% slopes.

A brief description of each of the 19 soil series is provided below. The soil series information is taken directly from the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Soils Series Descriptions that are available online (USDA-NRCS 2009).

Beach Series

The Beach series comprises very shallow, well-drained, moderately permeable soils that formed in residuum from hard, very fine grained, metamorphic sandstone. These sloping to steep soils are on sandstone hills and in valleys. Slopes range from 5% to about 45%. The Corralitos, coastal-Beach-Urban land complex, 0% to 5% slopes, occurs in this series.

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Chumash Series

The Chumash soils consist of very shallow and shallow to soft bedrock, well-drained soils that formed in residuum and colluvium derived from shale and sandstone. Chumash soils are on hills and mountains. Slopes are 5% to 75%. In areas where this soil occurs, the mean annual precipitation is about 16 inches, and the mean annual temperature is about 62°F. The following soil associations from the abovementioned list occur in this series: Chumash-Boades-Malibu association with 30% to 75% slopes, and the Malibu-Chumash-Boades association with 15% to 50% slopes.

Cotharin Series

The Cotharin series consists of very shallow or shallow to fractured bedrock, well-drained soils that formed in residuum and colluvium derived from meta-volcanic rock. Cotharin soils are on hills and mountains. Slopes are 5% to 75%. In areas where this soil occurs, the mean annual precipitation is about 21 inches, and the mean annual air temperature is about 62°F. The following soil associations from the abovementioned list occur in this series: Cotharin loam, 30% to 75% slopes, dry; Cotharin-Talepop association, 15% to 50% slopes; and Cotharin-Talepop association, 30% to 75% slopes.

Colockum Series

The Colockum series consists of very deep, well-drained soils that formed in loess over material weathered from basalt, sandstone, and glacial till. Colockum soils are on benches, foothills, hillslopes, canyon side slopes, and lower mountain slopes. Slopes are 0% to 65%. In areas where this soil occurs, the mean annual precipitation is about 14 inches, and the mean annual temperature is about 48°F. Calcic Argixerolls, 30% to 75% slopes, occur in this series.

Boades Series

The Boades series consists of shallow to soft bedrock, well-drained soils that formed in residuum and colluvium derived from bedded shale and sandstone. Boades soils are on hills and mountains. Slopes are 5% to 75%. In areas where this soil occurs, the mean annual precipitation is about 16 inches, and the mean annual air temperature is about 62°F. The following soil associations from the abovementioned list occur in this series: Chumash-Boades-Malibu association, 30% to 75% slopes, and Malibu-Chumash-Boades association, 15% to 50% slopes.

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Corralitos Series

The Corralitos series consists of deep, somewhat excessively drained soils that formed in recent sandy alluvium derived from acid sandstone and related rocks. Corralitos soils are on alluvial fans and in small valleys and have slopes of 0% to 15%. In areas where this soil occurs, the mean annual precipitation is about 20 inches, and the mean annual air temperature is about 58°F. The Corralitos, coastal-Beach-Urban land complex, 0% to 5% slopes, occurs in this series.

Cropley Series

The Cropley series consists of deep, moderately well- and well-drained soils that formed in alluvium. Cropley soils are on fans and flood plains and have slopes of 0% to 15%. In areas where this soil occurs, the mean annual precipitation is about 16 inches, and the mean annual air temperature is about 60°F. The Cropley, coastal-Urban land-Haploxererts complex, 0% to 30% slopes, occurs in this series.

Danville Series

The Danville series consists of very deep, well-drained soils that formed in alluvium. Danville soils are on fans and terraces and have slopes of 0% to 9%. In areas where this soil occurs, the mean annual precipitation is about 18 inches, and the mean annual air temperature is about 60°F. The following soil associations from the abovementioned list occur in this series: Danville-Urban land complex, 0% to 9% slopes, and Danville-Urban land complex, 9% to 15% slopes.

Gazos Series

The Gazos series consists of moderately deep to bedrock, well-drained soils that formed in material weathered from sandstone and shale. Gazos soils are on hills and have slopes of 9% to 75%. In areas where this soil occurs, the mean annual precipitation is about 22 inches, and the mean annual air temperature is about 60°F. The Gazos gravelly loam association, coastal, 30% to 75% slopes, occurs in this series.

Kawenga Series

The Kawenga series consists of deep to bedrock, well-drained soils that formed in residuum and colluvium derived from sandstone. Kawenga soils are on hills and mountains. Slopes are 15% to 75%. In areas where this soil occurs, the mean annual precipitation is about 21 inches, and the mean annual air temperature is about 59°F. The following soil associations from the abovementioned list occur in this series: Zumaridge-Kawenga association, 30% to 75% slopes and Zumaridge-Sapwi-Kawenga association, bouldery, 30% to 75% slopes.

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Lockwood Series

The Lockwood series consists of very deep, well-drained soils that formed in alluvial material from dominantly siliceous shales. Lockwood soils are on alluvial fans and bench terraces and have slopes of 0% to 15%. In areas where this soil occurs, the mean annual precipitation is about 20 inches, and the mean annual air temperature is about 59°F. The Lockwood-Urban land complex, 0% to 15% slopes, occurs in this series.

Malibu Series

The Malibu series consists of moderately deep to soft bedrock, moderately well-drained soils that formed in residuum and colluvium derived from inter-bedded shale and sandstone. Malibu soils are on hills and mountains. Slopes are 4% to 75%. In areas where this soil occurs, the mean annual precipitation is about 16 inches, and the mean annual air temperature is about 62°F. The following soil associations from the abovementioned list occur in this series: Chumash-Boades-Malibu association, 30% to 75% slopes, and Malibu-Chumash-Boades association, 15% to 50% slopes.

Mipolomol Series

The Mipolomol series consists of very shallow or shallow to fractured bedrock, well-drained soils that formed in residuum and colluvium derived from bedded shale and sandstone. Mipolomol soils are on hills and mountains. Slopes are 30% to 75%. In areas where this soil occurs, the mean annual precipitation is about 21 inches, and the mean annual air temperature is about 62°F. The Topanga-Mipolomol-Sapwi association, 30% to 75% slopes, occurs in this series.

Sapwi Series

The Sapwi series consists of moderately deep to bedrock, well-drained soils that formed in residuum and colluvium derived from sandstone. Sapwi soils are on hills and mountains. Slopes are 15% to 75%. In areas where this soil occurs, the mean annual precipitation is about 21 inches, and the mean annual air temperature is about 62°F. The Topanga-Mipolomol-Sapwi association, 30% to 75% slopes, and the Zumaridge-Sapwi-Kawenga association, bouldery, 30% to 75% slopes, occurs in this series.

Talepop Series

The Talepop series consists of shallow to fractured bedrock, well-drained soils that formed in residuum and colluvium derived from meta-volcanic rock. Talepop soils are on hills and

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mountains. Slopes are 4% to 75%. In areas where this soil occurs, the mean annual precipitation is about 19 inches, and the mean annual air temperature is about 62°F. The following soil associations from the abovementioned list occur in this series: Cotharin-Talepop association, 15% to 50% slopes, and Cotharin-Talepop association, 30% to 75% slopes.

Topanga Series

The Topanga series consists of shallow to fractured bedrock, well-drained soils that formed in residuum and colluvium derived from bedded shale and sandstone. Topanga soils are on hills and mountains. Slopes are 30% to 75%. In areas where this soil occurs, the mean annual precipitation is about 19 inches and the mean annual air temperature is about 62°F. The Topanga-Mipolomol-Sapwi association, 30% to 75% slopes, occurs in this series.

Urban Land Series

Urban land consists of areas where the original soil has been covered with impervious surfaces, such as asphalt, concrete, and buildings. In many places, the underlying soil has been cut away or covered by fill from adjacent areas. The following soil associations from the abovementioned list occur in this series: Corralitos, coastal-Beach-Urban land complex, 0% to 5% slopes; Cropley, coastal-Urban land-Haploxererts complex, 0% to 30% slopes; Danville-Urban land complex, 0% to 9% slopes; Danville-Urban land complex, 9% to 15% slopes; Lockwood-Urban land complex, 0% to 15% slopes; and Urban land-xerorthents, landscaped complex, 0% to 5% slopes.

Zumaridge Series

The Zumaridge soils consist of shallow to bedrock, well-drained soils that formed in residuum and colluvium derived from sandstone. Zumaridge soils are on hills and mountains. Slopes are 15% to 75%. In areas where this soil occurs, the mean annual precipitation is about 21 inches, and the mean annual temperature is 62°F. The following soil associations from the abovementioned list occur in this series: Zumaridge-Kawenga association, 30% to 75% slopes; Zumaridge-Rock outcrop complex, bouldery, 30% to 75% slopes; and Zumaridge-Sapwi-Kawenga association, bouldery, 30% to 75% slopes.

2.2.2 Topography

The Plan area is located in the Santa Monica Mountains within the following topographic quadrangles: Corral Canyon Park and Malibu Bluff Open Space are located in the U.S. Geological Survey (USGS) 7.5-minute Malibu Beach topographic quadrangle; Solstice Canyon Park, Latigo Trailhead and Camp property, Escondido Canyon Park, Ramirez Canyon Park, and

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the Zuma/Trancas Canyon units of the Santa Monica Mountains National Recreation Area are all located within the USGS 7.5-minute Point Dume quadrangle (Figure 2).

The topography and habitat of the Plan area vary substantially and are particularly diverse at each of the Conservancy and MRCA-owned parklands where new recreational facilities are proposed. The undeveloped environment of the Plan area is characterized by rugged steep topography, coastal bluffs and terraces, rolling hills and valleys, and dense vegetation consisting mostly of coastal sage and chaparral on the foothills and mountains. The Plan area, in its entirety, represents a significant scenic area in that it provides views from within the parklands and trail system to and along the ocean and coastline and the surrounding mountain terrain.

Ramirez Canyon Park consists of an approximate 22-acre portion of the intermittent Ramirez Creek and adjacent hill slopes, ranging from approximately 250 feet AMSL at the southern end of the park to approximately 700 feet AMSL at the eastern edge. Ramirez Canyon Park is an active parksite and former residential compound with five primary structures, a tennis court, and maintained landscaping.

Escondido Canyon Park is bound to the south by East Winding Way and contains Escondido Creek and an unnamed tributary stream, both mapped as intermittent blue-line streams. Elevation ranges from approximately 100 feet AMSL at the eastern limit of Escondido Creek to 720 feet AMSL along the northern boundary between the two streams. The approximately 150-foot-tall Escondido Falls is at the northern edge of the park.

The Latigo Trailhead and Camp property is bound by Solstice Canyon Road to the east, the Pacific Coast Highway to the south, and Escondido Canyon to the west and is approximately 370 feet AMSL.

Solstice Canyon a confined canyon bound by Corral Canyon to the east, the Pacific Coast Highway to the south, and Latigo Canyon to the west. Elevations range from 0 to 200 feet AMSL.

Corral Canyon Park is bound by Puerco Canyon Road to the east, the Pacific Coast Highway to the south, and Corral Canyon Road to the west. The park is characterized by steep hillsides sloping downward to two intermittent blue-line streams, Corral Creek and an unnamed stream, that both flow south through the park and drain into the Pacific Ocean. The highest peak, 685 feet AMSL, divides the two streams through the center of the park.

The Conservancy's Malibu Bluffs property is bounded by the Pacific Coast Highway to the north and Malibu Road to the south. Winter Mesa Road is to the east of Conservancy's Malibu Bluffs and Corral Canyon Park is located approximate 3,000 feet to the west. There are two unnamed

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drainages on site that flow south through the open space and drain under Malibu Road and into the Pacific Ocean. The highest on site is 203 feet AMSL; the site descends to almost sea level at 2 feet AMSL.

2.2.3 Microclimate

A majority of the Plan area is near the coastline and has a rich, marine-influenced climate characterized by mild winters and cool summers with morning fog and dry temperatures. The marine-influenced climate does not extend past the tops of cliffs or palisades in some areas but extends into the low hills in the southern portions of the Plan area. In the canyons, cold air coming down on winter nights can occasionally result in below-freezing temperatures (Brenzel 1999).

The portion of the Plan area located inland and uphill from the marine-influenced climate zone is within the thermal belt of Southern California's coastal climate. Most of the time the climate is under the influence of the Pacific Ocean, but about 15% of the time the weather comes from the interior, including days with hot, dry Santa Ana winds blowing down the hills and canyons (Brenzel 1999).

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3.0 METHODS AND SURVEY LIMITATIONS

Data regarding biological resources present in the project area were obtained through a review of pertinent literature and through field reconnaissance; both are described in detail below.

3.1 Literature Review

Sensitive biological resources present or potentially present on site were identified through a literature search initiated in 2006 and continuing through 2009. The following sources were used during the literature review process:

- U.S. Fish and Wildlife Service (USFWS) (1999, 2006)
- California Department of Fish and Game (CDFG) (2007b–d; 2009a–c)
- California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2007; 2009).

General information regarding wildlife species present in the region was obtained from Stebbins (2003) for reptiles and amphibians, Garrett and Dunn (1981) for birds, Hall (1981) for mammals, and Emmel and Emmel (1973) for butterflies.

3.2 Resource Mapping

Due to the size of the Plan area, biological surveys were focused on areas that could be impacted by the proposed project. Proposed campsites along with associated parking and facilities were surveyed along with a 50-foot buffer around each of the potential impact areas. In addition, the proposed trails and a 50-foot buffer on either side of the trail (totaling 100 feet wide) were surveyed (Figure 4).

Dudek began collecting biological survey data on the project site in 2006. In 2006 and 2007, the study area included the proposed improvement areas in Corral Canyon, Escondido Canyon, and Ramirez Canyon Parks and proposed trails included in the Draft Public Works Plan (Dudek 2006) and the City's LCP Amendment (Dudek 2007). In 2008, the study area was expanded to include improvements associated with the Latigo Canyon Trailhead and Camp property. Finally, in 2009 the study area was expanded again to include the upper (northern) portions of Corral Canyon Park up to the Beach to Backbone Trail, the Conservancy's Malibu Bluffs, and additional primary and connector trails.

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3.2.1 Vegetation Mapping and Jurisdictional Wetlands/Waters

3.2.1.1 Vegetation Mapping

In 2003, the Vegetation Classification and Mapping Program of the CDFG, Wildlife and Habitat Data Analysis Branch published the *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CNDDDB) (CDFG 2003; referred to herein as the *List of Terrestrial Natural Communities*). It is a development of the *Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and follows the *National Vegetation Classification System* developed by The Nature Conservancy (Grossman et al. 1998). These classification texts focus on a quantified, hierarchical approach that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed (as opposed to predicting climax or successional stages).

Physiognomy is described in the upper levels of the classification hierarchy whereas floristics is described by the lowest two levels. For the *List of Terrestrial Natural Communities* (CDFG 2003), the floristic levels are alliances and associations and the upper levels are described as general physiognomic and physical location and general habitat. These are related to the formation definitions in the *National Vegetation Classification System*. Below is an example of the hierarchy used in the *List of Terrestrial Natural Communities*, including the numerical coding it applies to each level of the hierarchy (CDFG 2003):

60.000.00 Riparian and Bottomland Habitat (*general physiognomic and physical location*)

61.000.00 Riparian Forest and Woodland (*general habitat*)

61.111.00 Aspen Upland and Riparian Forests and Woodland (*alliance*)

61.111.01 Riparian Aspen Forest (*association*)

General physiognomic and physical location and general habitat describes the vegetation structure and, for wetlands, the hydrologic regimes. Alliance represents a level of uniformity in plant structure and dominant species in the uppermost layer. The alliance is a representation of broad-scale environmental differences that result in distinguishable plant communities in terms of overall structure and dominant species. Associations take into account more detailed floristic patterns, including species that co-occur with the dominant of the uppermost layer. As such, associations "reflect more localized differences related to microclimate and soil" (Sawyer and Keeler-Wolf 1995).

In October 2007, the CDFG published the *List of California Vegetation Alliances* (CDFG 2007a), which uses the scientific name of the dominant species in that alliance as the alliance

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name and includes a global and state rarity rank based on the NatureServe Standard Heritage Program methodology (NatureServe 2009). The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational).

The USGS and National Park Service formed a partnership in 1994 to map the vegetation of the United States National Park system units using The Nature Conservancy's National Vegetation Classification (Grossman et al. 1998). Based upon data collected from 2001 to 2005 in Santa Monica Mountains National Recreation Area, the CDFG and CNPS published the *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFG et. al. 2006). This document provides descriptions of each vegetation type and a key to each type.

Vegetation communities in the study area (Figure 4) were mapped using the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). These vegetation classification system documents were supplemented with vegetation communities described in the *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFG et. al. 2006) because this publication describes many communities that are present in the Plan area but not described by CDFG (2003, 2007a).

The majority of the mapping was done in the field directly onto an aerial photographic base (AirPhotoUSA 2006) on project-specific topography, when available. The maximum scale of the map was 200-scale (1 in. = 200 ft) base. Biologists collected data for a diversity of communities observed in the Plan area. There were some areas on site that Dudek biologists did not have access to during field studies including the area near the intersection of Kanan-Dume Road and Via Acero (see Section 3.3.2). For these areas, Dudek overlaid the GIS data (Aerial Information Systems and Environmental Systems Resource Institute 2007) collected during studies conducted during the preparation of the *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFG et. al. 2006) and the project-specific vegetation mapping collected onto aerial photographic base (AirPhotoUSA 2006). Using this information, Dudek delineated vegetation communities in these areas.

Vegetation communities classified as "disturbed" were those where native vegetation communities were visually estimated to contain 20% to 50% non-native species by absolute cover. Vegetation communities classified as "burned" had recently burned and vegetation was observed to be recovering, with shrub species stump-sprouting.

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Table 1 identifies the biologists that conducted vegetation mapping and floral inventories throughout the Plan area and the date of each survey.

Table 1
Survey Dates, Locations, and Personnel for Vegetation Community Mapping

Date	Location	Personnel
05/22/2006	CCP, ECP, RCP	Tricia (T.) Wotipka, Jennifer (J.) Turnbull, Saudamini (S.) Sindhar
05/29/2006	CCP, ECP, RCP	T. Wotipka, J. Turnbull, S. Sindhar
10/11/2006	CCP, ECP, RCP	T. Wotipka, J. Turnbull, S. Sindhar
10/12/2006	CCP; ECP	T. Wotipka, J. Turnbull, S. Sindhar
02/27/2007	CCP; ECP; SCP; RCP	T. Wotipka, J. Turnbull, S. Sindhar
03/15/2007	CCP; ECP; SCP; RCP	T. Wotipka, J. Turnbull, S. Sindhar
06/11/2008	LC	Marcus (M.) Obregon
06/19/2008	LC	M. Obregon
06/20/2008	LC	M. Obregon
05/14/2009	ECP, LC	M. Obregon, Megan (M.) Enright
05/18/2009	CCP	M. Obregon
06/25/2009	CCP, SCP, LC, ECP	M. Obregon, Katie (K.) Dayton, Britney (B.) Strittmater, Jayme (J.) Timberlake
06/26/2009	CCP	M. Obregon, K. Dayton, B. Strittmater, J. Timberlake
06/29/2009	CCP, RCP	M. Obregon, K. Dayton, B. Strittmater
6/30/2009	CMB	T. Wotipka
08/28/2009	CMB	M. Obregon, B. Strittmater
09/18/2009	ECP	M. Obregon, K. Dayton
10/27/2009	CCP, RCP, SCP, ECP	T. Wotipka, J. Timberlake

CCP: Corral Canyon Park; ECP: Escondido Canyon Park; LC: Latigo Canyon; CMB: Conservancy's Malibu Bluffs; RCP: Ramirez Canyon Park; SCP: Solstice Canyon Park

3.2.1.2 Jurisdictional Wetlands/Waters

A formal jurisdictional delineation was not conducted for land under the jurisdiction of the CDFG, pursuant to the California Fish and Game Code; the U.S. Army Corps of Engineers (ACOE), pursuant to Section 404 of the federal Clean Water Act; the Regional Water Quality Control Board (RWQCB), pursuant to Section 401 of the federal Clean Water Act; and the California Coastal Commission (CCC), pursuant to the Coastal Act of 1976.

However, wetlands habitat was identified using the Cowardin method of wetlands classification, which defines wetland boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979). Wetlands within the study area were documented by visually assessing and mapping the drip line of hydrophytic vegetation and noting the presence/absence of hydrology indicators (e.g., drift lines, drainage patterns, scour etc.). Hydric soils were not analyzed as part of this reconnaissance effort.

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3.2.2 Flora

Special-status plant surveys were conducted to determine the presence or absence of plant species that are considered endangered, rare, or threatened under California Environmental Quality Act (CEQA) Guideline 15380 (14 CCR 15000 et seq.). Endangered and threatened plant species are recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA). Endangered, rare, or threatened plants, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status plant species" in this report. Special-status plants, in the context of CEQA (California Public Resources Code, Section 21000 et seq.), are defined and described in terms of local, state, and federal plans, regulations, or policies.

For the purposes of the analysis presented in this technical report, special-status plant species are defined as plants that:

- Have been designated as either rare, threatened, or endangered by CDFG or the USFWS and are protected under either the California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 et seq.) or federal Endangered Species Act (ESA) (16 U.S.C. Section 1531 et seq.); or meet the CEQA definition for endangered, rare, or threatened (California Code of Regulations, Title. 14, Section 15380(b),(d)).
- Are candidate species being considered or proposed for listing under these same acts.
- Are of expressed concern to resource/regulatory agencies or local jurisdictions. This includes those plants included on CDFG Special Plants List (2009) as well as Lists 1, 2, 3, or 4 of the CNPS Inventory of Rare and Endangered Plants of California (CNPS Inventory); species of undescribed taxa; or species designated as rare by the National Park Service. Plants included on the CNPS Inventory are classified as follows:
 - List 1A: plants presumed extinct in California
 - List 1B: plants rare, threatened, or endangered in California and elsewhere
 - List 2: plants rare, threatened, or endangered in California, but more common elsewhere
 - List 3: plants about which more information is needed (a review list)
 - List 4: plants of limited distribution (a watch list).

The primary goal of the special-status plant surveys was to determine the presence of federally or state-listed species and CNPS Lists 1A, 1B, 2, and 3 species or the potential for the species to occur based upon suitable habitat. While not the focus of the plant surveys, the presence of

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CNPS List 4 species was documented during surveys, particularly as they relate to the NPS regulations regarding regionally rare species in the Santa Monica Mountains region.

Dudek reviewed the online version of the *CNPS Inventory of Rare and Endangered Plants* (CNPS 2007, 2009) and conducted a CNPS nine-quad search. Dudek conducted the search for the two USGS 7.5-minute quadrangle (quad) maps in which the project is located. Each of these quads was used to run the CNPS nine-quad search, and results were combined into one comprehensive list. The nine-quad search provides special-status plant species, as defined by CNPS, which are known to occur in the focus quad and the eight quads surrounding the focus quad. Only CNPS List 1, 2, and 3 plant species are included in this nine-quad search. Dudek also reviewed the CNDDDB (CDFG 2007a, 2009b) for special-status plant species known to occur near the Plan area. In addition to referring to these resources, Dudek also coordinated with the Santa Monica Mountains National Recreation Area (2009) and the Santa Monica Mountains Conservancy/Mountains Recreation and Conservation Authority (2009a) staff regarding special-status plants in the Plan area.

This research resulted in a project-specific list of special-status plants that could occur in the study area. The list was used to conduct the special-status plant surveys that are analyzed in this report (see Section 4.4.2, Table 8).

Plant species bloom at slightly different times each year depending on temperature, rainfall patterns, elevation, and other environmental factors. Reference population checks involve locating known populations of special-status plant species during a time frame when they are known to be blooming or exhibit other phenological characteristics that allow for species identification. Prior to conducting surveys, Dudek visited reference populations for Lyon's pentachaeta (*Pentachaeta lyonii*) and Malibu baccharis (*Baccharis malibuensis*).

Native and naturalized plant species encountered during the surveys were identified and recorded. Latin and common names of plants follow *The Jepson Manual: Higher Plants of California* (Hickman 1996) and, where not listed in Hickman (1996) the common names follow Calfora (2009). A list of plant species observed in the survey area is presented in Appendix A.

The botanical team conducted three passes on various portions of the study area. When a special-status species, CNPS listed herb or shrub, was observed, the occurrence was mapped using a GPS unit with sub-meter accuracy. Table 2 lists survey dates, location, personnel, and survey focus (e.g., summer survey).

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Table 2
Survey Dates, Location, and Personnel for Focused Special-Status Plant Surveys

Date	Location	Personnel	Focus
06/11/2008	LC	M. Obregon	Rare plant survey (summer species)
06/19/2008	LC	M. Obregon	Rare plant survey (summer species)
06/20/2008	LC	M. Obregon	Rare plant survey (summer species)
05/14/2009	ECP, LC	M. Obregon, M. Enright	Rare plant survey (late-spring species)
05/18/2009	CCP	M. Obregon	Rare plant survey (late-spring species)
06/25/2009	CCP, SCP; LC, ECP	M. Obregon, K. Dayton, B. Strittmater, J. Timberlake	Rare plant survey (summer species)
06/26/2009	CCP	M. Obregon, K. Dayton, B. Strittmater, J. Timberlake	Rare plant survey (summer species)
06/29/2009	CCP, RCP	M. Obregon, B. Strittmater, K. Dayton	Rare plant survey (summer species)
6/30/2009	CMB	T. Wotipka	Rare plant survey (summer species)
08/28/2009	CMB	M. Obregon, B. Strittmater	Rare plant survey (late-summer species)
09/11/2009	LC, ECP, RCP	M. Obregon, B. Strittmater	Rare plant survey (late-summer species)
09/17/2009	CCP	M. Obregon, K. Dayton	Rare plant survey (late-summer species)
09/18/2009	ECP	M. Obregon, K. Dayton	Rare plant survey (late-summer species)
09/21/2009	CCP, SCP, CCP	M. Obregon	Rare plant survey (late-summer species)

CCP: Corral Canyon Park; ECP: Escondido Canyon Park; LC: Latigo Trailhead and Camp property; CMB: Conservancy's Malibu Bluffs; RCP: Ramirez Canyon Park; SCP: Solstice Canyon Park

In addition, a tree inventory was conducted in 2008 and 2009 in order to prepare a project-specific tree protection plan in the study area (Dudek 2009). The tree inventory included the mapping of Southern California black walnut (*Juglans californica*), a CNPS List 4.2 species. The study area for the tree inventory was focused on the potential impacts area only versus the larger project study area where the rare plant surveys were conducted. The results of the tree inventory are discussed separately in the tree protection plan.

3.2.3 Fauna

Wildlife resources were identified in the study area by Dudek biologists from 2006–2009. The Conservancy's Malibu Bluffs property was evaluated for general wildlife resources on June 30, 2009, by Tricia Wotipka and on August 28, 2009, by Marcus Obregon and Britney Strittmater. MRCA staff was also consulted regarding current species lists prepared for the existing parklands in the Plan area. All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other signs were recorded. Binoculars (10×40) were used to aid in the identification of observed wildlife. Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union (AOU) (2009) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association

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(NABA) (2001) for butterflies. Table 3 summarizes the survey dates, locations, and personnel for general wildlife surveys.

A cumulative list of wildlife species observed within the biological survey area during the survey is presented in Appendix B. This list includes species observed by Dudek from 2006–2009 along with species observed by Fred Roberts in 2002.

Table 3
Survey Dates, Location, and Personnel for General Wildlife Surveys

Date	Location	Personnel
05/22/2006	CCP, ECP, RCP	T. Wotipka, J. Turnbull
05/29/2006	CCP, ECP, RCP	T. Wotipka, J. Turnbull
10/11/2006	CCP, ECP, RCP	T. Wotipka, J. Turnbull
10/12/2006	CCP, ECP, RCP	T. Wotipka, J. Turnbull
02/27/2007	ECP	T. Wotipka
03/15/2007	ECP, LC	T. Wotipka
5/14/2009	ECP, LC	M. Obregon, M. Enright
6/30/2009	CMB	T. Wotipka
8/28/2009	CMB	M. Obregon, B. Strittmater
10/27/2009	CCP, ECP, RCP, LC, SCP	T. Wotipka, J. Timberlake

CCP: Corral Canyon Park; ECP: Escondido Canyon Park; LC: Latigo Canyon; CMB: Conservancy's Malibu Bluffs; RCP: Ramirez Canyon Park; SCP: Solstice Canyon Park

3.3 Survey Limitations

3.3.1 Faunal Surveys

Limitations of the surveys include a diurnal bias. Most surveys were conducted during the daytime to maximize visibility for the detection of plants and most animals. Birds represent the largest component of the vertebrate fauna, and because they are active in the daytime, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals, many of which may be active at night. In addition, many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects.

3.3.2 Access

Access was denied during the 2009 vegetation mapping and rare plant surveys to the west-facing slope of Ramirez Canyon. This area encompassed the Santa Monica Mountains National Recreation Area (NRA) boundary at the north, Paquet Place to the south, DeButts Terrace to the east, and Ramirez Canyon Road to the west. Access was denied during the summer 2009 rare

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plant surveys from Latigo Canyon Road to the western border of Solstice Canyon, Santa Monica Mountains NRA, along Willmott Lane. Finally, access was denied during the 2009 vegetation mapping and rare plant surveys to the intersection of Kanan-Dume Road and Via Acero Street.

3.3.3 Survey Timing

During the 2008 and 2009 season, no surveys were conducted prior to May 14. Early to late spring blooming annuals or cryptic perennial species would not have been detectable or identifiable.

3.3.4 Rainfall

The average rainfall for the Malibu area is 15 inches (Department of Water Resources 2009). The average rainfall for 2007 through 2009 was 7.11 inches (2007), 19.73 inches (2008), and 9.69 inches (2009), respectively. Due to general short-term low rainfall totals since 2007, annual species may not have been able to mature to the point of being identifiable.

3.3.5 Fire

As a result of the October and November 2007 Corral Fire, biological and botanical habitat were subject to increased risk due to the threat of flooding, debris flows, non-native species frequency, and modification of established vegetation communities. Suppression activities (e.g., dozer lines) have also contributed to the current risk to biological and botanical habitat. The risk is greatest for those areas of the Corral Fire, which contain habitat for state and federally listed rare, endangered, or threatened species, as well as state species of special concern.

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4.0 RESULTS

4.1 Vegetation Communities

This section describes the vegetation communities observed in the study area. Five general physiognomic and physical location types were mapped during field surveys, four of which are identified by the *List of Terrestrial Natural Communities* (CDFG 2003): broad-leafed upland tree dominated, grass and herb dominated communities, riparian and bottomland habitat, and scrub and chaparral. For organizational purposes, the group agriculture, developed, or disturbed is equivalent to a general physiognomic and physical location type, but it is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or in the *List of California Vegetation Alliances* (CDFG 2007a).

These vegetation communities are described below. The acreage of each identified community within the project site is summarized in Table 4. The locations of these communities within the project are shown on Figures 5 and 5a–e through 7 and 7a–l. Section 4.4.1 summarizes the vegetation communities that are considered sensitive or riparian per CEQA, the County's LUP, and the City's LCP.

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**Table 4
Summary of Existing Vegetation Communities and Acreages**

General Physiognomic and Physical Location	General Habitat	Alliance	Vegetation Community	Total
Agriculture, Developed, Or Disturbed	Developed	None	Developed	45.60
	Disturbed Land	Ruderal	Ruderal	1.42
		Geraldton Carnation Weed	Geraldton Carnation Weed	2.76
	Non-Native Planted	None	Disturbed Land	3.37
	Ornamental	Ornamental	5.74	
Agriculture, Developed, Or Disturbed Total				
Scrub and Chaparral	Coastal Scrub	California Sagebrush Scrub	California Sagebrush	7.89
			California Sagebrush – Ashyleaf Buckwheat	10.28
			California Sagebrush / Giant Wild Rye	13.23
			Disturbed California Sagebrush	4.79
			Disturbed California Sagebrush / Giant Wild Rye	0.33
			Black Sage – California Encelia	0.44
			Black Sage – Laurel Sumac	1.28
			Black Sage Scrub	1.11
			California Encelia – Ashyleaf Buckwheat	1.55
			California Encelia – California Sagebrush	1.18
			California Encelia	0.09
			Coyote Brush – California Sagebrush	5.55
			Disturbed Coyote Brush – California Sagebrush	0.28
			Coyote Brush Scrub	2.11
	Disturbed Coyote Brush Scrub	1.17		
	Coyote Brush – Mulefat Scrub	0.05		
	Purple Sage Scrub	7.59		
	Disturbed Purple Sage Scrub	0.22		
	Purple Sage – California Sagebrush	20.21		
	Disturbed Purple Sage – California Sagebrush	3.78		

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Table 4 (Continued)

General Physiognomic and Physical Location	General Habitat	Alliance	Vegetation Community	Total		
Scrub and Chaparral (Continued)	Coastal Scrub (Continued)	Ashleaf Buckwheat	Ashleaf Buckwheat	3.87		
		Burned Ashleaf Buckwheat	Burned Ashleaf Buckwheat	0.37		
		Disturbed Ashleaf Buckwheat	Disturbed Ashleaf Buckwheat	2.34		
		California Sagebrush - Black Sage	California Sagebrush Scrub - Black Sage	California Sagebrush Scrub - Black Sage	4.18	
		Disturbed California Sagebrush Scrub - Black Sage	Disturbed California Sagebrush Scrub - Black Sage	Disturbed California Sagebrush Scrub - Black Sage	0.48	
		Chaparral Bushmallow Scrub	Chaparral Bushmallow Scrub	Chaparral Bushmallow Scrub	5.94	
		Disturbed Chaparral Bushmallow Scrub	Disturbed Chaparral Bushmallow Scrub	Disturbed Chaparral Bushmallow Scrub	1.41	
		Deerweed	Deerweed	Deerweed	0.32	
		Disturbed Deerweed	Disturbed Deerweed	Disturbed Deerweed	0.53	
		Chamise Chaparral	Chamise Chaparral	Chamise - Black Sage Chamise Chaparral	0.86 1.25	
		Disturbed Chamise Chaparral	Disturbed Chamise Chaparral	Disturbed Chamise Chaparral	2.65	
		Bigpod Ceanothus as Principal Indicator	Chaparral With Chamise with or without Other Co-dominant Shrubs	Bigpod Ceanothus Chaparral	Bigpod Ceanothus	6.16
		Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus Chaparral	Bigpod Ceanothus - Black Sage	0.23
		Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Laurel Sumac	3.43
		Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	1.89
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	2.31		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	0.11		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	4.87		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	3.73		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	0.03		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	6.02		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	4.87		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	4.92		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	2.41		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	6.44		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	12.67		
Bigpod Ceanothus as Principal Indicator	Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus - Bircleaf Mountain-Mahogany Chaparral	8.58		

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Table 4 (Continued)

General Physiognomic and Physical Location	General Habitat	Alliance	Vegetation Community	Total
Scrub and Chaparral (Continued)			Laurel Sumac / California Sagebrush	40.81
			Laurel Sumac / Chaparral Bushmallow	1.26
			Laurel Sumac Scrub	11.68
Scrub and Chaparral (Continued)	Sumac Scrub (Continued)	None	Sumac Scrub	1.99
	Poison Oak	Poison Oak Scrub	Poison Oak Scrub	0.96
Grass and Herb Dominated Communities	Native Grassland	Purple Needlegrass	<i>Scrub and Chaparral Total</i>	
				232.7
			Purple Needlegrass	0.51
	Non-Native Grassland	Giant Wild Rye	Disturbed Purple Needlegrass	1.38
			Giant Wild Rye	0.54
			California Annual Grassland	60.45
	Giant Reed		0.13	
<i>Grass and Herb Dominated Communities Total</i>				63.01
Riparian and Bottomland Habitat	Riparian Forest and Woodland	Arroyo Willow Riparian Forests and Woodlands	Southern Arroyo Willow Riparian	0.09
			Red Willow / Arroyo Willow	2.13
			Southern Willow Scrub	0.25
	Open Channel Open Water	Southern Sycamore – Alder Riparian Woodland	California Sycamore – Coast Live Oak	7.50
			Open Channel	0.13
			Open Water	0.02
<i>Riparian and Bottomland Habitat Total</i>				10.12
Broad Leafed Upland Tree Dominated	Oak Woodlands and Forests	Coast Live Oak Forest and Woodland	Coast Live Oak – California Walnut	0.55
			Coast Live Oak / California Sagebrush / Grass	0.33
			Coast Live Oak / Toyon – Poison Oak	5.15
	Upland Walnut Woodlands and Forests Eucalyptus	California Walnut Woodland and Forests	Coast Live Oak	18.70
			Disturbed Coast Live Oak	0.72
			California Walnut Woodland	0.38
	Eucalyptus	None	0.36	
<i>Broad Leafed Upland Tree Dominated Total</i>				26.19
Grand Total				390.91

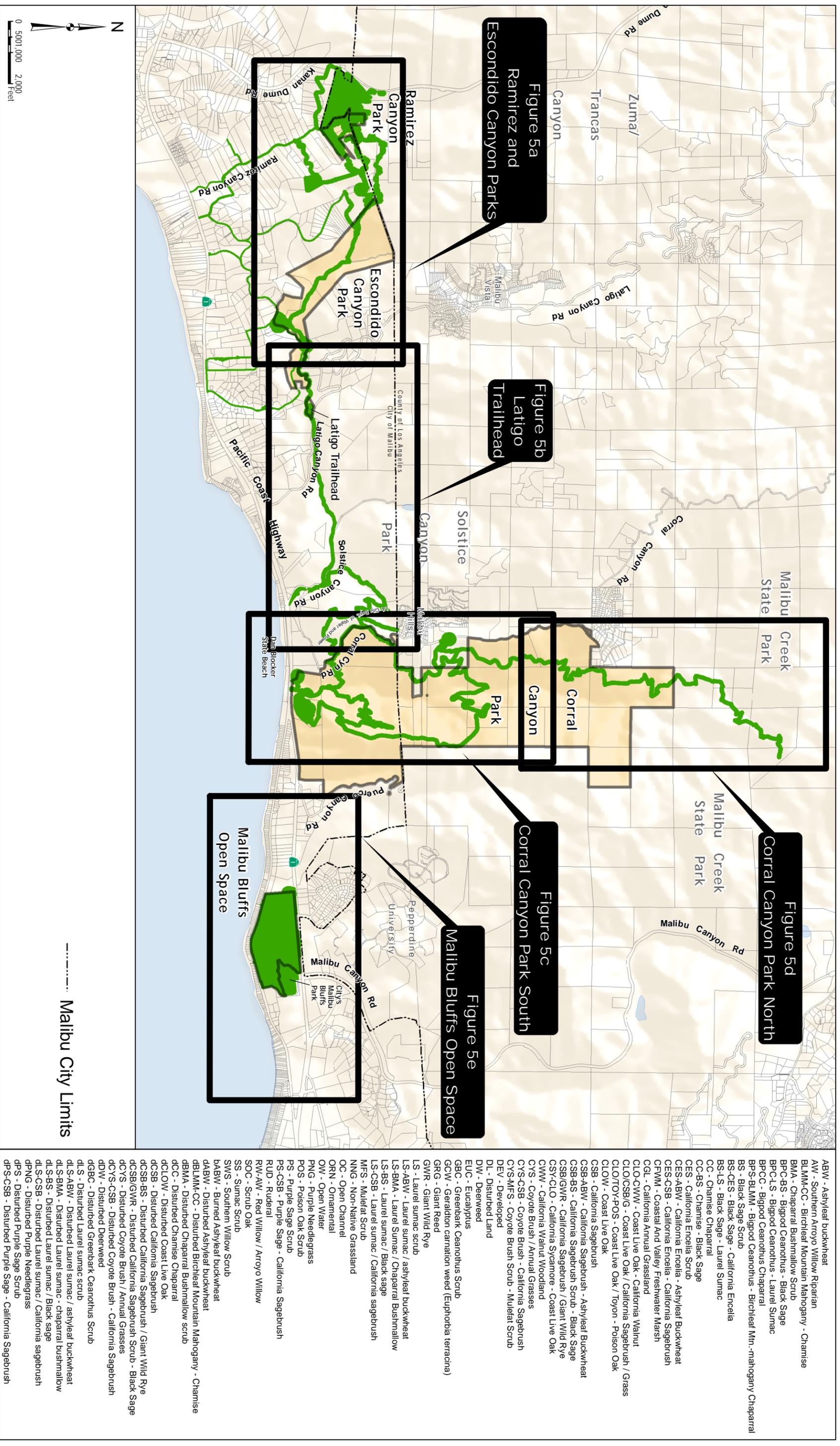


FIGURE 5

Vegetation Communities - Legend and Index

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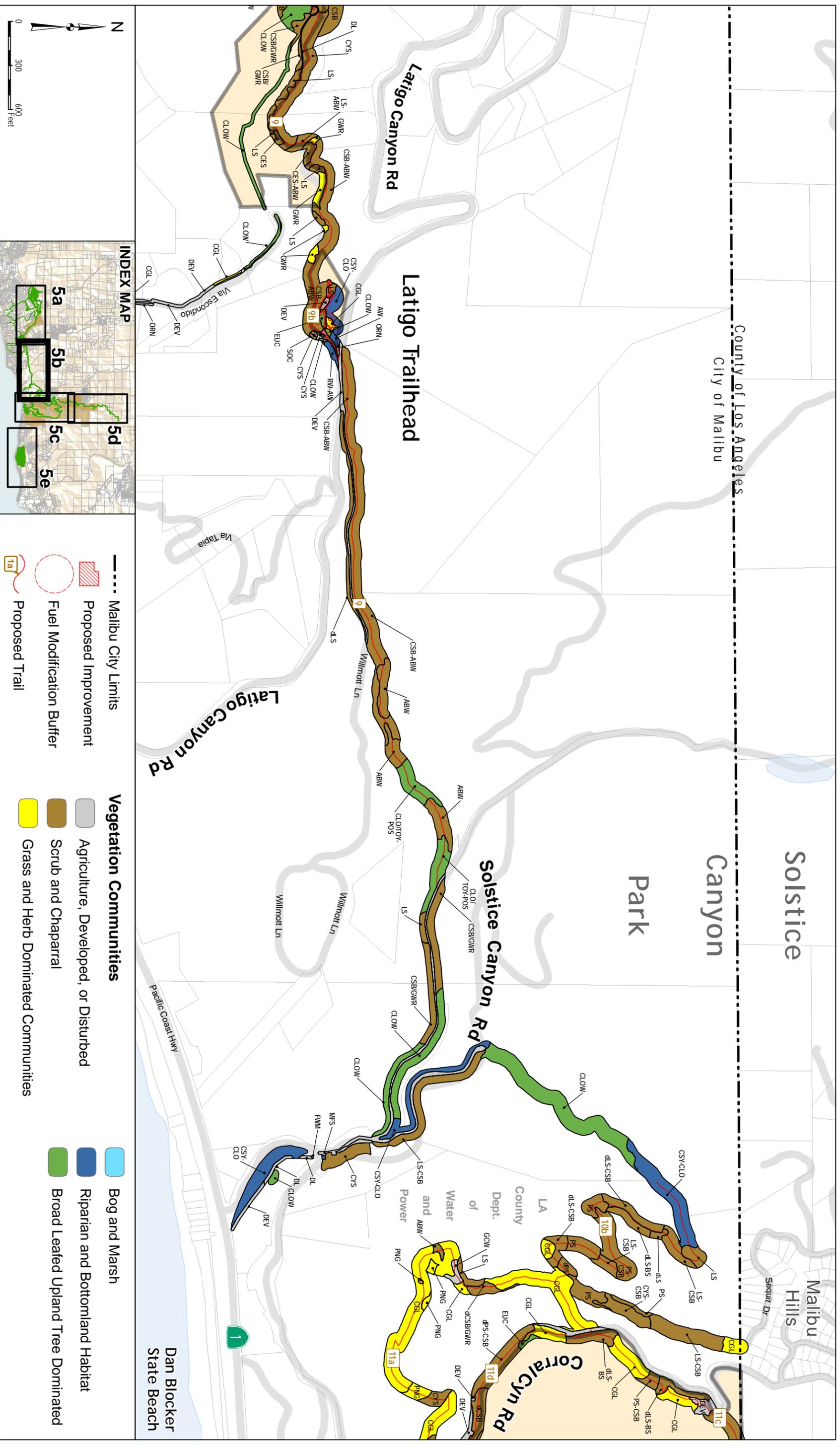


