

# **I-5/SR-56 Interchange Project NES**



## **Natural Environment Study**

**Interstate 5 – State Route 56 Interchange, San Diego County**

City of San Diego

Interstate 5 at State Route 56

11- SD – I-5 PM 52.6 -56.0, SR-56 PM 0.0-2.5

EA 177900

February 2011





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EA 177900

February 2011

STATE OF CALIFORNIA  
Department of Transportation

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## **Summary**

The California Department of Transportation (Caltrans), in cooperation with the San Diego Association of Governments, the Federal Highway Administration, and the City of San Diego, is proposing a project that would result in improvements to a freeway interchange located in San Diego County. The purpose of the proposed Interstate 5 (I-5) – State Route 56 (SR-56) Interchange Project (project) is to improve the existing and future operations along the I-5 and SR-56 corridors between Del Mar Heights Road, Carmel Valley Road, and Carmel Country Road so that safe and efficient local and regional movement of people and goods can occur, while minimizing environmental and community impacts. The proposed project is located at the I-5 and SR-56 freeway interchange, in the City of San Diego.

Several alternatives were considered during planning and design of this project. Originally, there was a no-build alternative (Alternative 1) and three build alternatives (Alternatives 2, 3, and 4) being considered. However, a new alternative, designated as Alternative 5, was subsequently added. Currently, there are four build alternatives (Alternative 2 – Direct Connector Alternative, Alternative 3 – Auxiliary Lane Alternative, Alternative 4 – Hybrid Alternative, and Alternative 5 – Hybrid with Flyover Alternative) and a No Build Alternative (also known as Alternative 1) under consideration for the proposed project. The Direct Connector Alternative (Alternative 2) proposes the construction of direct freeway-to-freeway connectors in the westbound SR-56 to northbound I-5 and southbound I-5 to eastbound SR-56 directions. This alternative uses a combination of design modifications to reduce right-of-way impacts to parcels along Portofino Drive. The Auxiliary Lane Alternative (Alternative 3) proposes the addition of an auxiliary lane between the Del Mar Heights Road and Carmel Valley Road interchanges along southbound I-5 and the addition of a multi-purpose lane between Carmel Country Road and I-5 along westbound SR-56. The Hybrid Alternative (Alternative 4) combines the Direct Connector Alternative and the Auxiliary Lane Alternative. The Hybrid with Flyover Alternative (Alternative 5) is a variation of Alternative 4 that proposes the construction of a flyover structure that would connect eastbound Carmel Valley Road to the eastbound SR-56 fast lane, in addition to the west SR-56 to north I-5 connector featured as part of the Direct Connector Alternative. The No Build Alternative assumes the existing configuration for the I-5/SR-56 interchange with future improvements that are, as part of the proposed I-5 North Coast Project, independent

of the proposed project. The four construction alternatives are discussed in more detail in Section 1.2.

The proposed project is situated within the boundaries of the Multiple Species Conservation Program (MSCP) Subarea Plan. Although Caltrans is not a signatory to the MSCP, Caltrans is considered a cooperating agency and will consider the goals of the plan when designing and implementing projects, to the extent feasible.

The Biological Study Area (BSA) analyzed for the proposed project covers an area of approximately 830 acres and includes the proposed construction limits and a 500-foot buffer around the construction limits. Since there are currently four build alternatives under consideration, the BSA encompasses the maximum extent of potential construction footprints and associated buffers. Generally, the BSA runs along I-5 beginning approximately 0.3 mile south of the interchange with SR-56 and extends northward for approximately 2.3 miles. In addition, the BSA includes a stretch that begins approximately 0.2 mile west of the I-5/SR-56 interchange and continues eastward for approximately 2.8 miles. There are also lateral extensions of the BSA that occur at Del Mar Heights Road, Carmel Creek Road, and Carmel Country Road, all of which extend off of I-5 or SR-56 for an average distance of 0.1 mile. The BSA encompasses native vegetation communities; however, the majority of the BSA consists of landscaped or developed (residential/commercial) areas. Within the BSA, native upland habitat includes southern maritime chaparral and disturbed southern maritime chaparral, and native riparian habitat includes southern willow scrub. Southern willow scrub exists in the southern portion of the BSA but is excluded from the construction footprint by a large earthen berm with dimensions approximately 20 feet wide by 10 feet tall.

Biological resource surveys for the proposed project were conducted within the BSA between 2003 and 2005 and summarized by URS (2005). Focused surveys for least Bell's vireo (*Vireo bellii pusillus*) and light-footed clapper rail (*Rallus longirostris levipes*), as well as general wildlife surveys, were conducted. In addition, vegetation community mapping was conducted. Updates to these surveys occurred during 2007 and 2008 and included focused surveys for least Bell's vireo (EDAW 2007) and light-footed clapper rail (KBS 2007), focused surveys for coastal California gnatcatcher (*Poliophtila californica californica*) (EDAW 2008) and southwestern willow flycatcher (*Empidonax traillii extimus*) (EDAW 2007), and general wildlife surveys. In addition, vegetation community mapping and rare plant surveys were also conducted in 2008.