FIGURE 5b

Vegetation Communities - Latio Trailhead

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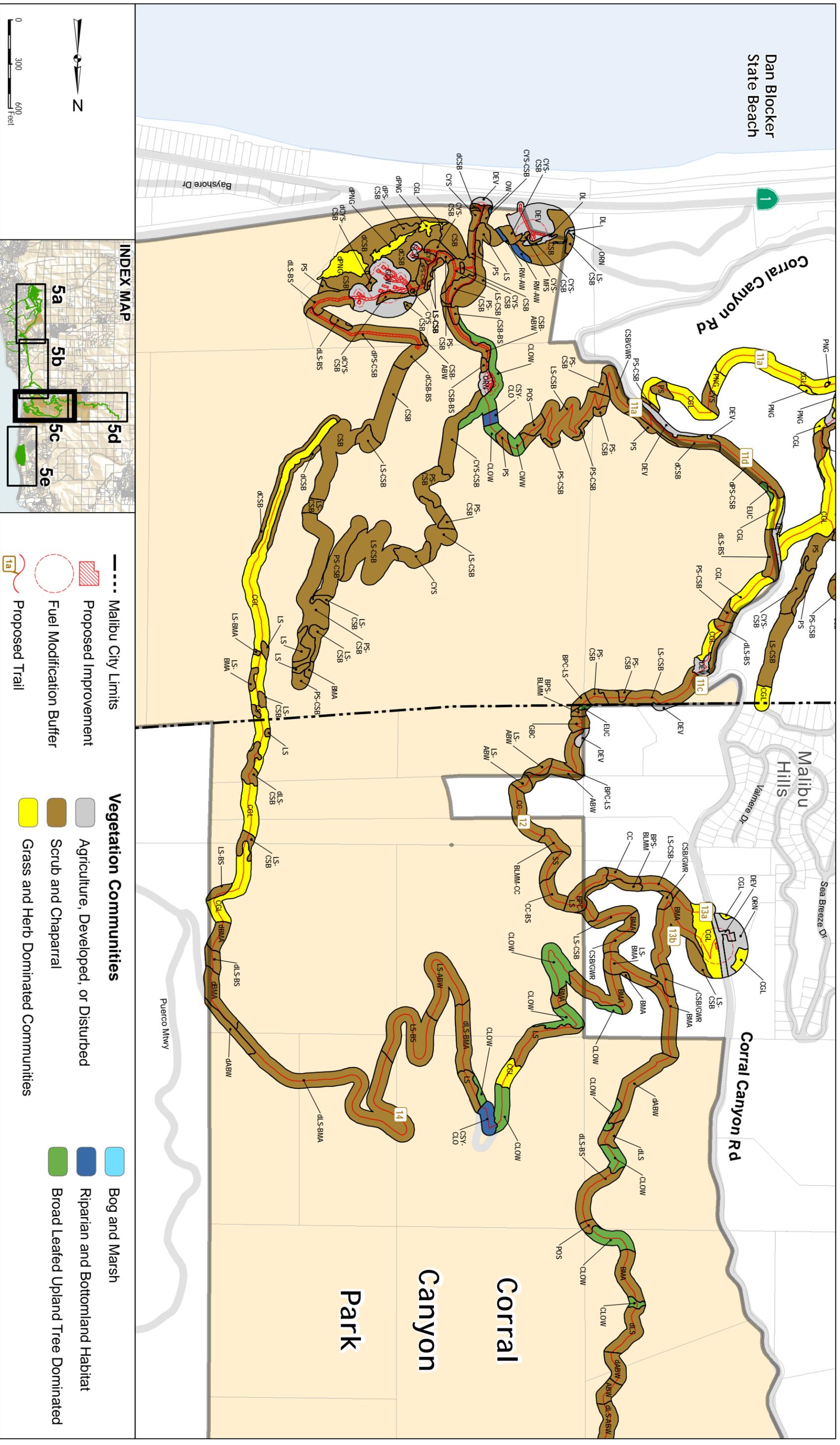
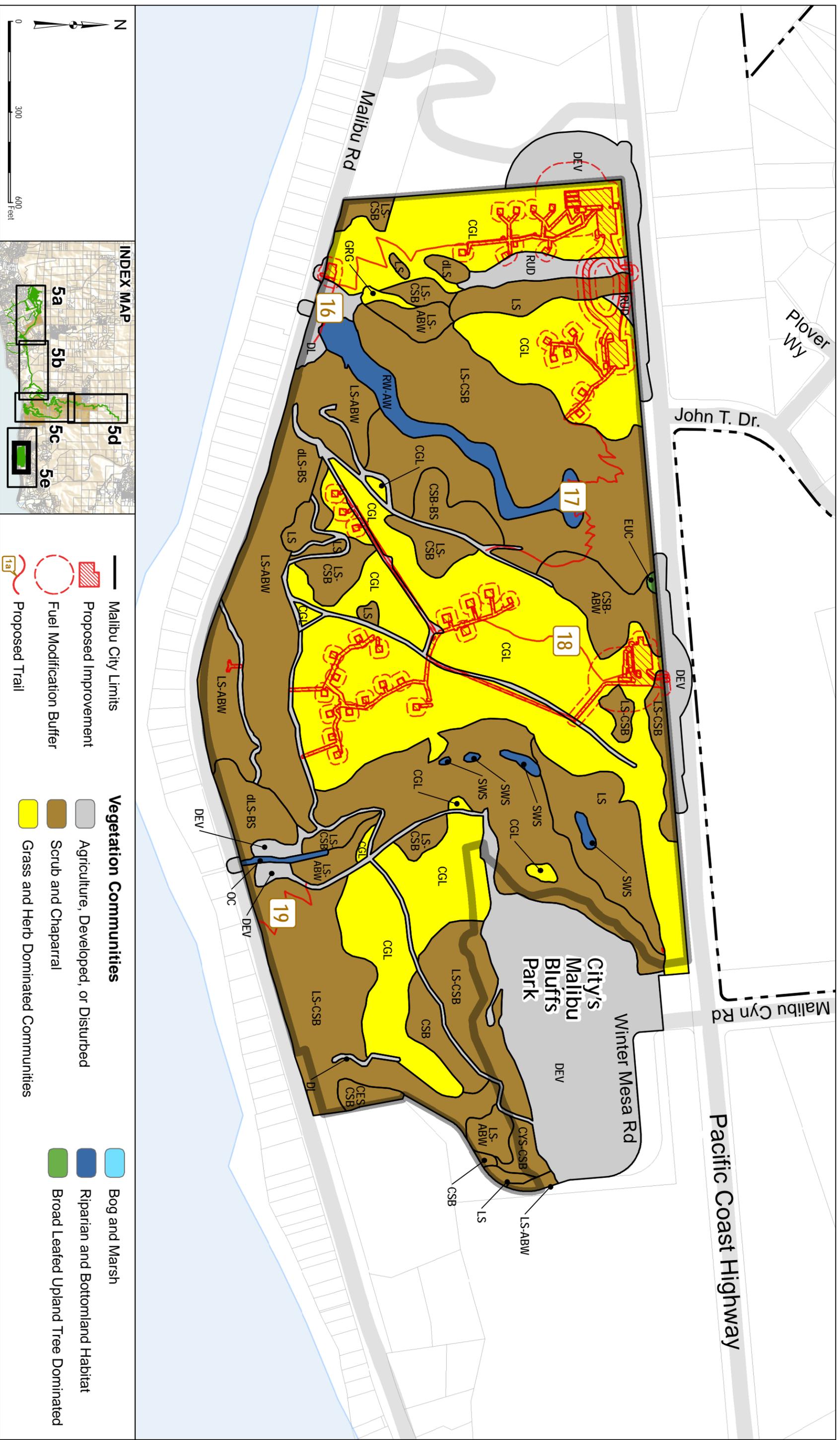


FIGURE 5c
Vegetation Communities - Corral Canyon Park South

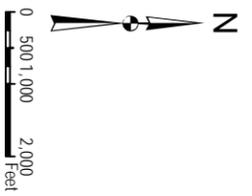
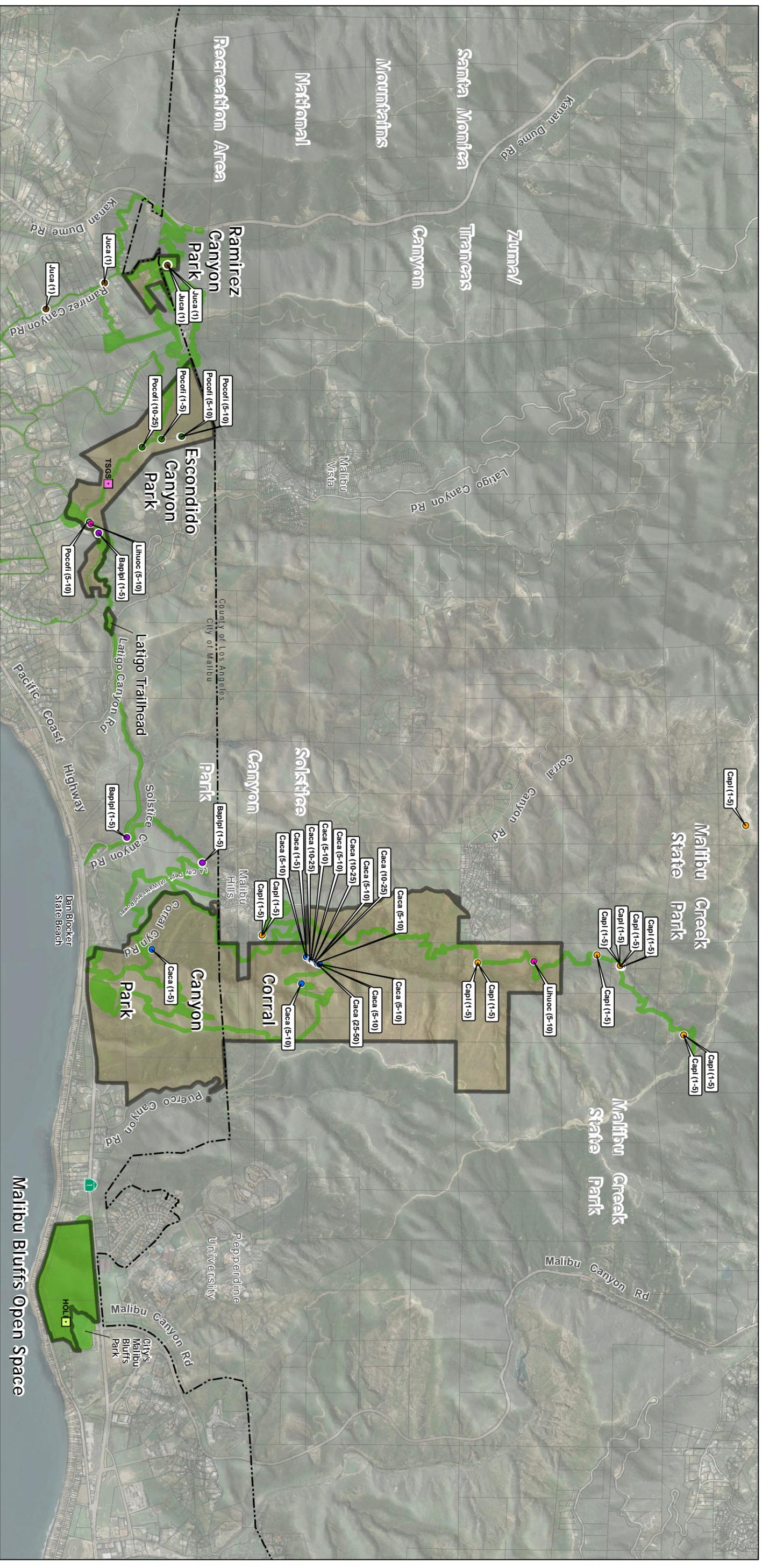
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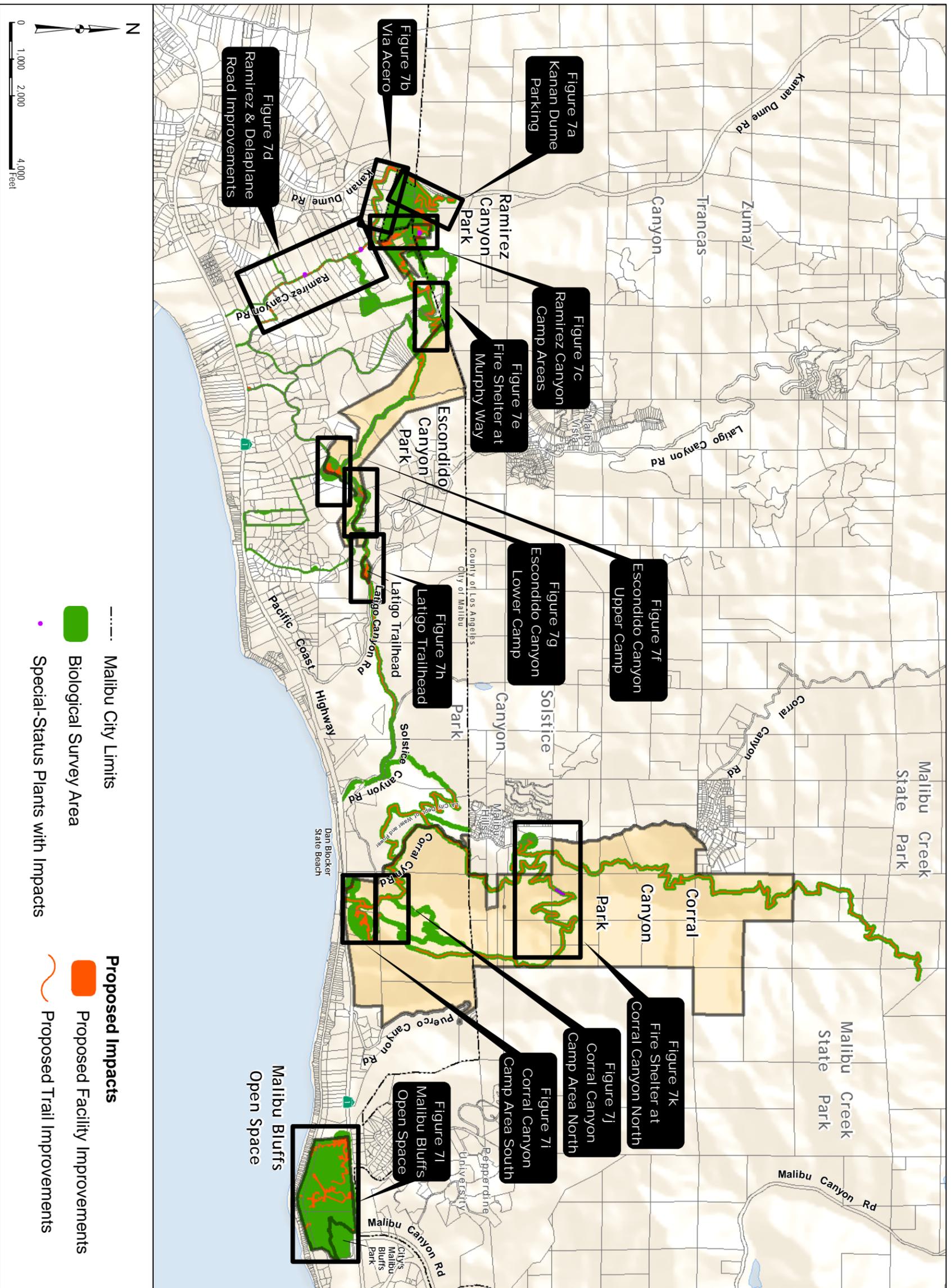
- Malibu City Limits
- Biological Survey Area
- CNPS List 1 Plant Species, (xx) = Population Count/Range**
- Capl - Plummer's mariposa lily (*Calochortus plummerae*)

- Caca - Catalina mariposa lily (*Calochortus catalinae*)
- Bappl - Plummer's baccharis (*Baccharis plummerae* ssp. *plummerae*)
- Linuoc - ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*)
- Pocofi - Fish's milkwort (*Polygala cornuta* var. *fishiae*)
- Juca - Southern California black walnut (*Juglans californica*)

- Special-Status Wildlife**
- HOLI - Coast horned lizard (*Phrynosoma coronatum*)
- TSGS - Two-striped garter snake (*Thamnophis hammondi*)

FIGURE 6
Special-Status Plants and Wildlife

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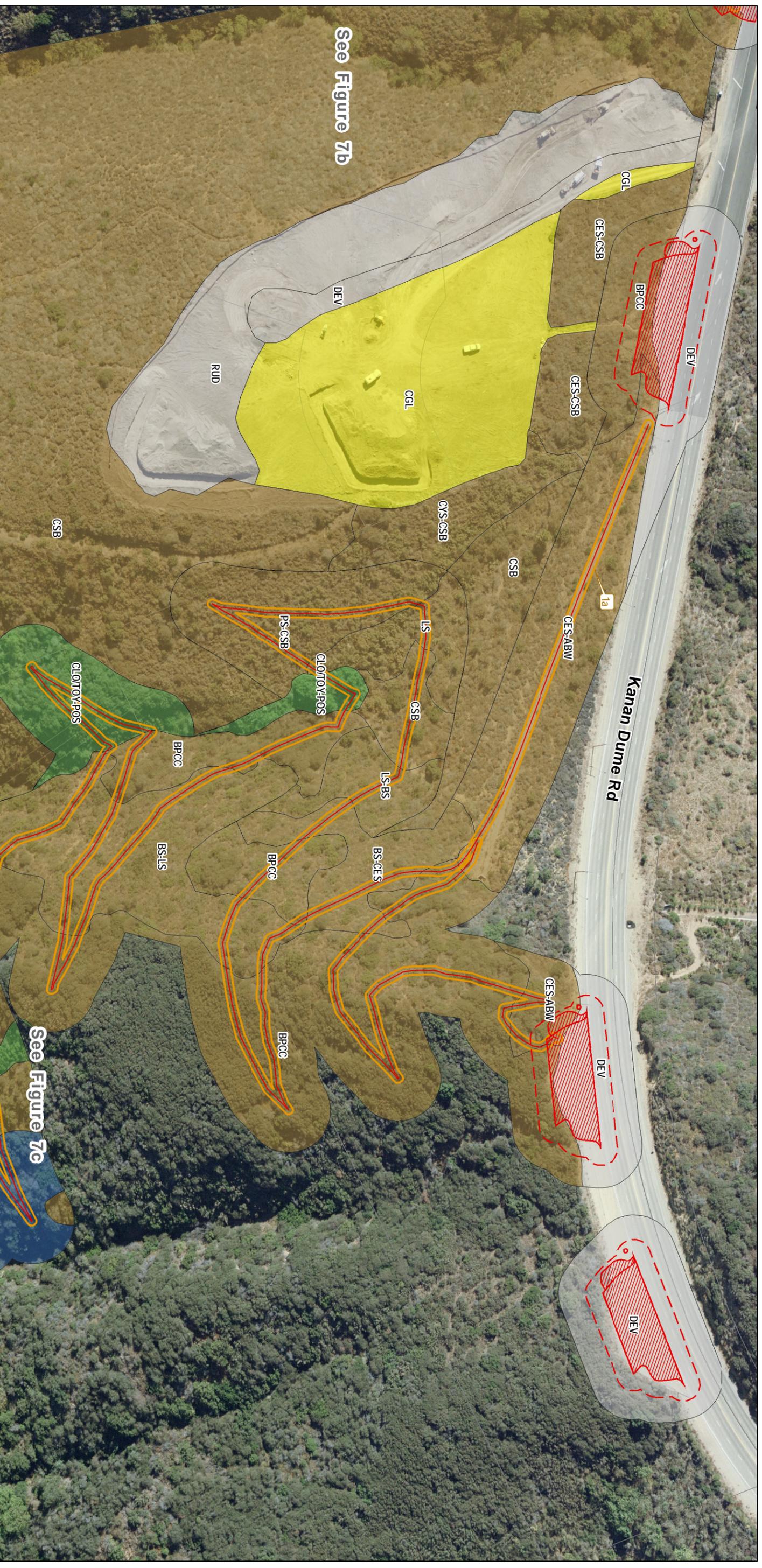


Legend for Vegetation Codes on Figures 7a - 7i

ABW = Ashyleaf buckwheat
AW = Southern Arroyo Willow Riparian
BLMM-CC = Birchleaf Mountain Mahogany - Chamise
BMA = Chaparral Bushmallow Scrub
BPC-BS = Bigpod Ceanothus - Black Sage
BPC-LS = Bigpod Ceanothus - Laurel Sumac
BPC-C = Bigpod Ceanothus Chaparral
BPS-BLMM = Bigpod Ceanothus - Birchleaf Mountain-mahogany Chaparral
BS = Black Sage Scrub
BS-CES = Black Sage - California Encelia
BS-LS = Black Sage - Laurel Sumac
CC = Chamise Chaparral
CC-BS = Chamise - Black Sage
CES = California Encelia Scrub
CES-ABW = California Encelia - Ashyleaf Buckwheat
CES-CSB = California Encelia - California Sagebrush
CGL = California Annual Grassland
CLO-CWW = Coast Live Oak - California Walnut
CLO/CSBG = Coast Live Oak / California Sagebrush / Grass
CLO/OY-POS = Coast Live Oak / Toyon - Poison Oak
CLOW = Coast Live Oak
CSB = California Sagebrush
CSB-ABW = California Sagebrush - Ashyleaf Buckwheat
CSB-BS = California Sagebrush Scrub - Black Sage
CSB/GWR = California Sagebrush / Giant Wild Rye
CSY-CLO = California Sycamore - Coast Live Oak
CWW = California Walnut Woodland
CYS = Coyote Brush / Annual Grasses
CYS-CSB = Coyote Brush - California Sagebrush
DEV = Developed
DL = Disturbed Land
DW = Deerweed
EUC = Eucalyptus
GBC = Greentank Ceanothus Scrub
GCW = Gerardion carnation weed (Euphorbia terracina)
GRG = Giant Reed
GWR = Giant Wild Rye
LS = Laurel sumac scrub
LS-ABW = Laurel sumac / ashyleaf buckwheat
LS-BMA = Laurel Sumac / Chaparral Bushmallow
LS-BS = Laurel sumac / Black Sage
LS-CSB = Laurel sumac / California sagebrush
NNG = Non-Native Grassland
OC = Open Channel
ORN = Ornamental
OW = Open Water
PNG = Purple Needlegrass
POS = Poison Oak Scrub
PS = Purple Sage Scrub
PS-CSB = Purple Sage - California Sagebrush
RUD = Ruderal
RW-AW = Red Willow / Arroyo Willow
SOC = Scrub Oak
SS = Sumac Scrub
SWS = Southern Willow Scrub
BABW = Burned Ashyleaf buckwheat
DABW = Disturbed Ashyleaf buckwheat
dBMM-CC = Disturbed Birchleaf Mountain Mahogany - Chamise
dBMA = Disturbed Chaparral Bushmallow scrub
dCC = Disturbed Chamise Chaparral
dCLOW = Disturbed Coast Live Oak
dCSB = Disturbed California Sagebrush
dCSB-BS = Disturbed California Sagebrush / Giant Wild Rye
dCSB/GWR = Disturbed California Sagebrush Scrub - Black Sage
dCYS = Disturbed Coyote Brush / Annual Grasses
dCYS-CSB = Disturbed Coyote Brush - California Sagebrush
dDW = Disturbed Deerweed
dGBC = Disturbed Greentank Ceanothus Scrub
dLS = Disturbed Laurel sumac scrub
dLS-ABW = Disturbed Laurel sumac / Ashyleaf buckwheat
dLS-BMA = Disturbed Laurel sumac - chaparral bushmallow
dLS-BS = Disturbed Laurel sumac / Black Sage
dLS-CSB = Disturbed Laurel sumac / California sagebrush
dPS = Disturbed Purple Sage Scrub
dPS-CSB = Disturbed Purple Sage - California Sagebrush

FIGURE 7
Impacts to Biological Resources - Index Map

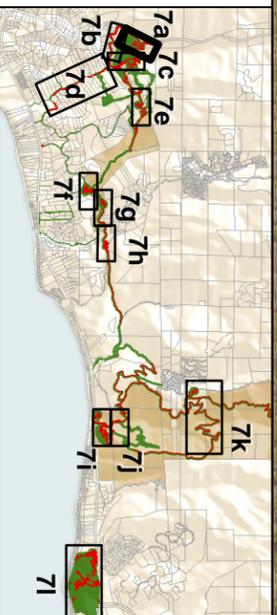
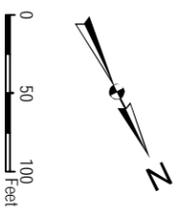
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See Figure 7b

See Figure 7c

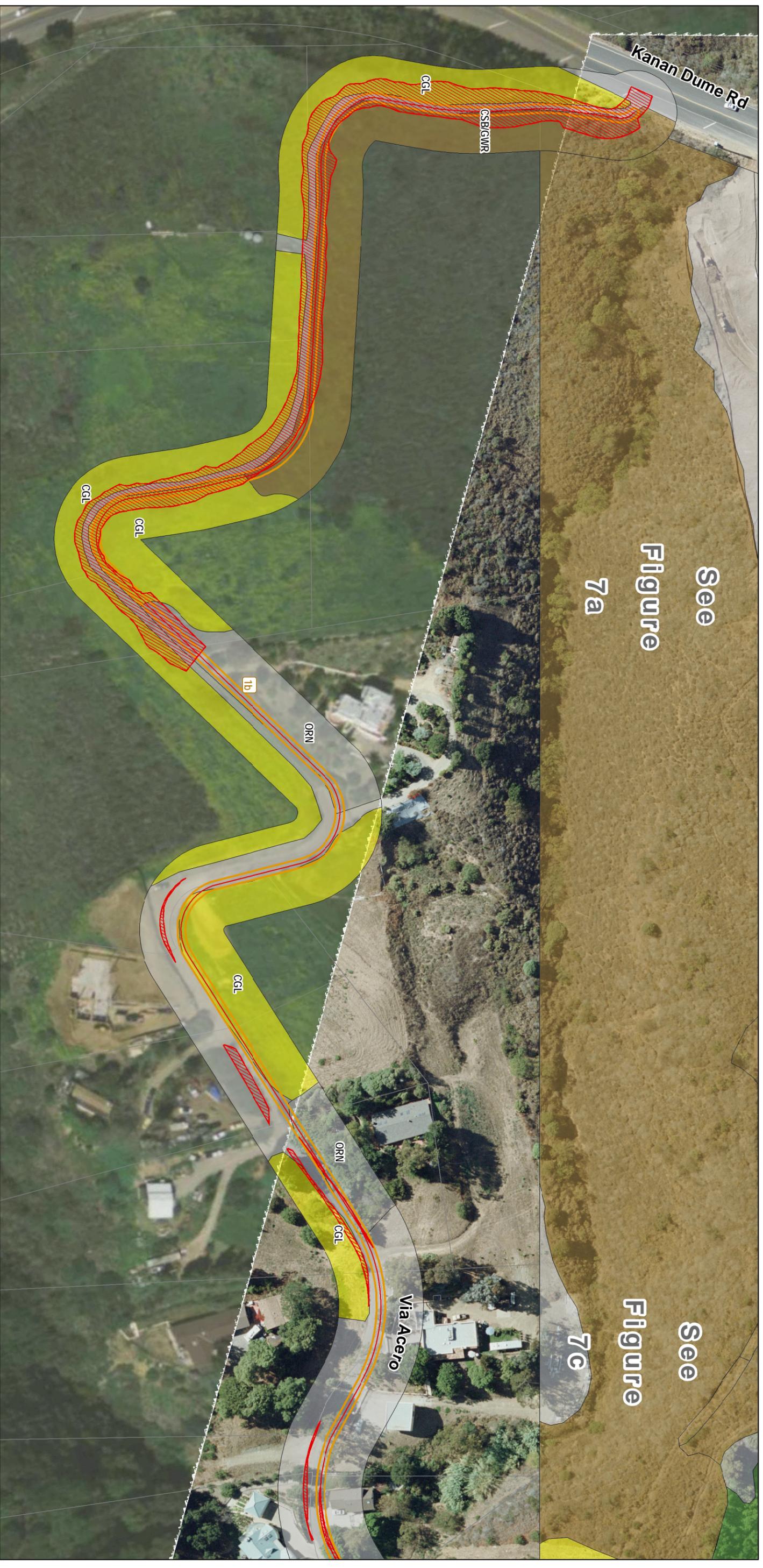
SOURCE: Penfield&Smith 2010



- | | | | |
|---|--------------------------|---|--------------------------------------|
|  | Impacts |  | Vegetation Communities |
|  | Proposed Facility |  | Bog and Marsh |
|  | Fuel Modification Buffer |  | Riparian and Bottomland Habitat |
|  | 10 foot Trail Corridor |  | Broad Leafed Upland Tree Dominated |
| | |  | Agriculture, Developed, or Disturbed |
| | |  | Scrub and Chaparral |
| | |  | Grass and Herb Dominated Communities |

FIGURE 7a
Impacts to Biological Resources - Kanan Dume Parking

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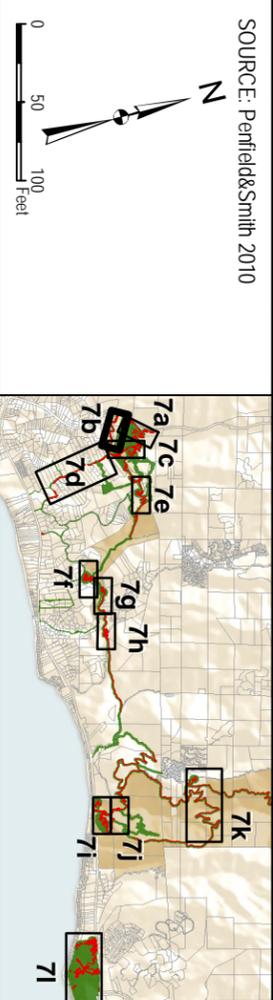
Figure

7a

See

Figure

7c



- | | | | | |
|----------------|--------------------------|-------------------|--------------------------------------|---------------|
| Impacts | | Proposed Facility | | Bog and Marsh |
| | Fuel Modification Buffer | | Riparian and Bottomland Habitat | |
| | 10 foot Trail Corridor | | Broad Leafed Upland Tree Dominated | |
| | | | Agriculture, Developed, or Disturbed | |
| | | | Scrub and Chaparral | |
| | | | Grass and Herb Dominated Communities | |

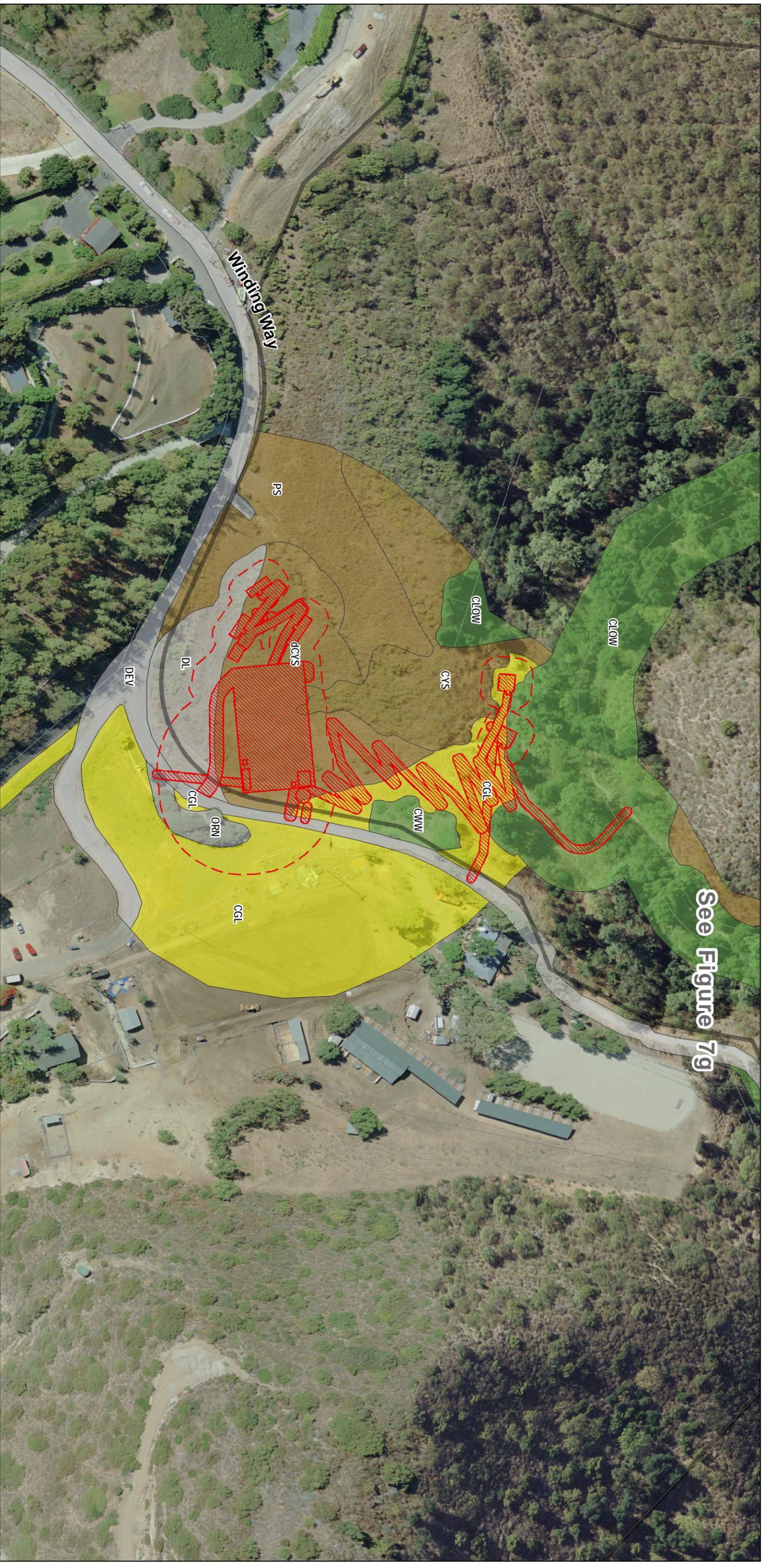
FIGURE 7b
Impacts to Biological Resources - Via Acero

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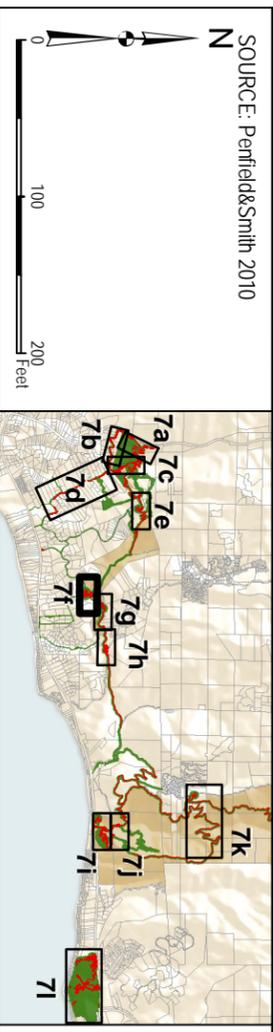
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See Figure 7g



SOURCE: Penfield&Smith 2010

- | | | | |
|----------------|--------------------------|-------------------------------|--------------------------------------|
| Impacts | | Vegetation Communities | |
| | Proposed Facility | | Agriculture, Developed, or Disturbed |
| | Fuel Modification Buffer | | Scrub and Chaparral |
| | 10 foot Trail Corridor | | Grass and Herb Dominated Communities |
| | | | Bog and Marsh |
| | | | Riparian and Bottomland Habitat |
| | | | Broad Leafed Upland Tree Dominated |

FIGURE 7f
Impacts to Biological Resources - Escondido Canyon Upper Camp Area

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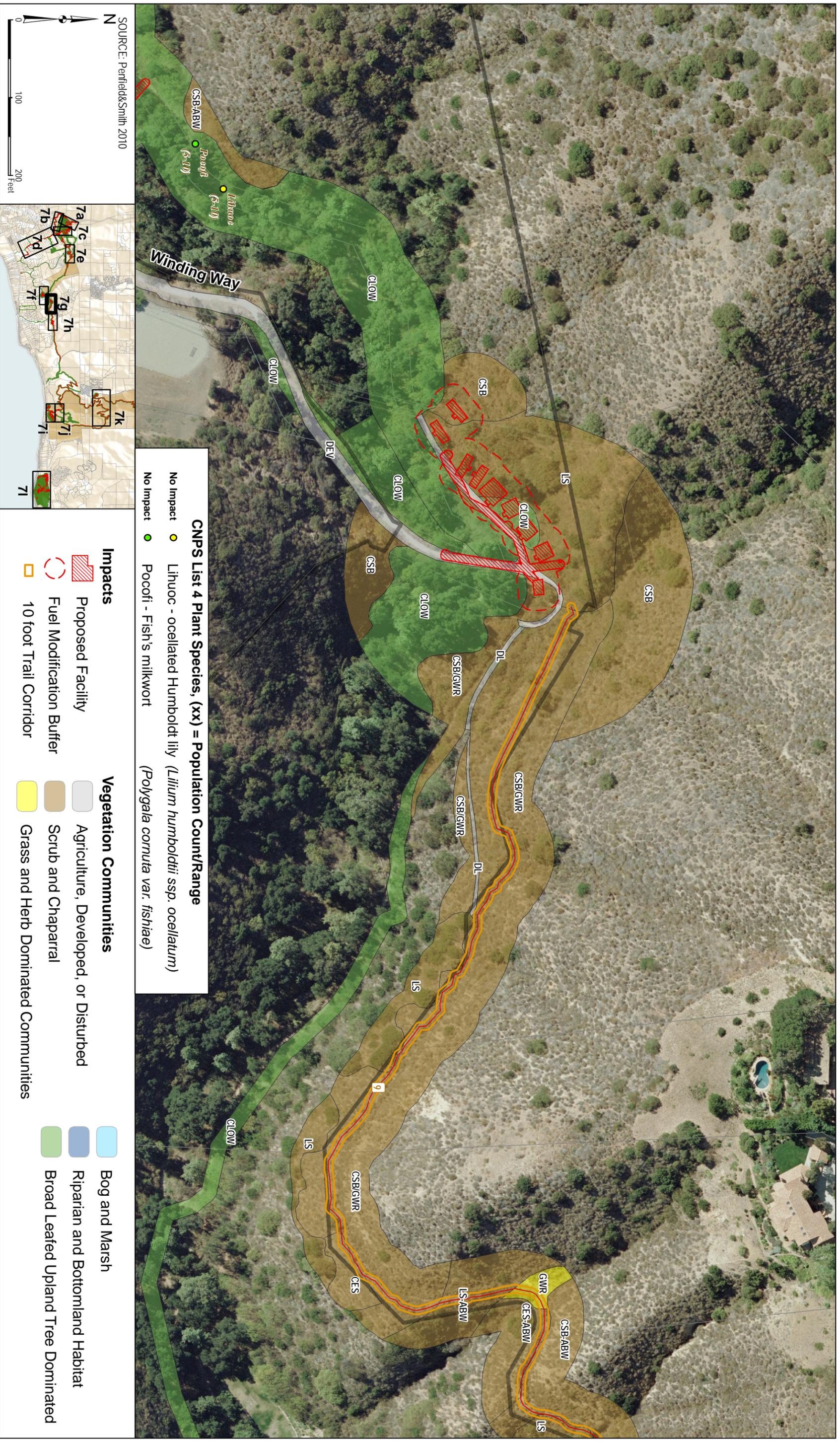


FIGURE 7g
Impacts to Biological Resources - Escondido Canyon Lower Camp Area

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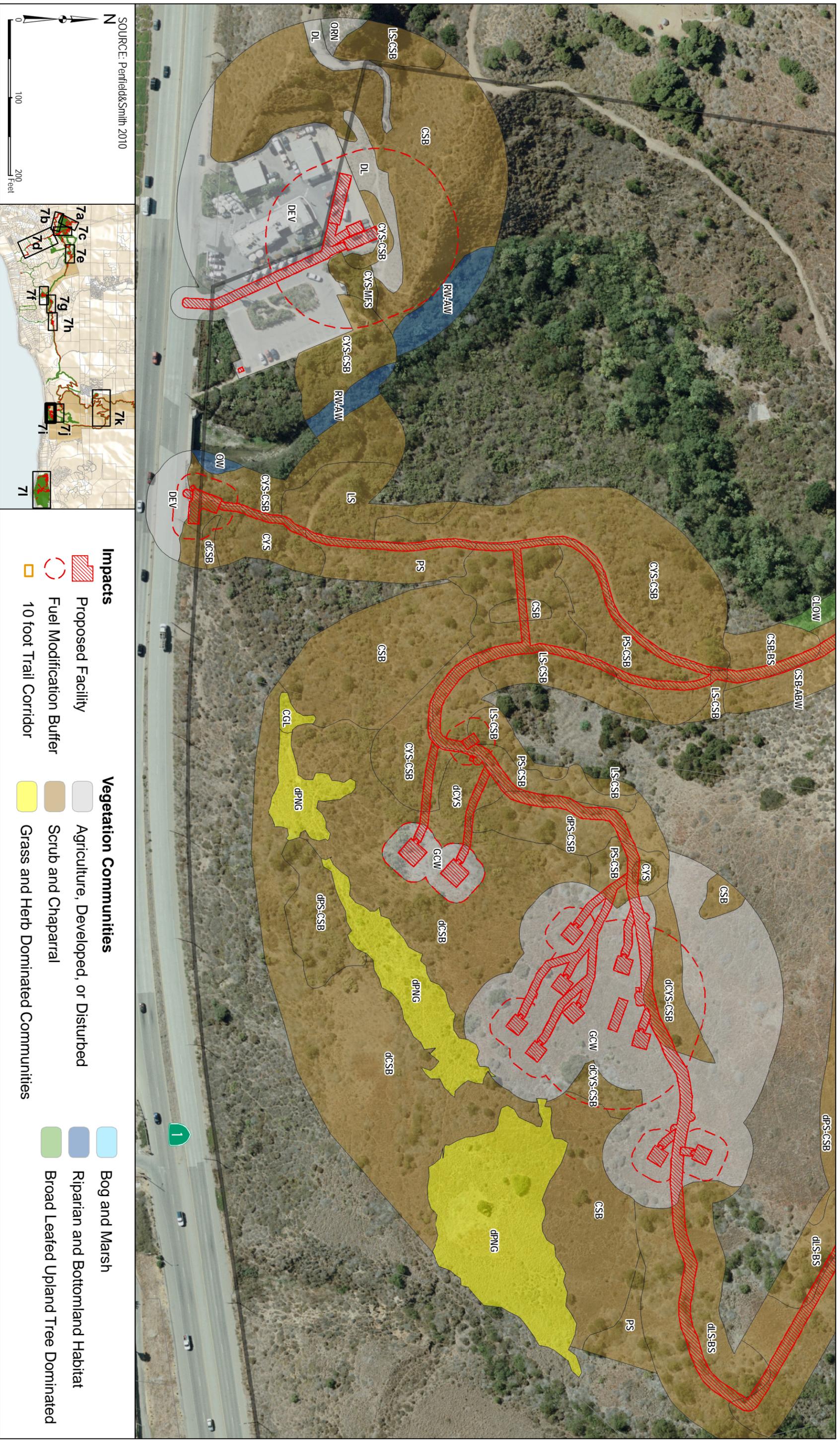


FIGURE 71
Impacts to Biological Resources - Corral Canyon Camp Area South

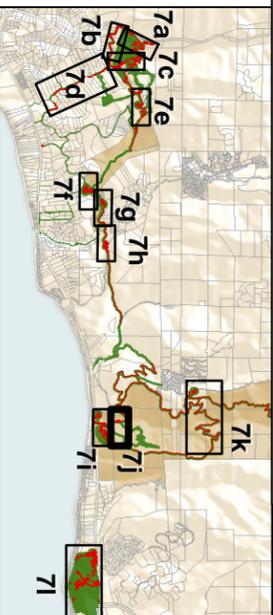
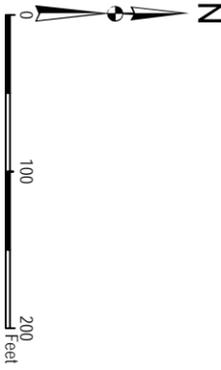
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CNPS List 4 Plant Species, (xx) = Population Count/Range

- No Impact ●
- Caca - Catalina mariposa lily (*Calochortus catalinae*) ●

SOURCE: Penfield&Smith 2010



- | Impacts | | Vegetation Communities | |
|---------|--------------------------|------------------------|--------------------------------------|
| | Proposed Facility | | Agriculture, Developed, or Disturbed |
| | Fuel Modification Buffer | | Scrub and Chaparral |
| | 10 foot Trail Corridor | | Grass and Herb Dominated Communities |
| | | | Bog and Marsh |
| | | | Riparian and Bottomland Habitat |
| | | | Broad Leafed Upland Tree Dominated |

FIGURE 7j
Impacts to Biological Resources - Corral Canyon Camp Area North

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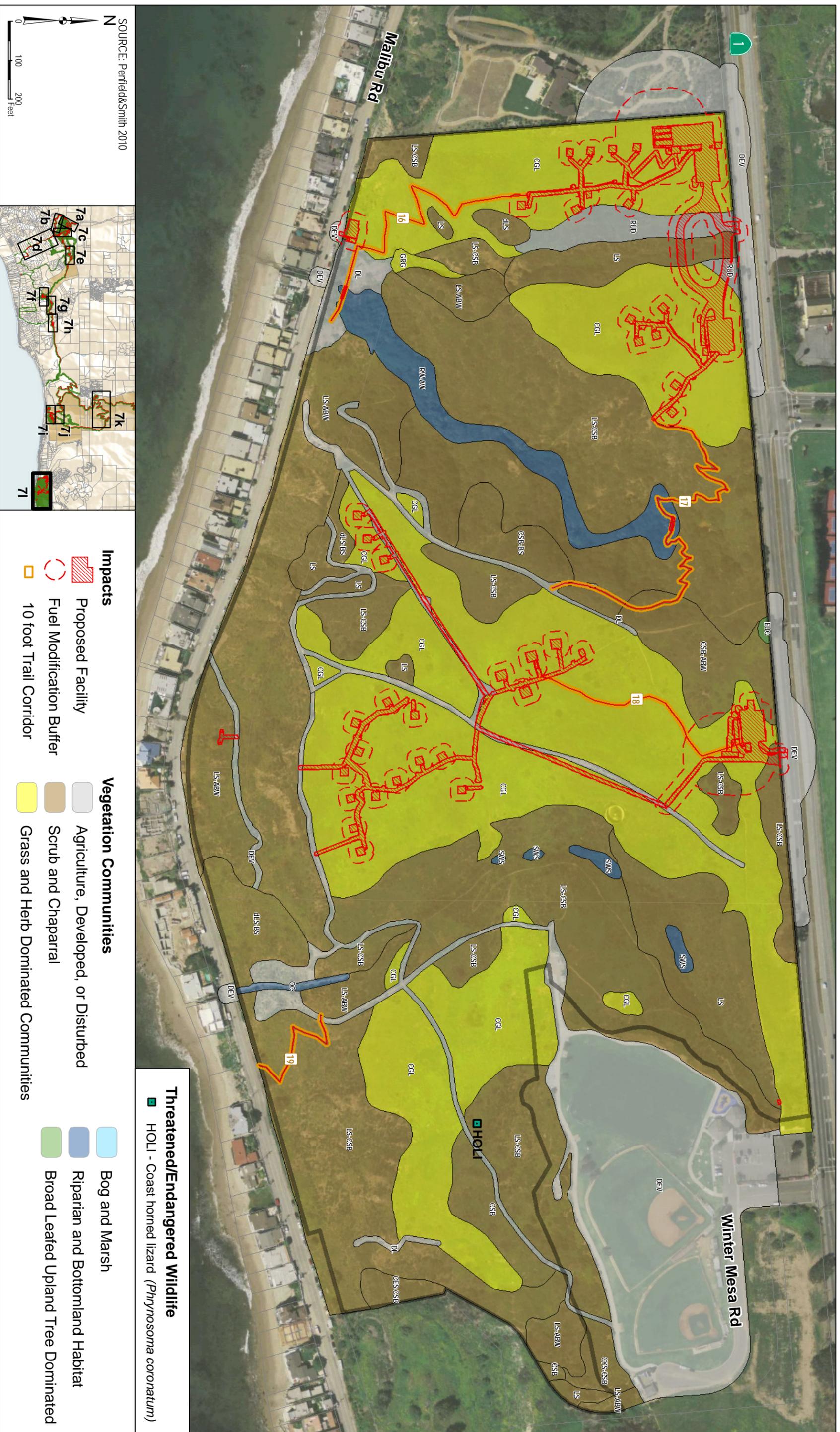


FIGURE 71

Impacts to Biological Resources - Malibu Bluffs Open Space

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4.1.1 Agriculture, Developed, or Disturbed

Agriculture, developed, or disturbed areas are characterized by limited native vegetation resulting in low function ecological processes. Many have been altered from their natural states for human uses and provide little habitat and foraging potential for wildlife due to the lack of significant cover by native vegetation. There are approximately 59 acres of this habitat type in the study area comprising approximately 15% of the total study area.

4.1.1.1 Developed

Developed areas are not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because they are not naturally occurring communities in California.

Areas mapped as developed include roads, buildings, and structures. Vegetation in these areas, if present at all, is usually sparse, dominated by weedy herbaceous species, or part of the landscaping associated with development. Developed areas occur across a wide range of elevations, topographic orientations, and soil types.

None of the developed areas mapped on site are considered sensitive natural communities per CEQA, the County's LUP, and the City's LCP because they do not occur naturally or contain native vegetation.

4.1.1.2 Disturbed Land

Disturbed land is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because it is not a naturally occurring community. Disturbed land includes areas that experience or have experienced high levels of human disturbance. Areas mapped as disturbed land may include roads and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by weedy herbaceous species. Disturbed land occurs across a wide range of elevations, topographic orientations, and soil types. Disturbed land is not considered high priority for inventory, and it would not be considered a sensitive natural community per CEQA, the County's LUP, and the City's LCP since it is not a naturally occurring community.

Within the broader category of disturbed land, two communities—Geraldton carnation weed (*Euphorbia Terracina*) and ruderal—were mapped and are described below.

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Geraldton Carnation Weed

Geraldton carnation weed is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because it is not a naturally occurring community in California.

Geraldton carnation weed alliance is dominated by Geraldton carnation weed. Geraldton carnation weed is a perennial or biennial exotic weed that forms dense stands along the coast of Southern California. Recently introduced to California, Geraldton carnation weed is not widely distributed; however, it has the potential to spread rapidly. This exotic weed possesses allelopathic properties that can reduce germination of native plants (California Invasive Plant Council 2009).

On site, Geraldton carnation weed forms dense stands with few to no associated species.

Geraldton Carnation Weed is not considered high priority for inventory and would not be considered a sensitive natural community per CEQA, the County's LUP, and the City's LCP since this community is dominated by a non-native, invasive species.

Ruderal

Ruderal is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because it is not a naturally occurring community.

Vegetation in ruderal areas is comprised of weedy herbaceous species, such as tocalote (*Centaurea melitensis*), wild oat (*Avena* sp.), black mustard (*Brassica nigra*), sow thistle (*Sonchus asper*), and prickly lettuce (*Lactuca serriola*). Ruderal areas are generally the result of disturbance, such as grading or fire. Ruderal areas occur across a wide range of elevations, topographic orientations, and soil types.

Ruderal is not considered high priority for inventory and would not be considered a sensitive natural community per CEQA, the County's LUP, and the City's LCP because it is dominated by non-native, often invasive, species.

4.1.1.3 Non-Native Planted

Ornamental

Ornamental is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because this community is not a naturally

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occurring community in California. Areas mapped as ornamental include planted areas where ornamental landscaping has been installed.

None of the ornamental areas mapped on site are considered high priority for inventory, and they do not occur naturally or contain native vegetation. Therefore, areas mapped as ornamental are not considered sensitive natural communities per CEQA, the County's LUP, and the City's LCP

4.1.2 Scrub and Chaparral Communities

There are approximately 233 acres of habitat in the scrub and chaparral physiognomic group, including six general habitat types. Scrub and chaparral is the dominant vegetation group in the study area, representing approximately 60% of the total study area. The following section describes the scrub and chaparral communities that were observed in the study area.

4.1.2.1 Coastal Scrub

Coastal scrub is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site, there are nine alliances in this general habitat type. Each alliance is described below in more detail.

California Sagebrush Scrub Alliance

The California sagebrush scrub (*Artemisia californica*) alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the California sagebrush scrub alliance there are four associations, mostly described by Gordon and White (1994). The alliance is described by Sawyer and Keeler-Wolf (1995). California sagebrush scrub alliance communities include California sagebrush as the sole or dominant shrub in the canopy. California sagebrush scrub has a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the California sagebrush scrub alliance include black sage (*Salvia mellifera*), brittlebush (*Encelia farinosa*), bush monkeyflower (*Mimulus aurantiacus*), California encelia (*Encelia californica*), chamise (*Adenostoma fasciculatum*), Our Lord's Candle (*Yucca whipplei*), coast goldenbush (*Isocoma menziesii*), coyote brush (*Baccharis pilularis*), deerweed (*Lotus scoparius*), poison-oak (*Toxicodendron diversilobum*), purple sage (*Salvia leucophylla*), and white sage (*Salvia apiana*) (Sawyer and Keeler-Wolf 1995).

The California sagebrush scrub alliance often occurs on steep, south-facing slopes and at times, though rarely, occurs on flooded low-gradient deposits along streams. Soils on which this

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alliance occurs are described as alluvial or colluvial-derived and shallow (Sawyer and Keeler-Wolf 1995).

On site, the California sagebrush scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open to intermittent but is generally poorly developed in established stands. Trees are occasionally present at lower levels of the slope. The on-site alliance is dominated by California sagebrush and contains ashy-leaf buckwheat (*Eriogonum cinereum*), laurel sumac (*Malosma laurina*), coyote brush, California encelia, and purple sage. Black sage, Our Lord's Candle, deerweed, chaparral bushmallow (*Malacothamnus fasciculatus*), saw-toothed goldenbush (*Hazardia squarrosa*), and California buckwheat are occasionally present. The tree layer is emergent, open, occasional, and it may include coast live oak and California walnut (*Juglans californica*). The herbaceous layer is diverse and sometimes includes foxtail chess (*Bromus rubens*), ripgut brome (*Bromus diandrus*), black mustard, tocalote, short-pod mustard (*Hirschfeldia incana*), and giant wild rye (*Leymus condensatus*).

The following associations or stands of vegetation were mapped on site within the California sagebrush scrub alliance:

- California sagebrush
- California sagebrush/giant wild rye (including disturbed forms)
- California sagebrush-ashyleaf buckwheat (*Eriogonum cinereum*) (including disturbed forms).

The California sagebrush alliance is ranked by the CDFG (2007a) as a G5S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. In addition, the California sagebrush association is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). California sagebrush/giant wild rye and California sagebrush-ashyleaf buckwheat are not described by the *Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but these communities are described in the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006). Both of these associations are ranked as G3S3, indicating that these communities are vulnerable in California and globally. Therefore, California sagebrush/giant wild rye and California sagebrush-ashyleaf buckwheat are considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

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Black Sage Scrub Alliance

The black sage scrub or *Salvia mellifera* alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the black sage scrub alliance there are five associations, mostly described by Kirkpatrick and Hutchinson (1977) and Malanson (1984). The alliance is described by Sawyer and Keeler-Wolf (1995). Black sage scrub alliance communities include black sage as the sole or dominant shrub in the canopy. Black sage scrub has a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the black sage scrub alliance include ash buckwheat (*Eriogonum cinereum*), Algodones buckwheat (*Eriogonum deserticola*), California encelia, California sagebrush, chamise, chaparral mallow, Our Lord's Candle, coyote brush, deerweed, laurel sumac, purple sage, and white sage (Sawyer and Keeler-Wolf 1995).

The black sage scrub alliance often occurs on steep and in shallow soils (Sawyer and Keeler-Wolf 1995).

On site, the black sage scrub alliance forms an intermittent to closed shrub layer. The herbaceous layer is infrequent and generally poorly developed in established stands. Trees are very infrequent throughout the shrub-dominated community. The on-site alliance is dominated by black sage and also contains California encelia, ashy-leaf buckwheat, laurel sumac, purple sage, Our Lord's Candle, and sugar bush (*Rhus ovata*). California sagebrush, toyon (*Heteromeles arbutifolia*), chaparral bushmallow, chamise, big-pod ceanothus (*Ceanothus megacarpus*), birch-leaf mountain mahogany (*Cercocarpus montanus*), and California buckwheat are occasionally present. The emergent tree layer is infrequent. The herbaceous layer is infrequent and restricted to openings and includes foxtail chess, ripgut brome, black mustard, and tocalote.

The following associations were mapped on site within the black sage scrub alliance:

- Black sage
- Black sage-laurel sumac
- Black sage-California encelia.

The black sage scrub alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. Also, the black sage, black sage-laurel sumac, and black sage-California encelia associations are not considered high priority for inventory by the CDFG (2003) and do not meet the definition of a sensitive natural

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community under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the black sage scrub alliance meet the definition of coastal sage scrub pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

California Encelia Scrub Alliance

The California encelia alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the California encelia alliance there are two associations, described by Kirkpatrick and Hutchinson (1977) and Malanson (1984). The alliance is described by Sawyer and Keeler-Wolf (1995). California encelia scrub alliance communities include California encelia as the sole or dominant shrub in the canopy. California encelia scrub has an intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the California encelia scrub alliance include ash buckwheat, Algodones buckwheat, black sage, bladderpod (*Isomeris arborea*), bush monkeyflower, California sagebrush, Our Lord's Candle, coast goldenbush (*Isocoma menziesii*), coyote brush, deerweed, elderberry (*Sambucus nigra* ssp. *canadensis*), lemonade berry (*Rhus integrifolia*), purple sage, wishbone bush (*Mirabilis californica*), and white sage (Sawyer and Keeler-Wolf 1995).

The California encelia alliance is often in mixed evergreen or deciduous shrubland, occurring on steep, generally south-facing slopes; soils are described as colluvial-derived (Sawyer and Keeler-Wolf 1995).

On site, the California encelia scrub alliance forms an open to continuous shrub layer. The herbaceous layer is open, but generally poorly developed in established stands. Trees are generally absent. The on-site alliance is dominated by California encelia and contains California sagebrush, laurel sumac, black sage, Our Lord's Candle, and purple sage. California buckwheat, ashleaf buckwheat, sugar bush, chaparral bushmallow, and saw-toothed goldenbush are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, black mustard, tocalote, short-pod mustard, and giant wild rye.

The following associations were mapped on site within the California encelia scrub alliance:

- California encelia
- California encelia-California sagebrush
- California encelia-ashleaf buckwheat.

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The California encelia scrub alliance is ranked by the CDFG (2007a) as a G4S3 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is vulnerable. The California encelia association is considered high priority for inventory by the CDFG (2003) and meets the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). California encelia-California sagebrush is described in the *List of Terrestrial Natural Communities* (CDFG 2003) and is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). California encelia-ashleaf buckwheat is not described by the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but is described in the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006). It is ranked as G3S3, indicating that association is vulnerable to extirpation or extinction globally and in California (CDFG 2007a; NatureServe 2009); therefore, this association is considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

Coyote Brush Scrub Alliance

The coyote brush scrub alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the coyote brush scrub alliance there are 18 associations. The alliance is described by Sawyer and Keeler-Wolf (1995). Coyote brush scrub alliance communities include coyote brush as the sole or dominant shrub in the canopy. Coyote brush scrub has a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the coyote brush scrub alliance include beach bursage (*Ambrosia chamissonis*), black sage, California buckwheat, California blackberry, California coffeeberry (*Rhamnus californica*), California figwort (*Scrophularia* sp.), California sagebrush (, creeping ryegrass (*Leymus triticoides*), European beachgrass (*Ammophila arenaria*), poison oak, seaside woolly sunflower (*Eriophyllum stoechadifolium*), salal (*Gaultheria shallon*), sword fern (*Polystichum munitum*), tufted hairgrass (*Deschampsia cespitosa*), yellow bush lupine (*Lupinus arboreus*), yellow sand-verbena (*Abronia latifolia*), wax myrtle (*Myrica californica*), and white sage (Sawyer and Keeler-Wolf 1995).

The coyote brush scrub alliance often occurs in stabilized dunes of coastal bars, river mouths, spits along coastline, coastal bluffs, open slopes, and terraces (Sawyer and Keeler-Wolf 1995).

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On site, the Coyote brush scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open to intermittent and typically has established stands of non-native grasses and herbs. Trees are occasionally emergent. The on-site alliance is dominated by coyote brush and contains California sagebrush, laurel sumac, and purple sage. California buckwheat, chaparral bushmallow, saw-toothed goldenbush, blue elderberry (*Sambucus nigra* ssp. *canadensis*), and mulefat (*Baccharis salicifolia*) are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, black mustard, tocalote, fennel (*Foeniculum vulgare*), purple needlegrass (*Nassella pulchra*), short-pod mustard, and giant wild rye. The following associations or stands of vegetation were mapped on site within the coyote brush scrub alliance:

- Coyote brush-California sagebrush (including disturbed forms)
- Coyote brush/annual grass (including disturbed forms).

The coyote brush scrub alliance is ranked by the CDFG (2007a) as a G5S5 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is secure. Several of the coyote brush scrub associations are considered high priority for inventory by the CDFG (2003); however, both of the associations mapped on site are not considered high priority for inventory by the CDFG (2003) and do not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). In addition these associations are described in the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006) and are ranked as G5S5 indicating that association is widespread, abundant, and secure in the state and globally (CDFG 2007a; NatureServe 2009). However, all associations within the coyote brush scrub alliance meet the definition of coastal sage scrub, or an association of coastal sage scrub, pursuant to the County's LUP and City's LCP and are therefore often considered sensitive natural communities under these guidelines.

Purple Sage Scrub Alliance

The purple sage or alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the purple sage scrub alliance there are two associations, described by Kirkpatrick and Hutchinson (1977). The alliance is described by Sawyer and Keeler-Wolf (1995). Purple sage scrub alliance communities include purple sage as the sole or dominant shrub in the canopy. Purple sage scrub has a continuous shrub canopy less than 1.5 meters (5.5 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

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Species associated with the purple sage scrub alliance include Algodones buckwheat, black sage, bush monkeyflower, California buckwheat, California sagebrush, California walnut, coast live oak, elderberry, laurel sumac, lemonade berry, and white sage (Sawyer and Keeler-Wolf 1995).

The purple sage scrub alliance often in north-facing, steep slopes; soils are described as colluvial-derived and may be rocky (Sawyer and Keeler-Wolf 1995).

On site, the purple sage scrub alliance forms an open to intermittent shrub layer and an open herbaceous layer. Trees are very infrequent throughout the shrub-dominated community. The on-site alliance is dominated by purple sage and contains California sagebrush, ashyleaf buckwheat, and chaparral bushmallow. Laurel sumac, poison oak, California buckwheat, Mexican elderberry, and saw-toothed goldenbush are occasionally present. The emergent tree layer is nearly absent. The herbaceous layer is open and includes foxtail chess, ripgut brome, black mustard, Geraldton carnation weed, purple needlegrass, short-pod mustard, giant wild rye, and tocalote.

The following association was mapped on site within the purple sage scrub alliance:

- Purple sage-California sagebrush (including disturbed forms).

The purple sage scrub alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. Purple sage-California sagebrush is not described by the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but it is described in the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006). It is ranked as G4S4 indicating that association is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the association is apparently secure. However, all associations within the purple sage scrub alliance meet the definition of coastal sage scrub pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

Ashyleaf Buckwheat Alliance

The ashyleaf buckwheat or alliance is recognized by the *List of California Vegetation Alliances* (CDFG 2007a). Ashyleaf buckwheat alliance communities include ashyleaf buckwheat as the sole or dominant shrub in the canopy; a tree layer is generally absent (CDFG et. al. 2006). Species associated with the ashyleaf buckwheat alliance include black sage, Our Lord's Candle, deerweed, and laurel sumac (CDFG et. al. 2006). The ashyleaf buckwheat alliance often in

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mixed evergreen or deciduous shrubland occurs on steep, generally south-facing slopes; soils are described as colluvial-derived (Sawyer and Keeler-Wolf 1995).

On site, the ashyleaf buckwheat scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open, but generally poorly developed in established stands. Trees are occasionally present where shrubs are at a low cover. The on-site alliance is dominated by ashyleaf buckwheat and contains California sagebrush, black sage, purple sage, and Our Lord's Candle. Laurel sumac, deerweed, chaparral bushmallow, saw-toothed goldenbush, California encelia, and California buckwheat are occasionally present. The tree layer is occasionally present and emergent and may include coast live oak. The herbaceous layer includes foxtail chess, ripgut brome, black mustard, tocalote, short-pod mustard, and giant wild rye.

The following association was mapped on site within the ashyleaf buckwheat scrub alliance:

- Ashyleaf buckwheat (including disturbed and burned forms).

The ashyleaf buckwheat alliance is ranked by the CDFG (2007a) as a G3S3 alliance. This ranking indicates that globally the alliance is vulnerable (CDFG 2007a; NatureServe 2009) and within California the alliance is vulnerable; therefore, this association meets the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

California Sagebrush – Black Sage Scrub Alliance

The California sagebrush-black sage scrub alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the California sagebrush-black sage scrub alliance there are two associations, described by DeSimone and Burk (1992). The alliance is described by Sawyer and Keeler-Wolf (1995). California sagebrush-black sage scrub alliance communities include California sagebrush and black sage as co-dominant shrubs in the canopy. California sagebrush-black sage scrub has a continuous or intermittent shrub canopy less than 2 meter (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the California sagebrush-black sage scrub alliance include black sage, California buckwheat, California sagebrush, chamise, Our Lord's Candle, deerweed, lemonade berry, sugar bush, and white sage (Sawyer and Keeler-Wolf 1995).

The California sagebrush-black sage scrub alliance often occurs on south-facing, steep slopes; soils are described as colluvial-derived (Sawyer and Keeler-Wolf 1995).

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On site, the California sagebrush-black sage scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open while the emergent tree layer is occasional. The on-site alliance is dominated by California sagebrush and black sage and contains laurel sumac, chamise, yellow monkey flower, and California buckwheat. Hollyleaf redberry (*Rhamnus ilicifolia*), Our Lord's Candle, chaparral bushmallow, toyon, ashleaf buckwheat, deerweed, Mexican elderberry, coyote brush, and California encelia are occasionally present. The emergent tree layer is infrequent and may contain coast live oak. The herbaceous layer is open, contains non-native species, and includes foxtail chess, ripgut brome, black mustard, short-pod mustard, tocalote, and giant wild rye.

The following association was mapped on site within the California sagebrush-black sage scrub alliance:

- California sagebrush-black sage (including disturbed forms).

The California sagebrush-black sage scrub alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. California sagebrush scrub-black sage alliance is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). The California sagebrush scrub-black sage association is described by the *List of Terrestrial Natural Communities* (CDFG 2003) and is not considered a high priority for inventory by CDFG; therefore, this association does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the California sagebrush-black sage scrub alliance (including disturbed forms) meet the definition of coastal sage scrub pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

Chaparral Bushmallow Scrub Alliance

The chaparral bushmallow alliance is recognized by the List of California Vegetation Alliances (CDFG 2007a). There are no associations described for the chaparral bushmallow alliance. The *Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995), *List of Terrestrial Natural Communities* (CDFG 2003), and *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006) do not describe this alliance.

On site, the chaparral bushmallow scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open. Trees are occasionally emergent and may include coast live oak, California sycamore, and black walnut. The on-site alliance is dominated by chaparral

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bushmallow and contains black sage, California sagebrush, laurel sumac, California encelia, and bigpod ceanothus. Purple sage, California sagebrush, chamise, toyon, sugar bush, and deerweed are occasionally present. The herbaceous layer includes tocalote, black mustard, riggut brome, short-pod mustard, slender tarweed (*Madia subspicata*), and giant wild rye.

The chaparral bushmallow scrub alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a), and within California the alliance is apparently secure. This alliance, therefore, is not considered a sensitive natural community per CEQA. However, all associations within the chaparral bushmallow scrub alliance meet the definition of coastal sage scrub pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

Deerweed Alliance

The deerweed alliance is recognized by the *List of California Vegetation Alliances* (CDFG 2007a). There are no associations described for the deerweed alliance. The *Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995), *List of Terrestrial Natural Communities* (CDFG 2003), and *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006) do not describe this alliance.

On site, the deerweed alliance forms an open to intermittent shrub layer. The herbaceous layer is open to intermittent. Trees are generally absent. The on-site alliance is dominated by deerweed and contains black sage, California buckwheat, California sagebrush, laurel sumac, and chamise. Chaparral bushmallow, saw-toothed goldenbush, purple sage, Our Lord's Candle, toyon, and ashleaf buckwheat are occasionally present. The herbaceous layer includes tocalote, black mustard, riggut brome, foxtail chess, short-pod mustard, and giant wild rye.

The deerweed alliance is ranked by the CDFG (2007a) as a G5S5 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a), and within California the alliance is secure. Therefore, this alliance is not considered a sensitive natural community per CEQA. However, all associations within the deerweed alliance meet the definition of coastal sage scrub pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

4.1.2.2 Chaparral with Chamise with or Without Other Co-dominant Shrubs

Chaparral with chamise with or without other co-dominant shrubs is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site, there is one alliance in this general habitat type. This alliance is described below in more detail.

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Chamise Chaparral Alliance

The chamise chaparral or *Adenostoma fasciculatum* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a) and includes 12 associations, most of which are described by Gordon and White (1994). The alliance is described by Sawyer and Keeler-Wolf (1995). This alliance is dominated by chamise and has a continuous shrub canopy less than 3 meters (10 feet) in height (Sawyer and Keeler-Wolf 1995).

Chamise chaparral is dense with a very sparse understory (Cheng 2004) and has an average chamise cover of 77% with many co-occurring species, including eastwood □eraldine (*Arctostaphylos glandulosa*), hoaryleaf ceanothus (*Ceanothus crassifolius*), wedgeleaf ceanothus (*Ceanothus cuneatus*), black sage, Our Lord's Candle, and scrub oak (*Quercus berberidifolia*) (Sawyer and Keeler-Wolf 1995; Gordon and White 1994; Borchert et al. 2004).

Chamise chaparral occurs on all slopes in shallow soils that may or may not be derived from mafic rocks (Sawyer and Keeler-Wolf 1995) and on well-drained soil with few nutrients and neutral to somewhat alkaline pH (Shiflet 1994). The alliance occurs mostly on moderately xeric, upper and middle slopes with east-, south-, or west-facing exposures of varied steepness. The alliance is found mostly on shallow or deep sandy loams and loamy sands over fractured bedrock, colluvium, and sometimes shale (Borchert et al. 2004).

In the study area, chamise chaparral alliance forms an open to intermittent shrub layer with an infrequent but generally sparse herbaceous layer established in the stands. Trees are typically absent. The on-site alliance is dominated by chamise and also contains black sage and Our Lord's Candle. California sagebrush, California buckwheat, deerweed, toyon, big-pod ceanothus, laurel sumac, and birch-leaf mountain mahogany are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, tocalote, and fiddleneck (*Amsinckia menziesii*).

The following association was mapped on site within the chamise chaparral alliance:

- Chamise chaparral-black sage.

The CDFG has designated the chamise chaparral alliance with a rarity rank of G5S5. This ranking indicates that the alliance is widespread, abundant, and secure, both globally and within California (CDFG 2007a; NatureServe 2009). The chamise chaparral-black sage association is not considered high priority for inventory (CDFG 2003) and would not be considered sensitive natural communities under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the chamise chaparral alliance meet the definition of chaparral pursuant to

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the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

4.1.2.3 Chaparral with *Ceanothus* as Principal Indicator

Chaparral with ceanothus as principal indicator is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site there are four alliances in this general habitat type. Each alliance is described below in more detail.

Bigpod Ceanothus Chaparral Alliance

The bigpod ceanothus chaparral alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the bigpod ceanothus chaparral alliance, there are two associations, described by Borchert et al. (1993). The alliance is described by Sawyer and Keeler-Wolf (1995). Bigpod ceanothus chaparral alliance communities include bigpod ceanothus as the sole or dominant shrub in the canopy. Bigpod ceanothus chaparral has a continuous or intermittent shrub canopy less than 4 meters (12 feet) in height with a sparse ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the bigpod ceanothus chaparral alliance include black sage, chamise, birchleaf mountain-mahogany, toyon, scrub oak, hollyleaf redberry (Sawyer and Keeler-Wolf 1995).

On site, the bigpod ceanothus chaparral alliance forms an open to continuous shrub layer. The herbaceous layer is open though infrequent. Trees are typically absent. The on-site alliance is dominated by bigpod ceanothus and contains black sage, laurel sumac, and chamise. Toyon, sugar bush, birch-leaf mountain mahogany, greenbark ceanothus (*Ceanothus spinosus*), and Our Lord's Candle are occasionally present. The herbaceous layer includes wild cucumber, melic grass, foxtail chess, ripgut brome, tocalote, and black mustard.

The following associations were mapped on site within the bigpod ceanothus chaparral alliance:

- Bigpod ceanothus
- Bigpod ceanothus-black sage
- Bigpod ceanothus-laurel sumac.

The bigpod ceanothus chaparral alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. The bigpod ceanothus

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association is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the bigpod ceanothus chaparral alliance meet the definition of chaparral pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines. Bigpod ceanothus-black sage and bigpod ceanothus-laurel sumac are not described by the Terrestrial Natural Communities (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but they are described in the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006). The bigpod ceanothus-black sage association is ranked as G3S3 indicating that association is vulnerable in the state and globally (CDFG 2007a; NatureServe 2009). Therefore, the bigpod ceanothus-black sage association is considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP. The bigpod ceanothus-laurel sumac association is ranked as G4S4 indicating that association is widespread, abundant, and secure in the state and globally (CDFG 2007a; NatureServe 2009). It is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the bigpod ceanothus chaparral alliance meet the definition of chaparral pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

Bigpod Ceanothus-Birchleaf Mountain-mahogany Chaparral Alliance

The bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003). There are no associations described for the bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance. The alliance is described by Sawyer and Keeler-Wolf (1995). Bigpod ceanothus chaparral alliance communities include bigpod ceanothus and birchleaf mountain-mahogany (*Cercocarpus betuloides*), as co-dominant shrubs in the canopy. Bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance has a continuous or intermittent shrub canopy less than 4 meters (12 feet) in height with a sparse ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance include black sage, chamise, toyon, scrub oak, hollyleaf redberry (Sawyer and Keeler-Wolf 1995).

The bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance is often in mixed broad-leaved evergreen-cold deciduous woodland and occurs on upland slopes (Sawyer and Keeler-Wolf 1995).

On site, the bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance forms an open to dense shrub layer. The herbaceous layer is open, though infrequent, in mature stands. Trees are

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typically absent but may include introduced species. The on-site alliance is dominated by bigpod ceanothus and birchleaf mountain-mahogany and contains chamise and toyon. Laurel sumac, greenbark ceanothus, black sage, scrub oak, sugar bush, and chaparral bushmallow are occasionally present. The herbaceous layer includes wild cucumber, foxtail chess, ripgut brome, totalote, and giant wild rye.

The bigpod ceanothus-birchleaf mountain-mahogany chaparral alliance is ranked by the *Vegetation Classification of the Santa Monica Mountains* as a G3S3 alliance (CDFG et. al. 2006). This ranking indicates that this community is vulnerable in California and globally (CDFG 2007a; NatureServe 2009). Therefore, bigpod ceanothus-birchleaf mountain-mahogany chaparral is considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

Cupleaf Ceanothus-Fremontia-Oak Chaparral Alliance

The cupleaf ceanothus-fremontia-oak chaparral alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003). Within cupleaf ceanothus-fremontia-oak chaparral alliance there are three associations, described by Gordon and White (1994). The alliance is described by Sawyer and Keeler-Wolf (1995). Cupleaf ceanothus-fremontia-oak chaparral alliance communities include cupleaf ceanothus (*Ceanothus greggii*), fremontia (*Fremontodendron californicum*), and oak (*Quercus* spp.), as co-dominant shrubs in the canopy. Cupleaf ceanothus-fremontia-oak chaparral has an intermittent shrub canopy less than 3 meters (9 feet) in height with a sparse ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the cupleaf ceanothus-fremontia-oak chaparral alliance include California buckwheat, Algodones buckwheat, chamise, birchleaf mountain-mahogany, □eraldine species (*Arctostaphylos* spp.), oaks (*Quercus* spp.), desert ceanothus (*Ceanothus greggii*), scrub oak, bush poppy (*Dendromecon rigida*), buckwheats (*Erigeron* spp.), apache plume (*Fallugia paradoxa*), fremontia, veatch silktassel (*Garrya veatchii*), California juniper (*Juniperus californica*), singleleaf pinyon (*Pinus monophylla*), desert-almond (*Prunus fasciculatum*), desert-apricot (*Prunus fremontii*), cliffrose (*Purshia □eraldin*), desert bitterbrush (*Purshia tridentate* var. *glandulosa*), Tucker oak (*Quercus john-tuckeri*), Palmer oak (*Quercus palmeri*), desert scrub oak (*Quercus turbinella*), interior live oak (*Quercus wislizenii*), and chaparral oak (*Yucca whipplei*) (Sawyer and Keeler-Wolf 1995).

The cupleaf ceanothus-fremontia-oak chaparral alliance often occurs on north-facing slopes. Soils on which this alliance occurs are described as shallow and may be rocky (Sawyer and Keeler-Wolf 1995).

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On site, the cupleaf ceanothus-fremontia-oak chaparral alliance forms an intermittent shrub layer. The herbaceous layer is infrequent in mature stands. Trees are typically absent, but may include coast live oak. The on-site alliance is dominated by birchleaf mountain-mahogany and chamise and contains toyon and laurel sumac. Black sage, scrub oak, deerweed, and chaparral bushmallow are occasionally present. The herbaceous layer includes wild cucumber, foxtail chess, ripgut brome, tocalote, and melic grass.

The following association was mapped on site within the cupleaf ceanothus-fremontia-oak chaparral alliance:

- Birchleaf mountain-mahogany-chamise (including disturbed forms).

The cupleaf ceanothus-fremontia-oak chaparral alliance is not recognized or ranked by the CDFG (2007a); however, the alliance is recognized in the *List of Terrestrial Natural Communities* (CDFG 2003) and the alliance is not considered a high priority for inventory. The birchleaf mountain-mahogany-chamise association is described by CDFG (2003) and is not considered a high priority for inventory. Therefore, neither the alliance nor the association is considered a sensitive natural communities under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the cupleaf ceanothus-fremontia-oak chaparral alliance meet the definition of chaparral pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

Greenbark Ceanothus Scrub Alliance

The greenbark ceanothus scrub or *Ceanothus spinosus* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). There are no associations described for the greenbark ceanothus scrub alliance. The alliance is also described by *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006). Greenbark ceanothus scrub alliance includes greenbark ceanothus as the sole or dominant shrub in the canopy. Greenbark ceanothus scrub forms an open to continuous shrub canopy. Shrubs occur in two different strata with low shrubs at 0 to 2 meters (0 to 6 feet) tall and tall shrubs at 1 to 10 meters (3 to 30 feet) tall, with the ground layer open to intermittent (CDFG et. al. 2006).

Species associated with the greenbark ceanothus scrub alliance include toyon, laurel sumac, and bigpod ceanothus. Sugar bush is occasionally included in this layer. The tree layer is emergent and open and may include coast live oak, California walnut, and California laurel (*Umbellularia californica*) at low cover (CDFG et. al. 2006).

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The greenbark ceanothus scrub alliance occurs on moderately steep to very steep northeast- and northwest-facing slopes. Soils on which this alliance occurs are described as medium loam to moderately fine clay loam (CDFG et. al. 2006).

On site, the greenbark ceanothus chaparral alliance forms an open to continuous shrub layer. The herbaceous layer is diverse but sparse in mature areas. Emergent trees are infrequent but may include coast live oak and black walnut. The on-site alliance is dominated by greenbark ceanothus and contains toyon. Laurel sumac, bigpod ceanothus, sugar bush, birchleaf mountain-mahogany, and blue elderberry are occasionally present. The herbaceous layer includes wild cucumber, melic grass, foxtail chess, and ripgut brome.

The greenbark ceanothus scrub alliance is ranked by the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. Therefore, this alliance is not considered a sensitive natural communities under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the greenbark ceanothus scrub alliance meet the definition of chaparral pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

4.1.2.4 Chaparral with Oak

Chaparral with oak is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site, there is one alliance in this general habitat type. This alliance is described below in more detail.

Scrub Oak Alliance

The scrub oak chaparral or *Quercus berberidifolia* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a) and includes six associations, most of which are described by Gordon and White (1994). The alliance is described by Sawyer and Keeler-Wolf (1995). This shrub-dominated alliance is dominated by scrub oak, generally exceeding 60% cover. Scrub oak chaparral has a shrub canopy less than 3 meters (10 feet) (Sawyer and Keeler-Wolf 1995) and an open to intermittent herbaceous layer and infrequent emergent trees (Klein and Evens 2005).

Chamise, honeysuckle (*Lonicera* sp.), birchleaf mountain-mahogany, and toyon are associated with the scrub oak chaparral alliance (Gordon and White 1994; Borchert et al. 2004).

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Scrub oak chaparral occurs predominantly on mesic, north-facing slopes with very deep, well drained, or excessively drained soils that are derived from hard sandstone or shale. Most soils are sandy loam or clay loam Mollisols (Borchert et al. 2004). Cheng (2004) found the alliance on both gabbroic and granitic soils. The alliance is present in all slope positions, except the very lowest and highest. Slopes are moderately steep to very steep (Gordon and White 1994).

On site, the scrub oak chaparral alliance forms an open to continuous shrub layer. The herbaceous layer is open to intermittent. Trees are occasional and may include coast live oak. The on-site alliance is dominated by scrub oak and contains toyon. Chamise, sugar bush, purple sage, greenbark ceanothus, poison oak, and laurel sumac are occasionally present. The herbaceous layer includes ripgut brome, foxtail chess, tocalote, wild cucumber, black mustard, and common tarweed (*Centromadia pungens*).

The scrub oak chaparral alliance is not considered high priority for inventory by the CDFG (2003, 2007a). The scrub oak chaparral alliance has a rarity rank of G5S5, indicating that it is widespread, abundant, and secure both globally and within California (CDFG 2007a; NatureServe 2009). Therefore, scrub oak chaparral would not be considered a sensitive natural community per CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the scrub oak chaparral alliance meet the definition of chaparral pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

4.1.2.5 Sumac Scrub

Sumac scrub is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site, there is one alliance in this general habitat type. This alliance is described below in more detail.

Laurel Sumac Alliance

The laurel sumac scrub or *Malosma laurina* alliance is recognized by the *List of California Vegetation Alliances* (CDFG 2007a). The *List of Terrestrial Natural Communities* (CDFG 2003) only describes the general habitat type, sumac scrub (*Rhus* sp., *Malosma laurina*) (37.800.00). The laurel sumac alliance has a sparse to continuous shrub canopy less than 5 meters (16 feet) in height with a sparse to intermittent ground layer (Evens and San 2005).

The laurel sumac scrub alliance occurs on moderate to steep slopes with variable aspects (Evens and San 2005). Soils are typically medium to very fine sandy loams (Evens and San 2005).

Species associated with the laurel sumac scrub alliance typically include California buckwheat or sages (*Salvia* spp.) (Evens and San 2005).

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On site, the laurel sumac scrub alliance forms an intermittent shrub layer. The herbaceous layer is open and generally poorly developed in established stands. Trees are occasionally emergent throughout the shrub-dominated community. The on-site alliance is dominated by laurel sumac and contains California sagebrush, California buckwheat, ashyleaf buckwheat, and black sage. Purple sage, toyon, chaparral bushmallow, Our Lord's Candle, coyote brush, big-pod ceanothus, and sugar bush are occasionally present. The emergent tree layer is infrequent but may include coast live oak and black walnut. The herbaceous layer is open and restricted to opens and includes foxtail chess, ripgut brome, black mustard, short-pod mustard, purple needlegrass, giant wild rye, and tocalote.

The following associations were mapped on site within the laurel sumac scrub alliance:

- Laurel sumac/ashyleaf buckwheat (including disturbed forms)
- Laurel sumac/black sage (including disturbed forms)
- Laurel sumac/California sagebrush (including disturbed forms)
- Laurel sumac/chaparral bushmallow (including disturbed forms).

The laurel sumac scrub alliance is ranked by the CDFG as a G4S4 alliance. This ranking indicates that this alliance is apparently secure globally and within California (CDFG 2007a; NatureServe 2009). Therefore, laurel sumac scrub is not considered a sensitive natural community per the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the laurel sumac scrub alliance meet the definition of chaparral pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines.

4.1.2.6 Poison Oak

There is no general habitat type described in the in *List of Terrestrial Natural Communities* (CDFG 2003) for the poison oak scrub alliance. However, for the purposes of this report, this alliance, described below, is grouped under the heading poison oak for organizational proposes.

Poison Oak Scrub Alliance

The poison oak scrub alliance is a chaparral recognized by the CDFG (CDFG 2003, 2007a). Per the *List of Terrestrial Natural Communities* (CDFG 2003), this alliance includes one association. This shrub-dominated alliance is described by Holland (1986) and by Barbour, Keeler-Wolf, and Schoenherr (2007). The poison oak scrub alliance includes poison oak as the dominate component. This community is a chaparral, typically up to 6 feet tall. According to Holland

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(1986), this is a disturbance type maintained by frequent fires. Emergent trees may also be present within the chaparral (CDFG et. al. 2006).

Poison oak scrub alliance community includes poison oak as the dominant shrub in the canopy. Poison oak scrub has an open shrub canopy with an intermittent ground layer (Evens and San 2005).

Species associated with the poison oak scrub alliance include Mexican elderberry, creeping snowberry (*Symphoricarpos mollis*), and bromes (*Bromus diandrus*, *Bromus tectorum*) (Evens and San 2005).

The one association within the poison oak scrub alliance that is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) does not occur on site. Therefore, on site this community has been classified at the alliance level. Poison oak scrub alliance has been found on moderate to somewhat steep slopes. Soils were sandy mixed granitic and metamorphic (Evens and San 2005).

On site, the poison oak scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open. Trees are occasionally emergent and may include coast live oak. The on-site alliance is dominated by poison oak and contains bush monkeyflower.

California sagebrush, coyote brush, laurel sumac, and purple sage. Toyon, black sage, sugar bush, bigpod ceanothus, and chaparral bushmallow are occasionally present. The herbaceous layer includes melic grass, ripgut brome, and giant wild rye.

The poison oak scrub alliance is ranked by the CDFG (2007a) as a G5S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. The poison oak scrub alliance on site is not considered high priority for inventory by the CDFG (2003) nor does it meet the definition of a sensitive natural community under the CEQA guidelines, the County's LUP, and City's LCP (14 CCR 15000 et seq.). Therefore, this is not a sensitive community pursuant to local, state, and federal policies and guidelines.

4.1.3 Grass and Herb Dominated Communities

There are approximately 63 acres (16%) of habitat in the grass and herb dominated physiognomic group, including two general habitat types. The following section describes the grass and herb dominated communities that were observed in the study area.

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4.1.3.1 Native Grassland

Native grassland is a general habitat type in the more general physiognomic group grass and herb dominated communities. On site, there are two alliances in this general habitat type. These alliances are described below in more detail.

Purple Needlegrass Alliance

The purple needlegrass alliance is a native grassland alliance recognized by the CDFG (2003, 2007a). Per the *List of Terrestrial Natural Communities* (CDFG 2003), this alliance includes three associations. This grass-dominated alliance is described by Holland (1986) and by Sawyer and Keeler-Wolf (1995). The purple needlegrass alliance includes the perennial bunchgrass purple needlegrass as a dominant or co-dominant grass. These communities are mid-height grasslands, typically up to 2 feet tall. According to Holland (1986), native and introduced annuals grow between bunches of purple needlegrass and often exceed it in cover. Emergent trees or shrubs may also be present within the grassland (NatureServe 2009).

According to the major sources (Sawyer and Keeler-Wolf 1995; Holland 1986; NatureServe 2009), the following species are associates in the purple needlegrass alliance: ripgut brome, soft chess, blue wild rye (*Elymus glaucus*), wild oats (*Avena fatua*), California melic (*Melica californica*), small-flowered melic (*Melica imperfecta*), and Italian ryegrass (*Lolium multiflorum*). Nodding needlegrass (*Nassella cernua*) and foothill needlegrass (*Nassella lepida*) usually do not mix with purple needlegrass but often occur sympatrically with it (Sawyer and Keeler-Wolf 1995).

According to NatureServe (2009) and Sawyer and Keeler-Wolf (1995), the purple needlegrass alliance occurs on deep soils that have a high clay content. Sites that are moist or waterlogged during winter and very dry during summer are favorable (Holland 1986). On moister, better-drained soils, purple needlegrass may interdigitate with oak woodlands (Holland 1986). The alliance is found in a variety of topographic settings (Sawyer and Keeler-Wolf 1995). Precipitation is typically 25 to 70 centimeters (10 to 28 inches) per year where purple needlegrass occurs (NatureServe 2009).

In the study area, the purple needlegrass native grassland alliance forms an open to intermittent herbaceous layer. The shrub layer is open while trees are generally absent. The on-site alliance is dominated by purple needlegrass and also contains bromes, black mustard, fennel, tocalote, short-pod mustard, saw-toothed goldenbush, wild oats, and California sagebrush. Chaparral bushmallow, purple sage, laurel sumac, toyon, and ashy-leaf buckwheat are occasionally present.

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The three associations within the purple needlegrass alliance recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) do not occur on site. Therefore, on site this community has been classified at the alliance level.

The purple needlegrass alliance was considered a high priority for inventory in the *List of Terrestrial Natural Communities* (CDFG 2003). Currently, the purple needlegrass alliance has a G4S3 rank (CDFG 2007a), indicating that it is apparently secure globally but is vulnerable to extirpation or extinction within California. Therefore, this alliance is not considered high priority for inventory per the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the purple needlegrass native grassland alliance meet the definition of native grassland pursuant to the County's LUP and City's LCP and are therefore considered sensitive natural communities under these guidelines. "

Giant Wild Rye Alliance

The giant wild rye alliance is not recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and is recognized by the *List of California Vegetation Alliances* (CDFG 2007a) and NatureServe (2009). This alliance is characterized by the dominance of giant wild rye, a native perennial grass that can grow to 10 feet (3 meters) tall.

Giant wild rye commonly occurs in the interface zone between plant communities or in openings. It is common in areas that have seeps in winter, and it is drought resistant in most areas. It tolerates sand, clay, and serpentine soils and is adapted to seasonal flooding (Las Pilitas 2008). Giant wild rye is a good forage grass and winter feed for wildlife and can be reseeded on floodplains successfully (Catalina Island Conservancy 2007).

On site, the giant wild rye native grassland alliance forms an open to intermittent herbaceous layer. The shrub layer is open while trees are generally infrequent. The on-site alliance is dominated by giant wild rye and contains bromes, black mustard, fennel, tocalote, short-pod mustard, saw-toothed goldenbush, wild oats, and California sagebrush. Chaparral bushmallow, purple sage, laurel sumac, Mexican elderberry, coast live oak and ashleaf buckwheat are occasionally present.

The Giant wild rye alliance is not considered a sensitive natural community by the CDFG (2007a). It is ranked as a G4S4, indicating that it is apparently secure both globally and within California. This alliance is not considered high priority for inventory and would not be considered a sensitive natural community per the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP or the City's LCP.

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4.1.3.2 Non-Native Grassland

Non-native grassland is a general habitat type in the more general physiognomic group grass and herb dominated communities. On site, there are two alliances in this general habitat type. These alliances are described below in more detail.

California Annual Grassland

California Annual Grassland is a type of general habitat recognized in the *List of Terrestrial Natural Communities* (CDFG 2003). This general habitat type was not included in the *List of California Vegetation Alliances* (CDFG 2007a) because only alliances were included in this list. Holland (1986) states that California annual grasslands have a sparse to dense cover of annual grasses that are typically 0.2 to 0.5 meter (0.7 to 1.6 feet) tall and can be up to 1 meter (3 feet) tall. Wildflowers are often associated with California annual grasslands, especially in years with favorable precipitation (Holland 1986).

According to Holland (1986) and the *List of Terrestrial Natural Communities* (CDFG 2003), grasses that occur in California annual grasslands include oats (*Avena* spp.), bromes (*Bromus* spp.), fescue (*Vulpia* spp.), and Italian ryegrass. Forbs that occur with these grasses include California poppy (*Eschscholzia californica*), filaree (*Erodium* spp.), goldfields (*Lasthenia* spp.), phacelia (*Phacelia* spp.), gilias (*Gilia* spp.), and baby blue-eyes (*Nemophila menziesii*).

California Annual Grassland also includes land that is used as pasture for grazing purposes. Grasses such as barley (*Hordeum* spp.) and wild oats may grow in these areas. This land has very few native species.

In his description of California annual grassland, Holland (1986) states that this habitat type typically occurs on fine-textured, clay soils. Sites are often moist or waterlogged during the winter rainy season and very dry during the summer and fall months. Adjacent areas with moister, better-drained soils often support oak woodland. According to Sawyer and Keeler-Wolf (1995), California annual grasslands occur in uplands of all topographic orientation.

On site, the California annual grassland alliance forms a continuous herbaceous layer. The shrub layer is sparse while trees are generally absent. The on-site alliance is dominated by non-native annual grasses and contains bromes, black mustard, fennel, tocalote, short-pod mustard, saw-toothed goldenbush, wild oats, and needlegrasses. Chaparral bushmallow, California sagebrush, purple sage, laurel sumac, California buckwheat, coast goldenbush, and ashleaf buckwheat are occasionally present.

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California annual grassland is not considered high priority for inventory by the CDFG (2003) and is dominated by non-native species. Therefore, California annual grassland is not considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

Giant Reed

The Giant reed grassland or *Arundo donax* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the Giant reed grassland alliance there are no associations. The alliance is described by Rieger and Kreager (1989). Giant reed grassland alliance communities include giant reed as the dominant component in the canopy. Giant reed grassland has an open to intermittent canopy less than 8 meters (24 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with Giant reed grassland alliance include a mix of non-native species and riparian scrub but differ in species composition (Sawyer and Keeler-Wolf 1995). The Giant reed grassland alliance often occurs in riparian areas. Soils on which this alliance occurs are alluvial riparian (Sawyer and Keeler-Wolf 1995).

On site, the Giant reed grassland alliance is continuous across all vegetation layers. The shrub layer is sparse to open while trees are occasionally emergent. The on-site alliance is dominated by giant reed and contains mugwort (*Artemisia douglasiana*), California sagebrush, coyote brush, and fennel. Cliff aster (*Malacothrix saxatilis* var. *Tenuifolia*), chaparral bushmallow, willows, California sycamore, coast goldenbush, saw-toothed goldenbush, and giant wildrye are occasionally present.

The giant reed grassland alliance is not ranked by the CDFG (2007a). This alliance is not ranked because the community is considered semi-natural non-native. The Giant reed alliance on site is not considered high priority for inventory by the CDFG (2003), but is considered sensitive because it is a riparian habitat under the CEQA guidelines (14 CCR 15000 et seq.).

4.1.4 Riparian and Bottomland Communities

There are 10.12 acres of habitat in the riparian and bottomland communities' physiognomic group, including one general habitat type. Riparian and bottomland communities are uncommon in the study area, representing approximate 3% of the total study area. The following section describes the riparian and bottomland communities that were observed in the study area.