During 2007 and 2008 surveys, seven vegetation communities and three other land cover types were detected within the BSA. Current engineering designs for Alternatives 2, 3, 4, and 5 are anticipated to impact upland native habitat that includes southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, and disturbed coastal sage scrub. Other land cover types that would likely be impacted by Alternatives 2, 3, 4, and 5 include areas planted with ornamental vegetation, disturbed areas, and developed areas. Those vegetation communities and land cover types for which impacts are anticipated are included in Table S-1. For each alternative, no impacts are anticipated to the remaining vegetation communities detected within the BSA (i.e., southern willow scrub, disturbed southern willow scrub, and nonnative grassland); therefore, these vegetation communities are not listed in Table S-1.

**Table S-1. Anticipated Impacts to Vegetation Communities and Other Cover Types within the BSA**

Vegetation Communities and Cover Types	Impacts (Acres)									
	Alternative 2		Alternative 3		Alternative 4		Alternative 5		No Build Alternative	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
Southern Maritime Chaparral	0.07	0	0	0	0	0	0	0	0	0
Disturbed Southern Maritime Chaparral	0.39	0.03	0	0	0.07	0	0.07	0	0	0
Coastal Sage Scrub	0.31	0.56	0.24	0.09	0.28	0.56	0.29	0.56	0	0
Disturbed Coastal Sage Scrub	5.41	7.62	0.45	1.19	3.85	2.73	3.84	2.72	0	0
<b>Subtotal:</b>	<b>6.2</b>	<b>8.2</b>	<b>0.7</b>	<b>1.3</b>	<b>4.2</b>	<b>3.3</b>	<b>4.2</b>	<b>3.3</b>	<b>0</b>	<b>0</b>
<b>Other Cover Types</b>										
Ornamental	19.89	26.26	10.57	7.67	14.94	16.44	22.70	20.53	0	0
Disturbed	0.71	1.15	0.29	0.23	0.42	0.87	0.67	0.87	0	0
Developed	10.37	99.91	8.39	31.55	11.97	51.65	14.13	72.17	0	0
<b>Subtotal:</b>	<b>31.0</b>	<b>127.3</b>	<b>19.2</b>	<b>39.5</b>	<b>27.3</b>	<b>69.0</b>	<b>37.5</b>	<b>93.6</b>	<b>0</b>	<b>0</b>
<b>Total Acreage:</b>	<b>37.1</b>	<b>135.5</b>	<b>19.9</b>	<b>40.7</b>	<b>31.5</b>	<b>72.3</b>	<b>41.7</b>	<b>96.8</b>	<b>0</b>	<b>0</b>

A U.S. Fish and Wildlife Service letter responding to a request for candidate, proposed, threatened, or endangered species for the proposed project presents several listed species that may occur within or near the proposed project. Species on the list that were not detected during project surveys include Pacific pocket mouse (*Perognathus longimembris pacificus*), western snowy plover (*Charadrius alexandrius nivosus*), and California least tern (*Sternula [Sterna] antillarum browni*). Additionally, project surveys did not detect the following federally and state endangered animal species within the BSA: light-footed clapper rail, southwestern

willow flycatcher, and least Bell's vireo; or the following federally threatened species: coastal California gnatcatcher and Encinitas baccharis (*Baccharis vanessae*).

A total of four sensitive plant species were detected within the BSA during surveys, one of which is Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), a federally endangered plant species. Current engineering designs will avoid Del Mar manzanita; however, Alternatives 3, 4, and 5 are anticipated to impact the following two detected sensitive plant species: wart-stem lilac (*Ceanothus verrucosus*) and Del Mar Mesa sand aster (*Corethrogyne filaginifolia* var. *linifolia*). For each build alternative, no impacts are anticipated to sea dahlia (*Coreopsis maritima*). Only those plant species for which impacts are anticipated are summarized in Table S-2.

A total of six sensitive animal species were detected within the BSA during surveys, none of which are federally or state listed. Although it is not anticipated that there will be direct impacts to these six sensitive animal species, impacts to habitat that could be used by three of the sensitive animal species detected are anticipated for Alternatives 2, 3, 4, and 5. Those animal species include San Diego coast horned lizard (*Phrynosoma coronatum blainvillii*), San Diego pocket mouse (*Chaetodipus fallax fallax*), and San Diego desert woodrat (*Neotoma lepida intermedia*). For each build alternative, no impacts are anticipated to the other three sensitive animal species detected (white-tailed kite [*Elanus leucurus*], yellow warbler [*Dendroica petechia Brewster*], and yellow-breasted chat [*Icteria virens*]). Only those animal species for which impacts are anticipated are summarized in Table S-2.

Avoidance and minimization measures for impacts to sensitive species would consist of activities such as contractor training, fencing around sensitive habitats, and trampling vegetation instead of grading where possible.

Based on current engineering designs, temporary and permanent impacts to sensitive plant species and suitable habitat of sensitive animal species are anticipated and would require mitigation. Permanent impacts to coastal sage scrub and southern maritime chaparral will be completed on Caltrans mitigation property on the slopes of San Dieguito Lagoon at a 2:1 ratio.

When considered with other projects that have been completed, are in progress, or are planned for the vicinity, such as the North Coast Corridor Project and the Pacific Highlands Ranch 17-22A Project, the I-5/SR-56 Interchange Project is anticipated to contribute to cumulative effects at a regional level.

**Table S-2. Anticipated Impacts to Sensitive Plants and Animals within the BSA**

Sensitive Plants	Impacts (estimated # of individuals)									
	Alternative 2		Alternative 3		Alternative 4		Alternative 5		No Build Alternative	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
<i>Plants</i>										
Wart-stem lilac ( <i>Ceanothus verrucosus</i> )	0	0	0	0	0	0	0	0	0	0
Del Mar Mesa sand aster ( <i>Corethrogyne filaginifolia</i> var. <i>linifolia</i> )	10	0	0	0	0	0	0	0	0	0
Sensitive Animals	Impacts (acreage of habitat potentially used by species)									
	Alternative 2		Alternative 3		Alternative 4		Alternative 5		No Build Alternative	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
<i>Animals</i>										
San Diego coast horned lizard ( <i>Phrynosoma coronatum blainvillii</i> )	6.2	8.2	0.7	1.3	4.2	3.3	4.2	3.3	0.0	0.0
San Diego pocket mouse ( <i>Chaetodipus fallax fallax</i> )	6.2	8.2	0.7	1.3	4.2	3.3	4.2	3.3	0.0	0.0
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	6.2	8.2	0.7	1.3	4.2	3.3	4.2	3.3	0.0	0.0

Several federal and state regulations were considered during preparation of this Natural Environment Study. The anticipated regulatory requirements that would apply to this proposed project include:

- Coastal Development Permit from the California Coastal Commission pursuant to the California Coastal Act of 1976 (Public Resources Code 30000 et seq.).
- Pursuant to Executive Order 13112 (FHWA 1999), project-related landscaping activities would be performed in a manner that avoids the introduction or spread of invasive plant species.

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## Table of Contents

<b>Chapter 1.</b>	Introduction .....	1
1.1.	Project History .....	1
1.2.	Project Description .....	2
1.2.1.	Proposed Construction Footprint .....	6
<b>Chapter 2.</b>	Study Methods .....	15
2.1.	Regulatory Requirements .....	15
2.1.1.	Federal Endangered Species Act of 1973.....	15
2.1.2.	California Endangered Species Act of 1984 .....	15
2.1.3.	Migratory Bird Treaty Act of 1918 .....	15
2.1.4.	State and Regional Regulations.....	15
2.1.5.	Invasive Species .....	16
2.2.	Studies Required.....	16
2.2.1.	Botanical Surveys.....	19
2.2.2.	Wildlife Surveys.....	20
2.2.3.	Wetlands and Waters of the U.S. ....	22
2.3.	Personnel and Survey Dates .....	22
2.4.	Agency Coordination and Professional Contacts .....	22
2.5.	Limitations That May Influence Results.....	24
<b>Chapter 3.</b>	Results: Environmental Setting .....	25
3.1.	Description of the Study Area and Physical Conditions.....	25
3.1.1.	Study Area.....	25
3.1.2.	Physical Conditions.....	25
3.2.	Biological Conditions in the Biological Study Area.....	26
3.2.1.	Vegetation Communities.....	26
3.2.2.	Regional Species of Concern .....	36
3.2.3.	Migration Corridors.....	59
<b>Chapter 4.</b>	Results: Biological Resources, Discussion of Impacts and Mitigation.....	63
4.1.	Impacts to Vegetation Communities and Other Land Cover Types .....	63
4.1.1.	Impacts to Vegetation Communities of Special Concern.....	63
4.2.	Impacts to Sensitive Plant Species.....	82
4.2.1.	Wart-Stem Lilac .....	82
4.2.2.	Del Mar Mesa Sand Aster .....	85
4.3.	Impacts to Sensitive Animal Species.....	86
4.3.1.	San Diego Coast Horned Lizard, San Diego Pocket Mouse, and San Diego Desert Woodrat .....	89
4.3.2.	Alternative 3 – Auxiliary Lane Alternative.....	89
4.4.	Impacts to Migration Corridors .....	90
4.5.	Cumulative Impacts for Proposed Project .....	90
4.6.	General Avoidance, Minimization, and Compensatory Mitigation.....	92
<b>Chapter 5.</b>	Results: Permits and Technical Studies for Special Laws or Conditions .....	95
5.1.	Regulatory Requirements .....	95
5.2.	Invasive Species.....	95