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4.1.4.1 Riparian Forest and Woodland

Riparian forest and woodland is a general habitat type in the more general physiognomic group riparian and bottomland communities. In the study area there are four alliances in this general habitat type. Each alliance is described below in more detail.

Arroyo Willow Riparian Forests and Woodlands

The arroyo willow riparian forests and woodlands alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Arroyo willow riparian forests and woodlands include arroyo willow (*Salix lasiolepis*) as the sole or dominant shrub or tree in the canopy. This alliance forms a continuous canopy with a sparse to abundant ground layer (Sawyer and Keeler-Wolf 1995).

The following species are associated with the arroyo willow riparian forests and woodlands alliance: willows (*Salix* spp.), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra* ssp. *canadensis*), and mulefat (Sawyer and Keeler-Wolf 1995).

The alliance is found on floodplains and low gradient depositions along rivers and streams that are seasonally flooded or saturated with fresh water (Sawyer and Keeler-Wolf 1995). Evens and San (2005) found this community on medium silt loam.

On site, the red willow riparian forest (*Salix laevigata*) alliance forms an intermediate to dense shrub and tree layer. The herbaceous layer is sparse to open and typically has established stands of grasses and herbs. The on-site alliance is dominated by red willow and contains arroyo willow, California buckwheat, coyote brush, coast live oak, and mulefat (*Baccharis salicifolia*). Chaparral bushmallow, saw-toothed goldenbush, Mexican elderberry, and California sycamore are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, tocalote, fennel, smilo grass (*Piptatherum miliaceum*), short-pod mustard, and giant wild rye.

The following association was mapped on site within the arroyo willow riparian forests and woodlands alliance:

- Southern arroyo willow riparian.

The arroyo willow riparian forests and woodlands alliance is considered high priority for inventory by the CDFG (2003). However, the *List of California Vegetation Alliances* (CDFG 2007a) identifies it as a G5S5, indicating that it is secure globally and within California. Only communities with a G3 or lower rarity rank were defined as high priority for inventory in the *List*

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of *California Vegetation Alliances* (CDFG 2007a). However, this community is considered sensitive under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP because it is considered a riparian habitat.

Southern Willow Scrub

The southern willow scrub alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003), but not the *List of California Vegetation Alliances* (CDFG 2007a). According to Holland (1986), Southern willow scrub has been described as a dense, broad-leafed, winter-deciduous riparian thicket dominated by several species of willow (*Salix* spp.). Most stands are too dense to allow much understory development (Holland 1986).

Species associated with the southern willow scrub alliance include scattered emergent Fremont cottonwood and western sycamore (Holland 1986).

Southern willow scrub is found along stream channels on loose, sandy, or fine gravelly alluvium deposits. This habitat is considered seral due to repeated disturbance/flooding and is therefore unable to develop into the taller southern cottonwood willow riparian forest (Holland 1986).

On site, the southern willow scrub alliance forms a dense shrub and tree layer. The herbaceous layer is not well developed in established stands and may only contain a few species of non-native grasses and herbs. The on-site alliance is dominated by various willow species, California sycamore, and Fremont cottonwood. Coyote brush, saw-toothed goldenbush, Mexican elderberry, poison oak, and coast live oak are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, tocalote, fennel, smilo grass, and giant wild rye.

Southern willow scrub is considered a high priority for inventory by the CDFG (2003) and is a riparian community. Therefore, southern willow scrub is considered a sensitive natural community and riparian habitat under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

Red Willow Riparian Forest

The red willow riparian forest alliance is a riparian and bottomland community recognized by the CDFG (CDFG 2003, 2007a). Per the *List of Terrestrial Natural Communities* (CDFG 2003), this alliance includes two associations. This tree-dominated alliance is described by Sawyer and Keeler-Wolf (1995). The red willow riparian forest alliance includes red willow as the dominate component. This community is a riparian forest and woodland habitat type, typically up to 45 feet tall. According to Sawyer and Keeler-Wolf (1995), this is a seasonally flooded and saturated wetland habitat.

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Red willow riparian forest alliance community includes red willow as the dominant willow in the canopy. Red willow riparian forest is a continuous canopy with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the red willow riparian forest alliance includes California sycamore, coyote brush, Fremont cottonwood, Mexican elderberry, mulefat, white alder, and other willow species (*Salix* sp.).

On site, the red willow riparian forest alliance forms an intermediate to dense shrub and tree layer. The herbaceous layer is sparse to open and typically has established stands of grasses and herbs. The on-site alliance is dominated by red willow and contains arroyo willow, California buckwheat, coyote brush, coast live oak, and mulefat. Chaparral bushmallow, saw-toothed goldenbush, Mexican elderberry, and California sycamore are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, tocalote, fennel, smilo grass, short-pod mustard, and giant wild rye.

The following association was mapped on site within the red willow riparian forest alliance:

- Red willow/arroyo willow.

The red willow riparian forest alliance is ranked by the CDFG (2007a) as a G4S3 alliance. This ranking indicates that globally the alliance is apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is vulnerable. The red willow riparian forest on site is not considered high priority for inventory by the CDFG (2003), but is considered sensitive because it is a riparian habitat under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

Southern Sycamore-Alder Riparian Woodland Alliance

The southern sycamore-alder riparian woodland alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) but not the *List of California Vegetation Alliances* (CDFG 2007a). Within the southern sycamore-alder riparian woodland alliance there are two associations. The alliance is described by Holland (1986). Southern sycamore-alder riparian woodland alliance communities are dominated by well-spaced western sycamore and white alder. Southern sycamore-alder riparian woodland is a tall, open, broad-leafed, winter-deciduous streamside woodland. Seldom forming closed canopy forests, these stands may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species (Holland 1986).

Characteristic species of this habitat type include California mugwort, coast live oak, California blackberry, California laurel, and giant stinging nettle (*Urtica holosericea*) (Holland 1986).

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The southern sycamore-alder riparian woodland alliance often occurs on streambeds that are very rocky and subject to seasonally high intensity flooding. Alder abundance is generally greater on more perennial streams while western sycamore tends to favor more intermittent streams (Holland 1986).

On site, the southern sycamore-alder riparian forest alliance forms an open to intermediate tree layer. The shrub layer is sparse. The herbaceous layer is open and typically has diverse stands of grasses and herbs. The on-site alliance is dominated by California sycamore and contains coast live oak, California bay (*Umbellularia californica*), and white alder. Mulefat, poison oak, laurel sumac, chaparral bushmallow, toyon, saw-toothed goldenbush, greenbark ceanothus, and Mexican elderberry are occasionally present. The herbaceous layer includes sedges, smilo grass, □eraldine carnation weed, riggut brome, fennel, smilo grass, California blackberry, short-pod mustard, and giant wild rye.

The following association was mapped on site within the southern sycamore-alder riparian forest alliance:

- California sycamore-coast live oak.

The southern sycamore-alder riparian woodland alliance is considered high priority for inventory by the CDFG (2003) and meets the definition of a sensitive natural community and riparian habitat under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

4.1.4.2 Open Channel

Open channel is not recognized by either the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but it is described by Gray and Bramlet (1992). Open channel is characterized by intermittent stream channels that are barren or sparsely vegetated. They are not considered a riparian habitat due to the lack of hydrophytic vegetation.

On site, the open channel alliance areas occur across a wide range of elevations, topographic orientations, and soil types. It is characterized by formed channels and limited emergent vegetation. These areas have limited natural ecological processes and do not necessarily support native vegetation or habitat for species.

Open channel can be regulated by CDFG, pursuant to Section 1602 of the California Fish and Game Code and the ACOE, pursuant to Section 404 of the federal Clean Water Act. Therefore, open channel is considered sensitive per the CEQA guidelines (14 CCR 15000 et seq.).

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4.1.4.3 Open Water

Open water is not recognized by either the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but is described by Gray and Bramlet (1992). Open water consists of standing water with no emergent vegetation. Open water is not considered a riparian habitat because it lacks hydrophytic vegetation.

Open water can occur in marine, estuarine, riverine, lacustrine, and palustrine systems (Heber 2007). Open water provides aquatic habitat for waterfowl, fish, invertebrates, and amphibians. It is also a source of water for various land animals and a source of fish for birds. Open water has a wide distribution and variable biogeography.

In the study area, open water occurs across a wide range of elevations, topographic orientations, and soil types. It is characterized by standing water and limited emergent vegetation. These areas are important to surrounding natural ecological processes but do not necessarily support native vegetation or habitat for species.

Open water can be regulated by CDFG, pursuant to Section 1602 of the California Fish and Game Code and the ACOE, pursuant to Section 404 of the federal Clean Water Act. Therefore, open water is considered sensitive per the CEQA guidelines (14 CCR 15000 et seq.).

4.1.5 Broad Leafed Upland Tree Dominated

There are approximately 26 acres of habitat in the broad leafed upland tree dominated communities physiognomic group, including one general habitat type. Broad leafed upland tree dominated communities are uncommon in the study area, representing approximate 7% of the total study area. The following section describes the broad leafed upland tree dominated communities that were observed in the study area.

4.1.5.1 Oak Woodlands and Forests

Oak woodlands and forests is a general habitat type in the more general physiognomic group broad leafed upland tree dominated communities. On site there is one alliance, which is described below, in this general habitat type.

Coast Live Oak Forest and Woodland Alliance

The coast live oak forest and woodland or *Quercus agrifolia* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Coast live oak forest and woodland alliance communities include coast

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live oak as the sole, dominant, or important tree in the canopy. Coast live oak forest and woodland has a continuous to open canopy less than 30 meters (98 feet) in height with occasional to common shrubs, and grassy ground layer if present (Sawyer and Keeler-Wolf 1995).

Species associated with the coast live oak forest and woodland alliance include bigleaf maple (*Acer macrophyllum*), blue oak (*Quercus douglasii*), box elder (*Acer negundo*), California bay, Engelmann oak (*Quercus engelmannii*), laurel sumac, and madrone (*Arbutus menziesii*) (Sawyer and Keeler-Wolf 1995).

The coast live oak forest and woodland alliance occurs on slopes that are often very steep and raised stream banks and terraces. Soils are mostly sandstone or shale-derived (Sawyer and Keeler-Wolf 1995).

On site, the coast live oak forest and woodland alliance forms an open to intermediate tree layer. The shrub layer is sparse to intermediate. The herbaceous layer is continuous and typically contains grasses and herbs. The on-site alliance is dominated by coast live oak and also contains California bay, toyon, poison oak, and California black walnut. Scrub oak, mulefat, laurel sumac, chaparral bushmallow, saw-toothed goldenbush, greenbark ceanothus, California sagebrush, purple sage, white alder, willows, and Mexican elderberry are occasionally present. The herbaceous layer includes sedges, smilo grass, Geraldton carnation weed, ripgut brome, fennel, wild cucumber, totalote, California blackberry, purple needlegrass, and giant wild rye.

The following association was mapped on site within the coast live oak forest and woodland alliance:

- Coast live oak (including disturbed forms)
- Coast live oak/toyon-poison oak
- Coast live oak/California sagebrush/grass
- Coast live oak-California walnut.

The coast live oak forest and woodland alliance is ranked by the CDFG as a G5S4 alliance. This ranking indicates that this alliance is secure globally and apparently secure within California (CDFG 2007a; NatureServe 2009). Therefore, the coast live oak forest and woodland alliance is not considered a sensitive natural community by CDFG. In addition, the coast live oak, coast live oak/toyon-poison oak, and coast live oak/California sagebrush/grass associations are not considered high priority for inventory by CDFG (2003) and thus not considered sensitive natural communities by CDFG. The coast live oak-California walnut association is not described by the

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Terrestrial Natural Communities (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but is described in the *Vegetation Classification of the Santa Monica Mountains* (CDFG et. al. 2006). In this document, the coast live oak-California walnut association is ranked as G3S3, indicating that association is vulnerable in the state and globally (NatureServe 2009). Because the entire coast live oak forest and woodland alliance is recognized in the County's LUP and City's LCP as rare, supporting a unique, functioning ecosystem for a variety of wildlife, all four associations described above are considered sensitive by the CCC in accordance with the County's LUP and City's LCP and would require mitigation for impacts to individual trees at a 10:1 ratio.

4.1.5.2 Upland Walnut Woodlands and Forests

Upland walnut woodlands and forests is a general habitat type in the more general physiognomic group broad leafed upland tree dominated communities. On site there is one alliance, which is described below, in this general habitat type.

California Walnut Woodland and Forests Alliance

The California walnut woodland and forests or *Juglans californica* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the California walnut woodland and forests alliance there are two associations. The alliance is described by Sawyer and Keeler-Wolf (1995). California walnut woodland and forests communities include California walnut as the sole or dominant tree in the canopy. California walnut woodland and forests has an open tree canopy less than 10 meters (33 feet) in height (Sawyer and Keeler-Wolf 1995).

Species associated with the California walnut woodland and forests alliance include foothill ash (*Fraxinus dipetala*), coast live oak, Mexican elderberry, and California bay (Sawyer and Keeler-Wolf 1995).

California walnut woodland and forests often occur on north-facing slopes and rarely flooded terraces and flats in upland areas. In wetland areas, it occurs in intermittently flooded areas with fresh water, including riparian corridors, floodplains, incised canyons, river and stream low-flow margins and banks, seeps, and terraces. Soils on which this alliance occurs are described as shale-derived and deep (Sawyer and Keeler-Wolf 1995).

On site, the California walnut woodland and forests alliance forms an intermediate tree layer while the shrub layer is open. The herbaceous layer is intermediate and typically has diverse stands of grasses and herbs. The on-site alliance is dominated by California black walnut and also contains coast live oak, California sagebrush, poison oak, and laurel sumac. Toyon, coyote

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bush, chaparral bushmallow, saw-toothed goldenbush, and purple sage are occasionally present. The herbaceous layer includes smilo grass, Geraldton carnation weed, ripgut brome, foxtail chess, fennel, short-pod mustard, black mustard, and giant wild rye.

The following association was mapped in the study area within California walnut woodland and forests alliance:

- California walnut woodland.

The California walnut woodland and forests alliance is ranked by the CDFG (2007a) as a G3S3 alliance. This ranking indicates that globally the alliance is vulnerable globally and within California (CDFG 2007a; NatureServe 2009) and would be considered high priority for inventory. Also, the California walnut woodland and forests is considered high priority for inventory by the CDFG (2003). Therefore, this community meets the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP and would require mitigation for impacts to individual trees at a 10:1 ratio.

4.1.5.3 Eucalyptus Naturalized Forest

Eucalyptus woodland or *Eucalyptus (camaldulensis, globulus)* is recognized as a general habitat type by the *List of Terrestrial Natural Communities* (CDFG 2003) and as an alliance in the *List of California Vegetation Alliances* (CDFG 2007a).

Eucalyptus woodland is a distinct "naturalized" vegetation type that is considered a woodland habitat. It typically consists of monotypic stands of introduced Australian eucalyptus trees (*Eucalyptus* spp.). The understory is either depauperate or absent owing to shade and the possible allelopathic (toxic) properties of the eucalyptus leaf litter. Eucalyptus woodland is fairly widespread in Southern California. Although eucalyptus woodland is of limited value to most native plants and animals, this community frequently provides nesting and perching sites for several raptor species.

On site, the eucalyptus alliance areas occur across a wide range of elevations, topographic orientations, and soil types. These areas exhibit limited natural ecological processes, but as previously mentioned, can provide nesting opportunities for birds.

Eucalyptus naturalized forest is not considered high priority for inventory by the CDFG (2003) and is dominated by a non-native species. Therefore, this is not considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.), the County's LUP and the City's LCP.

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4.2 Floral Diversity

Three hundred three plant species, including 204 native species (67%) and 99 non-native species (33%), were recorded in the study area.

4.3 Zoology – Wildlife Diversity

A total of 91 wildlife species were observed during the biological resource surveys: 2 amphibian species, 9 reptile species, 64 bird species, 7 mammal species, and 9 invertebrate species. A majority of the wildlife species observed are relatively common, widely distributed, and adapted to living in proximity to human development (Appendix B).

4.3.1 Amphibians

Two amphibians, California tree frog (*Hyla cadaverina*) and Pacific tree frog (*Hyla regilla*) were observed in the study area along Corral Canyon Creek and Escondido Canyon Creek during the general wildlife surveys. In addition to those species observed by Dudek staff, three species have either been previously documented by SMMC and MRCA staff or could occur in the area based on habitats present: California newt (*Taricha torosa*), bullfrog (*Rana catesbeiana*), and western toad (*Bufo boreas*).

4.3.2 Reptiles

Nine reptiles were observed during general site reconnaissance surveys throughout the study area from 2006–2009 surveys: western fence lizard (*Sceloporus occidentalis*), coast horned lizard (*Phrynosoma coronatum*), side-blotched lizard (*Uta stansburiana*), spotted night snake (*Hypsiglena torquata*), common kingsnake (*Lampropeltis getula*), California mountain king snake (*Lampropeltis zonata*), gopher snake (*Pituophis melanoleucus*), two-striped garter snake (*Thamnophis hammondi*), and southern pacific rattlesnake (*Crotalus viridis*).

In addition to those species observed by Dudek staff, the following species could occur in the area based on habitats present: coastal western whiptail (*Cnemidophorus tigris*), southern alligator lizard (*Elgaria multicaudata*), and coachwhip/red racer (*Masticophis flagellum*).

4.3.3 Birds

Forty-seven bird species were documented in the Plan area by Dudek staff from 2006–2009 and include a wide range of species including, but not limited to, Cooper's hawk (*Accipiter cooperii*), American kestrel (*Falco sparverius*), white-throated swift (*Aeronautes saxatalis*), northern flicker (*Colaptes auratus*), ash-throated flycatcher (*Myiarchus cinerascens*), northern rough-

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winged swallow (*Stelgidopteryx serripennis*), house wren (*Troglodytes aedon*), blue-gray gnatcatcher (*Polioptila caerulea*), orange-crowned warbler (*Vermivora celata*), and black-headed grosbeak (*Pheucticus melanocephalus*).

Other species that have been previously documented in the Plan area by SMMC and MRCA staff include American robin (*Turdus migratorius*), black-hooded parakeet (*Nandayus nenday*); olive-sided flycatcher (*Contopus cooperi*), canyon wren (*Catherpes mexicanus*), western screech owl (*Megascops kennicottii*), barn owl (*Tyto alba*), common poorwill (*Phalaenoptilus nuttallii*), and turkey vulture (*Cathartes aura*).

For a comprehensive list of those species observed by Dudek, SMMC, and MRCA staff, please refer to Appendix B.

4.3.4 Mammals

Seven mammals were recorded in the Plan area by Dudek staff from 2006–2009: brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), vole (*Microtis* sp.), coyote (*Canis latrans*), common raccoon (*Procyon lotor*), and mule deer (*Odocoileus hemionus*).

MRCA and SMMC staff has previously documented western gray squirrel (*Sciurus griseus*) and bobcat (*Lynx rufus*) in the Plan area. Other species that could occur in the Plan area based on habitats present include Virginia opossum (*Didelphis virginiana*), gray fox (*Urocyon cinereoargenteus*), Merriam's chipmunk (*Tamias merriami*), and black rat (*Rattus rattus*).

4.3.5 Invertebrates

Nine invertebrate species were recorded in the Plan area by Dudek staff from 2006–2009: anise swallowtail (*Papilio zelicaon lucas*), Pacific Sara orangetip (*Anthocharis sara sara*), cabbage butterfly (*Pieris rapae rapae*), checkered white (*Pontia protodice*), Behr's metalmark (*Apodemia mormo virgulti*), southern blue (*Glaucopsyche lygdamus australis*), Edward's blue (*Hemiargus ceraunus*), California ringlet (*Coenonympha californica californica*), and monarch (*Danaus plexippus*) (foraging only).

Other invertebrate species that could occur in the Plan area based on habitats present include western tiger swallowtail (*Papilio rutulus*), pale swallowtail (*Papilio eurymedon*), Harford's sulphur (*Colias harfordii*), California dogface (*Colias eurydice*), Santa Monica Mountains hairstreak (*Satyrium auretorum fumosum*), marine blue (*Lepotes marina*), acmon blue (*Plebejus acmon*), painted lady (*Vanessa cardui*), west coast lady (*Vanessa annabella*), red admiral

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(*Vanessa atalanta*), buckeye (*Junonia coenia*), Lorquin's admiral (*Limenitis lorquini*), and California sister (*Adelphia bredowii californica*).

4.4 Special-Status Biological Resources

4.4.1 Vegetation Communities/Jurisdictional Waters and Wetlands

4.4.1.1 Vegetation Communities

The *List of California Vegetation Alliances* (CDFG 2007a) includes a global and state rarity rank based on the NatureServe Standard Heritage Program methodology (NatureServe 2009). The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global and S = subnational). The numbers have the following meaning (NatureServe 2009):

- 1 = critically imperiled
- 2 = imperiled
- 3 = vulnerable to extirpation or extinction
- 4 = apparently secure
- 5 = demonstrably widespread, abundant, and secure.

For example, G1 indicates that a vegetation community is critically imperiled across its entire range (i.e., globally). A rank of S3 would indicate the vegetation community is vulnerable and at moderate risk within a particular state or province, though it may be more secure elsewhere (NatureServe 2009). The *List of California Vegetation Alliances* (CDFG 2007a) is considered an authority for ranking the conservation status of vegetation communities in California. If an alliance has a global ranking of G1, G2, or G3, the vegetation community is considered a high priority for inventory by CDFG (2007a) and is considered a sensitive vegetation community per CEQA.

At times, CDFG makes the determination that a vegetation community is considered or known to be of high priority for inventory at the association level. Associations are not ranked in the *List of California Vegetation Alliances* (CDFG 2007a) but are ranked in the *List of Terrestrial Natural Communities* (CDFG 2003). If an on-site alliance is described in the *List of California Vegetation Alliances* (CDFG 2007a), then this document was used to determine the sensitivity status of the community at the alliance-level. If on-site associations are described in the *List of Terrestrial Natural Communities* (CDFG 2003), then this document is used to determine the sensitivity of communities; sensitive communities with an asterisk next to the name of the

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vegetation community in the *List of Terrestrial Natural Communities* (CDFG 2003) are considered high priority for inventory or sensitive per CEQA. If an alliance is identified as high priority for inventory by CNDDDB, all associations within that alliance are also considered high priority.

If vegetation communities were not listed in CDFG (2003, 2007a), the global ranking of each community as cited in the *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFG et. al. 2006) was used to determine if the vegetation communities are considered sensitive per CEQA. Again, if a community is ranked as G1, G2, or G3 in CDFG and CNPS (2006), the community was considered sensitive per CEQA.

In addition, if a vegetation community was not considered sensitive by CDFG (2003, 2007a) or CNPS and CDFG (2005), but it is a riparian or potentially jurisdictional community (see Section 4.4.1.2), or if it meets the definition of a sensitive community per the County's LUP or City's LCP, the community is considered sensitive in this technical report.

Each vegetation community and its status are described in detail above in Section 4.1. Table 5 summarizes the sensitive vegetation communities in the study area and includes the acreage of each community.

Table 5
Summary of Sensitive Vegetation Communities and Acreages

General Habitat	Alliance	Vegetation Community	Total
Coastal Scrub	California Sagebrush Scrub	California Sagebrush	7.89
		California Sagebrush – Ashyleaf Buckwheat	10.28
		California Sagebrush / Giant Wild Rye	13.23
		Disturbed California Sagebrush	4.79
		Disturbed California Sagebrush / Giant Wild Rye	0.33
	Black Sage Scrub	Black Sage – California Encelia	0.44
		Black Sage – Laurel Sumac	1.28
		Black Sage Scrub	1.11
	California Encelia Scrub	California Encelia – Ashyleaf Buckwheat	1.55
		California Encelia – California Sagebrush	1.18
		California Encelia	0.09
	Coyote Brush Scrub	Coyote Brush – California Sagebrush	5.55
		Disturbed Coyote Brush – California Sagebrush	0.28
		Coyote Brush Scrub	2.11
Disturbed Coyote Brush Scrub		1.17	

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Table 5 (Continued)

General Habitat	Alliance	Vegetation Community	Total
	Purple Sage Scrub	Coyote Brush – Mulefat Scrub	0.05
		Purple Sage Scrub	7.59
		Disturbed Purple Sage Scrub	0.22
		Purple Sage – California Sagebrush	20.21
		Disturbed Purple Sage – California Sagebrush	3.78
	Ashyleaf Buckwheat	Ashyleaf Buckwheat	3.87
		Burned Ashyleaf Buckwheat	0.37
		Disturbed Ashyleaf Buckwheat	2.34
Coastal Scrub	California Sagebrush – Black Sage Scrub	California Sagebrush Scrub – Black Sage	4.18
		Disturbed California Sagebrush Scrub – Black Sage	0.48
	Chaparral Bushmallow Scrub	Chaparral Bushmallow Scrub	5.94
		Disturbed Chaparral Bushmallow Scrub	1.41
	Deerweed	Deerweed	0.32
Disturbed Deerweed		0.53	
Chaparral With Chamise with or without Other Co-dominant Shrubs	Chamise Chaparral	Chamise – Black Sage	0.86
		Chamise Chaparral	1.25
		Disturbed Chamise Chaparral	2.65
Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus Chaparral	Bigpod Ceanothus	6.16
		Bigpod Ceanothus – Black Sage	0.23
		Bigpod Ceanothus – Laurel Sumac	3.43
	Bigpod Ceanothus – Birchleaf Mountain-Mahogany Chaparral	Bigpod Ceanothus – Birchleaf Mountain-Mahogany Chaparral	1.89
		Cupleaf Ceanothus – Fremontia – Oak Chaparral	Birchleaf Mountain Mahogany – Chamise
	Disturbed Birchleaf Mountain Mahogany – Chamise		0.11
	Greenbark Ceanothus Scrub	Disturbed Greenbark Ceanothus Scrub	4.87
		Greenbark Ceanothus Scrub	3.73
Chaparral With Oak (<i>Quercus</i> spp.) as Principal Indicator	Scrub Oak Chaparral	Scrub Oak	0.03
Sumac Scrub	Laurel Sumac	Disturbed Laurel Sumac – Chaparral Bushmallow	6.02
		Disturbed Laurel Sumac / Ashyleaf Buckwheat	4.87
		Disturbed Laurel Sumac / Black Sage	4.92
		Disturbed Laurel Sumac / California Sagebrush	2.41
		Disturbed Laurel Sumac Scrub	6.44
		Laurel Sumac / Ashyleaf Buckwheat	12.67
		Laurel Sumac / Black Sage	8.58
		Laurel Sumac / California Sagebrush	40.81
Laurel Sumac / Chaparral Bushmallow	1.26		

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Table 5 (Continued)

General Habitat	Alliance	Vegetation Community	Total
		Laurel Sumac Scrub	11.68
Sumac Scrub	None	Sumac Scrub	1.99
<i>Scrub and Chaparral Total</i>			231.74
Native Grassland	Purple Needlegrass	Purple Needlegrass	0.51
		Disturbed Purple Needlegrass	1.38
Non-Native Grassland	Giant Reed	Giant Reed	0.13
<i>Grass and Herb Dominated Communities Total</i>			2.02
Riparian Forest and Woodland	Arroyo Willow Riparian Forests and Woodlands	Southern Arroyo Willow Riparian	0.09
	Red Willow Riparian Forests	Red Willow / Arroyo Willow	2.13
	Southern Willow Scrub	Southern Willow Scrub	0.25
	Southern Sycamore – Alder Riparian Woodland	California Sycamore – Coast Live Oak	7.50
Open Channel	None	Open Channel	0.13
Open Water	None	Open Water	0.02
<i>Riparian and Bottomland Habitat Total</i>			10.12
Oak Woodlands and Forests	Coast Live Oak Forest and Woodland	Coast Live Oak – California Walnut	0.55
		Coast Live Oak / California Sagebrush / Grass	0.33
		Coast Live Oak / Toyon – Poison Oak	5.15
		Coast Live Oak	18.70
		Disturbed Coast Live Oak	0.72
Upland Walnut Woodlands and Forests	California Walnut Woodland and Forests	California Walnut Woodland	0.38
<i>Broad Leafed Upland Tree Dominated Total</i>			25.83
Total			269.71

Coastal sage scrub and chaparral are the most widespread natural vegetation communities in the Plan area comprising 231.74 acres or 86% of the total Plan area. The two vegetation types are often found interspersed with one another and, in some instances, coastal sage scrub may even be successional to chaparral following a disturbance (Cooper 1922). Throughout the City of Malibu and in unincorporated areas of Los Angeles County, the mosaic of coastal sage scrub and chaparral is the result of a dynamic process that is a function of fire history, recent climatic conditions, soil differences, slope, and aspect and moisture regime. While many times both communities are treated separately with differing functions and services, they are in actuality different phases of the same ecological process and should be considered as such during the environmental review process (Longcore, et. al 2002).

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Environmentally Sensitive Habitat Areas (ESHAs)

Under Section 30107.5 of the California Coastal Act of 1976, ESHAs are defined as "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 that could be easily disturbed or degraded by human activities and developments."

Most of the ESHAs in Malibu are characterized by coastal sage scrub and riparian woodland habitats interspersed with smaller patches of ceanothus and chamise chaparral habitats at higher elevations (CCC 2002a). Other ESHAs include riparian areas, streams, native woodlands, native grasslands/savannas, dunes, bluffs, and wetlands, unless there is site-specific evidence that establishes that a habitat area is not especially valuable because of its special nature or role in the ecosystem (CCC 2002a). A majority of the Plan area has been designated ESHA in the County's LUP and City's LCP. However, there is one area in Escondido Canyon Park that, based on site-specific evidence, does not meet the definition of an ESHA.

In Escondido Canyon Park, along Winding Way, an area supporting disturbed coyote brush scrub was mapped, totaling 0.75 acre. This area is characterized by approximately 50% cover of coyote brush and more than 50% cover of fennel, black mustard, short-podded mustard, and various annual grasses. While there are some coyote brush scrub associations given high priority for inventory by the CDFG, the two associations mapped in the Plan area including specifically the disturbed coyote brush scrub in Escondido Canyon Park is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under CEQA. No special-status plant or wildlife species were recorded from this area during multiple biological resource surveys from 2006 to 2009 and given the extent of degradation, it likely does not provide habitat for special-status plant and wildlife species because the lack of vertical stratification and species diversity inhibits its ability to be a biologically productive part of the ecosystem. Because the habitat patch at this location is small and located along an existing road shoulder with limited species diversity, it fails to provide habitat for special-status plant and wildlife species, protect water quality, provide essential wildlife movement corridors, or provide critical ecological linkages in the area. Therefore, this 0.75-acre patch of disturbed coyote brush does not meet the definition of ESHA as it does not support plants or wildlife that are particularly rare or valuable and which could be easily disturbed or degraded by human activities and development.

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4.4.1.2 Jurisdictional Wetlands/Waters

As mentioned in Section 3.2.1.2, wetlands within the study area were mapped based upon visually assessing and mapping the drip line of hydrophytic vegetation and noting the presence/absence of hydrology indicators (e.g., drift lines, drainage patterns, scour). Of the 269.71 acres of sensitive vegetation communities mapped within the study area, approximately 10.25 acres are considered wetlands and non-wetland waters under the joint jurisdiction of the CCC and CDFG. The ACOE and RWQCB may take jurisdiction over those portions of the wetlands/waters occurring below the ordinary high water mark of a stream channel.

Table 6
Summary of Wetlands/Non-Wetland Waters in the Study Area

Potential Jurisdictional Wetlands/Waters	Total (Acres)
California Sycamore – Coast Live Oak	7.50
Giant Reed	0.13
Open Channel	0.13
Open Water	0.02
Red Willow / Arroyo Willow	2.13
Southern Arroyo Willow Riparian	0.09
Southern Willow Scrub	0.25
Total	10.25

4.4.2 Special-Status Plants

Five special-status plant species (i.e., CNPS List 1, 2, or 3) were observed within the study area during 2008 and 2009 general and focused rare plant surveys: Plummer's baccharis (*Baccharis plummerae* spp. *plummerae*), CNPS List 4.3; Plummer's mariposa lily (*Calochortus plummerae*), CNPS List 1B.2; Catalina mariposa lily (*Calochortus catalinae*), CNPS List 4.2; Southern California black walnut (*Juglans californica*), CNPS List 4.2; ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), CNPS List 4.2; and fish's milkwort (*Polygala cornuta* var. *fishiae*), CNPS List 4.3. No state- or federally listed endangered or threatened species were observed within the study area during the biological surveys.

Several special-status species were considered to have a moderate potential to occur in the study area based on the species' range distribution and suitable habitats on site, but were not observed during the focused surveys: Braunton's milk vetch (*Astragalus brauntonii*); Coulter's saltbush (*Atriplex coulteri*); round-leaved filaree (*California* (= *Erodium*) *macrophylla*); Lewis's evening primrose (*Camissonia lewisii*); Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*); Parry's spineflower (*Chorizanthe parryi* var. *parryi*); Blochman's dudleya (*Dudleya blochmaniae*

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ssp. blochmaniae); Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*); Marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*); Lyon's pentachaeta (*Pentachaeta lyonii*); Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*); and giant chain fern (*Woodwardia fimbriata*). A description of these species is provided below.

Braunton's Milk Vetch

The Braunton's milk vetch is a CNPS List 1B.1 (S2.1) plant and is federally listed endangered. This species typically inhabits chaparral, coastal scrub, closed cone coniferous forest, and valley and foothill grassland. Suitable habitat is present on site and this species has been reported from the Malibu Beach and Point Dume quadrangles. The species blooms from January to August and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

Coulter's Saltbush

Coulter's saltbush is a CNPS List 1B.2 (S2.2) plant with no state or federal listing status. This perennial herb typically inhabits coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland on alkaline or clay soils between 10 and 1,500 feet AMSL. Suitable habitat and clay soil inclusions are present in the study area. The CNDDDB does not report occurrences of this species within the project vicinity. Although this species was not documented in the study area during 2009 surveys, a small population was noted by a third party on a south-facing bluff at the Conservancy's Malibu Bluffs adjacent to Malibu Road. This species blooms from March to October. Because surveys were performed in the study area during this time period, the species likely would have been detected.

Round-Leaved Filaree

The round-leaved filaree is a CNPS List 1B.1 (S3.1) plant with no state or federal listing status. This species typically inhabits cismontane woodland and valley and foothill grassland. Suitable habitat and clay soil inclusions are present on site. The CNDDDB does not report occurrences of this species within the project vicinity. The species blooms from March to May and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

Lewis's Evening Primrose

The Lewis's evening primrose is a CNPS List 3 (S1S3) plant, but it has no federal status. This species typically inhabits coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Suitable habitat is present on site and this species has been reported from the Malibu Beach and Point Dume quadrangles. The species blooms from March to May and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

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Orcutt's Pincushion

The Orcutt's pincushion is a CNPS List 1B.1 (S2.1) plant, but it has no federal status. This species typically inhabits coastal bluff scrub and coastal dunes. Suitable habitat is present within the Malibu Bluffs portion of the study area. The species blooms from January to August and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

Parry's Spineflower

The Parry's spineflower is a CNPS List 1B.1 (S2) plant, but it has no federal status. This species typically inhabits chaparral and coastal scrub. Suitable habitat is present on site and this species has been reported from the Point Dume quadrangle. The species blooms from April and June and may not have been detectable during the 2008 and 2009 rare plant surveys.

Blochman's Dudleya

The Blochman's dudleya is a CNPS List 1B.1 (S2.1) plant, but it has no federal status. This species typically inhabits chaparral, coastal bluff scrub, coastal scrub, and valley and foothill grassland. Suitable habitat and appropriate soils are present on site and this species has been reported in the project vicinity. The species blooms from April to June and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

Agoura Hills Dudleya

The Agoura Hills dudleya is a CNPS List 1B.2 (S1.2) plant and is federally listed threatened. This species typically inhabits chaparral and cismontane woodland. Suitable habitat and appropriate volcanic-derived soils are present on site and this species has been reported from the Point Dume quadrangle. The species blooms from May to June and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

Marcescent Dudleya

The Marcescent dudleya is a CNPS List 1B.2 (S2.2) plant and it is a federally threatened and state rare species. This species typically inhabits chaparral. Suitable habitat and rocky, volcanic soils are present on site. This species blooms from April to July and therefore may not have been detectable during the 2008 and 2009 rare plant surveys.

Lyon's Pentachaeta

The Lyon's pentachaeta is a CNPS List 1B.1 (S2) plant and is both state- and federally listed endangered. This species typically inhabits chaparral openings, costal scrub, and valley and

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foothill grassland. Suitable habitat is present on site and this species has been reported from adjacent quadrangles. This species blooms from March to August and may not have been detectable during the 2008 and 2009 rare plant surveys.

Sonoran Maiden Fern

The Sonoran maiden fern is a CNPS List 2.2 (S2.2) plant, but it has no federal status. This species typically inhabits meadows and seeps. Suitable habitat is present on site along perennial seeps and creeks in the study area. This species blooms from January to September and may not have been detectable during the 2008 and 2009 rare plant surveys.

Giant Chain Fern

Giant chain fern is no longer listed by the CNPS as sensitive but regionally it is considered rare by the National Park Service (NPS) (SAMO 2004). This species tends to occur in yellow pine forest, foothill woodland, chaparral, valley grassland habitats below 1,600 meters (5,000 feet). This species has a high potential to occur in shaded wetland areas in the study area.

Table 7 lists the special-status species that were observed in the study area, the species status (i.e., CNPS List status) and the number of occurrences observed within the study area.

Table 7
Special-Status Plant Occurrences

Common Name	Scientific Name	CNPS Listing	Population Occurrences
Plummer's baccharis	<i>Baccharis plummerae</i> ssp. <i>plummerae</i>	4.3	3
Plummer's mariposa lily	<i>Calochortus plummerae</i>	1B.2	12
Catalina mariposa lily	<i>Calochortus catalinae</i>	4.2	14
Southern California black walnut	<i>Juglans californica</i>	4.2	5
Ocellated Humboldt lily	<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	4.2	2
Fish's milkwort	<i>Polygala comuta</i> var. <i>fishiae</i>	4.3	5

Plummer's Baccharis (*Baccharis plummerae* ssp. *plummerae*)

Plummer's baccharis, CNPS List 4.3, was noted on shaded slopes and in coastal sage scrub and oak woodland habitat during the 2009 biological surveys. This shrub species tends to occur in chaparral, foothill woodland, mixed evergreen forest, and coastal sage scrub habitats below 400 meters (1,400 feet). Regionally the NPS considers Plummer's baccharis to be rare and it is considered to be rare, threatened, or endangered in distribution throughout California by CNPS; it is therefore considered a special-status species per CEQA.

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Plummer's Mariposa Lily (*Calochortus plummerae*)

Plummer's mariposa lily, CNPS List 1B.2, was noted along south-facing slopes and in adjacent open coastal sage scrub and chaparral and valley grassland habitat during the biological surveys. This perennial herb (bulb) species tends to occur in chaparral, valley grassland, foothill woodland, yellow pine forest, and coastal scrub habitats below 1,600 meters (5,250 feet). The Plummer's mariposa lily is considered to be rare, threatened, or endangered in distribution throughout California by CNPS and is considered a special-status species per CEQA.

Catalina Mariposa Lily (*Calochortus catalinae*)

Catalina mariposa lily, CNPS List 4.2, was noted along east-facing slopes and in adjacent coastal sage scrub and valley grassland habitat during the biological surveys. This perennial herb (bulb) species tends to occur in chaparral, valley grassland, foothill woodland, and coastal scrub habitats below 600 meters (1,970 feet). Although this species is not considered sensitive by the CNPS, regionally, the NPS considers Catalina mariposa lily to be rare. It is considered by the CNPS to be limited in distribution throughout California and is on the CNPS Watch List. It is therefore considered a special-status species per CEQA.

Southern California Black Walnut (*Juglans californica*)

Southern California black walnut, CNPS List 4.2, was noted along perennial stream terraces and in adjacent coastal sage scrub habitat during the biological reconnaissance surveys. This deciduous tree species tends to occur in chaparral, cismontane woodland, and coastal scrub habitats between 50 meters (160 feet) and 900 meters (2,950 feet). While not considered a special-status plant species, the Southern California black walnut is considered by the CNPS to be limited in distribution throughout California and is on the CNPS Watch List.

Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum*)

Ocellated Humboldt lily, CNPS List 4.2, was noted along perennial stream terraces and in adjacent coastal sage scrub and oak woodland during the biological reconnaissance surveys. This perennial herb (bulb) species tends to occur in chaparral, foothill woodland, and yellow pine forest habitats below 1,000 meters (3,280 feet). Although this species is not considered sensitive by the CNPS, regionally, the NPS considers ocellated Humboldt lily to be rare. It is considered by the CNPS to be limited in distribution throughout California and is on the CNPS Watch List. It is therefore considered a special-status species per CEQA.

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Fish's Milkwort (*Polygala cornuta* var. *fishiae*)

Fish's milkwort, CNPS List 4.3, was noted along perennial stream terraces and in adjacent oak woodland and wetland riparian habitat during the biological reconnaissance surveys. This shrub species tends to occur in chaparral, foothill woodland, and wetland-riparian habitats below 1,000 meters (3,280 feet). Although this species is not considered sensitive by the CNPS, regionally, the NPS considers fish's milkwort to be rare. It is considered by the CNPS to be limited in distribution throughout California and is on the CNPS Watch List. It is therefore considered a special-status species per CEQA.

Table 8 lists the special-status plant species (CNPS List 1, 2, or 3) reported in the CNPS nine-quad search for two USGS 7.5-minute quad maps in which the project is located (see Section 3.2.3). This table also includes special-status plant species known to occur near the study area based upon a review of the CNDDDB (CDFG 2007a, 2009b).

Table 8
Special-Status Plant Species Potentially Occurring in Biological Survey Area

Scientific Name	Common Name	Federal/ State Status	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Astragalus brauntonii</i>	Braunton's milk vetch	FE/ None	1B.1	Chaparral, coastal scrub, valley and foothill grassland, closed cone coniferous forest, limestone endemic, carbonate soils, often in recently burnt and disturbed areas/ perennial herb/ February–July	Suitable habitat present; limestone soils not present within the study area; previously reported in Malibu Beach and Point Dume topographic quadrangles. Low to moderate potential to occur.
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE/ CE	1B.1	Coastal salt marsh/ perennial herb/ June–October	Suitable habitat limited to one location in study area. Focused plant surveys would have detected this species if it was present.
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	FE/ CE	1B.1	Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; clay terrace/ annual herb/ March–May	No suitable habitat present within study area. Low potential to occur.
<i>Atriplex coulteri</i>	Coulter's saltbush	None/ None	1B.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland/ perennial subshrub or shrub/ March–October	Suitable habitat present within the study area; reported in project vicinity at Malibu Bluffs. Not detected during 2009 surveys.

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Table 8 (Continued)

Scientific Name	Common Name	Federal/ State Status	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Baccharis malibuensis</i>	Malibu baccharis	None/ None	1B.1	Coastal sage scrub, chaparral, cismontane woodlands; generally in Conejo volcanic substrates in Santa Monica Mts. and Simi Hills/ shrub/ August	Suitable habitat present within the study area; Volcanic derived soils are present throughout the project site. Focused plant surveys would have detected this species if it was present.
<i>California</i> [= <i>Erodium</i>] <i>macrophylla</i>	Round-leaved filaree	None/ None	1B.1	Cismontane woodland and grasslands on clay substrate/ annual herb /March–May	Suitable habitat present; soils with clay components present; reported in adjacent quadrangles; moderate potential to occur within the study area.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily	None/ None	1B.2	Chaparral and coastal sage scrub/ perennial herb (geophyte)/ March–May	Species is typically found at the base of the San Gabriel Mountains. Low potential to occur within the study area.
<i>Calochortus plummerae</i>	Plummer's mariposa lily	None/ None	1B.2	Chaparral, coastal sage scrub, cismontane woodland, grasslands on rocky granitic substrate/ perennial herb (geophyte)/ May–July	Suitable habitat present; appropriate soils present throughout. Species found within the study area.
<i>Camissonia lewisii</i>	Lewis's evening primrose	None/ None	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/ annual herb/ March–June	Suitable habitat present within the study area; reported in Point Dume quadrangle; Moderate to high potential.
<i>Centromadia</i> [= <i>Hemizonia</i>] <i>parryi</i> ssp. <i>australis</i>	Southern tarplant	None/ None	1B.1	Mesic edges of marshes in grasslands/ annual herb/May–November	Suitable habitat present within the study area. Focused plant surveys were conducted for this species. Low potential to occur within the study area.
<i>Cercocarpus traskiae</i>	Catalina Island mountain-mahogany	FE/ CE	1B.1	Chaparral, coastal scrub; rocky, sausserite gabbro/ evergreen shrub/ March–May	Suitable habitat present; appropriate soils generally not present; this evergreen shrub would have been detected if present.
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	None/ None	1B.1	Coastal bluff scrub, coastal dunes/ annual herb/ January–August	Suitable habitat present within the Malibu Bluffs portion of the study area; low to moderate potential to occur.

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Table 8 (Continued)

Scientific Name	Common Name	Federal/ State Status	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FC/ SE	1B.1	Coastal scrub, valley and foothill grassland; sandy/ annual herb/ April–June	Suitable habitat present within the study area; sandy substrates found throughout. Only known from three occurrences; low potential to occur within the study area.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None/ None	1B.1	Chaparral, coastal scrub; sandy or rocky, openings/ annual herb/ April–June	Suitable habitat present; reported in Point Dume quadrangle; moderate potential to occur within the study area.
<i>Cordylanthus</i> <i>maritimus</i> ssp. <i>maritimus</i>	Salt marsh bird's-beak	FE/ SE	1B.2	Coastal dunes, costal saltwater marshes and swamps/ annual herb/ May– October	Suitable habitat limited to Corral Canyon and Malibu Bluffs. Focused plant surveys were conducted for this species; low potential to occur within the study area.
<i>Deinandra</i> [= <i>Hemizonia</i>] <i>minthornii</i>	Santa Susana tarplant	None/ SR	1B.2	Chaparral and coastal sage scrub on rocky substrate/deciduous shrub/July–November	Suitable habitat present within the study area; sandstone derived soils found throughout site. Focused plant surveys were conducted for this species; moderate potential to occur within the study area.
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Dune larkspur	None/ None	1B.2	Chaparral (maritime) and coastal dunes/ perennial herb/ April–May	Suitable habitat present within the study area; low to little potential to occur.
<i>Dithryea maritima</i>	Beach spectaclepod	None/ ST	1B.1	Coastal dune, coastal scrub; sandy/ rhizomatous herb/ March–May	Suitable habitat limited to Corral Canyon and Malibu Bluffs; little to no potential to occur.
<i>Dudleya</i> <i>blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	None/ None	1B.1	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland, rocky; often clay or serpentinite/ perennial herb/ April–June.	Suitable habitat present; appropriate soils occasionally present; reported in project vicinity. Low to moderate potential to occur within the study area.