**Chapter 6.** References .....97

**Appendix A** U.S. Fish and Wildlife Service Letter with List of Federally Endangered or Threatened Species with Potential to Occur within or near Project Area ..... A-1

**Appendix B** Plant Species Observed or Detected within the I-5/SR-56 Interchange Project Biological Study Area ..... B-1

**Appendix C** Wildlife Species Observed or Detected within the I-5/SR-56 Interchange Project Biological Study Area ..... C-1

**Appendix D** 45-Day Report Summarizing Results of Focused Surveys for the Coastal California Gnatcatcher for the Proposed Interstate 5/State Route 56 Interchange Project, City of San Diego, California .....D-1

**Appendix E** Results of Focused Protocol Surveys for the Least Bell’s Vireo and Southwestern Willow Flycatcher along State Route 56 at Interstate 5, San Diego County, Calif., 2007 ..... E-1

## List of Figures

<b><u>Figure</u></b>	<b><u>Page</u></b>
Figure 1. Regional Location Map.....	3
Figure 2. Vicinity Map .....	4
Figure 3a. Proposed Construction Footprint: Alternative 2 .....	7
Figure 3b. Proposed Construction Footprint: Alternative 3 .....	9
Figure 3c. Proposed Construction Footprint: Alternative 4 .....	11
Figure 3d. Proposed Construction Footprint: Alternative 5 .....	13
Figure 4. Jurisdictions and Preserve Boundaries.....	17
Figure 5a. Biological Study Area and Vegetation Communities: I-5 Portion.....	27
Figure 5b. Biological Study Area and Vegetation Communities: SR-56 Portion .....	29
Figure 6. Sensitive Plant Species Detected during Project Surveys.....	49
Figure 7. Sensitive Animal Species Detected during Project Surveys .....	53
Figure 8. Migration Corridors .....	61
Figure 9a. Impacts to Vegetation Communities – Alternative 2: I-5 Portion.....	65
Figure 9b. Impacts to Vegetation Communities – Alternative 2: SR-56 Portion.....	67
Figure 10a. Impacts to Vegetation Communities – Alternative 3: I-5 Portion.....	69
Figure 10b. Impacts to Vegetation Communities – Alternative 3: SR-56 Portion.....	71
Figure 11a. Impacts to Vegetation Communities – Alternative 4: I-5 Portion.....	73
Figure 11b. Impacts to Vegetation Communities – Alternative 4: SR-56 Portion.....	75
Figure 12a. Impacts to Vegetation Communities – Alternative 5: I-5 Portion.....	77
Figure 12b. Impacts to Vegetation Communities – Alternative 5: SR-56 Portion.....	79
Figure 13. Impacts to Sensitive Plants .....	83
Figure 14. Impacts to Sensitive Animals.....	87

## List of Tables

<b><u>Table</u></b>		<b><u>Page</u></b>
Table S-1.	Anticipated Impacts to Vegetation Communities and Other Cover Types within the BSA.....	iii
Table S-2.	Anticipated Impacts to Sensitive Plants and Animals within the BSA .....	v
Table 1.	Survey Information.....	23
Table 2.	Sensitive Plant and Animal Species Potentially Occurring or Known to Occur in the I-5/SR-56 Interchange Project Biological Study Area.....	37
Table 3.	Summary of Anticipated Impacts to Vegetation Communities and Other Land Cover Types .....	64
Table 4.	Anticipated Impacts to Sensitive Plant Species within the BSA .....	82
Table 5.	Anticipated Impacts to Sensitive Animals within the BSA.....	86

## List of Abbreviated Terms

BSA	Biological Study Area
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
E.O.	Executive Order
ESA	Environmentally Sensitive Areas
FHWA Federal	Highway Administration
GIS	geographic information system
GPS	Global Positioning System
HOV	high occupancy vehicle
I-5 Inter	state 5
KBS	Konecny Biological Services
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCFUAFP	North City Future Urbanizing Area Framework Plan
NES	Natural Environment Study
PM post	mile
ROW right-of-way	
SANDAG	San Diego Association of Governments
SR-56 State	Route 56
TES	Tierra Environmental Services
URS URS	Corporation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
WBWG	Western Bat Working Group

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# Chapter 1. Introduction

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The California Department of Transportation (Caltrans), in cooperation with the San Diego Association of Governments (SANDAG), the Federal Highway Administration (FHWA), and the City of San Diego, is proposing a project that would result in improvements to the Interstate 5 (I-5) and State Route 56 (SR-56) interchange located in San Diego County.

As part of the environmental review process, this Natural Environment Study (NES) report documents the biological resources identified as present or potentially present within the project area; identifies potential biological impacts resulting from project alternatives; and recommends measures to avoid, minimize, and/or mitigate impacts in conformance with the National Environmental Policy Act and California Environmental Quality Act (CEQA), as well as the Caltrans Environmental Guidebook/Handbook. Although the project is located within the City of San Diego's Multiple Species Conservation Program (MSCP) Planning Area (City of San Diego 1997), Caltrans is not a signatory to the plan. However, Caltrans is considered a cooperating agency in terms of the MSCP; therefore, Caltrans will review and consider the goals and concepts of the MSCP when formulating and implementing any impact avoidance, minimization, or mitigation measures associated with the project.

## 1.1. Project History

Currently, local streets and the surrounding communities experience increased demand and congestion during peak hours from I-5 and SR-56 traffic. The current interchange design forces drivers to exit the freeway to travel between southbound I-5 to eastbound SR-56 and westbound SR-56 to northbound I-5. This causes congestion at the El Camino Real and Carmel Valley Road intersection. A recent widening of the westbound SR-56 off-ramp has improved current operations but will need to be evaluated with future traffic projections. During peak hours, to avoid traffic congestion at the I-5/SR-56 interchange, drivers use alternate routes, including El Camino Real, Carmel Valley Road, and Carmel Creek Road, which causes increased traffic on surface streets near the project area.

The increased congestion negatively impacts the surrounding communities by increasing the traffic through neighborhoods. Continued regional development and

interregional travel will further increase traffic volumes and reduce traffic operational quality.

## **1.2. Project Description**

The primary objectives of the proposed project are to improve the Del Mar Heights Road interchange, as well as southbound SR-56 along I-5, and also to improve the Carmel Country Road interchange and northbound I-5 along SR-56. The project would include improvements to the surface streets, the addition of auxiliary lanes along SR-56 and I-5, interchange improvements, or new freeway-to-freeway connector ramps.

The ultimate goal of the proposed project is to improve the existing and future operations along the I-5 and SR-56 corridors between Del Mar Heights Road, Carmel Valley Road, and Carmel Country Road, and to facilitate the safe and efficient local and regional movement of people and goods, while minimizing environmental and community impacts for the planning design year of 2030.

The proposed project is located in the City of San Diego in San Diego County, east of the City of Del Mar and south of the City of Solana Beach (Figures 1 and 2). The proposed project would begin south of Carmel Valley Road along I-5 at post mile (PM) 52.6 and continue to PM 56.0, north of Del Mar Heights Road. Along SR-56, the project would begin at PM 0.0 at El Camino Real and continue to PM 2.5 east of Carmel Country Road.

### **CONSTRUCTION ALTERNATIVES**

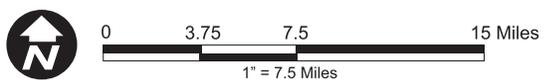
Caltrans is considering four build alternatives, Alternative 2 – Direct Connector Alternative, Alternative 3 – Auxiliary Lane Alternative, and Alternative 4 – Hybrid Alternative, Alternative 5 – Hybrid with Flyover Alternative, and a No Build Alternative (also known as Alternative 1, hereinafter referred to as the No Build Alternative) for the proposed project, all of which are described below.