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Table 8 (Continued)

Scientific Name	Common Name	Federal/ State Status	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Dudleya cymosa</i> <i>ssp. agourensis</i>	Agoura Hills dudleya	FT/None	1B.2	Chaparral, cismontane woodland; rocky, volcanic/ perennial herb/ May–June	Suitable habitat present; appropriate volcanic derived soils present; reported in Point Dume quadrangle. Species typically restricted to western Santa Monica Mountains. Low to moderate potential to occur within the study area.
<i>Dudleya cymosa</i> <i>ssp. marcescens</i>	Marcescent dudleya	FT/SR	1B.2	Chaparral; volcanic, rocky/ succulent, perennial herb/ April–June	Suitable habitat present; rocky, volcanic soils occasionally present. Low to moderate potential to occur within the study area.
<i>Dudleya cymosa</i> <i>ssp. ovatifolia</i>	Santa Monica Mountain's dudleya	FT/ None	1B.2	Chaparral and coastal sage scrub; volcanic, rocky/ perennial herb/ April–June	Suitable habitat present; appropriate rocky volcanic soils occasionally present; reported in Malibu Beach quadrangle. Low potential to occur within the study area.
<i>Dudleya multicaulis</i>	Many- stemmed dudleya	None/ None	1B.2	Chaparral, coastal scrub, valley and foothill grassland; often clay/ perennial herb/ April–June	Suitable habitat present; soils with clay components present. Low potential to occur within the study area.
<i>Dudleya parva</i>	Conejo dudleya	FT/ None	1B.2	Coastal scrub, valley and foothill grassland; rocky or gravelly, clay or volcanic/ perennial herb/ May–June	Limited suitable habitat present; appropriate soils occasionally present; species typically found from Simi Hills to Conejo Grade. Low potential to occur within the study area.
<i>Dudleya verity</i>	Verity's dudleya	FT/ None	1B.2	Chaparral, cismontane woodland, coastal scrub; volcanic, rocky/ perennial herb/ May–June	Suitable habitat present; appropriate soils occasionally present; species known from only occurrences near Conejo Mountains. Low potential to occur within the study area.
<i>Eriogonum crocatum</i>	Conejo buckwheat	None/ SR	1B.2	Chaparral, coastal scrub, valley and foothill grassland; Conejo volcanic outcrops, rocky/ perennial herb/ April– June	Suitable habitat present; volcanic derived soils present throughout the study area. Low potential to occur within the study area.

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Table 8 (Continued)

Scientific Name	Common Name	Federal/ State Status	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Hordeum intercedens</i>	Vernal barley	None/ None	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/ annual herb/ March–June	Limited suitable habitat present; saline flats and depressions found on Corral Canyon and Malibu Bluffs; low potential to occur within the study area.
<i>Nama stenocarpum</i>	Mud nama	None/ None	2.2	Marsh and swamps, lake margins and riverbanks/annual-perennial herb/January–July	Limited marsh and swamp habitat present. Low potential to occur within the study area.
<i>Navarretia ojaiensis</i>	Ojai navarretia	None/ None	1B.1	Chaparral (openings), coastal scrub (openings), valley and foothill grassland/annual herb/May–July	Suitable habitat present, reported in adjacent quadrangles. Focused surveys conducted for this species were negative. Low potential to occur in the study area.
<i>Nolina cismontana</i>	Chaparral beargrass	None/ None	1B.2	Chaparral, coastal scrub; sandstone or gabbro/ evergreen shrub/ May–July	Suitable habitat present; sandstone soils present. This evergreen shrub would have been detected if present.
<i>Orcuttia californica</i>	California Orcutt grass	FE/ SE	1B.1	Vernal pools/ annual herb/ April–August	No vernal pools identified within the study area. Little to no potential to occur.
<i>Pentachaeta lyonii</i>	Lyon's Pentachaeta	FE/ CE	1B.1	Chaparral (openings), coastal scrub, valley and foothill grassland; rocky, clay/ annual herb/ March– April	Suitable habitat present; reported in adjacent quadrangles. Moderate to high potential to occur within the study area.
<i>Pseudognaphalium leucocephalum</i>	White rabbit-tobacco	None/ None	2.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/ perennial herb/ (July) August – Nov. (Dec.)	Suitable habitat present; focused plant surveys were conducted for this species. Low potential to occur within the study area.
<i>Sidalcea neomexicana</i>	Salt spring checkerbloom	None/ None	2.2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, desert scrub/ perennial herb/ March–June	Suitable habitat present; few locations on site have alkaline characteristics. Low potential to occur within the study area.
<i>Senecio aphanactis</i>	Rayless ragwort	None/ None	2.2	Chaparral, cismontane woodland, coastal scrub; alkaline/ annual herb/ January–April	Suitable habitat present; few locations on site have alkaline characteristics. Low potential to occur within the study area.

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Table 8 (Continued)

Scientific Name	Common Name	Federal/ State Status	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	None/ None	2.2	Meadows and seeps/ perennial herb/ fertile January– September	Suitable habitat present along adjacent perennial creeks and seeps. Low to moderate potential to occur within the study area.

Legend

FE = Federally listed as endangered
 FT = Federally listed as threatened
 SE = State-listed as endangered
 SR = State-listed as rare
 ST = State-listed as threatened

4.4.3 Special-Status Wildlife

One sensitive invertebrate, the monarch butterfly (*Danaus plexippus*), was identified foraging along a north-to-south trending dirt trail through a residential development just south of Escondido Canyon Park. The monarch butterfly, while not known to aggregate in large numbers in the study area, may forage occasionally in the area. No known butterfly trees or overwintering roosts are known from the study area.

Gnatcatchers (*Polioptila* sp.) were observed on the Conservancy's Malibu Bluffs site on August 28, 2009, by a biologist that does not hold a federal permit to conduct surveys for the California gnatcatcher (*Polioptila californica*), a federally listed threatened species. Based upon range information and a lack of reported occurrences in the area (CDFG 2009b), it is likely that the observation made was of blue-gray gnatcatchers (*Polioptila caerulea*), which were previously documented by Dudek in Corral Canyon Park in 2006, 2007, and again in 2009, and not the California gnatcatcher. Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), a California Species of Concern (CSC), was documented by Dudek staff in Escondido Canyon Park during 2006 and 2007 surveys. No other sensitive songbirds were detected within the study area during the biological reconnaissance surveys. Three raptor species were identified within the study area: Cooper's hawk, a CSC; red-tailed hawk (*Buteo jamaicensis*); and red shouldered hawk (*Buteo lineatus*). Turkey vulture (*Cathartes aura*), western screech owl (*Megascops kennicottii*), and barn owl (*Tyto alba*) were also documented in the Plan area. Raptors, including vultures, hawks, eagles, falcons, kites, ospreys and owls, are part of California's native fauna, are integral to their ecosystems, have intrinsic, ecological, scientific, educational, economic and recreational values and are therefore considered special-status species in this biological resources technical report.

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Table 9 lists special-status wildlife species that have a potential to occur within the project area based on the location of the site and general vegetation communities found in the area. For each species listed, a determination is made regarding the potential use of the site based on information gathered during the general biological surveys, including known habitat preferences and knowledge of their relative distributions in the area. Where pertinent, a distinction is made between foraging and breeding habitat available on site.

Table 9
Special-Status Wildlife Potentially Occurring in Biological Survey Area

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Amphibians</i>				
<i>Bufo californicus</i>	Arroyo toad	FE/ CSC	Stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Suitable habitat present within the study area. Moderate potential to occur in the study area.
<i>Rana aurora draytoni</i>	California red-legged frog	FT/ CSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Suitable habitat present within the study area. Moderate potential to occur in riparian areas within the study area.
<i>Reptiles</i>				
<i>Aspidoscelis tigris stejnegeri</i>	Coastal western whiptail	None/None	Coastal sage scrub, chaparral	Moderate potential to occur based on habitat present.
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	None/None	Open, rocky and somewhat moist areas near intermittent streams: grasslands, sage scrub	Moderate potential to occur based on habitat present.
<i>Emys</i> [= <i>Clemmys</i>] <i>marmorata pallida</i>	Western pond turtle	None/ CSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Low potential to occur within project area. Although some open water is present, in general there is relatively little suitable habitat for this species within the project area.
<i>Lampropeltis zonata</i> (San Diego population)	San Diego mountain kingsnake	None/ CSC	Valley-foothill hardwood, hardwood-conifer, chaparral, coniferous forest, wet meadow	Low to moderate potential to occur within study area due to available suitable habitat.

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Table 9 (Continued)

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Phrynosoma coronatum</i> (blainvillei population)	Coast (San Diego) horned lizard	None/ CSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest	Moderate potential to occur based on habitat present. Species observed in the study area during surveys.
<i>Phrynosoma coronatum</i> (frontale population)	Coast (California) horned lizard	None/ CSC	Wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Moderate potential to occur based on habitat present.
<i>Thamnophis hammondi</i>	Two-striped garter snake	None/ CSC	Marshes, meadows, sloughs, ponds, slow-moving water courses	Moderate potential to occur based on habitat present. Species observed on site during biological surveys.
<i>Birds</i>				
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	None/ CSC	Riparian and oak woodlands, montane canyons	Detected within the study area during 2006 surveys.
<i>Agelaius tricolor</i>	Tricolored blackbird	None/ CSC	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	Low potential to occur within the study area. Although some open water is present, in general there is relatively little suitable habitat for this species within the study area.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	None/ CSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	Was detected within Corral Canyon and Escondido Canyon Parks during the 2006/2007 site visits.
<i>Aquila chrysaetos</i> (nesting and wintering)	Golden eagle	None/ CSC, P	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Low potential to nest or winter; moderate to high potential to forage within the study area.
<i>Athene cunicularia</i> (burrow sites)	Burrowing owl	None/CSC	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	Moderate to high potential to occur within the study area due to suitable habitat present.
<i>Elanus leucurus</i> (nesting)	White-tailed kite	None/ P	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Moderate potential to forage in the study area. Suitable nesting trees are present however no observations were made of this species.

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Table 9 (Continued)

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT/ CSC	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	Gnatcatchers (<i>Polioptila</i> sp.) were observed on the Conservancy's Malibu Bluffs site on August 28, 2009, by a non-permitted biologist. Based upon range information and reported occurrences in the area (CDFG 2009b), it is likely that these observations were of blue-gray gnatcatchers. Although there are limited to no occurrences of the California gnatcatcher in the Santa Monica Mountains, the presence of suitable habitat in the study area suggests that the California gnatcatcher may be present.
<i>Riparia riparia</i> (nesting)	Bank swallow	None/ CT	Nests in lowland country with soft banks or bluffs; open country and water during migration	Low potential to nest in the study area due to lack of suitable bluff habitat.
Mammals				
<i>Antrozous pallidus</i>	Pallid bat	None/ CSC	Rocky outcrops, cliffs, and crevices with access to open habitats for foraging	Low potential to occur based on habitats present.
<i>Euderma maculatum</i>	Spotted bat	None/ CSC	Wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and washes; roosts in rock crevices in cliffs or caves.	Low potential to feed and roost within the study area.
<i>Eumops perotis californicus</i>	Western mastiff bat	None/ CSC	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures	Low potential to occur based on habitats present.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/ CSC	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Low to moderate potential to occur based on habitats present.
Invertebrates				
<i>Aglaothorzx longipennis</i>	Santa Monica shieldback katydid	None/None	Chaparral and canyon stream bottom vegetation; iceplant and native chaparral species. Nocturnal.	Moderate potential to occur based on habitats present.

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Table 9 (Continued)

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	None/ None	Sandy areas adjacent to non-brackish water along California coast; found in dry sand in upper zone	Low potential to occur based on overall lack of suitable habitat within the study area.
<i>Coelus globosus</i>	Globose dune beetle	None/None	Coastal sand dunes; foredunes and sand hummocks. Most common beneath dune vegetation.	Little to no potential to occur based on lack of suitable habitats.
<i>Danaus plexippus</i> (wintering sites)	Monarch butterfly	None/ None	Overwinters in eucalyptus groves	Was detected during 2006 reconnaissance surveys in a residential development just south of Escondido Canyon Park. Low potential to overwinter within the study area due to lack of appropriate habitat.
<i>Socalchemmis gertschi</i>	Gertsh's coccalchemmis spider	None/ None	Known only from Brentwood and Topanga Canyons.	Little to no potential to occur within the study area. Study area is located outside of known range for this species.
<i>Trimerotropis occidentalooides</i>	Santa Monica grasshopper	None/ None	Bare hillsides and along dirt trails in chaparral; Santa Monica Mountains.	Low potential to occur based on the quality of habitats present.
<i>Fish</i>				
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE/ CSC	Low-salinity waters in coastal wetlands	Not reported in project vicinity. However, has a moderate potential to occur in coastal inlet just south of Corral Canyon Creek.
<i>Gila orcuttii</i>	Arroyo chub	None/ CSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud	Low potential to occur within the study area due to habitats present.
<i>Oncorhynchus mykiss irideus</i>	Southern steelhead – southern California Evolutionarily Significant Unit	FE/ CSC	Spawn in cool, clear, well-oxygenated streams with suitable depth, current velocity, and gravel size	Moderate potential to occur in Corral Canyon Creek.

Federal Designations:

FE = Federally listed Endangered

FT = Federally listed as Threatened

State Designations:

CSC = California Special Concern Species

P = California Department of Fish and Game Protected and Fully Protected Species

ST = State-Listed as Threatened

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4.4.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

To function effectively, a wildlife corridor must link two or more patches of habitat for which connectivity is desired, and it must be suitable for the focal target species to achieve the desired demographic and genetic exchange between populations. A habitat linkage design study prepared by South Coast Wildlands in June 2006 was aimed at identifying critical linkages and corridors in the South Coast ecoregion that are critical to regional wildlife movement, notably the Santa Monica-Sierra Madre Connection, one of the few remaining coastal to inland connections in the South Coast ecoregion. This connection stretches from the coastal Santa Monica Mountains to the Santa Susanna Mountains and on to the Los Padres National Forest (South Coast Wildlands 2006). This critical movement corridor supports an array of biologically rich resources from coast live oak woodland, valley oak savannah, and walnut woodland, to coastal sage scrub, chaparral, various grassland communities, and a diverse assemblage of riparian woodland, scrub, and forest communities (South Coast Wildlands 2006). While the size and distance among habitats must be adequate to support species movement, the shape of those habitats also plays a key role in wildlife corridor development. A wide corridor width helps ensure the availability of suitable habitat, host plants, pollinators, and areas with low predation risk (South Coast Wildlands 2006). Fires and floods are dynamic processes that play a vital role in maintaining the natural disturbance regime, and wider linkage/corridor width allows for a semblance of these natural disturbances to occur with minimal constraints from adjacent urban areas (South Coast Wildlands 2006).

Mountclef Ridge, an east-to-west trending ridgeline north of the Plan area, extends from Point Mugu State Park to the Los Padres National Forest and is part of an extended linkage that has been severely constrained by development from an optimal 1.2 miles wide to approximately 800 feet (Save Our Ring of Green (SOROG) 2007). This wildlife corridor provides critical wildlife movement for a number of large mammals including the mountain lion (*Puma concolor*),

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American badger (*Taxidea taxus*), and mule deer (*Odocoileus hemionus*). More importantly, the Mountclef Ridge wildlife corridor has been identified as one of the last remaining movement corridors for mountain lion in the Santa Monica Mountains (SOROG 2007).

The study area, while not specifically identified in current linkage studies, supports large, contiguous stretches of native upland and riparian scrub/forest communities, which provide vital habitat and facilitate wildlife movement from coastal areas north to Thousand Oaks and on the Los Padres National Forest.

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5.0 ANTICIPATED PROJECT IMPACTS AND SIGNIFICANCE

5.1 Explanation of Findings of Significance

Impacts to sensitive vegetation communities or riparian habitat, special-status plants, and special-status wildlife species must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. Appendix G of the guidelines, however, does provide "examples of consequences which may be deemed to be a significant effect on the environment" (Section 15064(e)). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. Guidelines Section 15065(a) is also helpful in defining whether a project may have "a significant effect on the environment." Under that section, a proposed project may have a significant effect on the environment if the project has the potential to: (1) substantially degrade the quality of the environment; (2) substantially reduce the habitat of a fish or wildlife species; (3) cause a fish or wildlife population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; (5) reduce the number or restrict the range of a rare or endangered plant or animal; or (6) eliminate important examples of the major period of California history or prehistory.

The following are the significance thresholds for biological resources provided in the CEQA guidelines environmental checklist, which state that a project could potentially have a significant effect if it:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites

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- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significant.

5.2 Vegetation Communities

5.2.1 Direct Impacts

The impacts have been broken down into a series of six tables (Tables 10 through 16) by park property/area and project component. Table 10 summarizes impacts associated with the primary trail system improvements and not only provides a break down of the impacts by trail segment (and each alternative segment as applicable) but it also provides a summary of the total combined impacts for the entire trail system. Tables 11 through 16 summarize the impacts at each of the five parks (i.e., Ramirez Canyon Park, Escondido Canyon Park, The Latigo Trailhead and Camp property, Corral Canyon Park, and Conservancy-Owned Malibu Bluffs) per impact type, where applicable. It is important to note that the proposed widening/removal of encroachments along Delaplane Road/Ramirez Canyon Road will occur in existing developed/disturbed areas along the road shoulder and would not impact sensitive vegetation communities. The removal of protected trees (both native and non-native) is addressed separately in the tree protection plan.

To better categorize the habitat types to be more consistent with the certified Overlay, many of the alliances and associations presented in Table 4 were collapsed into more general vegetation community categories (i.e., California sage scrub, chaparral, coast live oak, southern willow scrub/red willow-arroyo willow, etc.).

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Table 10
Primary Trail System
Summary of Impacts to Vegetation Communities by Trail System Improvements

Primary Trail System	Alternative Trail Segments	Vegetation Community Alliance	Trail Improvement Impacts (Acres)
Kanan Dume to Ramirez Canyon Park	Trail Segment 1a	Ornamental	0.04
		California Sagebrush Scrub	0.49
		Chaparral	0.35
		Coast Live Oak/Toyon-Poison Oak	0.21
		California Sycamore-Coast Live Oak	0.11
	<i>Subtotal</i>		<i>1.20</i>
	Trail Segment 1b	Developed	0.31
		Ornamental	0.11
		California Sagebrush Scrub	0.12
		California Annual Grassland	0.13
<i>Subtotal</i>		<i>0.67</i>	
Kanan Dume to Ramirez Canyon Park	KDPS Segment	California sagebrush Scrub	0.05
		Chaparral	0.15
	<i>Subtotal</i>		<i>0.20</i>
Ramirez Canyon Park to Murphy Way	Trail Segment 2a3	Developed	0.01
		Ornamental	0.05
		California Sagebrush Scrub	1.00
		Disturbed California Sagebrush Scrub	0.10
		Chaparral	0.05
	<i>Subtotal</i>		<i>1.21</i>
	Trail Segment 2a6	Developed	0.01
		California Annual Grassland	0.16
		California Sagebrush Scrub	0.20
		Disturbed California Sagebrush Scrub	0.09
<i>Subtotal</i>		<i>0.46</i>	
Escondido Canyon Park to Solstice Canyon Park	Trail Segment 4	California Sagebrush Scrub	0.20
		Poison Oak Scrub	0.05
		Coast Live Oak	0.13
		Coast Live Oak/Toyon-Poison Oak	0.22
	<i>Subtotal</i>		<i>0.60</i>
	Trail Segment 4b	California Sagebrush Scrub	0.31
		California Annual Grassland	0.02
Coast Live Oak		0.01	

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Table 10 (Continued)

Primary Trail System	Alternative Trail Segments	Vegetation Community Alliance	Trail Improvement Impacts (Acres)	
		Coast Live Oak/Toyon-Poison Oak	0.01	
		<i>Subtotal</i>	<i>0.35</i>	
Latigo Canyon Road	Trail Segment 9	Developed	0.03	
		Ornamental	0.01	
		California Sagebrush Scrub	1.25	
		Chaparral	0.02	
		Giant Wild Rye	0.03	
		Coast Live Oak/Toyon-Poison Oak	0.15	
			<i>Subtotal</i>	<i>1.49</i>
	Trail Segment 9a	California Sagebrush Scrub	0.07	
			<i>Subtotal</i>	<i>0.07</i>
	Trail Segment 9b	California Sagebrush Scrub	0.07	
		<i>Subtotal</i>	<i>0.07</i>	
Corral Canyon Park (Beach to Backbone Trail)	Trail Segment 10b	California Sagebrush Scrub	0.31	
		Disturbed California Sagebrush Scrub	0.21	
		Chaparral	0.05	
		Disturbed Chaparral	0.01	
		California Annual Grassland	0.16	
		California Sycamore-Coast Live Oak	0.12	
	Geraldton Carnation Weed	0.02		
		<i>Subtotal</i>	<i>0.88</i>	
Corral Canyon Park (Beach to Backbone Trail)	Trail Segment 11a	Geraldton Carnation Weed	0.02	
		California Sagebrush Scrub	0.54	
		Disturbed California Sagebrush Scrub	0.07	
		Native Grassland	0.04	
		California Annual Grassland	0.40	
		Poison Oak Scrub	0.04	
		Coast Live Oak	0.04	
		California Sycamore-Coast Live Oak	0.02	
		California Walnut Woodland	0.03	
			<i>Subtotal</i>	<i>1.20</i>
	Trail Segment 11c	Developed	0.06	
California Sagebrush Scrub		0.21		
Disturbed California Sagebrush		0.07		

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Table 10 (Continued)

Primary Trail System	Alternative Trail Segments	Vegetation Community Alliance	Trail Improvement Impacts (Acres)
		Scrub	
		California Annual Grassland	0.22
		<i>Subtotal</i>	<i>0.56</i>
	Trail Segment 11d	Developed	0.01
		Disturbed California Sagebrush Scrub	0.27
		California Annual Grassland	0.06
		<i>Subtotal</i>	<i>0.34</i>
Corral Canyon Park (Beach to Backbone Trail)	Trail Segment 12	Developed	0.01
		California Sagebrush Scrub	0.21
		Chaparral	0.58
		Eucalyptus	0.01
	<i>Subtotal</i>	<i>0.81</i>	
Corral Canyon Park (Beach to Backbone Trail)	Trail Segment 13a	California Sagebrush Scrub	0.06
		Chaparral	0.18
		California Annual Grassland	0.03
	<i>Subtotal</i>	<i>0.27</i>	
	Trail Segment 13b	California Sagebrush Scrub	0.07
		Chaparral	0.17
		California Annual Grassland	0.08
<i>Subtotal</i>	<i>0.32</i>		
Corral Canyon Park (Beach to Backbone Trail)	Trail Segment 14	California Sagebrush Scrub	0.46
		Disturbed California Sagebrush Scrub	0.11
		Chaparral	0.39
		Disturbed Chaparral	0.76
		California Annual Grassland	0.66
		Coast Live Oak	0.24
	California Sycamore-Coast Live Oak	0.05	
<i>Subtotal</i>	<i>2.67</i>		
Corral Canyon Park (Beach to Backbone Trail)	Trail Segment 15	California Sagebrush Scrub	0.31
		Disturbed California Sagebrush Scrub	0.86
		Chaparral	1.02
		Disturbed Chaparral	1.37
		Poison Oak Scrub	0.02
		Coast Live Oak	0.42
	Disturbed Coast Live Oak	0.08	
<i>Subtotal</i>	<i>4.08</i>		

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Table 10 (Continued)

Primary Trail System	Alternative Trail Segments	Vegetation Community Alliance	Trail Improvement Impacts (Acres)
Conservancy-Owned Malibu Bluffs (Beach to Bluffs)	Trail Segment 16	Disturbed Lands	0.03
		California Annual Grassland	0.17
		Southern Willow Scrub	0.01
	<i>Subtotal</i>		<i>0.21</i>
Conservancy-Owned Malibu Bluffs (Beach to Bluffs)	Trail Segment 17	Disturbed Lands	0.02
		California Sagebrush Scrub	0.24
		California Annual Grassland	0.01
		Southern Willow Scrub	0.05
<i>Subtotal</i>		<i>0.32</i>	
Conservancy-Owned Malibu Bluffs (Beach to Bluffs)	Trail Segment 18	California Annual Grassland	0.14
	<i>Subtotal</i>		<i>0.14</i>
Conservancy-Owned Malibu Bluffs (Beach to Bluffs)	Trail Segment 19	California Sagebrush Scrub	0.09
<i>Subtotal</i>		<i>0.09</i>	
Total Primary Trail System Improvement Impacts			18.21

Table 11
Ramirez Canyon Park
Summary of Impacts to Vegetation Communities by Project Component Type

Vegetation Community	Permanent, Direct Impacts			
	Park and Recreation Support Facilities Impacts (acres)	Road Widening Impacts (acres)	Creek Restoration Impacts (acres)	Total Impacts (acres)
Developed	2.18	0.10	0.20	2.48
Ornamental	0.21	0.03	0.03	0.27
Ruderal	0	0	0	0
Disturbed Lands	0.12	0.01	0	0.13
Geraldton Carnation Weed	0	0	0	0
California Sagebrush Scrub	0.36	0	0	0.36
Disturbed California Sagebrush Scrub	0.05	0	0	0.05
Chaparral	0.24	0	0	0.24
Native Grassland	0	0	0	0
California Annual Grassland	0.68	0	0	0.68
Poison Oak Scrub	0	0	0	0
Coast Live Oak	0	0	0	0
California Sycamore-Coast Live Oak	0.08	0.02	0.07	0.17
Southern Willow Scrub/Red Willow-Arroyo Willow	0	0	0	0
Eucalyptus	0	0	0	0
Total	3.92	0.16	0.30	4.38

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Table 12
Escondido Canyon Park Summary of Impacts to Vegetation Communities

Vegetation Community Alliance	Direct, Permanent Impacts Park and Recreation Support Facilities (acres)
Developed	0.17
Ornamental	0.09
Ruderal	0
Disturbed Lands	0.22
Geraldton Carnation Weed	0
California Sagebrush Scrub	0.12
Disturbed California Sagebrush Scrub	0.75
Chaparral	0.22
Native Grassland	0
California Annual Grassland	0.42
Poison Oak Scrub	0
Coast Live Oak	0.22
California Sycamore-Coast Live Oak	0
Southern Willow Scrub/Red Willow-Arroyo Willow	0
Eucalyptus	0
Total	2.21

Table 13
Latigo Trailhead Summary of Impacts to Vegetation Communities

Vegetation Community Alliance	Direct, Permanent Impacts Park and Recreation Support Facilities (acres)
Developed	0.16
Ornamental	0.01
Ruderal	0
Disturbed Lands	0
Geraldton Carnation Weed	0
California Sagebrush Scrub	0.42
Disturbed California Sagebrush Scrub	0
Chaparral	0.10
Native Grassland	0
California Annual Grassland	0.10
Poison Oak Scrub	0
Coast Live Oak	0.02
California Sycamore-Coast Live Oak	0.38
Southern Willow Scrub/Red Willow-Arroyo Willow	0.006
Eucalyptus	0.07
Total	1.27

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Table 14
Corral Canyon Park Summary of Impacts to Vegetation Communities

Vegetation Community Alliance	Direct, Permanent Impacts Park and Recreation Support Facilities (acres)
Developed	0.77
Ornamental	0.36
Ruderal	0
Disturbed Lands	0.11
Geraldton Carnation Weed	1.29
California Sagebrush Scrub	1.16
Disturbed California Sagebrush Scrub	0.74
Chaparral	0.01
Native Grassland	0
California Annual Grassland	0.51
Poison Oak Scrub	0
Coast Live Oak	0.12
California Sycamore-Coast Live Oak	0
Southern Willow Scrub/Red Willow-Arroyo Willow	0
Eucalyptus	0
Total	5.07

Table 15
Conservancy-Owned Malibu Bluffs
Summary of Impacts to Vegetation Communities

Vegetation Community Alliance	Direct, Permanent Impacts Park and Recreation Support Facilities (acres)
Developed	0.40
Ornamental	0
Ruderal	0.31
Disturbed Lands	0.18
Geraldton Carnation Weed	0
California Sagebrush Scrub	0.31
Disturbed California Sagebrush Scrub	0
Chaparral	0.18
Native Grassland	0
California Annual Grassland	5.95
Poison Oak Scrub	0
Coast Live Oak	0
California Sycamore-Coast Live Oak	0
Southern Willow Scrub/Red Willow-Arroyo Willow	0.01
Eucalyptus	0
Total	7.34

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Table 16
Via Acero Improvements
Summary of Impacts to Vegetation Communities

Vegetation Community Alliance	Direct, Permanent Impacts (acres)
Developed	0.33
Ornamental	0.04
Ruderal	0
Disturbed Lands	0
Geraldton Carnation Weed	0
California Sagebrush Scrub	0.24
Disturbed California Sagebrush Scrub	0
Chaparral	0
Native Grassland	0
California Annual Grassland	0.40
Poison Oak Scrub	0
Coast Live Oak	0
California Sycamore-Coast Live Oak	0
Southern Willow Scrub/Red Willow-Arroyo Willow	0
Eucalyptus	0
Total	1.01

The proposed project would result in direct impacts to the following sensitive natural communities, including wetland and riparian communities under the CEQA guidelines (14 CCR 15000 et seq.) and/or pursuant to the County's LUP:

- 18.04 acres of sensitive scrub and chaparral communities (12.19 acres scrub and 5.85 acres chaparral, including disturbed forms)
- 0.93 acre of sensitive wetland and riparian communities
- 0.04 acre of native grassland habitat
- 2.02 acres of broad-leafed upland tree dominated.

Direct impacts to 21.03 acres of sensitive vegetation communities, including wetland and riparian communities, are considered significant (Impact BIO-1).

Impacts to California annual grassland, developed land, ruderal land, disturbed land, Geraldton carnation weed, giant wild rye, poison oak scrub, and eucalyptus would not be considered significant because these communities are not considered sensitive pursuant to the CEQA guidelines (14 CCR 15000 et seq.) and/or pursuant to the County's LUP.

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5.2.2 Indirect Impacts

Short-Term Effects

Indirect impacts to sensitive vegetation communities including jurisdictional waters/wetlands could result primarily from adverse "edge effects," which occur along the development-preservation interface. During construction activities, edge effects may include dust, which could disrupt plant vitality in the short-term or construction-related soil erosion and water runoff. However, standard construction best management practices (BMPs) and construction-related minimization measures will be implemented to control dust, erosion, and runoff, as will a National Pollution Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Plan (SWPPP) in compliance with the federal Clean Water Act. Given that these standard measures will be implemented as part of the Proposed Project, the short-term indirect effects listed above during will be less than significant. However, during construction there is a potential for vegetation in areas adjacent to the work areas to be trampled by construction personnel. This would be considered a significant impact (Impact BIO-2).

Long-Term Effects

The increased presence of domesticated animals, trash and debris, and human trampling could indirectly affect adjacent sensitive habitats in the long-term. As this would represent a substantial adverse effect on sensitive natural communities identified in local or regional plans, this could be considered a significant impact. However, the proposed Plan's signage program will provide information on regulations required to promote safe use of the project area and resource protection. Appropriate signage and visual cues will also serve to clearly identify the designated public parking areas and public trails throughout the Plan area to avoid conflicts with private property and sensitive habitat areas. This also includes requirements for appropriate fencing and signage installation around restoration areas for purposes of identifying sensitive habitats and educating visitors of ESHA occurrence and/or restoration efforts. Therefore, with the implementation of these project design features, significant, long-term indirect impacts to vegetation communities are not anticipated.

5.3 Special-Status Plants

5.3.1 Direct Impacts

The proposed project would result in direct impacts to eight occurrences of Catalina mariposa lily, a CNPS List 4.2, and three individual Southern California black walnut trees (Dudek 2009). At the time of the surveys, the population estimates for Catalina mariposa lily were as follows: five separate occurrences had between 5–10 individuals; two separate occurrences had between

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10–25 individuals; and one separate occurrence had between 25–50 individuals. Based on these estimates, impacts to Catalina mariposa lily could range between 70–150 individuals based on current estimates. Impacts to these species are considered significant (Impact BIO-3).

5.3.2 Indirect Impacts

Short-Term Effects

Special-status plants would be subject to the same edge effects described above for vegetation communities. These impacts would be considered significant (Impact BIO-4).

Long-Term Effects

With implementation of the project design features described above, long-term indirect impacts to special-status plant species are not anticipated.

5.4 Special-Status Wildlife

5.4.1 Direct Impacts

As previously described, three special-status and/or sensitive wildlife species were detected within the study area during the biological reconnaissance surveys: monarch butterfly, Cooper's hawk, and Southern California rufous crowned sparrow.

The mature trees that form the riparian corridors within the study area may provide temporary autumnal roost sites for the monarch butterfly. However, implementation of the proposed improvements is not expected to result in direct impacts to the monarch butterfly, as the direct removal of designated butterfly trees is not anticipated as part of the proposed project (Dudek 2009).

Raptor species and a host of songbirds recorded in the study area likely use a variety of vegetation communities in the Plan area for foraging and nesting opportunities. Nesting opportunities will most likely occur in woodland areas where sycamores, willows, eucalyptus, alders, and coast live oaks are prevalent. Direct impacts to nesting birds could occur if tree removal occurs during the breeding season (February 15 through August 31). This would be considered a significant impact (Impact BIO-5).

While it is unlikely that California gnatcatchers are present in the Plan area, there is a possibility that this species could be present in areas supporting suitable habitat (i.e., typically California sagebrush scrub and its association) based on habitat assessments and the recent recordation of an individual gnatcatcher at the Conservancy's Malibu Bluffs property (note: because this

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occurrence was recorded by a non-permitted biologist, it is unclear whether or not the species observed was a California gnatcatcher or a blue-gray gnatcatcher). If California gnatcatchers are present, they could be directly impacted by construction activities. This would be considered a significant impact (Impact BIO-6).

5.4.2 Indirect Impacts

Short-Term Effects

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. The study area supports breeding and foraging habitat for a number of raptor species. These species, in addition to a host of migratory and resident songbirds, may utilize appropriate habitats within the study area for foraging or breeding purposes. In the event that work occurs during the migratory bird nesting season (February 15 through August 31), indirect impacts to special-status wildlife due to construction-related noise may occur; this would be considered a significant impact (Impact BIO-7).

Long-Term Effects

Potential long-term indirect impacts to special-status wildlife could include the following: habitat degradation due to exotic plant and animal invasion; the introduction of domestic pets to natural areas; habitat fragmentation due to trail and campsite development; increase in general human presence near natural areas; increases in intermittent noise levels at campsites (i.e., noise associated with tent construction, cooking functions, and conversation); trash and debris deposition; and increased population of nest predators in the study area, which could adversely affect breeding bird populations. These long-term, indirect impacts to special-status wildlife species would be significant (Impact BIO-8).

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5.5 Wildlife Corridors and Habitat Linkages

5.5.1 Direct Impacts

In an effort to secure public access and recreation, a number of federal, state, and local agencies are charged with preserving, acquiring, and enhancing lands and natural resources for the benefit of environmental protection, public enjoyment, and education (Dudek 2007). The Santa Monica Mountains Conservancy and Mountains Recreation and Conservation Authority work in cooperation with local, state, and federal agencies and organizations to acquire parkland, participate in vital planning processes, and to complete and manage major park improvement projects. The Plan also describes methods for establishing trail connections and filling "missing links" of the Coastal Slope Trail and connector trails, and for ensuring that adjacent lands are protected as natural and scenic areas to enhance the recreational experience of trail corridors.

The proposed Plan has been designed to avoid and/or minimize impacts to sensitive and special-status biological resources by focusing on constructing campsites and associated infrastructure in clustered, designed patterns and in disturbed, upland, and non-native land covers adjacent to existing trail corridors where human activity already exists, thus reducing impacts to wildlife movement and reducing adverse edge effects. Wildlife movement may be temporarily hindered by construction of the campsites, associated facilities, and trails/trail connectors. However, this impediment will be temporary in nature and wildlife species are expected to return to the area immediately following construction. It is important to note that the Plan provides low-impact camping opportunities; thus, implementation of the proposed Plan improvements are not expected to permanently restrict or impede wildlife movement within the study area. Upon Plan completion, wildlife species will continue to move unrestricted through the study area to other areas of high biological value. Therefore, direct impacts to wildlife corridors and habitat linkages are not expected to occur within the study area.

5.5.2 Indirect Impacts

The wildlife corridors and habitat linkages corridor would be subject to the same edge effects described above for special-status wildlife. These impacts would be considered significant (Impact BIO-9).

5.6 Cumulative Impacts

Cumulative impacts refer to incremental individual environmental effects of two or more projects when considered together. Taken individually, these impacts may be minor, but collectively they are significant, as they occur over a period of time.

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Implementation of the proposed project in conjunction with other planned state, local, federal, and private projects in the project vicinity would result in the cumulative loss of biological resources in the region. Proposed campsites, trails, restrooms, and parking facilities would encroach into areas currently supporting natural habitats. However, it is envisioned that the provision of compensatory mitigation required as part of this effort will offset the adverse impacts resulting from the project by eradicating large expanses of non-native species from the area and designing a native plant palette that meets the needs of nesting and foraging resident and migratory avifauna, adequately mitigating cumulative effects on biological resources.

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6.0 MITIGATION

The following mitigation measures will reduce significant impacts to biological resources, described above in Section 5.0, to less than significant.

6.1 Sensitive Vegetation Communities

Impact BIO-1: *Project construction would remove California sagebrush scrub, chaparral, purple needlegrass grassland, coast live oak, coast live oak/toyon-poison oak, and California walnut woodland, considered sensitive natural communities by the City of Malibu and County of Los Angeles.*

BIO-1.1 Mitigation for impacts to sensitive vegetation communities shall occur in accordance with the ratios and guidelines described in the County's LUP and the City's LCP, where appropriate. Approximately 57.03 acres of mitigation will be provided to compensate for 19.01 acres of direct impacts to sensitive vegetation communities, including sage scrub and chaparral communities, native grassland habitat, and riparian and bottomland habitats (Table 17).

**Table 17
Summary of Proposed Mitigation for Direct Sensitive Habitat Impacts**

Vegetation Community	Total Impacts (Acres)	Mitigation Ratio	Acreage
<i>Sage Scrub and Chaparral</i>			
California Sagebrush Scrub (including disturbed forms)	12.19	3:1	36.57
Chaparral (including disturbed forms)	5.85	3:1	17.55
<i>Subtotal</i>	<i>18.04</i>	—	<i>54.12</i>
<i>Native Grassland</i>			
Purple Needlegrass Grassland	0.04	3:1	0.12
<i>Riparian and Bottomland Habitats</i>			
Southern Willow Scrub/Red Willow-Arroyo Willow	0.08	3:1	0.24
California Sycamore – Coast Live Oak	0.85	3:1	2.55
<i>Subtotal</i>	<i>0.93</i>	—	<i>2.79</i>
Total	19.01¹	---	57.03

¹ This number excludes impacts to broad leaved upland tree dominated habitats (i.e., coast live woodland associations and California walnut woodland) because mitigation associated with these sensitive native communities will occur on a tree-by-tree basis at a 10:1 ratio per the impacts described in the tree protection plan.

BIO-1.2 Mitigation efforts shall occur on lands currently managed by the SMMC/MRCA. If it is determined during the planning process that additional land is required beyond what is supported by existing SMMC/MRCA-managed lands, then an

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appropriate off-site location(s) will be identified and approved by the CCC and CDFG prior to implementation.

- BIO-1.3 The mitigation sites shall be revegetated with indigenous plant species of local (Santa Monica Mountains) genetic stock. No plant species listed as problematic and/or invasive by the CNPS (<http://www.cnps.org/>), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (<http://www.cal-ipc.org/>), or as may be identified by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the federal government shall be utilized within the property. All plant palettes should be reviewed by a qualified biologist and/or habitat restoration specialist familiar with those plants native or endemic to this region of California.
- BIO-1.4 Development involving access and recreation improvements within areas containing one or more native oak, California walnut, western sycamore, alder, or toyon tree that has at least one trunk measuring 6 inches or more in diameter (or a combination of any two trunks measuring a total of 8 inches or more in diameter), measured at 4.5 feet above natural grade, shall be subject to the provisions of Chapter 5, "Native Tree Protection Ordinance" of the Malibu LCP Local Implementation Plan, which requires the preparation of a tree protection plan and mandates mitigation at a ratio of 10:1 for significant impacts to all native trees meeting the size dimensions above. In order to implement a cohesive mitigation plan for the project, trees planted in accordance with the tree protection plan may be integrated into the habitat restoration plan for the project.
- BIO-1.5 A habitat restoration plan to address impacts to both sensitive uplands and wetlands habitats shall be prepared by qualified personnel with experience in Southern California ecosystems and native plant revegetation techniques.
- BIO-1.6 The habitat restoration plan should include, at minimum, the following information:
- (a) the location of the mitigation site(s)
 - (b) the plant species to be used, container sizes, and seeding rates
 - (c) the plant materials' sources and lead time
 - (d) a schematic depicting the mitigation areas
 - (e) a planting schedule;

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- (f) a description of installation requirements, irrigation sources and methodology, erosion control, and maintenance and monitoring requirements;
- (g) a description of the goals of the restoration program
- (h) a weed eradication plan (i.e., measures to properly control exotic vegetation on site);
- (i) site-specific success criteria;
- (j) a detailed monitoring program;
- (k) contingency measures should the success criteria not be met;
- (l) a summary of the annual reporting requirements; and,
- (m) identification of the responsible party(ies) for meeting the success criteria and providing for conservation of the mitigation site(s) in perpetuity.

- BIO-1.7 Planting of the revegetation sites should occur between October 1 and April 30, when feasible, to take advantage of the winter/spring rainy season.
- BIO-1.8 All plantings shall have 100% survival the first year and 80% survival thereafter. The mitigation sites shall attain 75% cover of the native targeted species by year three and 90% cover of native targeted species by year five. Prior to the mitigation sites being determined successful, they shall be entirely without supplemental irrigation for a minimum of two consecutive years. Non-native species shall comprise 10% cover or less by year five.
- BIO-1.9 A report (describing as-built status of the revegetation program and including topographic maps and planting locations) shall be provided to the CCC (and ACOE, CDFG, and RWQCB for wetlands mitigation) for review within 90 days of mitigation site preparation and planting.
- BIO-1.10 An annual report shall be provided to the CCC and other reviewing resource agencies (ACOE, CDFG, and RWQCB for wetlands) by January 1 in years one through five (after planting the mitigation sites). The annual reports shall include (a) an overview of the mitigation efforts; (b) pre-project photos of all the mitigation areas taken from photo points to be used for all subsequent photos; (c) photos taken from each photo point established prior to project activities; (d) the number, by species, of plants replaced; (e) the survival, percentage cover, and

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height of both tree and shrub species; and (f) the methods used to assess these parameters.

BIO-1.11 Where minor alteration of natural streams for the purpose of stream crossings (vehicular or pedestrian) is necessary to provide access to and within public recreation areas, the following development standards shall be applied:

- Use of Arizona crossings shall be limited to repair and maintenance of existing, legal crossings consistent with the repair and maintenance provisions of Section 13.4.2, "Repair and Maintenance Activities," of the City of Malibu LCP Local Implementation Plan.
- All new stream crossings shall consist of a span bridge design that minimizes placement of any new structures within the streambed or channel and avoids removal of natural riparian vegetation to the maximum extent feasible.
- Construction activities shall be scheduled to occur during the dry season.
- Staging areas outside of the riparian canopy shall be identified and flagged for construction workers and to store materials.
- Monitoring of stream-crossing construction activities shall be conducted by a qualified biologist or environmental resource specialist. The biologist/resource specialist shall be responsible for advising construction workers on potential resource damage avoidance prior to the commencement of any on-site activities.
- These provisions shall not apply to existing or proposed pedestrian stream crossings along hiking trails where no alteration of the natural stream channel is required to accommodate access.

BIO-1.12 All new public restroom facilities shall consist of self-contained chemical or composting restrooms (except for new restrooms proposed at Ramirez Canyon Park), which shall be sited and designed to ensure that impacts to ESHA and water quality are avoided. Where feasible, self-contained restroom facilities shall be located a minimum of 200 feet from the top of bank of any adjacent stream, and in no case shall they be located less than 100 feet from the top of bank of any adjacent stream or the outer edge of riparian vegetation (except at Ramirez Canyon Park, at a limited (no more than 10 spaces) Latigo trailhead parking and picnic area for Escondido Canyon Park, where restroom facilities shall be located no less than 25 feet from top of stream bank), which ever is the most protective.

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Minimal grading to create minor berms around the facilities shall be allowed, provided it is not in violation of other LCP or LUP resource protection policies, to ensure run-off is contained in the vicinity and/or is conveyed and filtered through bioswales. Self-contained restroom facilities shall be maintained pursuant to manufacturer specifications at all times.

- BIO-1.13 In no case shall new support facilities (not associated with low-impact campsites) be located less than 100 feet from the top of bank of all streams or from the outer edge of riparian vegetation, whichever is the most protective (excepting support facilities within Ramirez Canyon Park, a limited [no more than 10 space] Latigo trailhead parking and picnic area for Escondido Canyon Park, and an Americans with Disabilities Act (ADA) compliant drop-off area at Corral Canyon Park, all of which may be located closer to the stream bank provided they are still no less than 25 feet from top of stream bank).
- BIO-1.14 All site preparation and construction activities shall incorporate standard construction BMPs including, but not limited to, straw bales, gravel bags, sand bags, the periodic watering of bare areas, and the direction of construction area drainage to existing storm drain facilities.
- BIO-1.15 Campsites shall be located a minimum of 100 feet from the top of bank of all streams or from the outer edge of riparian vegetation, whichever is the most protective. Reduced stream corridor setbacks may be permitted for low-impact campsites if a qualified biologist or environmental resource specialist determines, to the satisfaction of the reviewing body, that potential impacts to riparian corridors will be avoided or appropriately mitigated and that there is no alternative site design to meet these setback requirements given other environmental constraints such as sensitive habitat, archaeological resources or topography.
- BIO-1.16 Campsites shall be located in areas of level terrain, as much as feasible, to avoid the need for grading and the need for excessive maintenance requirements that may be necessary for substantially altered sites. Exceptions to this specific requirement shall be provided for campsites specifically designed to facilitate disabled access, in which case grading shall be minimized to the maximum extent feasible, and the development will still need to satisfy other resource protection requirements.

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- BIO-1.17 To the extent possible consistent with other resource protection policies, campsites shall be located in proximity to maintenance and/or administrative access points to provide for easy access and to minimize potential impacts to sensitive habitat areas associated with maintenance requirements.
- BIO-1.18 Where appropriate, native, indigenous vegetation of local genetic stock shall be planted to provide a buffer between campers and trail users and to screen camp facilities from adjacent trails, parking areas, and day-use facilities.
- BIO-1.19 No person shall make or maintain, nor aid and abet others in making or maintaining, a campfire or any other open fire in any of the park facilities covered by this report. Development, use restrictions, and brush maintenance for all campsites shall be strictly enforced.