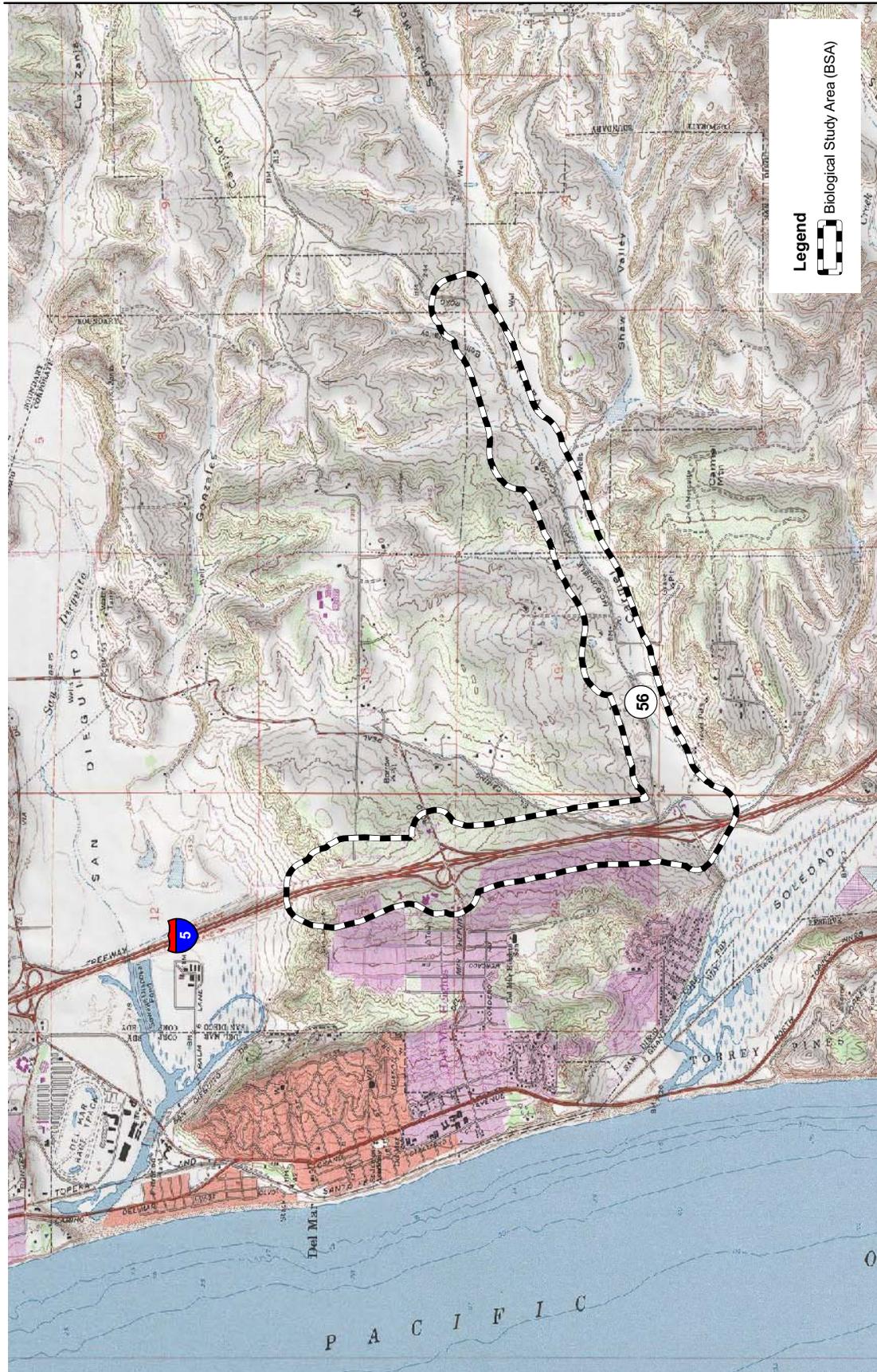
#### **Alternative 2 – Direct Connector Alternative**

The Direct Connector Alternative proposes the construction of direct freeway-to-freeway connectors in the westbound SR-56 to northbound I-5 and southbound I-5 to eastbound SR-56 directions. This alternative includes the extension of the local bypass in both the northbound and southbound directions to the Del Mar Heights Road interchange and the elimination of the eastbound off-ramp to Carmel Creek



**Figure 1**  
**Regional Location Map**





**Legend**  
 Biological Study Area (BSA)

**Figure 2**  
**Vicinity Map**

Source: USGS Topo 7.5' Quad Del Mar 1975  
  
  
 Scale: 1:48,000; 1 inch = 4,000 feet

Road. Additional lanes along I-5 and SR-56, improvements to interchanges, improvements to Carmel Valley Road, reconstruction of the Del Mar Heights Road overcrossing, widening of the El Camino Real undercrossing, and associated operational improvements are proposed with this alternative.

The Direct Connector Alternative uses a combination of design modifications to reduce right-of-way (ROW) impacts to parcels along Portofino Drive. First, the ramp metering system on the southbound I-5 entrance ramp at Del Mar Heights Road would be shifted to the north and the transition on the ramp from three lanes to one lane would be considerably shortened. Both of these modifications enable a reduction in the overall width of the ramp. Second, the southbound to eastbound connector exit ramp would be relocated to the southernmost feasible location on I-5. This would enable a reduction in ROW impacts in the vicinity of the intersection of Portofino Drive and Portofino Circle. Finally, lane widths in the southbound I-5 direction would be reduced, enabling further reduction in ROW impacts along Portofino Drive and Portofino Circle.

#### Alternative 3 – Auxiliary Lane Alternative

The Auxiliary Lane Alternative proposes the addition of an auxiliary lane between the Del Mar Heights Road and Carmel Valley Road interchanges along southbound I-5 and the addition of a multi-purpose lane between Carmel Country Road and I-5 along westbound SR-56. The eastbound off-ramp to Carmel Creek Road would be eliminated in the Auxiliary Lane Alternative. Improvements to the Carmel Valley

Road interchange, improvements to Carmel Valley Road east of I-5, improvements to the eastbound El Camino Real on-ramp, reconstruction of the Del Mar Heights Road overcrossing, and associated operational improvements are also proposed with this alternative.

#### Alternative 4 – Hybrid Alternative

The Hybrid Alternative is a combination of the Direct Connector Alternative and the Auxiliary Lane Alternative. In this alternative, the proposed westbound to northbound connector featured in the Direct Connector Alternative would be combined with the proposed southbound to eastbound local street movement featured in the Auxiliary Lane Alternative.

### Alternative 5 – Hybrid with Flyover Alternative

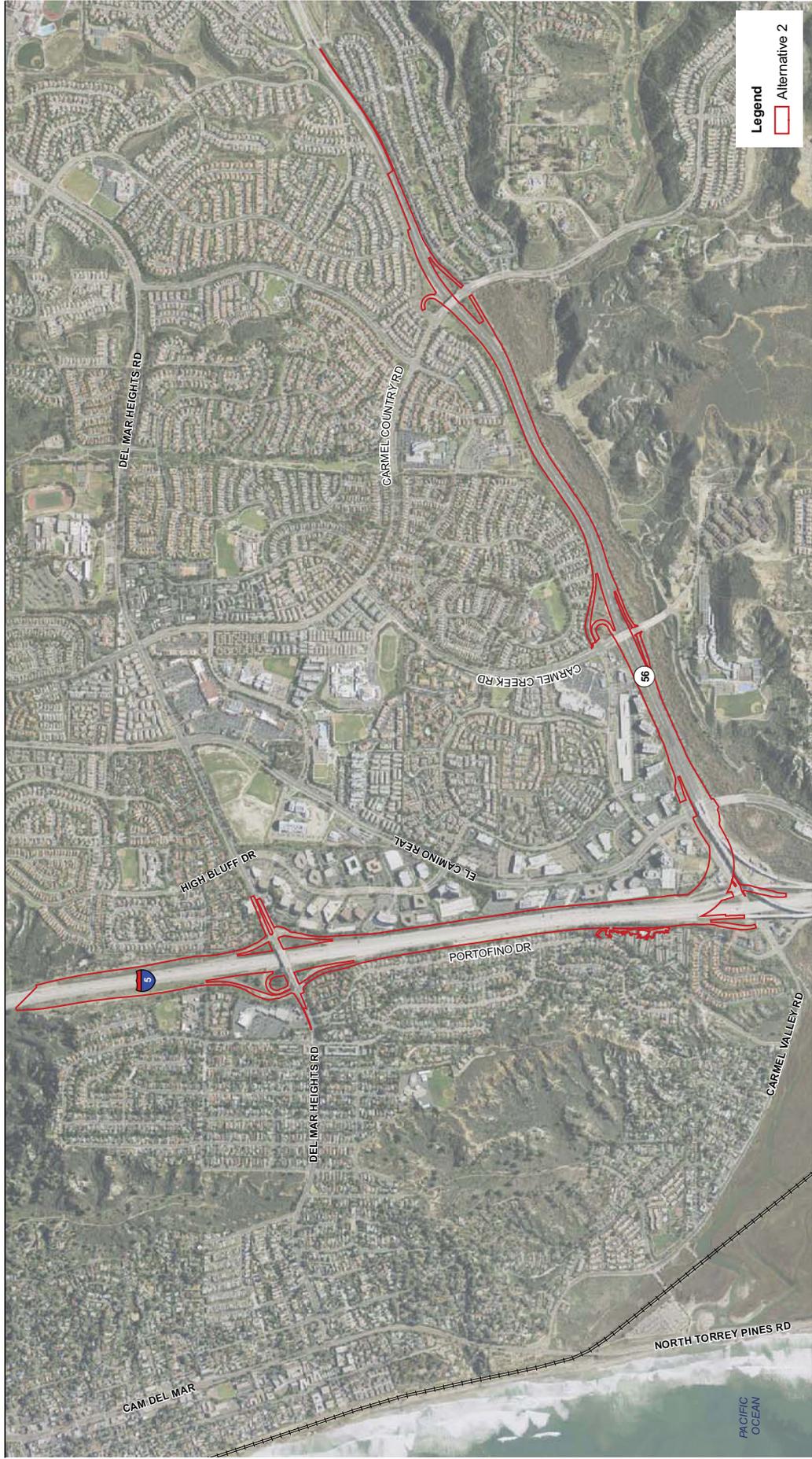
The Hybrid with Flyover Alternative is a variation of the Hybrid Alternative. The Hybrid with Flyover Alternative includes a proposed flyover structure that would connect eastbound Carmel Valley Road to the eastbound SR-56 fast lane, in addition to the west SR-56 to north I-5 connector featured as part of the Direct Connector Alternative. The Hybrid with Flyover Alternative would require use of nonstandard lane and shoulder widths along Carmel Valley Road and would require tunneling behind the Carmel Valley Road undercrossing abutments to provide pedestrian and bicycle access.

### No Build Alternative

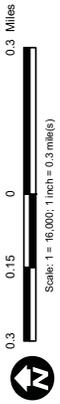
The No Build Alternative assumes the existing configuration for the I-5/SR-56 interchange with future improvements that are, as part of the proposed I-5 North Coast Project, independent of the I-5/SR-56 Interchange Project. These improvements include the addition of two managed high occupancy vehicle (HOV) lanes on I-5 (one in each direction), one general-purpose lane along northbound I-5, and improvements to the Del Mar Heights Road interchange. This alternative would not include the construction of direct freeway-to-freeway connectors in the westbound SR-56 to northbound I-5 and southbound I-5 to eastbound SR-56 directions or improvements to local streets in the Carmel Valley area.