Impact BIO-2: *Short-Term, Indirect Impacts on Sensitive Vegetation Communities*

- BIO-2.1 Prior to the issuance of a grading permit(s) for areas adjacent to ESHA, a biologist shall be retained and approved by the SMMC/MRCA and CDFG to monitor construction activities. The biologist will monitor all grading and other significant ground disturbing activities in or adjacent to open space areas to ensure that the project complies with the applicable standard conditions and mitigation measures.
- BIO-2.2 Prior to the commencement of grading operations or other activities involving significant soil disturbance, the work area shall be demarcated with temporary fencing or other markers clearly visible to construction personnel.

6.2 Special-Status Plants

Impact BIO-3: *Direct impacts to Special-Status Plants*

- BIO-3.1 Pre-construction rare plant surveys shall be conducted in all areas supporting suitable habitat for those special-status species that have a moderate to high potential to occur in the study area as described in Table 8. The surveys shall be conducted during the appropriate time of year during the blooming periods for each species to the extent practicable.
- BIO-3.2 See BIO-1.11 through 1.19.

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- BIO-3.3 If the final trail alignment is designed such that all impacts to Catalina mariposa lily are avoided, then no additional mitigation will be required. However, in the event that impacts to Catalina mariposa lily are anticipated, additional field surveys to determine the amount of area covered by this species and approximate densities shall be conducted during the appropriate blooming period prior to site preparation and/or grading activities in areas potentially supporting this species. Locations of individual plants or plant populations shall be appropriately flagged, and (1) seeds from a representative mix of individual plants shall be collected and sown in appropriate habitats, or on cut slopes, and (2) the bulbs shall be harvested and transplanted to areas of appropriate habitat that are not subject to further disturbance. The goal will be to produce replacement populations of in-kind plants reaching maturity, at a ratio of 1:1 with respect to the number and density of plants (estimated) to be lost.
- BIO-3.4 A Mitigation and Monitoring Plan for the Catalina mariposa lily shall be prepared and submitted to the SMMC/MRCA and CCC for review and approval prior to ground disturbance to occupied habitat. Upon approval, the plan shall be implemented by the Applicant or its designee. The revised plan shall demonstrate the feasibility of enhancing or restoring Catalina mariposa lily habitat in selected areas to be managed as natural open space without conflicting with other resource management objectives. Habitat replacement/enhancement shall be at a 1:1 ratio (acres restored/enhanced to acres impacted). The revised plan shall specify: (1) the location of mitigation sites; (2) a description of "target" vegetation; (3) site preparation measures; (4) methods for the removal of non-native plants; (5) the source of all plant propagules and the quantity and species of seed or potted stock of all plants to be introduced or planted into the restoration/enhancement areas; (6) a schedule and action plan to maintain and monitor the enhancement/restoration areas, to include at minimum, qualitative annual monitoring for revegetation success and site degradation due to erosion, trespass, or animal damage for a period no less than 2 years; (7) measures such as fencing, signage, or security patrols as needed; and (8) contingency measures such as replanting, weed control, or erosion control to be implemented if habitat improvement/restoration efforts are not successful. Catalina mariposa lily propagules (seed or bulbs) shall be introduced onto the site when habitat restoration/enhancement is judged successful, determined by: 1% cover and species richness of native species reach 50% of their cover and species richness at undisturbed occupied Catalina mariposa lily habitat at reference sites; and (2) the replacement vegetation has persisted at least one summer without irrigation. The

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revised plan shall specify methods to collect propagules and introduce Catalina mariposa lily into these mitigation sites. Introductions shall use source material (seeds or bulbs) from no more than 1.0 mile distant, similar slope exposures, and no more than 500 feet of elevational difference from the mitigation site, unless otherwise approved by SMMC/MRCA and the CCC. Bulbs may be salvaged and transplanted from Catalina mariposa lily occurrences to be lost; alternately, seed may be collected from protected occurrences, following CDFG-approved seed collection guidelines (i.e., Memorandum of Understanding for rare plant seed collection). The Applicant or a designee shall monitor the reintroduction sites for no fewer than 5 additional years to estimate Catalina mariposa lily survivorship (for bulbs) or seedling establishment (for seeded sites).

- BIO-3.5 While not observed by Dudek during 2009 surveys, Coulter's saltbush has been previously documented on the Conservancy's Malibu Bluffs property along a coastal bluff near Malibu Road. If Coulter's saltbush is observed during future surveys and found to be impacted by the final trail alignment, the Applicant shall retain a qualified, experienced biologist to prepare a comprehensive translocation plan for Coulter's saltbush that will include the location of a suitable receptor site. The plan shall be prepared in cooperation with the USFWS and the CDFG. A qualified biologist shall supervise and monitor implementation of the plan. Once the population of Coulter's saltbush on site is transplanted to a suitable receptor site, a qualified biologist shall monitor the population for 5 years, documenting the methods and results, including implementation of any requisite maintenance and/or remedial measures in annual reports. Establishment of a viable population shall be deemed successful and the performance standards met if at least half (i.e., nine) of the plants are evident in any given year following the third year of the monitoring period. This mitigation standard may be adjusted at any time prior to the end of the monitoring period under mutual agreement by the Applicant and the resource agencies (i.e., USFWS and CDFG), particularly if factors beyond human control limit the ability to establish a viable population of Coulter's saltbush within the 5-year monitoring period. If it becomes apparent that the performance standards cannot be achieved, the Applicant and resource agencies may agree to extend the monitoring period and/or implement remedial measures.

Impact BIO-4: *Short-Term, Indirect Impacts to Special-Status Plants*

- BIO-4.1 See BIO-2.1 and BIO-2.2.

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6.3 Special-Status Wildlife

Impact BIO-5: *Direct Impacts to Nesting Raptors and Songbirds*

BIO-5.1 To avoid direct impacts to nesting raptors and songbirds, construction of the project shall be phased to avoid the migratory bird nesting season (typically February 15 through August 31). If project construction must occur during the migratory bird nesting season, a focused avian nesting survey shall be performed in the development footprint and within 300 feet of the proposed development by a qualified biologist within 72 hours prior to construction. If an active bird nest is found, the nest will be flagged and mapped on the construction plans along with an appropriate buffer, which will be determined by the biologist in consultation with the USFWS and CDFG based on the biology of the species. The nest area will be avoided until the nest is vacated and the juveniles have fledged. The nest area will be demarcated in the field with flagging and stakes or construction fencing. Please note that construction will be permitted in areas outside of the nest and buffer area. If nesting birds are present on site, a biological monitor shall be present daily while the nest(s) is active to ensure that no impacts to nesting birds occur.

Impact BIO 6: *Direct Impacts to Potentially Occurring California Gnatcatcher*

BIO-6.1 To avoid potential direct impacts to the California gnatcatcher, construction shall be conducted outside of the breeding season for this species (February 15–August 31), where practicable. If construction must occur during the breeding season for the California gnatcatcher, the following measures shall be implemented:

- Prior to any construction-related activity, the biologist shall survey up to 500 feet from the proposed construction areas in accordance with current USFWS protocol for this species.
- If no California gnatcatchers are found to be present within areas up to 500 feet of the proposed construction area, then project construction may proceed without restrictions.
- If California gnatcatchers are found in on site or adjacent areas, construction within 500 feet shall not commence until temporary noise barrier(s) are in place between the construction area and occupied gnatcatcher habitat. The location of the noise barrier(s) shall be determined by the biologist and acoustician. Construction noise levels

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shall be monitored at the edge of occupied habitat with the noise barrier(s) in place. Other measures shall be implemented, as necessary, to reduce noise levels to below 60 dB(A), or to the ambient noise level if it already exceeds 60 dB(A) at the edge of the occupied habitat.

- If California gnatcatchers are found on site or in adjacent areas, construction noise shall be monitored once weekly to verify that noise at the edge of occupied habitat is maintained below 60 dB(A), or to the ambient noise level if it already exceeds 60 dB(A). If this requirement cannot be met, other measures shall be implemented as necessary, to reduce noise levels to below 60 dB(A) or to the ambient noise level if it already exceeds 60 dB(A). Such measures may include, but are not limited to, placement of construction equipment and limitations on the simultaneous use of equipment.

Impact BIO-7: *Short-term Indirect Impacts to Nesting Birds*

BIO-7.1 See BIO-5.1.

Impact BIO-8: *Long-Term Indirect Impacts to Special-Status Wildlife Species*

BIO-8.1 A Contractor Education Program shall be prepared and implemented to apprise all construction personnel and subcontractors of environmental restrictions relevant to construction and the penalties for violations. A protocol for communicating problems or potential construction changes that may affect biological resources shall be established with the Contractor and the Applicant. Workers shall be made aware of protected habitat and the occurrence of sensitive species in the area through the use of photos or on-the-ground demonstration. The sensitivity of certain special-status wildlife species to human activities, the legal protection afforded to those species, and the roles and authority of monitoring biologists shall also be discussed.

BIO-8.2 The monitoring biologist shall be on site during any clearing of habitat (annual ground cover, shrubs, or trees). The monitoring biologist will flush sensitive species (avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities.

BIO-8.3 Avoid and/or minimize the use of lighting within the study area. In proposed parking facilities, lighting fixtures should comply with local standards for

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shielded low sodium, low wattage lighting designed to cut glare and light scatter and to direct light away from sensitive biological resources.

- BIO-8.4 To ensure that intermittent noise levels do not adversely affect adjacent wildlife uses, the SMMC/MRCA shall be required to prepare and submit to the CCC for review a set of campground noise restrictions, which would include at minimum the establishment and enforcement of "quiet hours" to minimize potential minor increases in noise levels at campground and parking facilities.
- BIO-8.5 Protect wildlife by providing trash receptacles and food storage lockers for camping areas.
- BIO-8.6 Trash cans with secure lids shall be provided at trailheads, parking lots, and campsites. Trash cans shall be checked and emptied if necessary four to seven days per week (depending on use, season, etc.) Trash would be taken by MRCA staff to King Gillette Ranch, where trash service currently is provided. All trash cans at trailheads or campsites would be accessed by foot or vehicle (e.g., maintenance truck). The maintenance truck would access the trash cans at specific maintenance access points. MRCA will pick up trash along trails (during patrols or maintenance/monitoring) by hand or by hand tool. Sources of funding for maintenance include campground fees and MRCA discretionary revenue derived from filming, leases, and other sources.
- BIO-8.7 Dogs must be on a leash at all times while on parklands.
- BIO-8.8 Provide routine trail and campsite maintenance to ensure that outdoor enthusiasts are limiting their camping and hiking experience to the campsites and trails provided.
- BIO-8.9 To enforce campground restrictions, a camp host, staff maintenance person, or ranger who is wildland fire-trained shall be on site at each park property during those times when camping is permitted. This shall be accomplished by either providing for residency of a camp host, staff maintenance person, or ranger at existing park properties or by ensuring that support facilities and apparatus are provided to sustain continuous daily and nightly patrols to strictly enforce the "No Campfire" policy and use restrictions relating to hazardous conditions. Park patrols shall be conducted daily at each park property when campers are present. Adjustments to patrol procedures will be made as necessary to ensure park rule enforcement and compliance.

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- BIO-8.10 No person shall make or maintain, nor aid and abet others in making or maintaining, a campfire or any other open fire in any of the park facilities covered by this report. Development, use restrictions, and brush maintenance for all campsites shall be strictly enforced.
- BIO-8.11 Signs shall be included in park development projects and/or shall be provided at existing facilities where determined appropriate for the purpose of identifying sensitive habitats and educating visitors of ESHA occurrence and/or restoration efforts.
- BIO-8.12 Regulatory signs shall be provided at park entrance areas, staging areas or gathering points and may include, but need not be limited to, the following information: 1) permitted use of the area or facility being posted, 2) general regulations at trailheads, 3) general regulations at jurisdiction boundaries, 4) regulations required to promote safe use of an area (including limitations on fires) and resource protection, and 5) identification of private property boundaries.
- BIO-8.13 All proposed park fencing shall be designed to allow for wildlife passage.
- BIO-8.14 Motorized vehicle access by park personnel within parklands shall avoid sensitive habitat areas and shall be limited to existing maintenance routes to the maximum extent feasible, and shall be for the purposes of conducting maintenance, providing emergency services, conducting patrols, implementing habitat restoration, assisting accessibility to camps with fully accessible campsites and facilities, and providing other park services.

6.4 Wildlife Corridors and Habitat Linkages

Impact BIO-9: *Long-Term, Indirect Impacts on Wildlife Corridors and Habitat Linkages*

- BIO-9.1 See BIO-8.1 through BIO-8.14.

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APPENDIX A
Cumulative List of Plant Species

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Cumulative List of Plant Species

VASCULAR PLANT SPECIES

SPHENOPSIDS

***EQUISETACEAE* – HORSETAIL FAMILY**

Equisetum hyemale – common scouring-rush

FERNS

***BLECHNACEAE* – DEER FERN FAMILY**

Woodwardia fimbriata – giant chain fern

***DENNSTAEDTIACEAE* – BRACKEN FAMILY**

Pteridium aquilinum – western bracken

***DRYOPTERIDACEAE* – WOOD FERN FAMILY**

Dryopteris arguta – coastal wood fern

***PTERIDACEAE* – BRAKE FAMILY**

Adiantum jordani – California maiden-hair

Pellaea mucronata – bird's-foot fern

ANGIOSPERMAE (DICOTYLEDONES)

***AIZOACEAE* – FIG-MARIGOLD FAMILY**

* *Carpobrotus edulis* – hottentot fig

* *Mesembryanthemum crystallinum* – crystalline iceplant

***AMARANTHACEAE* – AMARANTH FAMILY**

Amaranthus blitoides – prostrate amaranth

***ANACARDIACEAE* – SUMAC FAMILY**

Malosma laurina – laurel sumac

Rhus integrifolia – lemonadeberry

Rhus ovata – sugar bush

Rhus trilobata var. *pilosissima* – skunkbrush

* *Schinus molle* – Peruvian pepper tree

Toxicodendron diversilobum – poison oak

APPENDIX A (Continued)

APIACEAE – CARROT FAMILY

Apiastrum angustifolium – wild celery

- * *Conium maculatum* – common poison hemlock
- * *Foeniculum vulgare* – fennel
- Lomatium utriculatum* – common lomatium

APOCYNACEAE – DOGBANE FAMILY

- * *Nerium oleander* – oleander
- * *Vinca major* – greater periwinkle

ASCLEPIADACEAE – MILKWEED FAMILY

Asclepias fascicularis – narrow-leaf milkweed

ASTERACEAE – SUNFLOWER FAMILY

Achillea millefolium – yarrow, milfoil

- * *Ageratina adenophora* – thoroughwort
- Ambrosia psilostachya* – western ragweed
- * *Anthemis cotula* – mayweed
- Artemisia californica* – California sagebrush
- Artemisia douglasiana* – mugwort
- Baccharis plummerae* – Plummer's baccharis
- Baccharis pilularis* – chaparral broom, coyote brush
- Baccharis salicifolia* – mulefat
- * *Bidens pilosa* – beggar-ticks, Spanish-needles
- Brickellia californica* – California brickellbush
- * *Carduus pycnocephalus* – Italian thistle
- * *Centaurea melitensis* – tocalote
- Cirsium occidentale* – California thistle
- * *Cirsium vulgare* – bull thistle
- Conyza canadensis* – horseweed
- Corethrogyne filaginifolia* – sand-aster
- * *Cotula coronopifolia* – brass buttons
- * *Cynara cardunculus* – cardoon, artichoke thistle
- Deinandra [=Hemizonia] fasciculata* – fascicled tarweed
- * *Delairea odorata* – German ivy
- * *Dimorphotheca aurantiaca* – African daisy
- * *Encelia californica* – California encelia
- Erigeron foliosus* var. *foliosus* – leafy daisy
- Eriophyllum confertiflorum* – golden yarrow
- * *Glebionis coronaria* – crown daisy

APPENDIX A (Continued)

- Gnaphalium bicolor* – bicolor cudweed
Gnaphalium californicum – California everlasting
* *Gnaphalium luteo-album* – white-head cudweed
Grindelia camporum var. *bracteosa* – bract gumweed
Hazardia squarrosa ssp. *grindelioides* – saw-toothed goldenbush
Helianthus annuus – common sunflower
Helianthus gracilentus – slender sunflower
* *Helminthotheca echioides* – bristly ox-tongue *Heterotheca grandiflora* – telegraph weed
* *Hypochaeris glabra* – smooth cat's ear
Isocoma menziesii ssp. *menziesii* – white flowered goldenbush
Jaumea carnosa – marsh jaumea
* *Lactuca serriola* – prickly lettuce
Leptosyne californica – California coreopsis
Logfia filaginoides – California filago
* *Logfia gallica* – narrow-leaf filago
Malacothrix saxatilis var. *tenuifolia* – cliff aster
Pluchea odorata – salt marsh fleabane
Pseudognaphalium canescens – everlasting cudweed
Rafinesquia californica – California chicory
Senecio californicus – California butterweed
* *Silybum marianum* – blessed milkthistle
Solidago sp. – goldenrod
Solidago velutina ssp. *californica* – California goldenrod
* *Sonchus asper* – prickly sow thistle
* *Sonchus oleraceus* – common sow thistle
Stephanomeria exigua ssp. *coronaria* – small wreath-plant
Stephanomeria virgata – twiggy wreath plant
Symphotrichum subulatum var. *ligulatum* – slim aster
* *Taraxacum officinale* – common dandelion
Uropappus lindleyi – silver puffs
Venegasia carpesioides – Jesuit sunflower
Xanthium spinosum – spiny cocklebur
Xanthium strumarium – cocklebur

BATACEAE – SALTWORT FAMILY

Batis maritima – saltwort, beachwort

BETULACEAE – BIRCH FAMILY

Alnus rhombifolia – white alder

APPENDIX A (Continued)

BORAGINACEAE – BORAGE FAMILY

- Amsinckia menziesii* – common fiddleneck
- Cryptantha muricata* – prickly Cryptantha
- Heliotropium curassavicum* – salt heliotrope
- Plagiobothrys canescens* – valley popcornflower

BRASSICACEAE – MUSTARD FAMILY

- * *Brassica nigra* – black mustard
- * *Capsella bursa-pastoris* – shepherd's purse
- Erysimum capitatum* – western wallflower
- Guillenia lasiophylla* – California mustard
- * *Hirschfeldia incana* – short-pod mustard
- * *Lepidium appelianum* – white top
- * *Lobularia maritima* – sweet alyssum
- Nasturtium officinale* – water cress
- * *Raphanus sativus* – radish
- * *Sisymbrium officinale* – hedge mustard

CAMPANULACEAE – BELLFLOWER FAMILY

- Nemacladus ramosissimus* – threadstem

CANNABACEAE – HEMP FAMILY

- * *Cannabis sativa* – marijuana

CAPPARACEAE – CAPER FAMILY

- Isomeris arborea* – bladderpod

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

- Lonicera subspicata* var. *denudata* – southern honeysuckle
- Sambucus nigra* ssp. *canadensis* – blue elderberry
- Symphoricarpos mollis* – creeping snowberry, trip vine

CARYOPHYLLACEAE – PINK FAMILY

- * *Silene gallica* – common catchfly
- Silene laciniata* ssp. *laciniata* – southern pink
- * *Stellaria media* – chickweed

CACTACEAE – CACTUS FAMILY

- Opuntia littoralis* – coastal prickly-pear

APPENDIX A (Continued)

CHENOPODIACEAE – GOOSEFOOT FAMILY

- Atriplex lentiformis* ssp. *lentiformis* – big saltbush
- * *Atriplex semibaccata* – Australian saltbush
- Atriplex triangularis* – fat hen, spearscale, spearscale orache
- * *Chenopodium album* – lamb's quarters
- Chenopodium californicum* – California goosefoot
- * *Salsola tragus* – Russian thistle, tumbleweed
- Suaeda californica* – California sea-blite

CISTACEAE – ROCK-ROSE FAMILY

- Helianthemum scoparium* – peak rush-rose

CONVOLVULACEAE – MORNING-GLORY FAMILY

- Calystegia macrostegia* – morning-glory
- * *Convolvulus arvensis* – bindweed, orchard morning-glory

CRASSULACEAE – STONECROP FAMILY

- Crassula connata* – pigmy weed
- Dudleya lanceolata* – lanceleaf or coastal dudleya
- Dudleya pulverulenta* – chalky live-forever

CUCURBITACEAE – GOURD FAMILY

- Cucurbita foetidissima* – calabazilla
- Marah macrocarpus* var. *macrocarpus* – manroot, wild-cucumber

CUSCUTACEAE – DODDER FAMILY

- Cuscuta californica* – dodder

DATISCACEAE – DASTICA FAMILY

- Datisca glomerata* – Durango root

EUPHORBIACEAE – SPURGE FAMILY

- Chamaesyce albomarginata* – rattlesnake weed
- Croton setigerus* – doveweed, turkey mullein
- Euphorbia crenulata* – Chinese caps
- * *Euphorbia terracina* – Geraldton carnation weed
- * *Ricinus communis* – castor bean

FABACEAE – PEA FAMILY

- Amorpha californica* – California false indigo
- Astragalus* sp. – locoweed

APPENDIX A (Continued)

Astragalus trichopodus var. *lonchus* – ocean locoweed

Hoita macrostachya – leather root

Lathyrus vestitus var. *vestitus* – wild sweet pea, common Pacific pea

Lotus micranthus – small flowered lotus

Lotus purshianus var. *purshianus* – Spanish-clover

Lotus scoparius var. *scoparius* – deerweed

Lupinus succulentus – arroyo lupine

Lupinus bicolor – miniature lupine

Lupinus hirsutissimus – stinging lupine

Lupinus longifolius – bush lupine

* *Medicago polymorpha* – California burclover

* *Melilotus indicus* – sourclover

* *Melilotus officinalis* – white sweetclover

* *Spartium junceum* – Spanish broom

Vicia americana ssp. *americana* – American vetch

* *Vicia villosa* ssp. *villosa* – winter vetch

FAGACEAE – OAK FAMILY

Quercus agrifolia var. *agrifolia* – coast live oak

Quercus berberidifolia – scrub oak

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutarium* – red-stemmed filaree/storksbill

GROSSULARIACEAE – CURRANT FAMILY

Ribes sp. – currant

Ribes californicum var. *hesperium* – hillside gooseberry

Ribes speciosum – fuschia-flowered gooseberry

HYDROPHYLLACEAE – WATERLEAF FAMILY

Emmenanthe penduliflora var. *penduliflora* – whispering bells

Eriodictyon crassifolium – thick leaved yerba santa, yerba santa

Phacelia cicutaria – caterpillar phacelia

Phacelia grandiflora – large flowered phacelia

Phacelia ramosissima – branching phacelia

Phacelia tanacetifolia – lacy Phacelia, tansy leafed phacelia

JUGLANDACEAE – WALNUT FAMILY

Juglans californica – Southern California black walnut

APPENDIX A (Continued)

LAURACEAE – LAUREL FAMILY

Umbellularia californica – California bay

LAMIACEAE – MINT FAMILY

Lamium amplexicaule – henbit, dead nettle

* *Marrubium vulgare* – horehound

Mentha arvensis – American wild mint, field mint, wild mint

Salvia apiana – white sage

Salvia leucophylla – purple sage

Salvia mellifera – black sage

Salvia spathacea – pitcher sage

Stachys – hedge-nettle

Stachys bullata – California hedge-nettle

Trichostema lanatum – woolly bluecurls

LOASACEAE – STICK-LEAF FAMILY

Mentzelia micrantha – small-flower stick-leaf

MALVACEAE – MALLOW FAMILY

Malacothamnus fasciculatus – chaparral bushmallow

* *Malva parviflora* – cheeseweed, little mallow

Malvella leprosa – alkali-mallow, whiteweed

MORACEAE – MULBERRY FAMILY

* *Ficus carica* – fig (cult.)

MYOPORACEAE – MYOPORUM FAMILY

* *Myoporum laetum* – ngaio, myoporum

MYRTACEAE – MYRTLE FAMILY

* *Eucalyptus* sp. – eucalyptus

* *Eucalyptus globulus* – blue gum

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

* *Bougainvillea* sp. – bougainvillea

Mirabilis laevis var. *crassifolia* – California four o'clock, wishbone bush

ONAGRACEAE – EVENING-PRIMROSE FAMILY

Camissonia californica – false-mustard

Camissonia cheiranthifolia ssp. *suffruticosa* – beach evening primrose

Camissonia intermedia – intermediate sun cups

APPENDIX A (Continued)

Clarkia purpurea ssp. *purpurea* – large clarkia

Epilobium canum ssp. *canum* – California fuchsia, zauchernia

Epilobium ciliatum ssp. *ciliatum* – willow herb

***OXALIDACEAE* – WOOD-SORREL FAMILY**

- * *Oxalis pes-caprae* – Bermuda buttercup

***PAPAVERACEAE* – POPPY FAMILY**

Dendromecon rigida – bush poppy

Eschscholzia caespitosa – tufted gold-poppy

Eschscholzia californica – California poppy

***PLANTAGINACEAE* – PLANTAIN FAMILY**

- * *Plantago lanceolata* – English plantain

- * *Plantago major* – common plantain

***PLATANACEAE* – SYCAMORE FAMILY**

Platanus racemosa – western sycamore

***POLYGALACEAE* – MILKWORT FAMILY**

Polygala cornuta var. *fishiae* – Fish's milkwort

***POLYGONACEAE* – BUCKWHEAT FAMILY**

Chorizanthe staticoides – Turkish rugging

Eriogonum cinereum – ashyleaf buckwheat

Eriogonum fasciculatum var. *foliolosum* – California buckwheat

Eriogonum parvifolium – cliff buckwheat

Polygonum sp. – knotweed

- * *Polygonum arenastrum* – common knotweed, doorweed

- * *Rumex crispus* – curly dock

***PORTULACACEAE* – PURSLANE FAMILY**

Calyptidium monandrum – common calyptidium

Claytonia perfoliata var. *perfoliata* – miner's-lettuce

- * *Portulaca oleracea* – common purslane

***PRIMULACEAE* – PRIMROSE FAMILY**

- * *Anagallis arvensis* – scarlet pimpernel

Dodecatheon clevelandii ssp. *clevelandii* – Padre's shooting star

APPENDIX A (Continued)

RANUNCULACEAE – CROWFOOT FAMILY

- Clematis lasiantha* – pipestems
- Clematis ligusticifolia* – virgin's bower, yerba de chiva
- Delphinium* sp. – larkspur
- Ranunculus californicus* – buttercup

RHAMNACEAE – BUCKTHORN FAMILY

- Ceanothus cuneatus* var. *cuneatus* – buckbrush
- Ceanothus megacarpus* var. *megacarpus* – bigpod ceanothus
- Ceanothus spinosus* – greenbark ceanothus
- Frangula californica* – California coffeeberry
- Rhamnus crocea* – spiny redberry
- Rhamnus ilicifolia* – holly-leaf redberry

ROSACEAE – ROSE FAMILY

- Adenostoma fasciculatum* – chamise
- Cercocarpus betuloides* var. *betuloides* – birch-leaf mountain-mahogany
- Heteromeles arbutifolia* – toyon
- Prunus ilicifolia* – islay, holly-leaf cherry
- Rosa californica* – California rose
- * *Rubus discolor* – Himalaya blackberry
- Rubus ursinus* – California blackberry

RUBIACEAE – MADDER FAMILY

- Galium angustifolium* – narrow-leaved bedstraw
- * *Galium aparine* – goose grass

SALICACEAE – WILLOW FAMILY

- Populus fremontii* ssp. *fremontii* – alamo or Fremont cottonwood
- Salix exigua* – narrow-leaved willow
- Salix laevigata* – red willow
- Salix lasiolepis* – arroyo willow

SCROPHULARIACEAE – FIGWORT FAMILY

- Antirrhinum kelloggii* – climbing snapdragon
- Castilleja affinis* – Indian paintbrush
- Cordylanthus rigidus* – rigid bird's beak
- Keckiella cordifolia* – climbing bush penstemon, heart leaved keckiella
- Mimulus aurantiacus* – coast monkey flower, bush monkey flower
- Mimulus cardinalis* – scarlet monkey flower

APPENDIX A (Continued)

Mimulus guttatus – seep monkey flower, yellow monkey flower

Penstemon spectabilis – showy penstemon

Scrophularia californica var. *floribunda* – California figwort

- * *Veronica anagallis-aquatica* – water speedwell

SOLANACEAE – NIGHTSHADE FAMILY

- * *Datura stramonium* – jimson weed

Datura wrightii – jimson weed

- * *Nicotiana glauca* – tree tobacco

Solanum douglasii – Douglas' nightshade

Solanum xanti – chaparral nightshade

TAMARICACEAE – TAMARISK FAMILY

- * *Tamarix ramosissima* – tamarisk

TROPAEOLACEAE – NASTURTIUM FAMILY

- * *Tropaeolum majus* – garden nasturtium

ULMACEAE – ELM FAMILY

- * *Ulmus parvifolia* – Chinese elm

URTICACEAE – NETTLE FAMILY

Urtica dioica – stinging nettle

Urtica urens – dwarf nettle

VERBENACEAE – VERVAIN FAMILY

Verbena lasiostachys var. *lasiostachys* – western verbena

ANGIOSPERMAE (MONOCOTYLEDONES)

AGAVACEAE – AGAVE FAMILY

- * *Agave* sp. – agave (cult)

ARECACEAE – PALM FAMILY

- * *Phoenix canariensis* – Canary Island date palm

- * *Washingtonia robusta* – Mexican fan palm

CYPERACEAE – SEDGE FAMILY

Carex praegracilis – cluster field sedge

Cyperus eragrostis – tall flatsedge

- * *Cyperus involucratus* – African umbrella plant

APPENDIX A (Continued)

IRIDACEAE – IRIS FAMILY

- Iris* sp. – iris (cult.)
- Sisyrinchium bellum* – blue-eyed-grass

LILIACEAE – LILY FAMILY

- * *Aspodelus fisatulsus* – hollow-stem aspodel
- Bloomeria crocea* – common goldenstar
- Calochortus* sp. – lily
- Calochortus catalinae* – Catalina mariposa lily
- Calochortus plummerae* – Plummer's mariposa lily
- Chlorogalum pomeridianum* – soap plant
- Dichelostemma capitatum* ssp. *capitatum* – blue dicks
- Lilium humboldtii* var. *ocellatum* – Humboldt lily
- Hesperoyucca whipplei* – Our Lord's candle
- Zigadenus fremontii* – white star lily

POACEAE – GRASS FAMILY

- * *Agrostis viridis* – water bent
- * *Arundo donax* – giant reed
- * *Avena barbata* – slender wild oat
- * *Avena fatua* – wild oat
- Bromus carinatus* – California brome
- * *Bromus diandrus* – ripgut grass
- * *Bromus hordeaceus* – soft chess
- * *Bromus rubens* – foxtail chess
- * *Cortaderia jubata* – pampas grass
- * *Cynodon dactylon* – Bermuda grass
- * *Dactylis glomerata* – orchard grass
- Distichlis spicata* – saltgrass
- * *Ehrharta erecta* – Ehrharta
- * *Festuca pratensis* – meadow fescue
- * *Hordeum* sp. – barley
- * *Hordeum marinum* ssp. *loprinum* – Mediterranean barley
- * *Lamarckia aurea* – golden-top
- Leymus condensatus* – giant wild rye
- * *Lolium perenne* – English ryegrass, perennial rye grass
- Melica imperfecta* – coast range melic
- Muhlenbergia rigens* – deergrass
- Nassella lepida* – foothill needlegrass

APPENDIX A (Continued)

Nassella pulchra – purple needlegrass

Pennisetum setaceum – fountaingrass

* *Piptatherum miliaceum* – smilo grass

* *Poa* sp. – bluegrass

* *Poa annua* – annual bluegrass

Poa secunda ssp. *secunda* – one-sided bluegrass

* *Polypogon monspeliensis* – annual beard grass

* *Schismus barbatus* – Mediterranean schismus

Vulpia microstachys var. *pauciflora* – fescue, few flowered fescue

* *Vulpia myuros* – foxtail fescue, rat tail fescue

TYPHACEAE – CATTAIL FAMILY

Typha domingensis – slender cattail

Typha latifolia – broad-leaved cattail

* signifies introduced (non-native) species

APPENDIX B

Cumulative List of Wildlife Species

APPENDIX B
Cumulative List of Wildlife Species

WILDLIFE SPECIES – VERTEBRATES

AMPHIBIANS

HYLIDAE – TREEFROGS

Hyla cadaverina – California treefrog

Hyla regilla – Pacific treefrog

REPTILES

IGUANIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

Phrynosoma coronatum – coast horned lizard

Uta stansburiana – side-blotched lizard

COLUBRIDAE – COLUBRID SNAKES

Hypsiglena torquata – spotted night snake

Lampropeltis getulua – common kingsnake

Lampropeltis zonata – California mountain kingsnake

Pituophis melanoleucus – gopher snake

Thamnophis hammondi – two-striped garter snake

VIPERIDAE – VIPERS

Crotalus viridis – western rattlesnake

BIRDS

PELECANIDAE – PELICANS

Pelecanus occidentalis – brown pelican

ACCIPITRIDAE – HAWKS

Accipiter cooperii – Cooper's hawk

Buteo jamaicensis – red-tailed hawk

Buteo lineatus – red-shouldered hawk

FALCONIDAE – FALCONS

Falco sparverius – American kestrel

PHASIANIDAE – PHEASANTS AND QUAILS

Callipepla californica – California quail

APPENDIX B (Continued)

RALLIDAE – RAILS AND GALLINULES

Fulica americana – American coot

LARIDAE – GULLS AND TERNS

Larus sp. – gull

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

APODIDAE – SWIFTS

Aeronautes saxatalis – white-throated swift

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

Selasphorus rufus – rufous hummingbird

PICIDAE – WOODPECKERS

Colaptes auratus – northern flicker

Melanerpes formicivorus – acorn woodpecker

TYRANNIDAE – TYRANT FLYCATCHERS

Contopus cooperi – olive-sided flycatcher

Empidonax difficilis – Pacific-slope flycatcher

Myiarchus cinerascens – ash-throated flycatcher

Sayornis nigricans – black phoebe

Sayornis saya – Say's phoebe

Tyrannus vociferans – Cassin's kingbird

Tyrannus verticalis – western kingbird

HIRUNDINIDAE – SWALLOWS

Hirundo rustica – barn swallow

Stelgidopteryx serripennis – northern rough-winged swallow

CORVIDAE – JAYS AND CROWS

Aphelocoma californica – western scrub-jay

Corvus brachyrhynchos – American crow

Corvus corax – common raven

PSITTACIDAE – TRUE PARROTS

* *Nandayus nenday* – black hooded parakeet

APPENDIX B (Continued)

PARIDAE – TITMICE

Baeolophus inornatus – oak titmouse

AEGITHALIDAE – BUSHTITS

Psaltriparus minimus – bushtit

TROGLODYTIDAE – WRENS

Catherpes mexicanus – canyon wren

Thryomanes bewickii – Bewick's wren

Troglodytes aedon – house wren

REGULIDAE – KINGLETS

Regulus calendula – ruby-crowned kinglet

SYLVIIDAE – GNATCATCHERS

Polioptila caerulea – blue-gray gnatcatcher

TURDIDAE – THRUSHES AND BABBLERS

Catharus guttatus – hermit thrush

Catharus ustulatus – Swainson's thrush

Sialia mexicana – western bluebird

Turdus migratorius – American robin

TIMALIIDAE – LAUGHING THRUSH AND WRENTIT

Chamaea fasciata – wrentit

MIMIDAE – THRASHERS

Mimus polyglottos – northern mockingbird

Toxostoma redivivum – California thrasher

VIREONIDAE – VIREOS

Vireo gilvus – warbling vireo

PARULIDAE – WOOD WARBLERS

Dendroica coronata – yellow-rumped warbler

Dendroica petechia – yellow warbler

Dendroica occidentalis – hermit warbler

Dendroica townsendi – Townsend's warbler

Geothlypis trichas – common yellowthroat

Vermivora celata – orange-crowned warbler

Wilsonia pusilla – Wilson's warbler

APPENDIX B (Continued)

EMBERIZIDAE – BUNTINGS AND SPARROWS

- Aimophila ruficeps* – rufous-crowned sparrow
- Junco hyemalis* – dark-eyed junco
- Melospiza melodia* – song sparrow
- Passerella iliaca* – fox sparrow
- Pipilo crissalis* – California towhee
- Pipilo maculatus* – spotted towhee
- Zonotrichia leucophrys* – white-crowned sparrow

CARDINALIDAE – CARDINALS AND GROSBEAKS

- Pheucticus melanocephalus* – black-headed grosbeak

ICTERIDAE – BLACKBIRDS AND ORIOLES

- Icterus bullockii* – Bullock's oriole
- Icterus cucullatus* – hooded oriole
- Molothrus ater* – brown-headed cowbird

FRINGILLIDAE – FINCHES

- Carpodacus mexicanus* – house finch
- Carduelis psaltria* – lesser goldfinch
- Carpodacus purpureus* – purple finch

PASSERIDAE – OLD WORLD SPARROWS

- * *Passer domesticus* – house sparrow

MAMMALS

LEPORIDAE – HARES AND RABBITS

- Sylvilagus bachmani* – brush rabbit

SCIURIDAE – SQUIRRELS

- Spermophilus beecheyi* – California ground squirrel

GEOMYIDAE – POCKET GOPHERS

- Thomomys bottae* – Botta's pocket gopher

MURIDAE – RATS AND MICE

- Microtis* sp. – vole

APPENDIX B (Continued)

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

PROCYONIDAE – RACCOONS AND RELATIVES

Procyon lotor – common raccoon

CERVIDAE – DEERS

Odocoileus hemionus – mule deer

WILDLIFE SPECIES – INVERTEBRATES

BUTTERFLIES AND MOTHS

PAPILIONIDAE – SWALLOWTAILS

Papilio zelicaon lucas – anise swallowtail

PIERIDAE – WHITES AND SULFURS

Anthocharis sara – Sara Orangetip

Pieris rapae – cabbage butterfly

Pontia protodice – checkered white

RIODINIDAE – METALMARKS

Apodemia mormo virgulti – Behr's metalmark

LYCAENIDAE – BLUES, HAIRSTREAKS, AND COPPERS

Glaucopsyche lygdamus australis – southern blue

Hemiargus ceraunus – Edward's blue

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES

Coenonympha californica californica – California ringlet

Danaus plexippus – monarch

* signifies introduced (non-native) species

APPENDIX B (Continued)

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BIOLOGICAL RESOURCES EVALUATION
for the
LAUBER PROPERTY/WEST RAMIREZ CANYON

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JANUARY 2010

Biological Resources Evaluation for the Lauber Property/West Ramirez Canyon Project

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Biological Resources Evaluation for the Lauber Property/West Ramirez Canyon Project

1.0 INTRODUCTION

This section provides a brief description of the project as well as the purpose of this biological resources technical report (BTR).

1.1 Project Description

The proposed project involves the construction of a trail/trail connector leading in to Ramirez Canyon Park from Kanan Dume Road to the west and from public parklands to the east along with the construction of a parking lot for park users.

1.2 Purpose of the Biological Resources Evaluation

The purposes of this evaluation are to: (1) describe the existing conditions of biological resources within the Lauber Property/West Ramirez Canyon project site in terms of vegetation, flora, wildlife, and wildlife habitats; (2) discuss the relationship of potential impacts (both direct and indirect) to sensitive biological resources both on site and in areas immediately off site; and (3) recommend mitigation measures for potentially significant impacts to sensitive biological resources.

Biological constraints to projects on land designated as an "Environmentally Sensitive Habitat Area" (ESHA) by the County of Los Angeles Malibu Local Coastal Program Land Use Plan (County LUP) for the Malibu and Santa Monica Mountains area are also discussed.

**Biological Resources Evaluation for the
Lauber Property/West Ramirez Canyon Project**

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Biological Resources Evaluation for the Lauber Property/West Ramirez Canyon Project

2.0 PROJECT SETTING

2.1 Physical Characteristics

The Lauber Property/West Ramirez Canyon site is located in unincorporated Los Angeles County, California (Figure 1). The site is located within Section 32, Township 1 South, Range 18 West on the U.S. Geological Survey (USGS) 7.5-minute Point Dume quadrangle map; longitude 118°47'46" W and latitude 34°02'14" N (Figures 2 and 2a). The project area is characterized by two separate parcels; the west parcel, also known as the Lauber property, and the east parcel. For the purposes of this technical report, the term "study area" or "project area" refers to these two parcels.

Private residences abut the study area to the south; National Park Service lands abut the study area to the north. Ramirez Canyon Park, while considered outside of this project area, separates the Lauber property from the east end of the study area. Elevations on site range from 210 feet above mean sea level (AMSL) near Ramirez Canyon Park to 610 feet AMSL near Kanan Dume Road.

The project area in general is characterized by steep, rugged slopes vegetated with a mosaic of California sagebrush scrub and chaparral habitats with a more limited representation of California annual grassland, coast live oak, coast live oak/toyon-poison oak, bigpod ceanothus chaparral, and ruderal/developed lands. Ramirez Canyon Park separates the project area toward the east end and is characterized by a historic residential compound comprised of five primary structures that served as residences on six separate lots, each with a uniquely designed landscape. A portion of the project area is accessed off Kanan Dume Road by a gated, paved, private cul-de-sac leading to several graded but undeveloped pads.

2.1.1 Soils

A brief summary of the soils located on the Lauber Property/West Ramirez Canyon site is provided herein because biological resources can often be associated with various substrates; this is particularly true of some special-status plant species. The U.S. Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS) has mapped two soil associations in the study area: Chumash-Boades-Malibu association, 30% to 75% slopes and Calcic Argixerolls, 30% to 75% slopes. These soils vary widely in depth, fertility, and permeability.

A brief description of these two soil associations is provided below. The soil series information was taken directly from the USDA-NRCS Soils Series Descriptions that are available online (USDA-NRCS 2009).

Biological Resources Evaluation for the Lauber Property/West Ramirez Canyon Project

Chumash-Boades-Malibu, 30% to 75% slopes. Soils in the Chumash-Boades-Malibu Association are associated with the Chumash soil series, which consist of very shallow and shallow to soft bedrock, well-drained soils that formed in residuum and colluvium derived from shale and sandstone. Chumash soils are on hills and mountains. Slopes are 5% to 75%. In areas where this soil occurs, the mean annual precipitation is about 16 inches, and the mean annual temperature is about 62°F.

Calcic Argixerolls, 30% to 75% slopes. Calcic Argixerolls are associated with the Colockum series, which consist of very deep, well-drained soils that formed in loess over material weathered from basalt, sandstone, and glacial till. Colockum soils are on benches, foothills, hillslopes, canyon side slopes, and lower mountain slopes. Slopes are 0% to 65%. In areas where this soil occurs, the mean annual precipitation is about 14 inches, and the mean annual temperature is about 48°F.

2.1.2 Topography

The topography and habitat on site are fairly uniform at this location and is characterized by rugged steep topography, rolling hills and valleys, and dense vegetation consisting mostly of coastal sage and chaparral with sparser, disturbed vegetation and annual grasses along Kanan Dume Road and near Ramirez Canyon Park where prior disturbance has occurred.

2.1.3 Microclimate

The project area is near the coastline within 1.5 miles of the Pacific Ocean and has a rich, marine-influenced climate characterized by mild winters and cool summers with morning fog and dry temperatures. The marine-influenced climate does not extend past the tops of cliffs or palisades in some areas but extends into the low hills of the coastline. In the canyons, cold air coming down on winter nights can occasionally result in below-freezing temperatures (Brenzel 1999).

The project area is located inland and uphill from the marine-influenced climate zone and as such is within the thermal belt of Southern California's coastal climate. Most of the time the climate is under the influence of the Pacific Ocean, but about 15% of the time the weather comes from the interior, including days with hot, dry Santa Ana winds blowing down the hills and canyons (Brenzel 1999).



Project Area

Pacific
Ocean

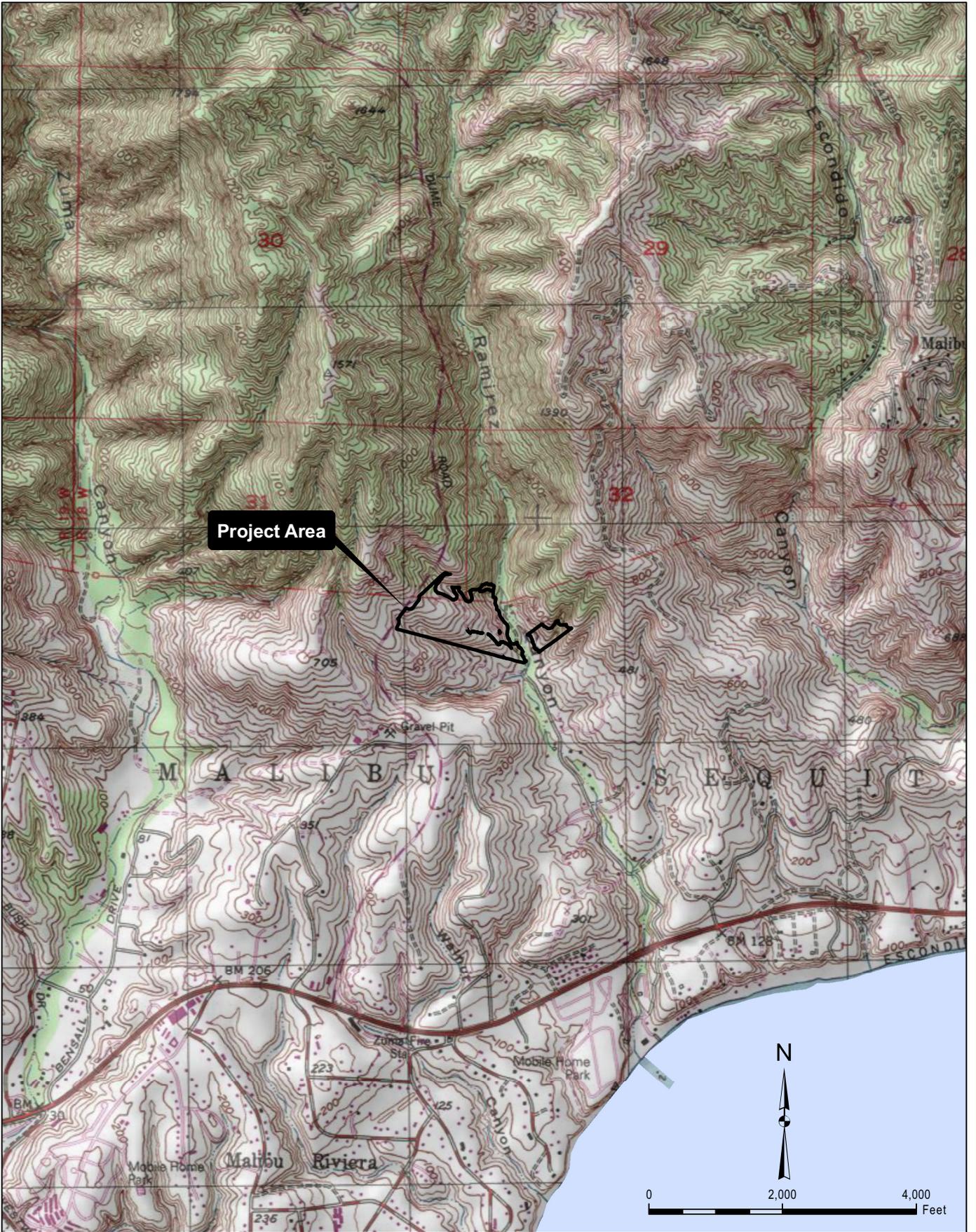
MAP EXTENT

0 5 10 15 Miles

FIGURE 1
Regional Map

**Biological Resources Evaluation for the
Lauber Property/West Ramirez Canyon Project**

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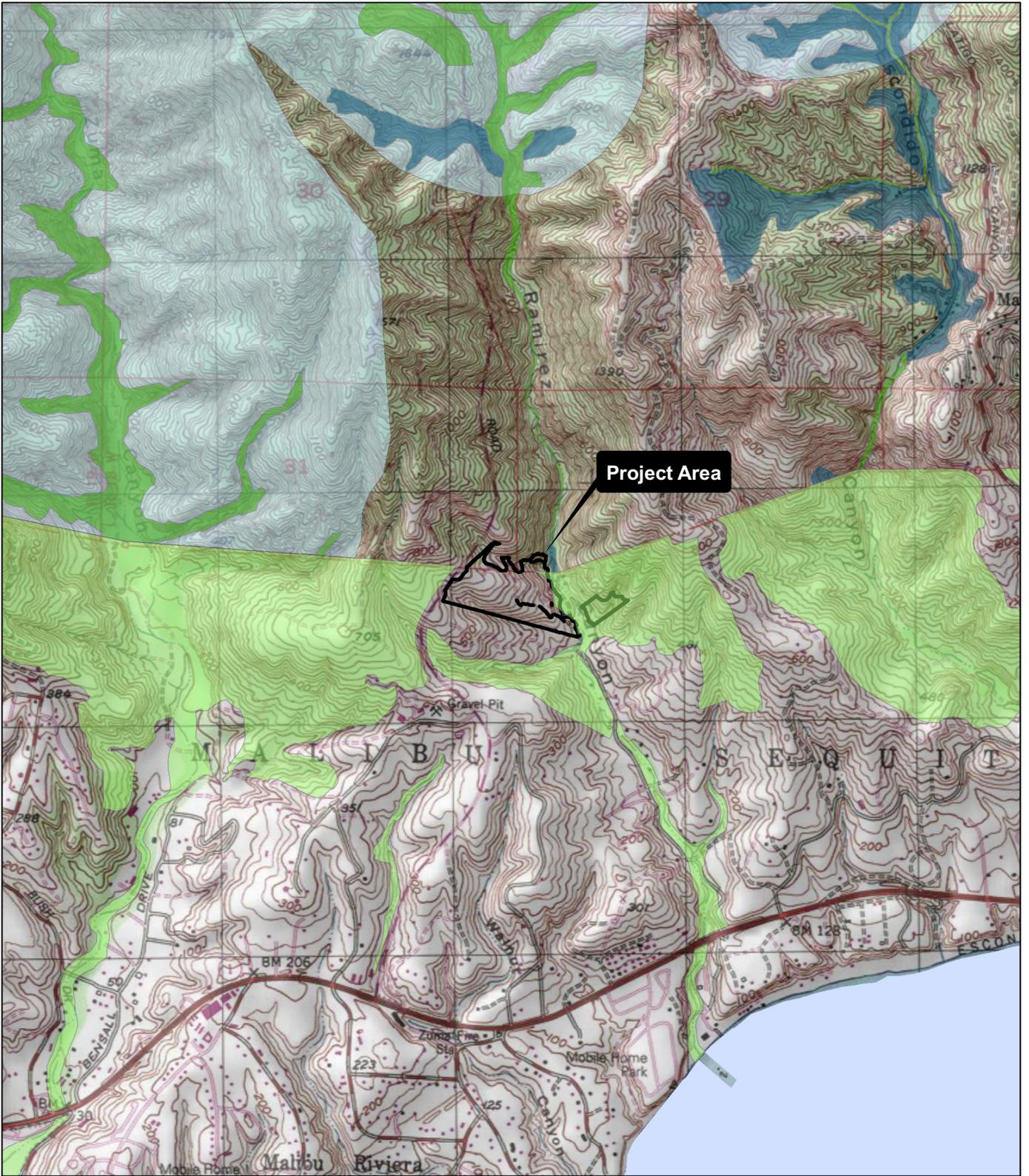
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FIGURE 2
Vicinity Map

Lauber Property / West Ramirez Canyon - Biological Resources Evaluation

**Biological Resources Evaluation for the
Lauber Property/West Ramirez Canyon Project**

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N
 0 2,000 Feet

*Note: This map reflects ESHA, as well as Significant Oak Woodland and Savannas, which is another category of Sensitive Environmental Resources designated by the County of Los Angeles (1984) of the Malibu Local Coastal Program Land Use Plan, part of the Los Angeles County Local Coastal Program, as certified by the California Coastal Commission, December 11, 1986. ESHA designation for the Proposed Santa Monica Mountains Local Coastal Program, County of Los Angeles (September 2007), is unavailable at this time and has yet to be certified by the California Coastal Commission.

- City of Malibu ESHA
- County of Los Angeles ESHA*
- County of Los Angeles Significant Oak Woodland and Savannas*
- County of Los Angeles Significant Watershed

FIGURE 2a

Environmentally Sensitive Habitat Area (ESHA) Map

Lauber Property / West Ramirez Canyon - Biological Resources Evaluation



**Biological Resources Evaluation for the
Lauber Property/West Ramirez Canyon Project**

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Biological Resources Evaluation for the Lauber Property/West Ramirez Canyon Project

3.0 METHODS AND SURVEY LIMITATIONS

Data regarding biological resources present in the project area was obtained through a review of pertinent literature and through field reconnaissance; both are described in detail below.

3.1 Literature Review

Sensitive biological resources present or potentially present on site were identified through a literature search and through field reconnaissance; both are described in detail below.

The following sources were used during the literature review process:

- U.S. Fish and Wildlife Service (USFWS) (1999, 2006)
- California Department of Fish and Game (CDFG) (2009a–c)
- California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2009).

General information regarding wildlife species present in the region was obtained from Stebbins (2003) for reptiles and amphibians, Garrett and Dunn (1981) for birds, Hall (1981) for mammals, and Emmel and Emmel (1973) for butterflies.

The CDFG (2003; updated 2007) vegetation classification system was used to map and describe vegetation communities, and reference to vegetation communities and their corresponding associations are based on Holland (1986) and Sawyer and Keeler-Wolf (1995). Plant species nomenclature follows Hickman (1996).

To ensure consistency with local policies regarding biological resources, the County of Los Angeles Malibu Local Coastal Program Land Use Plan (Coastal LUP) for the Malibu and Santa Monica Mountains area was reviewed prior to report preparation.

3.2 Resource Mapping

3.2.1 Vegetation Mapping and Jurisdictional Wetlands/Waters

3.2.1.1 *Vegetation Mapping*

In 2003, the Vegetation Classification and Mapping Program of the CDFG, Wildlife and Habitat Data Analysis Branch published the *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CNDDDB) (CDFG 2003; referred to herein as the *List of Terrestrial Natural Communities*). It is a development of the *Manual of*

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California Vegetation (Sawyer and Keeler-Wolf 1995) and follows the *National Vegetation Classification System* developed by The Nature Conservancy (Grossman et al. 1998). These classification texts focus on a quantified, hierarchical approach that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed (as opposed to predicting climax or successional stages).

Physiognomy is described in the upper levels of the classification hierarchy whereas floristics is described by the lowest two levels. For the *List of Terrestrial Natural Communities* (CDFG 2003), the floristic levels are alliances and associations and the upper levels are described as general physiognomic and physical location and general habitat. These are related to the formation definitions in the *National Vegetation Classification System*. Below is an example of the hierarchy used in the *List of Terrestrial Natural Communities*, including the numerical coding it applies to each level of the hierarchy (CDFG 2003):

60.000.00 Riparian and Bottomland Habitat (*general physiognomic and physical location*)

61.000.00 Riparian Forest and Woodland (*general habitat*)

61.111.00 Aspen Upland and Riparian Forests and Woodland (*alliance*)

61.111.01 Riparian Aspen Forest (*association*)

General physiognomic and physical location and general habitat describes the vegetation structure and, for wetlands, the hydrologic regimes. Alliance represents a level of uniformity in plant structure and dominant species in the uppermost layer. The alliance is a representation of broad-scale environmental differences that result in distinguishable plant communities in terms of overall structure and dominant species. Associations take into account more detailed floristic patterns, including species that co-occur with the dominant of the uppermost layer. As such, associations "reflect more localized differences related to microclimate and soil" (Sawyer and Keeler-Wolf 1995).

In October 2007, the CDFG published the *List of California Vegetation Alliances* (CDFG 2007a), which uses the scientific name of the dominant species in that alliance as the alliance name and includes a global and state rarity rank based on the NatureServe Standard Heritage Program methodology (NatureServe 2009). The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational).

The USGS and National Park Service formed a partnership in 1994 to map the vegetation of the United States National Park system units using The Nature Conservancy's National Vegetation Classification (Grossman et al. 1998). Based upon data collected from 2001 to 2005 in the Santa

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Monica Mountains National Recreation Area, the CDFG, CNPS, and others published the *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (2006). This document provides descriptions of each vegetation type and a key to each type.

Vegetation communities in the project area (Figure 3) were mapped by Dudek biologist Tricia Wotipka on December 28, 2009 using the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). These vegetation classification system documents were supplemented with vegetation communities described in the *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFG et. al. 2006) because this publication describes many communities that are present in the Plan area but not described by CDFG (2003, 2007a).

The mapping was done in the field directly onto an aerial photographic base (AirPhotoUSA 2006) on project-specific topography. The maximum scale of the map was 200-scale (1 inch = 200 feet) base.

Vegetation communities classified as "disturbed" were those where native vegetation communities were visually estimated to contain 20% to 50% non-native species by absolute cover.

3.2.1.2 Jurisdictional Wetlands/Waters

A formal jurisdictional delineation was not conducted for land under the jurisdiction of the CDFG, pursuant to the California Fish and Game Code; the U.S. Army Corps of Engineers (ACOE), pursuant to Section 404 of the federal Clean Water Act; the Regional Water Quality Control Board (RWQCB), pursuant to Section 401 of the federal Clean Water Act; and the California Coastal Commission (CCC), pursuant to the Coastal Act of 1976.

However, any wetlands habitat identified was done so using the Cowardin method of wetlands classification, which defines wetland boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979). Wetlands within the project area were documented by visually assessing and mapping the drip line of hydrophytic vegetation and noting the presence/absence of hydrology indicators (e.g., drift lines, drainage patterns, scour, etc.). Hydric soils were not analyzed as part of this initial survey effort.

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3.2.2 Flora

All plant species encountered during the field survey were identified and recorded. Those species that could not be identified immediately were brought into the laboratory for further investigation. Latin and common names of plants follow The Jepson Manual (Hickman 1996) or more recent published taxonomical revisions of genera. A list of plant species observed within the project area is presented in Appendix B.

3.2.3 Fauna

All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other signs were recorded. Binoculars (10×40) were used to aid in the identification of observed wildlife. Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union (AOU) (2009) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA) (2001) for butterflies.

3.3 Survey Limitations

Survey limitations include seasonal constraints, a diurnal bias, and the absence of focused trapping for small mammals and reptiles. Because the biological resource survey was conducted in late winter 2010, many spring and summer neotropical migratory bird species would not have been detected, and many spring-blooming annual plants would not have been evident or identifiable at the time of the survey. In addition, low rainfall during the preceding spring may have limited the emergence, survival, and growth of some herbaceous plant species. Climatic conditions during the surveys were favorable for the identification of flora and fauna. Surveys were conducted during the daytime to maximize visibility for the detection of plants and most animals. Birds represent the largest component of the vertebrate fauna, and because most are active in the daytime, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals, many of which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects.

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4.0 RESULTS

4.1 Vegetation Communities

This section describes the vegetation communities recorded in the project area. Four general physiognomic and physical location types were mapped during field surveys three of which are identified by the *List of Terrestrial Natural Communities* (CDFG 2003): broad leafed upland tree dominated, grass and herb dominated communities, and scrub and chaparral. For organizational purposes, the group agriculture, developed, or disturbed is equivalent to a general physiognomic and physical location type, but it is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or in the *List of California Vegetation Alliances* (CDFG 2007a).

These vegetation communities are described below. The acreage of each identified community within the project site is summarized in Table 1. The locations of these communities within the project are shown on Figure 3.

Table 1
Summary of Existing Vegetation Communities and Acreages

General Physiognomic and Physical Location	General Habitat	Alliance	Vegetation Community	Total
Agriculture, Developed, Or Disturbed	Disturbed Land	Ruderal	Ruderal	0.22
	Developed	None	Developed	0.26
<i>Agriculture, Developed, Or Disturbed Total</i>				<i>0.48</i>
Scrub and Chaparral	Coastal Scrub	California Sagebrush Scrub	California Sagebrush	1.43
			California Sagebrush / Giant Wild Rye	0.04
			Disturbed California Sagebrush	0.06
			Disturbed California Sagebrush / Giant Wild Rye	0.03
	California Encelia Scrub	California Encelia – California Sagebrush	0.04	
		Purple Sage Scrub	Purple Sage – California Sagebrush	0.02
Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus Chaparral	Bigpod Ceanothus	0.01	
<i>Scrub and Chaparral Total</i>				<i>1.63</i>
Grass and Herb Dominated Communities	Non-Native Grassland	California Annual Grassland	California Annual Grassland	0.62
<i>Grass and Herb Dominated Communities Total</i>				<i>0.62</i>
Broad Leafed Upland Tree Dominated	Oak Woodlands and Forests	Coast Live Oak Forest and Woodland	Coast Live Oak / Toyon – Poison Oak	0.03
			Coast Live Oak	0.02
<i>Broad Leafed Upland Tree Dominated Total</i>				<i>0.05</i>
Grand Total				2.78

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4.1.1 Agriculture, Developed, or Disturbed

Agriculture, developed, or disturbed areas are characterized by limited native vegetation resulting in low function ecological processes. Many have been altered from their natural states for human uses and provide little habitat and foraging potential for wildlife due to the lack of significant cover by native vegetation. There is approximately 0.48 acre of this habitat type in the study area comprising approximately 17% of the development footprint.

4.1.1.1 Developed

Developed areas are not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because they are not naturally occurring communities in California.

Areas mapped as developed include roads, buildings, structures, and graded pads. Vegetation in these areas, if present at all, is usually sparse, dominated by weedy herbaceous species, or part of the landscaping associated with development. Developed areas occur across a wide range of elevations, topographic orientations, and soil types.

None of the developed areas mapped on site are considered sensitive natural communities per the California Environmental Quality Act (CEQA) or the County's LUP because they do not occur naturally or contain native vegetation.

4.1.1.2 Disturbed Land

Disturbed land is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because it is not a naturally occurring community. Disturbed land includes areas that experience or have experienced high levels of human disturbance. Areas mapped as disturbed land may include roads and graded areas. Vegetation in these areas, if present at all, is usually sparse and dominated by weedy herbaceous species. Disturbed land occurs across a wide range of elevations, topographic orientations, and soil types. Disturbed land is not considered high priority for inventory, and it would not be considered a sensitive natural community per CEQA or the County's LUP since it is not a naturally occurring community.

Within the broader category of disturbed land, ruderal was mapped and is described below.

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Ruderal

Ruderal is not described in the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a) because it is not a naturally occurring community.

Vegetation in ruderal areas is comprised of weedy herbaceous species, such as tocalote (*Centaurea melitensis*), wild oat (*Avena* sp.), black mustard (*Brassica nigra*), sow thistle (*Sonchus asper*), and prickly lettuce (*Lactuca serriola*). Ruderal areas are generally the result of disturbance, such as grading or fire. Ruderal areas occur across a wide range of elevations, topographic orientations, and soil types.

Ruderal is not considered high priority for inventory and would not be considered a sensitive natural community per CEQA or the County's LUP because it is dominated by non-native, often invasive, species.

4.1.2 Scrub and Chaparral Communities

Scrub and chaparral is the dominant vegetation group in the study area, comprising 1.63 acres (59%) of the total project footprint. The following section describes the scrub and chaparral communities that were observed in the study area.

4.1.2.1 Coastal Scrub

Coastal scrub is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site, there are nine alliances in this general habitat type. Each alliance is described below in more detail.

California Sagebrush Scrub Alliance

The California sagebrush scrub (*Artemisia californica*) alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the California sagebrush scrub alliance there are four associations, mostly described by Gordon and White (1994). The alliance is described by Sawyer and Keeler-Wolf (1995). California sagebrush scrub alliance communities include California sagebrush as the sole or dominant shrub in the canopy. California sagebrush scrub has a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

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Species associated with the California sagebrush scrub alliance include black sage (*Salvia mellifera*), brittlebush (*Encelia farinosa*), bush monkeyflower (*Mimulus aurantiacus*), California encelia (*Encelia californica*), chamise (*Adenostoma fasciculata*), Our Lord's Candle (*Yucca whipplei*), coast goldenbush (*Isocoma menziesii*), coyote brush (*Baccharis pilularis*), deerweed (*Lotus scoparius*), poison-oak (*Toxicodendron diversilobum*), purple sage (*Salvia leucophylla*), and white sage (*Salvia apiana*) (Sawyer and Keeler-Wolf 1995).

The California sagebrush scrub alliance often occurs on steep, south-facing slopes and at times, though rarely, occurs on flooded low-gradient deposits along streams. Soils on which this alliance occurs are described as alluvial or colluvial-derived and shallow (Sawyer and Keeler-Wolf 1995).

On site, the California sagebrush scrub alliance forms an open to intermittent shrub layer. The herbaceous layer is open to intermittent but is generally poorly developed in established stands. Trees are occasionally present at lower levels of the slope. The on-site alliance is dominated by California sagebrush and contains ashy-leaf buckwheat (*Erigonum cinereum*), laurel sumac (*Malosma laurina*), coyote brush, and purple sage. Black sage, deerweed, chaparral bushmallow (*Malacothamnus fasciculatus*), saw-toothed goldenbush (*Hazardia squarrosa*), and California buckwheat are occasionally present. The herbaceous layer is diverse and sometimes includes foxtail chess (*Bromus rubens*), ripgut brome (*Bromus diandrus*), black mustard, tocalote, short-pod mustard (*Hirschfeldia incana*), and giant wild rye (*Leymus condensatus*).

The following associations or stands of vegetation were mapped on site within the California sagebrush scrub alliance:

- California sagebrush
- California sagebrush/giant wild rye (including disturbed forms).

The California sagebrush alliance is ranked by the CDFG (2007a) as a G5S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. In addition, the California sagebrush association is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). California sagebrush/giant wild rye and California sagebrush-ashyleaf buckwheat are not described by the Terrestrial Natural Communities (CDFG 2003) or the List of California Vegetation Alliances (CDFG 2007a), but these communities are described in the National Park Service Vegetation Classification of the Santa Monica Mountains (CNPS and CDFG 2006). Both of these associations are ranked as G3S3, indicating that these communities are vulnerable in California and globally. Therefore, California sagebrush/giant

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wild rye is considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.) and the County's LUP.

California Encelia Scrub Alliance

The California encelia alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the California encelia alliance there are two associations, described by Kirkpatrick and Hutchinson (1977) and Malanson (1984). The alliance is described by Sawyer and Keeler-Wolf (1995). California encelia scrub alliance communities include California encelia as the sole or dominant shrub in the canopy. California encelia scrub has an intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the California encelia scrub alliance include ash buckwheat, Algodones buckwheat, black sage, bladderpod (*Isomeris arborea*), bush monkeyflower, California sagebrush, Our Lord's Candle, coast goldenbush (*Isocoma menziesii*), coyote brush, deerweed, elderberry (*Sambucus mexicanus*), lemonade berry (*Rhus integrifolia*), purple sage, wishbone bush (*Mirabilis californica*), and white sage (Sawyer and Keeler-Wolf 1995).

The California encelia alliance is often in mixed evergreen or deciduous shrubland, occurring on steep, generally south-facing slopes; soils are described as colluvial-derived (Sawyer and Keeler-Wolf 1995).

On site, the California encelia scrub alliance forms an open to continuous shrub layer. The herbaceous layer is open, but generally poorly developed in established stands. Trees are generally absent. The on-site alliance is dominated by California encelia and contains California sagebrush, laurel sumac, black sage, and purple sage. California buckwheat, ashleaf buckwheat, sugar bush, chaparral bushmallow, and saw-toothed goldenbush are occasionally present. The herbaceous layer includes foxtail chess, ripgut brome, black mustard, tocalote, short-pod mustard, and giant wild rye.

The following associations were mapped on site within the California encelia scrub alliance:

- California encelia-California sagebrush.

The California encelia scrub alliance is ranked by the CDFG (2007) as a G4S3 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is vulnerable. The California encelia association is considered high priority for inventory by the CDFG (2003) and meets the definition of a sensitive natural community under the CEQA guidelines (14 CCR

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15000 et seq.). California encelia-California sagebrush is described in the *List of Terrestrial Natural Communities* (CDFG 2003) and is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). California encelia-ashyleaf buckwheat is not described by the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but it is described in the Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties (CNPS and CDFG 2006). It is ranked as G3S3, indicating that this association is vulnerable to extirpation or extinction globally and in California (CDFG 2007a; NatureServe 2009); therefore, this association is considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.) and the County's LUP.

Purple Sage Scrub Alliance

The purple sage or alliance is recognized by the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the purple sage scrub alliance there are two associations, described by Kirkpatrick and Hutchinson (1977). The alliance is described by Sawyer and Keeler-Wolf (1995). Purple sage scrub alliance communities include purple sage as the sole or dominant shrub in the canopy. Purple sage scrub has a continuous shrub canopy less than 1.5 meters (5.5 feet) in height with a variable ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the purple sage scrub alliance include Algodones buckwheat, black sage, bush monkeyflower, California buckwheat, California sagebrush, California walnut, coast live oak, elderberry, laurel sumac, lemonade berry, and white sage (Sawyer and Keeler-Wolf 1995).

The purple sage scrub alliance often occurs on steep, north-facing slopes; soils are described as colluvial-derived and may be rocky (Sawyer and Keeler-Wolf 1995).

On site, the purple sage scrub alliance forms an open to intermittent shrub layer and an open herbaceous layer. Trees are very infrequent throughout the shrub-dominated community. The on-site alliance is dominated by purple sage and contains California sagebrush, ashyleaf buckwheat, and chaparral bushmallow. Laurel sumac, poison oak, California buckwheat, Mexican elderberry, and saw-toothed goldenbush are occasionally present. The emergent tree layer is nearly absent. The herbaceous layer is open and includes foxtail chess, ripgut brome, black mustard, giant wild rye, and tocalote.

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The following association was mapped on site within the purple sage scrub alliance:

- Purple sage-California sagebrush (including disturbed forms).

The purple sage scrub alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. Purple sage-California sagebrush is not described by the *List of Terrestrial Natural Communities* (CDFG 2003) or the *List of California Vegetation Alliances* (CDFG 2007a), but it is described in the NPS Vegetation Classification of the Santa Monica Mountains (NPS 2006). It is ranked as G4S4 indicating that association is widespread, abundant, and apparently secure (CDFG 2007a; NatureServe 2009) and within California the association is apparently secure. However, all associations within the purple sage scrub alliance meet the definition of coastal sage scrub pursuant to the County's LUP and are therefore considered sensitive natural communities under these guidelines.

4.1.2.2 Chaparral with Chamise with or Without Other Co-dominant Shrubs

Chaparral with chamise with or without other co-dominant shrubs is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site, there is one alliance in this general habitat type. This alliance is described below in more detail.

4.1.2.3 Chaparral with Ceanothus as Principal Indicator

Chaparral with ceanothus as principal indicator is a general habitat type in the more general physiognomic group scrub and chaparral communities. On site there are four alliances in this general habitat type. Each alliance is described below in more detail.

Bigpod Ceanothus Chaparral Alliance

The bigpod ceanothus chaparral alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Within the bigpod ceanothus chaparral alliance, there are two associations, described by Borchert et al. (1993). The alliance is described by Sawyer and Keeler-Wolf (1995). Bigpod ceanothus chaparral alliance communities include bigpod ceanothus as the sole or dominant shrub in the canopy. Bigpod ceanothus chaparral has a continuous or intermittent shrub canopy less than 4 meters (12 feet) in height with a sparse ground layer (Sawyer and Keeler-Wolf 1995).

Species associated with the bigpod ceanothus chaparral alliance include black sage, chamise, birchleaf mountain-mahogany, toyon, scrub oak, hollyleaf redberry (Sawyer and Keeler-Wolf 1995).

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On site, the bigpod ceanothus chaparral alliance forms an open to continuous shrub layer. The herbaceous layer is open though infrequent. Trees are typically absent. The on-site alliance is dominated by bigpod ceanothus and contains black sage, laurel sumac, and chamise. The herbaceous layer includes wild cucumber, melic grass, foxtail chess, ripgut brome, tocalote, and black mustard.

The following associations were mapped on site within the bigpod ceanothus chaparral alliance:

- Bigpod ceanothus.

The bigpod ceanothus chaparral alliance is ranked by the CDFG (2007a) as a G4S4 alliance. This ranking indicates that globally the alliance is widespread, abundant, and secure (CDFG 2007a; NatureServe 2009) and within California the alliance is apparently secure. The bigpod ceanothus association is not considered high priority for inventory by the CDFG (2003) and does not meet the definition of a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.). However, all associations within the bigpod ceanothus chaparral alliance meet the definition of chaparral pursuant to the County's LUP and are therefore considered sensitive natural communities under these guidelines.

4.1.3 Grass and Herb Dominated Communities

There is approximately 0.62 acre (22%) of habitat in the grass and herb dominated physiognomic group. The following section describes the grass and herb dominated communities that were observed in the study area.

4.1.3.1 Non-Native Grassland

Non-native grassland is a general habitat type in the more general physiognomic group grass and herb dominated communities. On site, one alliance, California Annual Grassland, was mapped and is described in more detail below.

California Annual Grassland

California Annual Grassland is a type of general habitat recognized in the *List of Terrestrial Natural Communities* (CDFG 2003). This general habitat type was not included in the *List of California Vegetation Alliances* (CDFG 2007a) because only alliances were included in this list. Holland (1986) states that California annual grasslands have a sparse to dense cover of annual grasses that are typically 0.2 to 0.5 meter (0.7 to 1.6 feet) tall and can be up to 1 meter (3 feet) tall. Wildflowers are often associated with California annual grasslands, especially in years with favorable precipitation (Holland 1986).

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According to Holland (1986) and the *List of Terrestrial Natural Communities* (CDFG 2003), grasses that occur in California annual grasslands include oats (*Avena* spp.), bromes (*Bromus* spp.), fescue (*Vulpia* spp.), and Italian ryegrass. Forbs that occur with these grasses include California poppy (*Eschscholzia californica*), filaree (*Erodium* spp.), goldfields (*Lasthenia* spp.), phacelia (*Phacelia* spp.), gilies (*Gilia* spp.), and baby blue-eyes (*Nemophila menziesii*).

California Annual Grassland also includes land that is/was used as pasture for grazing purposes. Grasses such as barley (*Hordeum* spp.) and wild oats may grow in these areas. This land has very few native species due to repeated grazing and/or agricultural uses.

In his description of California annual grassland, Holland (1986) states that this habitat type typically occurs on fine-textured, clay soils. Sites are often moist or waterlogged during the winter rainy season and very dry during the summer and fall months. Adjacent areas with moister, better-drained soils often support oak woodland. According to Sawyer and Keeler-Wolf (1995), California annual grasslands occur in uplands of all topographic orientation.

On site, the California annual grassland alliance forms a continuous herbaceous layer. The shrub layer is sparse while trees are generally absent. The on-site alliance is dominated by non-native annual grasses and contains bromes, black mustard, fennel, tocalote, short-pod mustard, and wild oats.

California annual grassland is not considered high priority for inventory by the CDFG (2003) and is dominated by non-native species. Therefore, California annual grassland is not considered a sensitive natural community under the CEQA guidelines (14 CCR 15000 et seq.) or the County's LUP.

4.1.4 Broad Leafed Upland Tree Dominated

There are approximately 0.05 acre of habitat in the broad leafed upland tree dominated communities physiognomic group. Broad leafed upland tree dominated communities are uncommon in the study area, representing approximate 2% of the total project footprint. The following section describes the broad leafed upland tree dominated communities that were observed in the study area.

4.1.4.1 Oak Woodlands and Forests

Oak woodlands and forests is a general habitat type in the more general physiognomic group broad leafed upland tree dominated communities. On site, there is one alliance, which is described below, in this general habitat type.

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Coast Live Oak Forest and Woodland Alliance

The coast live oak forest and woodland or *Quercus agrifolia* alliance is recognized by both the *List of Terrestrial Natural Communities* (CDFG 2003) and the *List of California Vegetation Alliances* (CDFG 2007a). Coast live oak forest and woodland alliance communities include coast live oak as the sole, dominant, or important tree in the canopy. Coast live oak forest and woodland has a continuous to open canopy less than 30 meters (98 feet) in height with occasional to common shrubs, and grassy ground layer if present (Sawyer and Keeler-Wolf 1995).

Species associated with the coast live oak forest and woodland alliance include bigleaf maple (*Acer macrophyllum*), blue oak (*Quercus douglasii*), box elder (*Acer negundo*), California bay, Engelmann oak (*Quercus engelmannii*), laurel sumac, and madrone (*Arbutus menziesii*) (Sawyer and Keeler-Wolf 1995).

The coast live oak forest and woodland alliance occurs on slopes that are often very steep and raised stream banks and terraces. Soils are mostly sandstone or shale-derived (Sawyer and Keeler-Wolf 1995).

On site, the coast live oak forest and woodland alliance forms an open to intermediate tree layer. The shrub layer is sparse to intermediate. The herbaceous layer is continuous and typically contains grasses and herbs. The on-site alliance is dominated by coast live oak and also contains California bay, toyon, and poison oak. White alder, Mexican elderberry, and western sycamore are occasionally present. The herbaceous layer includes ripgut brome, fennel, wild cucumber, totalote, and giant wild rye.

The following associations were mapped on site within the coast live oak forest and woodland alliance:

- Coast live oak (including disturbed forms)
- Coast live oak/toyon-poison oak.

The coast live oak forest and woodland alliance is ranked by the CDFG as a G5S4 alliance. This ranking indicates that this alliance is secure globally and apparently secure within California (CDFG 2007a; NatureServe 2009). Therefore, the coast live oak forest and woodland alliance is not considered a sensitive natural community by CDFG.

In addition, the coast live oak and coast live oak/toyon-poison oak associations are not considered high priority for inventory by CDFG (2003) and thus not considered sensitive natural

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communities by CDFG. Because the entire coast live oak forest and woodland alliance is recognized in the County's LUP as rare, supporting a unique, functioning ecosystem for a variety of wildlife, both associations described above are considered sensitive in accordance with the County's LUP and would require mitigation for impacts to individual trees at a 10:1 ratio.

4.2 Floral Diversity

One hundred twelve plant species, including 70 native species (62%) and 42 non-native species (38%), were recorded in the study area.

4.3 Zoology – Wildlife Diversity

A total of 26 wildlife species were observed during the 2009 biological resource survey: 2 reptile species and 24 bird species. A majority of the wildlife species observed are relatively common, widely distributed, and adapted to living in proximity to human development (Appendix B).

4.3.1 Amphibians

No amphibians were observed in the study area during the December 2009 survey and because the project area is largely an upland site with no aquatic habitats present, amphibians are not likely to be present in large numbers.

4.3.2 Reptiles

Two reptiles were observed during the December 2009 site survey: western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*). Other reptiles species that may occur on site based on habitats present include spotted night snake (*Hypsiglena torquata*), common kingsnake (*Lampropeltis getula*), California mountain king snake (*Lampropeltis zonata*), gopher snake (*Pituophis melanoleucus*), two-striped garter snake (*Thamnophis hammondi*), southern pacific rattlesnake (*Crotalus viridis*), coast horned lizard (*Phrynosoma coronatum*), coastal western whiptail (*Cnemidophorus tigris*), southern alligator lizard (*Elgaria multicarinata*), and coachwhip/red racer (*Masticophis flagellum*).

4.3.3 Birds

Twenty-four bird species were documented on site by Dudek in December 2009 and include a wide range of species including, but not limited to, red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), house wren (*Troglodytes aedon*), and house finch (*Carpodacus mexicanus*). Other species that could occur based on habitats present include olive-sided flycatcher (*Contopus cooperi*), blue-gray gnatcatcher (*Polioptila caerulea*), canyon wren

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(*Catherpes mexicanus*), western screech owl (*Megascops kennicottii*), Cooper's hawk (*Accipiter cooperii*), common poorwill (*Phalaenoptilus nuttallii*), and turkey vulture (*Cathartes aura*).

For a comprehensive list of those species observed by Dudek staff, refer to Appendix B.

4.3.4 Mammals

No mammals were recorded on site during the December 2009 survey. However, the following mammals could occur in the project area based on habitats present: brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), vole (*Microtis* sp.), coyote (*Canis latrans*), common raccoon (*Procyon lotor*), mule deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), Virginia opossum (*Didelphis virginiana*), gray fox (*Urocyon cinereoargenteus*), Merriam's chipmunk (*Tamias merriami*), and black rat (*Rattus rattus*).

4.3.5 Invertebrates

No invertebrate species were recorded on site during the December 2009 survey. However, the following invertebrates have been documented in adjacent parkland properties and could occur in the project area based on habitats present: anise swallowtail (*Papilio zelicaon lucas*), Pacific Sara orangetip (*Anthocharis sara sara*), cabbage butterfly (*Pieris rapae rapae*), checkered white (*Pontia protodice*), Behr's metalmark (*Apodemia mormo virgulti*), southern blue (*Glaucopsyche lygdamus australis*), Edward's blue (*Hemiargus ceraunus*), California ringlet (*Coenonympha californica californica*), monarch (*Danaus plexippus*) (foraging only), western tiger swallowtail (*Papilio rutulus*), pale swallowtail (*Papilio eurymedon*), Harford's sulphur (*Colias harfordii*), California dogface (*Colias Eurydice*), Santa Monica Mountains hairstreak (*Satyrium auretteorum fumosum*), marine blue (*Lepotes marina*), acmon blue (*Plebejus acmon*), painted lady (*Vanessa cardui*), west coast lady (*Vanessa annabella*), red admiral (*Vanessa atalanta*), buckeye (*Junonia coenia*), Lorquin's admiral (*Limenitis lorquini*), and California sister (*Adelphia bredowii californica*).

4.4 Special-Status Biological Resources

4.4.1 Vegetation Communities/Jurisdictional Waters and Wetlands

4.4.1.1 Vegetation Communities

The *List of California Vegetation Alliances* (CDFG 2007a) includes a global and state rarity rank based on the NatureServe Standard Heritage Program methodology (NatureServe 2009). The conservation status of a vegetation community is designated by a number from 1 to 5, preceded

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by a letter reflecting the appropriate geographic scale of the assessment (G = global and S = subnational). The numbers have the following meaning (NatureServe 2009):

- 1 = critically imperiled
- 2 = imperiled
- 3 = vulnerable to extirpation or extinction
- 4 = apparently secure
- 5 = demonstrably widespread, abundant, and secure.

For example, G1 indicates that a vegetation community is critically imperiled across its entire range (i.e., globally). A rank of S3 would indicate the vegetation community is vulnerable and at moderate risk within a particular state or province, though it may be more secure elsewhere (NatureServe 2009). The *List of California Vegetation Alliances* (CDFG 2007a) is considered an authority for ranking the conservation status of vegetation communities in California. If an alliance has a global ranking of G1, G2, or G3, the vegetation community is considered a high priority for inventory by CDFG (2007a) and is considered a sensitive vegetation community per CEQA.

At times, CDFG makes the determination that a vegetation community is considered or known to be of high priority for inventory at the association level. Associations are not ranked in the *List of California Vegetation Alliances* (CDFG 2007a) but are ranked in the *List of Terrestrial Natural Communities* (CDFG 2003). If an on-site alliance is described in the *List of California Vegetation Alliances* (CDFG 2007a), then this document was used to determine the sensitivity status of the community at the alliance-level. If on-site associations are described in the *List of Terrestrial Natural Communities* (CDFG 2003), then this document is used to determine the sensitivity of communities; sensitive communities with an asterisk next to the name of the vegetation community in the *List of Terrestrial Natural Communities* (CDFG 2003) are considered high priority for inventory or sensitive per CEQA. If an alliance is identified as high priority for inventory by CNDDDB, all associations within that alliance are also considered high priority.

If vegetation communities were not listed in CDFG (2003, 2007a), the global ranking of each community as cited in the Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California (CDFG and CNPS 2006) was used to determine if the vegetation communities are considered sensitive per CEQA. Again, if a community is ranked as G1, G2, or G3 in CDFG and CNPS (2006), the community was considered sensitive per CEQA.

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In addition, if a vegetation community was not considered sensitive by CDFG (2003, 2007a) or by CNPS and CDFG (2006), but it is a riparian or potentially jurisdictional community (see Section 4.4.1.2), or if it meets the definition of a sensitive community per the County's LUP, the community is considered sensitive in this report.

Each vegetation community and its status are described in detail above in Section 4.1. Table 2 summarizes the sensitive vegetation communities in the study area and includes the acreage of each community.

Table 2
Summary of Sensitive Vegetation Communities and Acreages

General Habitat	Alliance	Vegetation Community	Total
Coastal Scrub	California Sagebrush Scrub	California Sagebrush	1.43
		California Sagebrush / Giant Wild Rye	0.04
		Disturbed California Sagebrush	0.06
		Disturbed California Sagebrush / Giant Wild Rye	0.03
	California Encelia Scrub	California Encelia – California Sagebrush	0.04
	Purple Sage Scrub	Purple Sage – California Sagebrush	0.02
Chaparral With Ceanothus as Principal Indicator	Bigpod Ceanothus Chaparral	Bigpod Ceanothus	0.01
<i>Scrub and Chaparral Total</i>			1.63
Oak Woodlands and Forests	Coast Live Oak Forest and Woodland	Coast Live Oak / Toyon – Poison Oak	0.03
		Coast Live Oak	0.02
	<i>Broad Leafed Upland Tree Dominated Total</i>		
Grand Total			1.68

4.4.1.2 Jurisdictional Wetlands/Waters

No jurisdictional wetlands and waters were recorded in the study area. While an unvegetated ephemeral hillside drainage runs along the southern property boundary of the Lauber parcel, it is outside of the development footprint and thus is not discussed in this technical report.

4.4.2 Special-Status Plants

No state- or federally listed endangered or threatened species were observed within the study area during the 2009 biological survey. However, five special-status plant species (i.e., CNPS List 1, 2, or 3) are known to occur in adjacent off-site areas within existing public parklands: Plummer's baccharis (*Baccharis plummerae* spp. *plummerae*), CNPS List 4.3; Plummer's mariposa lily (*Calochortus plummerae*), CNPS List 1B.2; Catalina mariposa lily (*Calochortus*

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catalinae), CNPS List 4.2; Southern California black walnut (*Juglans californica*), CNPS List 4.2; ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), CNPS List 4.2; and fish's milkwort (*Polygala cornuta* var. *fishiae*), CNPS List 4.3.

Several special-status species were considered to have a moderate potential to occur in the study area based on the species' range distribution and suitable habitats on site, but were not observed during the 2009 survey: Braunton's milk vetch (*Astragalus brauntonii*); Coulter's saltbush (*Atriplex coulteri*); Plummer's mariposa lily (*Calochortus plummerae*); Lewis's evening primrose (*Camissonia lewisii*); Parry's spineflower (*Chorizanthe parryi* var. *parryi*); Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*); Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*); Marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*); and Lyon's pentachaeta (*Pentachaeta lyonii*).

Table 3
Special-Status Plant Species Potentially Occurring in Biological Survey Area

Scientific Name	Common Name	Federal/ State Status ¹	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Astragalus brauntonii</i>	Braunton's milk vetch	FE/ None	1B.1	Chaparral, coastal scrub, valley and foothill grassland, closed cone coniferous forest, limestone endemic, carbonate soils, often in recently burnt and disturbed areas/ perennial herb/ February–July	Suitable habitat present; limestone soils not present within the study area; previously reported in Malibu Beach and Point Dume topographic quadrangles. Low to moderate potential to occur.
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE/ CE	1B.1	Coastal salt marsh/ perennial herb/ June–October	No potential to occur due to lack of suitable habitats.
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	FE/ CE	1B.1	Moist, sandy depressions of bluffs or dunes along and near the Pacific Ocean; clay terrace/ annual herb/ March–May	No suitable habitat present within study area. Low potential to occur.
<i>Atriplex coulteri</i>	Coulter's saltbush	None/ None	1B.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland/ perennial subshrub or shrub/ March–October	Suitable habitat present within the study area; reported in project vicinity at Malibu Bluffs.
<i>Baccharis malibuensis</i>	Malibu baccharis	None/ None	1B.1	Coastal sage scrub, chaparral, cismontane woodlands; generally in Conejo volcanic substrates in Santa Monica Mts. and Simi Hills/ shrub/ August	Suitable habitat present within the study area; however, volcanic-derived soils are lacking.

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Table 3 (Continued)

Scientific Name	Common Name	Federal/ State Status ¹	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>California</i> [= <i>Erodium</i>] <i>macrophylla</i>	Round-leaved filaree	None/ None	1B.1	Cismontane woodland and grasslands on clay substrate/ annual herb /March–May	Suitable habitat and soils generally not present; soils range from loamy, alluvial to rocky. Low potential to occur within the study area.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily	None/ None	1B.2	Chaparral and coastal sage scrub/ perennial herb (geophyte)/ March–May	Species is typically found at the base of the San Gabriel Mountains. Low potential to occur within the study area.
<i>Calochortus</i> <i>plummerae</i>	Plummer's mariposa lily	None/ None	1B.2	Chaparral, coastal sage scrub, cismontane woodland, grasslands on rocky granitic substrate/ perennial herb (geophyte)/ May–July	Suitable habitat present; appropriate soils present throughout. Species found in adjacent off-site areas. High potential to occur.
<i>Camissonia lewisii</i>	Lewis's evening primrose	None/ None	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/ annual herb/ March–June	Suitable habitat present within the study area; reported in Point Dume quadrangle; Moderate to high potential.
<i>Centromadia</i> [= <i>Hemizonia</i>] <i>parryi</i> ssp. <i>australis</i>	Southern tarplant	None/ None	1B.1	Mesic edges of marshes in grasslands/ annual herb/May– November	Low potential to occur in the study area due to the overall lack of suitable habitat.
<i>Cercocarpus</i> <i>traskiae</i>	Catalina Island mountain- mahogany	FE/ CE	1B.1	Chaparral, coastal scrub; rocky, sausserite gabbro/ evergreen shrub/ March–May	Suitable habitat present; appropriate soils generally not present; this evergreen shrub would have been detected if present.
<i>Chaenactis</i> <i>glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	None/ None	1B.1	Coastal bluff scrub, coastal dunes/ annual herb/ January– August	Low potential to occur in the study area due to the lack of suitable coastal bluff scrub habitat.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FC/ SE	1B.1	Coastal scrub, valley and foothill grassland; sandy/ annual herb/ April–June	Suitable habitat present within the study area; sandy substrates found throughout. Only known from three occurrences; low potential to occur within the study area.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None/ None	1B.1	Chaparral, coastal scrub; sandy or rocky, openings/ annual herb/ April–June	Suitable habitat present; reported in Point Dume quadrangle; moderate potential to occur within the study area.

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Table 3 (Continued)

Scientific Name	Common Name	Federal/ State Status ¹	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Salt marsh bird's-beak	FE/ SE	1B.2	Coastal dunes, costal saltwater marshes and swamps/ annual herb/ May–October	Suitable habitat limited to Corral Canyon and Malibu Bluffs. Low potential to occur in the study area due to the lack of suitable habitat.
<i>Deinandra</i> [= <i>Hemizonia</i>] <i>minthornii</i>	Santa Susana tarplant	None/ SR	1B.2	Chaparral and coastal sage scrub on rocky substrate/deciduous shrub/July–November	Suitable habitat present within the study area; sandstone derived soils found throughout site. Moderate potential to occur in the study area.
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Dune larkspur	None/ None	1B.2	Chaparral (maritime) and coastal dunes/ perennial herb/ April–May	Suitable habitat present within the study area; moderate potential to occur.
<i>Dithyrea maritima</i>	Beach spectaclepod	None/ ST	1B.1	Coastal dune, coastal scrub; sandy/ rhizomatous herb/ March–May	Suitable habitat limited to Corral Canyon and Malibu Bluffs; little to no potential to occur in study area due to lack of habitat.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	None/ None	1B.1	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland, rocky; often clay or serpentinite/ perennial herb/ April–June.	Suitable habitat present; appropriate soils occasionally present; reported in project vicinity. Low to moderate potential to occur within the study area.
<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	Agoura Hills dudleya	FT/None	1B.2	Chaparral, cismontane woodland; rocky, volcanic/ perennial herb/ May–June	Suitable habitat present; appropriate volcanic derived soils present; reported in Point Dume quadrangle. Species typically restricted to western Santa Monica Mountains. Low to moderate potential to occur within the study area.
<i>Dudleya cymosa</i> ssp. <i>marcescens</i>	Marcescent dudleya	FT/SR	1B.2	Chaparral; volcanic, rocky/ succulent, perennial herb/ April–June	Suitable habitat present; rocky, volcanic soils occasionally present. Low to moderate potential to occur within the study area.

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Table 3 (Continued)

Scientific Name	Common Name	Federal/ State Status ¹	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Dudleya cymosa</i> <i>ssp. ovatifolia</i>	Santa Monica Mountain's dudleya	FT/ None	1B.2	Chaparral and coastal sage scrub; volcanic, rocky/ perennial herb/ April–June	Suitable habitat present; appropriate rocky volcanic soils occasionally present; reported in Malibu Beach quadrangle. Low potential to occur within the study area.
<i>Dudleya multicaulis</i>	Many- stemmed dudleya	None/ None	1B.2	Chaparral, coastal scrub, valley and foothill grassland; often clay/ perennial herb/ April–June	Suitable habitat present; soils with clay components not present. Low potential to occur within the study area.
<i>Dudleya parva</i>	Conejo dudleya	FT/ None	1B.2	Coastal scrub, valley and foothill grassland; rocky or gravelly, clay or volcanic/ perennial herb/ May–June	Limited suitable habitat present; appropriate soils occasionally present; species typically found from Simi Hills to Conejo Grade. Low potential to occur within the study area.
<i>Dudleya verity</i>	Verity's dudleya	FT/ None	1B.2	Chaparral, cismontane woodland, coastal scrub; volcanic, rocky/ perennial herb/ May–June	Suitable habitat present; appropriate soils occasionally present; species known from only occurrences near Conejo Mountains. Low potential to occur within the study area.
<i>Eriogonum crocatum</i>	Conejo buckwheat	None/ SR	1B.2	Chaparral, coastal scrub, valley and foothill grassland; Conejo volcanic outcrops, rocky/ perennial herb/ April– June	Suitable habitat present; volcanic derived soils lacking in study area. Low potential to occur within the study area.
<i>Hordeum intercedens</i>	Vernal barley	None/ None	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/ annual herb/ March–June	Limited suitable habitat present; saline flats and depressions found on Corral Canyon and Malibu Bluffs only; low potential to occur within the study area.
<i>Nama stenocarpum</i>	Mud nama	None/ None	2.2	Marsh and swamps, lake margins and riverbanks/annual-perennial herb/January–July	No marsh and swamp habitat present. No potential to occur within the study area.

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Table 3 (Continued)

Scientific Name	Common Name	Federal/ State Status ¹	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
<i>Navarretia ojaiensis</i>	Ojai navarretia	None/ None	1B.1	Chaparral (openings), coastal scrub (openings), valley and foothill grassland/annual herb/May–July	Suitable habitat present, reported in adjacent quadrangles. Moderate potential to occur in the study area.
<i>Nolina cismontana</i>	Chaparral beargrass	None/ None	1B.2	Chaparral, coastal scrub; sandstone or gabbro/ evergreen shrub/ May–July	Suitable habitat present; sandstone or gabbro soils not present. This evergreen shrub would have likely been detected if present.
<i>Orcuttia californica</i>	California Orcutt grass	FE/ SE	1B.1	Vernal pools/ annual herb/ April–August	No vernal pools identified within the study area. Little to no potential to occur.
<i>Pentachaeta lyonii</i>	Lyon's Pentachaeta	FE/ CE	1B.1	Chaparral (openings), coastal scrub, valley and foothill grassland; rocky, clay/ annual herb/ March– April	Suitable habitat present; reported in adjacent quadrangles. Moderate to high potential to occur within the study area.
<i>Pseudognaphalium leucocephalum</i>	White rabbit-tobacco	None/ None	2.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland; sandy, gravelly/ perennial herb/ (July) August – Nov. (Dec.)	Suitable habitat minimally present. Low potential to occur within the study area.
<i>Sidalcea neomexicana</i>	Salt spring checkerbloom	None/ None	2.2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, desert scrub/ perennial herb/ March–June	Low potential to occur within the study area due to the overall lack of suitable habitat.
<i>Senecio aphanactis</i>	Rayless ragwort	None/ None	2.2	Chaparral, cismontane woodland, coastal scrub; alkaline/ annual herb/ January–April	Suitable habitat present; few locations in project vicinity have alkaline characteristics. Low potential to occur within the study area.
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	None/ None	2.2	Meadows and seeps/ perennial herb/ fertile January–September	No aquatic habitats present. Little to no potential to occur within the study area.

¹ **Legend**

- FE = Federally listed as endangered
- FT = Federally listed as threatened
- SE = State-listed as endangered
- SR = State-listed as rare
- ST = State-listed as threatened

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4.4.3 Special-Status Wildlife

Table 4 lists special-status wildlife species that have a potential to occur within the project area based on the location of the site and general vegetation communities found in the area. For each species listed, a determination is made regarding the potential use of the site based on information gathered during the general biological surveys, including known habitat preferences and knowledge of their relative distributions in the area. Where pertinent, a distinction is made between foraging and breeding habitat available on site.

Table 4
Special-Status Wildlife Potentially Occurring in Biological Survey Area

Scientific Name	Common Name	Status Federal/ State ¹	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Amphibians</i>				
<i>Bufo californicus</i>	Arroyo toad	FE/ CSC	Stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	No suitable habitat present within the study area. Low potential to occur in the study area.
<i>Rana aurora draytoni</i>	California red-legged frog	FT/ CSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	No suitable habitat present within the study area. Low potential to occur in the study area.
<i>Reptiles</i>				
<i>Aspidoscelis tigris stejnegeri</i>	Coastal western whiptail	None/None	Coastal sage scrub, chaparral	Moderate potential to occur based on habitat present.
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	None/None	Open, rocky and somewhat moist areas near intermittent streams: grasslands, sage scrub	Moderate potential to occur based on habitat present.
<i>Emys [=Clemmys] marmorata pallida</i>	Western pond turtle	None/ CSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	No potential to occur in the study area due to the lack of aquatic habitat.
<i>Lampropeltis zonata</i> (San Diego population)	San Diego mountain kingsnake	None/ CSC	Valley-foothill hardwood, hardwood-conifer, chaparral, coniferous forest, wet meadow	Low to moderate potential to occur within study area due to available suitable habitat.

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Table 4 (Continued)

Scientific Name	Common Name	Status Federal/ State ¹	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Phrynosoma coronatum</i> (blainvillei population)	Coast (San Diego) horned lizard	None/ CSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest	Moderate potential to occur based on habitat present. Species observed in adjacent areas during 2008/2009 surveys.
<i>Phrynosoma coronatum</i> (frontale population)	Coast (California) horned lizard	None/ CSC	Wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Moderate potential to occur based on habitat present.
<i>Thamnophis hammondi</i>	Two-striped garter snake	None/ CSC	Marshes, meadows, sloughs, ponds, slow-moving water courses	No potential to occur in the study area due to the lack of aquatic habitat.
<i>Birds</i>				
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	None/ CSC	Riparian and oak woodlands, montane canyons	Moderate to high potential to forage and possibly nest in coast live oak and sycamore trees along edge of study area near Ramirez Canyon Park.
<i>Agelaius tricolor</i>	Tricolored blackbird	None/ CSC	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	Low potential to occur within the study area due to the lack of suitable habitat.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	None/ CSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	Moderate potential to occur based on habitat present.
<i>Aquila chrysaetos</i> (nesting and wintering)	Golden eagle	None/ CSC, P	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Low potential to nest or winter; moderate to high potential to forage within the study area.
<i>Athene cunicularia</i> (burrow sites)	Burrowing owl	None/CSC	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	Moderate to high potential to occur within the study area due to suitable habitat present.
<i>Elanus leucurus</i> (nesting)	White-tailed kite	None/ P	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Moderate potential to forage in the study area. Suitable nesting trees are present however no observations were made of this species.

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Table 4 (Continued)

Scientific Name	Common Name	Status Federal/ State ¹	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT/ CSC	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	Suitable habitat exists in the study area but because this project is located just outside of the known geographic range for this species, the likelihood of it occurring in the study area is low. However, there have been several instances of this species being observed in the Santa Monica Mountains. Therefore, this species could be present in suitable habitats.
<i>Riparia riparia</i> (nesting)	Bank swallow	None/ CT	Nests in lowland country with soft banks or bluffs; open country and water during migration	Low potential to nest in the study area due to lack of bluff habitat.
<i>Mammals</i>				
<i>Antrozous pallidus</i>	Pallid bat	None/ CSC	Rocky outcrops, cliffs, and crevices with access to open habitats for foraging	Low potential to occur based on habitats present.
<i>Euderma maculatum</i>	Spotted bat	None/ CSC	Wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and washes; roosts in rock crevices in cliffs or caves.	Low potential to feed and roost within the study area.
<i>Eumops perotis californicus</i>	Western mastiff bat	None/ CSC	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures	Low potential to occur based on habitats present.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/ CSC	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Low to moderate potential to occur based on habitats present.
<i>Invertebrates</i>				
<i>Aglaothorzx longipennis</i>	Santa Monica shieldback katydid	None/None	Chaparral and canyon stream bottom vegetation; iceplant and native chaparral species. Nocturnal.	Moderate potential to occur based on habitats present.
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	None/ None	Sandy areas adjacent to non-brackish water along California coast; found in dry sand in upper zone	Low potential to occur based on overall lack of suitable habitat within the study area.

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Table 4 (Continued)

Scientific Name	Common Name	Status Federal/ State ¹	Primary Habitat Associations	Status on Site Or Potential To Occur
<i>Coelus globosus</i>	Globose dune beetle	None/None	Coastal sand dunes; foredunes and sand hummocks. Most common beneath dune vegetation.	Little to no potential to occur based on lack of suitable habitats.
<i>Danaus plexippus</i> (wintering sites)	Monarch butterfly	None/None	Overwinters in eucalyptus groves	Low potential to overwinter within the study area due to lack of appropriate roosting habitat/butterfly trees.
<i>Socalchemmis gertschi</i>	Gertsh's cocalchemmis spider	None/None	Known only from Brentwood and Topanga Canyons.	Little to no potential to occur within the study area. Study area is located outside of known range for this species.
<i>Trimerotropis occidentaloidea</i>	Santa Monica grasshopper	None/None	Bare hillsides and along dirt trails in chaparral; Santa Monica Mountains.	Low potential to occur based on the quality of habitats present.
<i>Fish</i>				
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE/ CSC	Low-salinity waters in coastal wetlands	No potential to occur on site due to the lack of coastal aquatic resources.
<i>Gila orcuttii</i>	Arroyo chub	None/ CSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud	No potential to occur on site due to the lack of aquatic resources.
<i>Oncorhynchus mykiss irideus</i>	Southern steelhead – southern California Evolutionarily Significant Unit	FE/ CSC	Spawn in cool, clear, well-oxygenated streams with suitable depth, current velocity, and gravel size	No potential to occur on site due to the lack of aquatic resources.

¹ **Federal Designations:**

FE = Federally listed Endangered

FT = Federally listed as Threatened

State Designations:

CSC = California Special Concern Species

P = California Department of Fish and Game Protected and Fully Protected Species

ST = State-Listed as Threatened

4.4.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat

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areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

To function effectively, a wildlife corridor must link two or more patches of habitat for which connectivity is desired, and it must be suitable for the focal target species to achieve the desired demographic and genetic exchange between populations. A habitat linkage design study prepared by South Coast Wildlands in June 2006 was aimed at identifying critical linkages and corridors in the South Coast ecoregion that are critical to regional wildlife movement, notably the Santa Monica-Sierra Madre Connection, one of the few remaining coastal to inland connections in the South Coast ecoregion. This connection stretches from the coastal Santa Monica Mountains to the Santa Susanna Mountains and on to the Los Padres National Forest (South Coast Wildlands 2006). This critical movement corridor supports an array of biologically rich resources from coast live oak woodland, valley oak savannah, and walnut woodland, to coastal sage scrub, chaparral, various grassland communities, and a diverse assemblage of riparian woodland, scrub, and forest communities (South Coast Wildlands 2006). While the size and distance among habitats must be adequate to support species movement, the shape of those habitats also plays a key role in wildlife corridor development. A wide corridor width helps ensure the availability of suitable habitat, host plants, pollinators, and areas with low predation risk (South Coast Wildlands 2006). Fires and floods are dynamic processes that play a vital role in maintaining the natural disturbance regime, and wider linkage/corridor width allows for a semblance of these natural disturbances to occur with minimal constraints from adjacent urban areas (South Coast Wildlands 2006).

Mountclef Ridge, an east-to-west trending ridgeline north of the project area, extends from Point Mugu State Park to the Los Padres National Forest and is part of an extended linkage that has been severely constrained by development from an optimal 1.2 miles wide to approximately 800 feet (SOROG 2007). This wildlife corridor provides critical wildlife movement for a number of large mammals including the mountain lion (*Puma concolor*), American badger (*Taxidea taxus*), and mule deer (*Odocoileus hemionus*). More importantly, the Mountclef Ridge wildlife corridor has been identified as one of the last remaining movement corridors for mountain lion in the Santa Monica Mountains (SOROG 2007).

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The study area, while not specifically identified in current linkage studies, supports a contiguous stretch of native upland habitat extending north to undeveloped National Park Service lands and east to Ramirez Canyon Creek, which, although channelized, supports perennial flow and critical aquatic resources to foraging wildlife.

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5.0 ANTICIPATED PROJECT IMPACTS AND SIGNIFICANCE

Impacts to sensitive vegetation communities or riparian habitat, special-status plants, and special-status wildlife species must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. Appendix G of the guidelines, however, does provide "examples of consequences which may be deemed to be a significant effect on the environment" (Section 15064(e)). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. Guidelines Section 15065(a) is also helpful in defining whether a project may have "a significant effect on the environment." Under that section, a proposed project may have a significant effect on the environment if the project has the potential to: (1) substantially degrade the quality of the environment; (2) substantially reduce the habitat of a fish or wildlife species; (3) cause a fish or wildlife population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; (5) reduce the number or restrict the range of a rare or endangered plant or animal; or (6) eliminate important examples of the major period of California history or prehistory.

The following are the significance thresholds for biological resources provided in the CEQA guidelines environmental checklist, which state that a project could potentially have a significant effect if it:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites

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- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significant.

5.1 Vegetation Communities

5.1.1 Direct Impacts

Construction of the proposed trail connector and parking facilities/infrastructure will result in direct, permanent impacts to the following vegetation communities: 1.62 acres of California sage scrub (including 0.09 acre of disturbed forms); 0.01 acre of bigpod ceanothus chaparral; 0.62 acre of California annual grassland; 0.22 acre of ruderal land; 0.26 acre of developed land; 0.03 acre of coast live oak/toyon-poison oak; and 0.02 acre of coast live oak (Figure 4). Please refer to Table 5 for a breakdown of these impacts by vegetation community and project component.

Because ruderal land, developed land, and California annual grassland are not sensitive according to local, state, and federal policies, impacts to these communities are not considered significant and therefore do not require mitigation in accordance with the County's LUP. However, direct impacts to 1.62 acres of California sagebrush scrub associations and 0.01 acre of bigpod ceanothus chaparral are considered sensitive pursuant to the County's LUP; therefore, direct impacts to these communities are considered significant (Impact BIO 1).

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Table 5
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Summary of Permanent Impacts to Vegetation Communities

Vegetation Community	Permanent Impacts (acres)	
	Trail	Parking
<i>Agriculture, Developed, Disturbed Lands</i>		
Ruderal	0	0.22
Developed	0	0.26
<i>Subtotal</i>	<i>0</i>	<i>0.48</i>
<i>California Sagebrush Scrub and Associations</i>		
California Sagebrush	0.05	1.38
California Sagebrush / Giant Wild Rye	0	0.04
Disturbed California Sagebrush	0	0.06
Disturbed California Sagebrush / Giant Wild Rye	0	0.03
California Encelia – California Sagebrush	0	0.04
Purple Sage – California Sagebrush	0	0.02
<i>Subtotal</i>	<i>0.05</i>	<i>1.57</i>
<i>Chaparral</i>		
Bigpod Ceanothus	0.01	0
<i>Grass and Herb Dominated Communities</i>		
California Annual Grassland	0	0.62
<i>Broad Leafed Upland Tree Dominated Communities</i>		
Coast Live Oak / Toyon – Poison Oak	0.03	0
Coast Live Oak	0	0.02
<i>Subtotal</i>	<i>0.03</i>	<i>0.02</i>
Total	0.09	2.69

5.1.2 Indirect Impacts

Short-Term Effects

Indirect impacts to adjacent sensitive vegetation communities could result primarily from adverse "edge effects," which occur along the development-preservation interface. During construction activities, edge effects may include dust, which could disrupt plant vitality in the short-term or construction-related soil erosion and water runoff. However, standard construction best management practices (BMPs) and construction-related minimization measures will be implemented to control dust, erosion, and runoff, as will a National Pollution Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Plan (SWPPP) in compliance with the federal Clean Water Act. Given that these standard measures will be implemented as part of the Proposed Project, the short-term indirect effects listed above during

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will be less than significant. However, during construction there is a potential for vegetation in areas adjacent to the work areas to be trampled by construction personnel. This would be considered a significant, short-term, indirect impact (Impact BIO 2).

Long-Term Effects

Given the proximity of the proposed trail connection and parking facilities to open, native habitats, long-term indirect effects on adjacent vegetation communities could occur due to an increased presence of domesticated animals, trash and debris, and human trampling. As this would represent a substantial adverse effect on sensitive natural communities identified in local or regional plans, this would be considered a significant, long-term, indirect impact (Impact BIO 3).

5.2 Special-Status Plants

5.2.1 Direct Impacts

While no special-status species were observed during the December 2009 survey, the survey was conducted at a time of year when most special-status annual herbs and forbs would not have been identifiable/detectable. Special-status plant species with a moderate to high potential to occur on site based on species' range distribution and suitable habitats present on site have the potential to be impacted by the project. These include the following: Braunton's milk vetch (*Astragalus brauntonii*); Coulter's saltbush (*Atriplex coulteri*); Plummer's mariposa lily (*Calochortus plummerae*); Lewis's evening primrose (*Camissonia lewisii*); Parry's spineflower (*Chorizanthe parryi* var. *parryi*); Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*); Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*); Marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*); and Lyon's pentachaeta (*Pentachaeta lyonii*). Impacts to these special-status plant species through habitat removal would be considered significant (Impact BIO 4).

5.2.2 Indirect Impacts

Short-Term Effects

Most of the short-term, indirect impacts to vegetation communities cited above can also affect special-status plant species. This would be considered a significant, short-term indirect impact (Impact BIO 5).

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Long-Term Effects

Most of the long-term, indirect impacts to vegetation communities cited above can also affect special-status plant species. This would be considered a significant, long-term indirect impact (Impact BIO 6).

5.3 Special-Status Wildlife

5.3.1 Direct Impacts

Raptor species and a host of songbirds recorded in the study area likely use a variety of vegetation communities in the Plan area for foraging and nesting opportunities. Nesting opportunities will most likely occur in woodland areas where sycamores, willows, eucalyptus, alders, and coast live oaks occur. Direct impacts to nesting birds could occur if tree removal occurs during the breeding season (February 15 through August 31). This would be considered a significant impact (Impact BIO 7).

While it is unlikely that California gnatcatchers are present in the project area, there is a possibility that this species could be present in areas supporting suitable habitat (i.e., typically California sagebrush scrub) based on habitat assessments and the recent recordation of an individual gnatcatcher at the Conservancy's Malibu Bluffs property (note: because this occurrence was recorded by a non-permitted biologist, it is unclear whether or not the species observed was a California gnatcatcher or a blue-gray gnatcatcher). If California gnatcatchers are present, they could be directly impacted by construction activities. This would be considered a significant impact (Impact BIO 8).

5.3.2 Indirect Impacts

Short-Term Effects

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. The study area supports

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breeding and foraging habitat for a number of raptor species. These species in addition to other raptors may utilize appropriate habitats within the study area for foraging or breeding purposes. In the event that work occurs during the migratory bird nesting season (February 15 through August 31), indirect impacts to special-status wildlife due to construction-related noise may occur; this would be a significant impact (Impact BIO 9).

Long-Term Effects

Potential long-term indirect impacts to special-status wildlife could include the following: habitat degradation due to exotic plant and animal invasion; the introduction of domestic pets to natural areas; habitat fragmentation due to trail and campsite development; increase in general human presence near natural areas; increases in intermittent noise levels at campsites (i.e., noise associated with tent construction, cooking functions, and conversation); trash and debris deposition; and increased population of nest predators in the study area, which would adversely affect breeding bird populations. These indirect impacts to special-status wildlife species would be significant (Impact BIO 10).

5.4 Wildlife Corridors and Habitat Linkages

5.4.1 Direct Impacts

In an effort to secure public access and recreation, a number of federal, state, and local agencies are charged with preserving, acquiring, and enhancing lands and natural resources for the benefit of environmental protection, public enjoyment, and education (Dudek 2007). The Santa Monica Mountains Conservancy and Mountains Recreation and Conservation Authority work in cooperation with local, state, and federal agencies and organizations to acquire parkland, participate in vital planning processes, and to complete and manage major park improvement projects. The proposed project has been designed to avoid and/or minimize impacts to sensitive and special-status biological resources by focusing on constructing parking facilities/infrastructure and trail connectors in clustered, designed patterns and in disturbed, upland, and non-native land covers adjacent to existing trail corridors where human activity already exists thus reducing impacts to wildlife movement and reducing adverse edge effects. Wildlife movement may be temporarily hindered by construction of the trail connector and parking facilities/infrastructure. However, due to the presence of large, uninterrupted expanses of habitat to the north, the proposed loss of habitat is not expected to substantially limit the reproductive capacity of any species on site or in the immediate vicinity. The project will not substantially eliminate or reduce the quantity and quality of nesting habitat or substantially fragment wildlife use and foraging areas. Upon project completion, wildlife species will continue to move unrestricted through the study area to other areas of high biological value. Therefore,

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direct impacts to wildlife corridors and habitat linkages are not expected to occur within the study area.

5.4.2 Indirect Impacts

The wildlife corridors and habitat linkages corridor would be subject to the same edge effects described above for special-status wildlife. These impacts would be considered significant (Impact BIO 11).

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6.0 MITIGATION

The following mitigation measures will reduce significant impacts to biological resources, described above in Section 5.0, to less than significant.

6.1 Sensitive Vegetation Communities

Impact BIO-1: *Project construction would remove California sagebrush scrub, bigpod ceanothus chaparral, coast live oak, and coast live oak/toyon-poison oak, considered sensitive natural communities by the County of Los Angeles.*

BIO-1.1 Mitigation for impacts to sensitive vegetation communities shall occur at a 3:1 ratio in accordance with the County's LUP. Thus, 4.89 acres of mitigation will be provided to compensate for 1.63 acres of direct impacts to sensitive sage scrub and chaparral vegetation (Table 6).

Table 6
Summary of Proposed Mitigation for Direct Sensitive Habitat Impacts

Vegetation Community	Total Impacts (Acres)	Mitigation Ratio	Acreage
<i>Sage Scrub and Chaparral</i>			
California Sagebrush Scrub and Chaparral (including disturbed forms)	1.63 ¹	3:1	4.89

¹ This number excludes impacts to broad leaved upland tree dominated habitats (i.e., coast live oak associations) because mitigation associated with these sensitive native communities will occur on a tree-by-tree basis at a 10:1 ratio per the County's LUP and in accordance with the tree protection and replacement plan.

BIO-1.2 Mitigation efforts shall occur on lands currently managed by the Santa Monica Mountains Conservancy (SMMC)/Mountains Recreation and Conservation Authority (MRCA). If it is determined during the planning process that additional land is required beyond what is supported by existing SMMC/MRCA-managed lands, then an appropriate off-site location(s) will be identified and approved by the CCC and CDFG prior to implementation.

BIO-1.3 The mitigation sites shall be revegetated with indigenous plant species of local (Santa Monica Mountains) genetic stock. No plant species listed as problematic and/or invasive by the CNPS (<http://www.cnps.org/>), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (<http://www.cal-ipc.org/>), or as may be identified by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the federal government shall be

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utilized within the property. All plant palettes should be reviewed by a qualified biologist and/or habitat restoration specialist familiar with those plants native or endemic to this region of California.

- BIO-1.4 Development involving access and recreation improvements within areas containing one or more native oak, California walnut, western sycamore, alder, or toyon tree that has at least one trunk measuring 6 inches or more in diameter (or a combination of any two trunks measuring a total of 8 inches or more in diameter), measured at 4.5 feet above natural grade, shall be subject to the provisions of Chapter 5, "Native Tree Protection Ordinance" of the Malibu Local Coastal Program (LCP) Local Implementation Plan, which requires the preparation of a tree protection plan and mandates mitigation at a ratio of 10:1 for significant impacts to all native trees meeting the size dimensions above. Therefore, mitigation for impacts to coast live oak and coast live oak/toyon-poison oak shall occur on a tree-by-tree basis in accordance with the terms and conditions specified in the tree protection and replacement plan. In order to implement a cohesive mitigation plan for the project, trees planted in accordance with the tree protection plan may be integrated into the habitat restoration plan for the project.
- BIO-1.5 A habitat restoration plan to address impacts to sensitive uplands habitat shall be prepared by qualified personnel with experience in Southern California ecosystems and native plant revegetation techniques.
- BIO-1.6 The habitat restoration plan should include, at minimum, the following information:
- (a) the location of the mitigation site(s);
 - (b) the plant species to be used, container sizes, and seeding rates;
 - (c) the plant materials' sources and lead time;
 - (d) a schematic depicting the mitigation areas;
 - (e) a planting schedule;
 - (f) a description of installation requirements, irrigation sources and methodology, erosion control, and maintenance and monitoring requirements;

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- (g) a description of the goals of the restoration program
- (h) a weed eradication plan (i.e., measures to properly control exotic vegetation on site);
- (i) site-specific success criteria;
- (j) a detailed monitoring program;
- (k) contingency measures should the success criteria not be met;
- (l) a summary of the annual reporting requirements; and,
- (m) identification of the responsible party(ies) for meeting the success criteria and providing for conservation of the mitigation site(s) in perpetuity.

- BIO-1.7 Planting of the revegetation sites should occur between October 1 and April 30, when feasible, to take advantage of the winter/spring rainy season.
- BIO-1.8 All plantings shall have 100% survival the first year and 80% survival thereafter. The mitigation sites shall attain 75% cover of the native targeted species by year three and 90% cover of native targeted species by year five. Prior to the mitigation sites being determined successful, they shall be entirely without supplemental irrigation for a minimum of two consecutive years. Non-native species shall comprise 10% cover or less by year five.
- BIO-1.9 A report (describing as-built status of the revegetation program and including topographic maps and planting locations) shall be provided to the CCC and other regulating resource agencies for review within 90 days of mitigation site preparation and planting.
- BIO-1.10 An annual report shall be provided to the CCC and other reviewing resource agencies by January 1 in years one through five (after planting the mitigation sites). The annual reports shall include (a) an overview of the mitigation efforts; (b) pre-project photos of all the mitigation areas taken from photo points to be used for all subsequent photos; (c) photos taken from each photo point established prior to project activities; (d) the number, by species, of plants replaced; (e) the survival, percentage cover, and height of both tree and shrub species; and (f) the methods used to assess these parameters.

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Impact BIO-2: *Short-Term, Indirect Impacts on Vegetation Communities*

- BIO-2.1 Prior to the issuance of a grading permit(s) for areas adjacent to ESHA, a biologist shall be retained and approved by the SMMC/MRCA and CDFG to monitor construction activities. The biologist will monitor all grading and other significant ground disturbing activities in or adjacent to open space areas to ensure that the project complies with the applicable standard conditions and mitigation measures.
- BIO-2.2 Prior to the commencement of grading operations or other activities involving significant soil disturbance, the work area shall be demarcated with temporary fencing or other markers clearly visible to construction personnel.

Impact BIO-3: *Long-Term, Indirect Effects on Vegetation Communities*

- BIO-3.1 Signs shall be included in park development projects and/or shall be provided at existing facilities where determined appropriate for the purpose of identifying sensitive habitats and educating visitors of ESHA occurrence and/or restoration efforts. All park fencing shall be designed to allow for wildlife passage.
- BIO-3.2 Regulatory signs shall be provided at park entrance areas, staging areas or gathering points and may include, but need not be limited to, the following information: (1) permitted use of the area or facility being posted, (2) general regulations at trailheads, (3) general regulations at jurisdiction boundaries, (4) regulations required to promote safe use of an area (including limitations on fires) and resource protection, and (5) identification of private property boundaries.
- BIO-3.3 Motorized vehicle access by park personnel within parklands shall avoid sensitive habitat areas and shall be limited to existing maintenance routes to the maximum extent feasible, and shall be for the purposes of conducting maintenance, providing emergency services, conducting patrols, implementing habitat restoration, assisting accessibility to camps with fully accessible campsites and facilities, and providing other park services.
- BIO-3.4 Trash cans with secure lids shall be provided at trailheads, parking lots, and campsites. Trash cans shall be checked and emptied if necessary four to seven days per week (depending on use, season, etc.) Trash would be taken by MRCA staff to King Gillette Ranch, where trash service currently is provided. All trash cans at trail heads would be accessed by foot or vehicle (e.g., maintenance truck). The maintenance truck would access the trash cans at specific maintenance access

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points. MRCA will pick up trash along trails (during patrols or maintenance/monitoring) by hand or by hand tool. Sources of funding for maintenance include campground fees and MRCA discretionary revenue derived from filming, leases, and other sources.

BIO-3.5 Dogs must be on a leash at all times while on parklands.

BIO-3.6 Provide routine trail maintenance to ensure that outdoor enthusiasts are limiting their hiking experience to the trails provided.

6.2 Special-Status Plants

Impact BIO-4: *Direct impacts to Special-Status Plants*

BIO-4.1 Pre-construction rare plant surveys shall be conducted in all areas supporting suitable habitat for those special-status species that have a moderate to high potential to occur in the study area as described in Table 4. The surveys shall be conducted during the appropriate time of year during the blooming periods for each species to the extent practicable.

BIO-4.2 See BIO-1.11 through 1.14.

BIO-4.3 If the final trail alignment and parking facilities are designed such that all impacts to special-status species are avoided, then no additional mitigation will be required. However, in the event that impacts to special-status plant species are anticipated, additional field surveys to determine the amount of area covered by each species and approximate densities shall be conducted during the appropriate blooming period prior to site preparation and/or grading activities in areas potentially supporting special-status plant species. Locations of individual plants or plant populations shall be appropriately flagged, and (1) seeds from a representative mix of individual plants shall be collected and sown in appropriate habitats, or on cut slopes, and/or (2) if the species detected is bulbiferous, the bulbs shall be harvested and transplanted to areas of appropriate habitat that are not subject to further disturbance. The goal will be to produce replacement populations of in-kind plants reaching maturity, at a ratio of 1:1 with respect to the number and density of plants (estimated) to be lost.

BIO-4.4 A Mitigation and Monitoring Plan for special-status plant species shall be prepared and submitted to the SMMC/MRCA and CCC for review and approval prior to ground disturbance of occupied habitat. Upon approval, the plan shall be

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implemented by the Applicant or its designee. The revised plan shall demonstrate the feasibility of enhancing or restoring special-status species habitat in selected areas to be managed as natural open space without conflicting with other resource management objectives. Habitat replacement/enhancement shall be at a 1:1 ratio (acres restored/enhanced to acres impacted). The revised plan shall specify: (1) the location of mitigation sites; (2) a description of "target" vegetation; (3) site preparation measures; (4) methods for the removal of non-native plants; (5) the source of all plant propagules and the quantity and species of seed or potted stock of all plants to be introduced or planted into the restoration/enhancement areas; (6) a schedule and action plan to maintain and monitor the enhancement/restoration areas, to include at minimum, qualitative annual monitoring for revegetation success and site degradation due to erosion, trespass, or animal damage for a period no less than 2 years; (7) measures such as fencing, signage, or security patrols as needed; and (8) contingency measures such as replanting, weed control, or erosion control to be implemented if habitat improvement/restoration efforts are not successful. Seeds or bulbs (depending on the species) shall be introduced onto the site when habitat restoration/enhancement is judged successful, determined by: 1% cover and species richness of native species reach 50% of their cover and species richness at undisturbed occupied habitat at select reference sites; and (9) the replacement vegetation has persisted at least one summer without irrigation. The revised plan shall specify methods to collect propagules and introduce special-status species into the mitigation sites. Introductions shall use source material (seeds or bulbs) from no more than 1.0-mile distant, similar slope exposures, and no more than 500 feet of elevational difference from the mitigation site, unless otherwise approved by SMMC/MRCA and the CCC. Bulbs may be salvaged and transplanted from individual occurrences to be lost, if feasible; alternatively, seed may be collected from protected occurrences, following CDFG-approved seed collection guidelines (i.e., Memorandum of Understanding for rare plant seed collection). The Applicant or a designee shall monitor the reintroduction sites for no fewer than 5 additional years to estimate plant survivorship (for bulbs) or seedling establishment (for seeded sites).

Impact BIO-5: *Short-Term, Indirect Impacts to Special-Status Plants*

BIO-5.1 See BIO-2.1 and BIO-2.2.

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Impact BIO-6: *Long-Term, Indirect Impacts to Special-Status Plants*

BIO-6.1 See BIO-3.1 through BIO-3.6.

6.3 Special-Status Wildlife

Impact BIO-7: *Direct Impacts to Nesting Raptors and Songbirds*

BIO-7.1 To avoid direct impacts to nesting raptors and songbirds, construction of the project shall be phased to avoid the migratory bird nesting season (typically February 15 through August 31). If project construction must occur during the migratory bird nesting season, a focused avian nesting survey shall be performed in the development footprint and within 300 feet of the proposed development by a qualified biologist within 72 hours prior to construction. If an active bird nest is found, the nest will be flagged and mapped on the construction plans along with an appropriate buffer, which will be determined by the biologist in consultation with the USFWS and CDFG based on the biology of the species. The nest area will be avoided until the nest is vacated and the juveniles have fledged. The nest area will be demarcated in the field with flagging and stakes or construction fencing. Please note that construction will be permitted in areas outside of the nest and buffer area. If nesting birds are present on site, a biological monitor shall be present daily while the nest(s) is active to ensure that no impacts to nesting birds occur.

Impact BIO 8: *Direct Impacts to Potentially Occurring California Gnatcatcher*

BIO-8.1 To avoid potential direct impacts to the California gnatcatcher, construction shall be conducted outside of the breeding season for this species (February 15–August 31), where practicable. If construction must occur during the breeding season for the California gnatcatcher, the following measures shall be implemented:

- Prior to any construction-related activity, the biologist shall survey up to 500 feet from the proposed construction areas in accordance with current USFWS protocol for this species.
- If no California gnatcatchers are found to be present within areas up to 500 feet of the proposed construction area, then project construction may proceed without restrictions.
- If California gnatcatchers are found in on site or adjacent areas, construction within 500 feet shall not commence until temporary noise

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barrier(s) are in place between the construction area and occupied gnatcatcher habitat. The location of the noise barrier(s) shall be determined by the biologist and acoustician. Construction noise levels shall be monitored at the edge of occupied habitat with the noise barrier(s) in place. Other measures shall be implemented, as necessary, to reduce noise levels to below 60 dB(A), or to the ambient noise level if it already exceeds 60 dB(A) at the edge of the occupied habitat.

- If California gnatcatchers are found on site or in adjacent areas, construction noise shall be monitored once weekly to verify that noise at the edge of occupied habitat is maintained below 60 dB(A), or to the ambient noise level if it already exceeds 60 dB(A). If this requirement cannot be met, other measures shall be implemented as necessary, to reduce noise levels to below 60 dB(A) or to the ambient noise level if it already exceeds 60 dB(A). Such measures may include, but are not limited to, placement of construction equipment and limitations on the simultaneous use of equipment.

Impact BIO-9: *Short-Term Indirect Impacts to Special-Status Wildlife Species*

BIO-9.1 See BIO-7.1.

Impact BIO-10: *Long-Term Indirect Impacts to Special-Status Wildlife Species*

BIO-10.1 A Contractor Education Program shall be prepared and implemented to apprise all construction personnel and subcontractors of environmental restrictions relevant to construction and the penalties for violations. A protocol for communicating problems or potential construction changes that may affect biological resources shall be established with the Contractor and the Applicant. Workers shall be made aware of protected habitat and the occurrence of sensitive species in the area through the use of photos or on-the-ground demonstration. The sensitivity of certain special-status wildlife species to human activities, the legal protection afforded to those species, and the roles and authority of monitoring biologists shall also be discussed.

BIO-10.2 The monitoring biologist shall be on site during any clearing of habitat (annual ground cover, shrubs, or trees). The monitoring biologist will flush sensitive species (avian or other mobile species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities.

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- BIO-10.3 Avoid and/or minimize the use of lighting within the study area. In proposed parking facilities, lighting fixtures should comply with local standards for shielded low sodium, low wattage lighting designed to cut glare and light scatter and to direct light away from sensitive biological resources.
- BIO-10.4 To ensure that intermittent noise levels do not adversely affect adjacent wildlife uses, the SMMC/MRCA shall be required to prepare and submit to the CCC for review a set of campground noise restrictions, which would include at minimum the establishment and enforcement of "quiet hours" to minimize potential minor increases in noise levels at campground and parking facilities.
- BIO-10.5 See BIO-3.1 through BIO-3.6.

6.4 Wildlife Corridors and Habitat Linkages

Impact BIO-11: *Long-Term, Indirect Impacts on Wildlife Corridors and Habitat Linkages*

- BIO-11.1 See BIO-10.1 through BIO-10.5.

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APPENDIX A
Cumulative List of Plant Species

APPENDIX A

Cumulative List of Plant Species

VASCULAR PLANT SPECIES

ANGIOSPERMAE (DICOTYLEDONES)

ANACARDIACEAE – SUMAC FAMILY

- Malosma laurina* – laurel sumac
- Rhus integrifolia* – lemonadeberry
- Rhus ovata* – sugar bush
- Toxicodendron diversilobum* – poison oak

APIACEAE – CARROT FAMILY

- * *Foeniculum vulgare* – fennel
- Lomatium utriculatum* – common lomatium

ASTERACEAE – SUNFLOWER FAMILY

- Ambrosia psilostachya* – western ragweed
- Artemisia californica* – California sagebrush
- Artemisia douglasiana* – mugwort
- Baccharis pilularis* – chaparral broom, coyote brush
- Brickellia californica* – California brickellbush
- * *Carduus pycnocephalus* – Italian thistle
- * *Centaurea melitensis* – tocalote
- Cirsium occidentale* – California thistle
- * *Cirsium vulgare* – bull thistle
- Conyza canadensis* – horseweed
- Corethrogyne filaginifolia* – sand-aster
- * *Cynara cardunculus* – cardoon, artichoke thistle
- Deinandra [=Hemizonia] fasciculata* – fascicled tarweed
- * *Encelia californica* – California encelia
- Erigeron foliosus* var. *foliosus* – leafy daisy
- Eriophyllum confertiflorum* – golden yarrow
- Gnaphalium bicolor* – bicolor cudweed
- Gnaphalium californicum* – California everlasting
- * *Gnaphalium luteo-album* – white-head cudweed
- Grindelia camporum* var. *bracteosa* – bract gumweed
- Hazardia squarrosa* ssp. *grindelioides* – saw-toothed goldenbush
- Helianthus annuus* – common sunflower
- * *Helminthotheca echioides* – bristly ox-tongue
- Heterotheca grandiflora* – telegraph weed

APPENDIX A (Continued)

- * *Hypochaeris glabra* – smooth cat's ear
- Isocoma menziesii* ssp. *menziesii* – white flowered goldenbush
- Leptosyne californica* – California coreopsis
- Logfia filaginoides* – California filago
- Malacothrix saxatilis* var. *tenuifolia* – cliff aster
- Rafinesquia californica* – California chicory
- Stephanomeria virgata* – twiggy wreath plant
- * *Taraxacum officinale* – common dandelion

BETULACEAE – BIRCH FAMILY

Alnus rhombifolia – white alder

BORAGINACEAE – BORAGE FAMILY

Plagiobothrys canescens – valley popcornflower

BRASSICACEAE – MUSTARD FAMILY

- * *Brassica nigra* – black mustard
- * *Capsella bursa-pastoris* – shepherd's purse
- * *Hirschfeldia incana* – short-pod mustard
- * *Raphanus sativus* – radish
- * *Sisymbrium officinale* – hedge mustard

CAPPARACEAE – CAPER FAMILY

Isomeris arborea – bladderpod

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

Sambucus nigra ssp. *canadensis* – blue elderberry

CHENOPODIACEAE – GOOSEFOOT FAMILY

- Atriplex lentiformis* ssp. *lentiformis* – big saltbush
- * *Atriplex semibaccata* – Australian saltbush
- Atriplex triangularis* – fat hen, spearscale, spearscale orache
- * *Chenopodium album* – lamb's quarters
- * *Salsola tragus* – Russian thistle, tumbleweed

CONVOLVULACEAE – MORNING-GLORY FAMILY

- Calystegia macrostegia* – morning-glory
- * *Convolvulus arvensis* – bindweed, orchard morning-glory

CUCURBITACEAE – GOURD FAMILY

Marah macrocarpus var. *macrocarpus* – manroot, wild-cucumber

APPENDIX A (Continued)

CUSCUTACEAE – DODDER FAMILY

Cuscuta californica – dodder

EUPHORBIACEAE – SPURGE FAMILY

Croton setigerus – doveweed, turkey mullein

FABACEAE – PEA FAMILY

Lotus scoparius var. *scoparius* – deerweed

Lupinus succulentus – arroyo lupine

* *Medicago polymorpha* – California burclover

* *Melilotus indicus* – sourclover

* *Melilotus officinalis* – white sweetclover

FAGACEAE – OAK FAMILY

Quercus agrifolia var. *agrifolia* – coast live oak

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutarium* – red-stemmed filaree/storksbill

GROSSULARIACEAE – CURRANT FAMILY

Ribes sp. – currant

Ribes californicum var. *hesperium* – hillside gooseberry

Ribes speciosum – fuschia-flowered gooseberry

HYDROPHYLLACEAE – WATERLEAF FAMILY

Eriodictyon crassifolium – thick leaved yerba santa, yerba santa

Phacelia cicutaria – caterpillar phacelia

LAURACEAE – LAUREL FAMILY

Umbellularia californica – California bay

LAMIACEAE – MINT FAMILY

* *Marrubium vulgare* – horehound

Salvia apiana – white sage

Salvia leucophylla – purple sage

Salvia mellifera – black sage

MALVACEAE – MALLOW FAMILY

Malacothamnus fasciculatus – chaparral bushmallow

* *Malva parviflora* – cheeseweed, little mallow

APPENDIX A (Continued)

MYOPORACEAE – MYOPORUM FAMILY

- * *Myoporum laetum* – ngaio, myoporum

MYRTACEAE – MYRTLE FAMILY

- * *Eucalyptus* sp. – eucalyptus
- * *Eucalyptus globulus* – blue gum

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

Mirabilis laevis var. *crassifolia* – California four o'clock, wishbone bush

PAPAVERACEAE – POPPY FAMILY

Eschscholzia californica – California poppy

PLANTAGINACEAE – PLANTAIN FAMILY

- * *Plantago lanceolata* – English plantain
- * *Plantago major* – common plantain

PLATANACEAE – SYCAMORE FAMILY

Platanus racemosa – western sycamore

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum cinereum – ashy leaf buckwheat
Eriogonum fasciculatum var. *foliolosum* – California buckwheat

PRIMULACEAE – PRIMROSE FAMILY

- * *Anagallis arvensis* – scarlet pimpernel

RHAMNACEAE – BUCKTHORN FAMILY

Ceanothus cuneatus var. *cuneatus* – buckbrush
Ceanothus megacarpus var. *megacarpus* – bigpod ceanothus
Frangula californica – California coffeeberry
Rhamnus crocea – spiny redberry
Rhamnus ilicifolia – holly-leaf redberry

ROSACEAE – ROSE FAMILY

Adenostoma fasciculatum – chamise
Heteromeles arbutifolia – toyon
Prunus ilicifolia – islay, holly-leaf cherry

APPENDIX A (Continued)

SCROPHULARIACEAE – FIGWORT FAMILY

Castilleja affinis – Indian paintbrush

Mimulus aurantiacus – coast monkey flower, bush monkey flower

SOLANACEAE – NIGHTSHADE FAMILY

* *Nicotiana glauca* – tree tobacco

Solanum douglasii – Douglas' nightshade

Solanum xanti – chaparral nightshade

ULMACEAE – ELM FAMILY

* *Ulmus parvifolia* – Chinese elm

ANGIOSPERMAE (MONOCOTYLEDONES)

POACEAE – GRASS FAMILY

* *Avena barbata* – slender wild oat

* *Avena fatua* – wild oat

* *Bromus diandrus* – ripgut grass

* *Bromus hordeaceus* – soft chess

* *Bromus rubens* – foxtail chess

* *Cynodon dactylon* – Bermuda grass

* *Lamarckia aurea* – golden-top

Leymus condensatus – giant wild rye

Pennisetum setaceum – fountaingrass

* *Schismus barbatus* – Mediterranean schismus

* *Vulpia myuros* – foxtail fescue, rat tail fescue

* signifies introduced (non-native) species

APPENDIX A (Continued)

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APPENDIX B

Cumulative List of Wildlife Species

APPENDIX B
Cumulative List of Wildlife Species

WILDLIFE SPECIES – VERTEBRATES

REPTILES

***IGUANIDAE* – IGUANID LIZARDS**

Sceloporus occidentalis – western fence lizard

Uta stansburiana – side-blotched lizard

BIRDS

***ACCIPITRIDAE* – HAWKS**

Buteo jamaicensis – red-tailed hawk

***PHASIANIDAE* – PHEASANTS AND QUAILS**

Callipepla californica – California quail

***COLUMBIDAE* – PIGEONS AND DOVES**

Zenaida macroura – mourning dove

***TROCHILIDAE* – HUMMINGBIRDS**

Calypte anna – Anna's hummingbird

***PICIDAE* – WOODPECKERS**

Colaptes auratus – northern flicker

***TYRANNIDAE* – TYRANT FLYCATCHERS**

Sayornis nigricans – black phoebe

Sayornis saya – Say's phoebe

***CORVIDAE* – JAYS AND CROWS**

Aphelocoma californica – western scrub jay

Corvus brachyrhynchos – American crow

Corvus corax – common raven

***PSITTACIDAE* – TRUE PARROTS**

* *Nandayus nenday* – black hooded parakeet

***AEGITHALIDAE* – BUSHTITS**

Psaltriparus minimus – bushtit

APPENDIX B (Continued)

TROGLODYTIDAE – WRENS

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

TIMALIIDAE – LAUGHING THRUSH AND WRENTIT

- Chamaea fasciata* – wrentit

MIMIDAE – THRASHERS

- Mimus polyglottos* – northern mockingbird

PARULIDAE – WOOD WARBLERS

- Dendroica coronata* – yellow-rumped warbler

EMBERIZIDAE – BUNTINGS AND SPARROWS

- Melospiza melodia* – song sparrow
- Pipilo crissalis* – California towhee
- Pipilo maculatus* – spotted towhee
- Zonotrichia leucophrys* – white-crowned sparrow

FRINGILLIDAE – FINCHES

- Carpodacus mexicanus* – house finch
- Carduelis psaltria* – lesser goldfinch

PASSERIDAE – OLD WORLD SPARROWS

- * *Passer domesticus* – house sparrow

- * signifies introduced (non-native) species