#### **1.2.1. Proposed Construction Footprint**

The proposed permanent construction footprints for each build alternative are presented together in Figures 3a, 3b, 3c, and 3d. Permanent impact areas include the limits of cut and fill, retaining wall, or pavement edges, whichever is farthest. In addition, anticipated temporary impacts include 12 feet off of the farthest extent of permanent impacts, as well as construction access/staging areas. Permanent and temporary impact areas will be discussed and depicted graphically in Chapter 4.



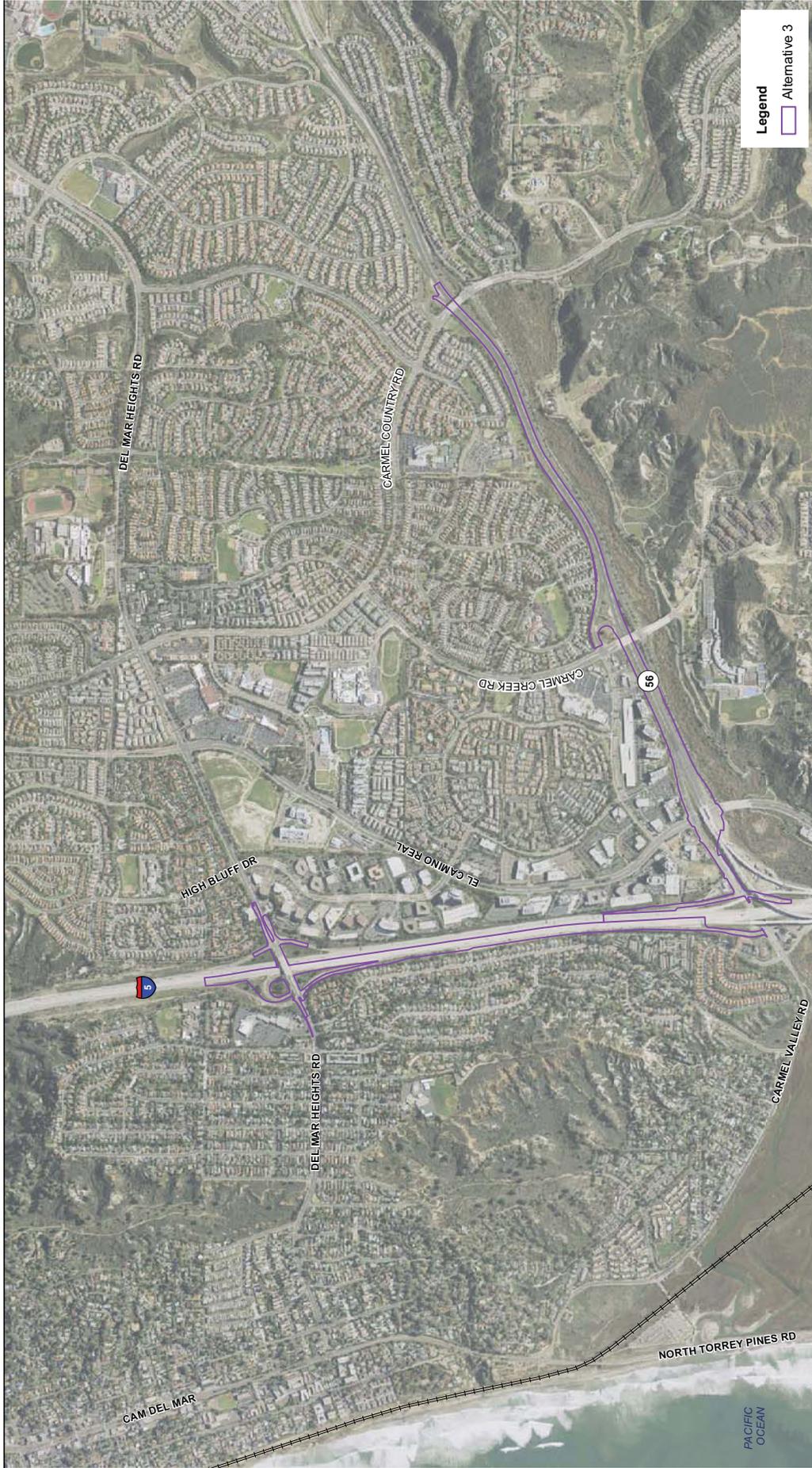
Source: DigitalGlobe 2008; ED&W 2008; Doerken 2008



Scale: 1 = 16,000; 1 inch = 0.3 mile(s)

**Figure 3a**  
**Proposed Construction Footprint: Alternative 2**  
 Page 7

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Source: DigitalGlobe 2008; EDAM 2008; Dokken 2008

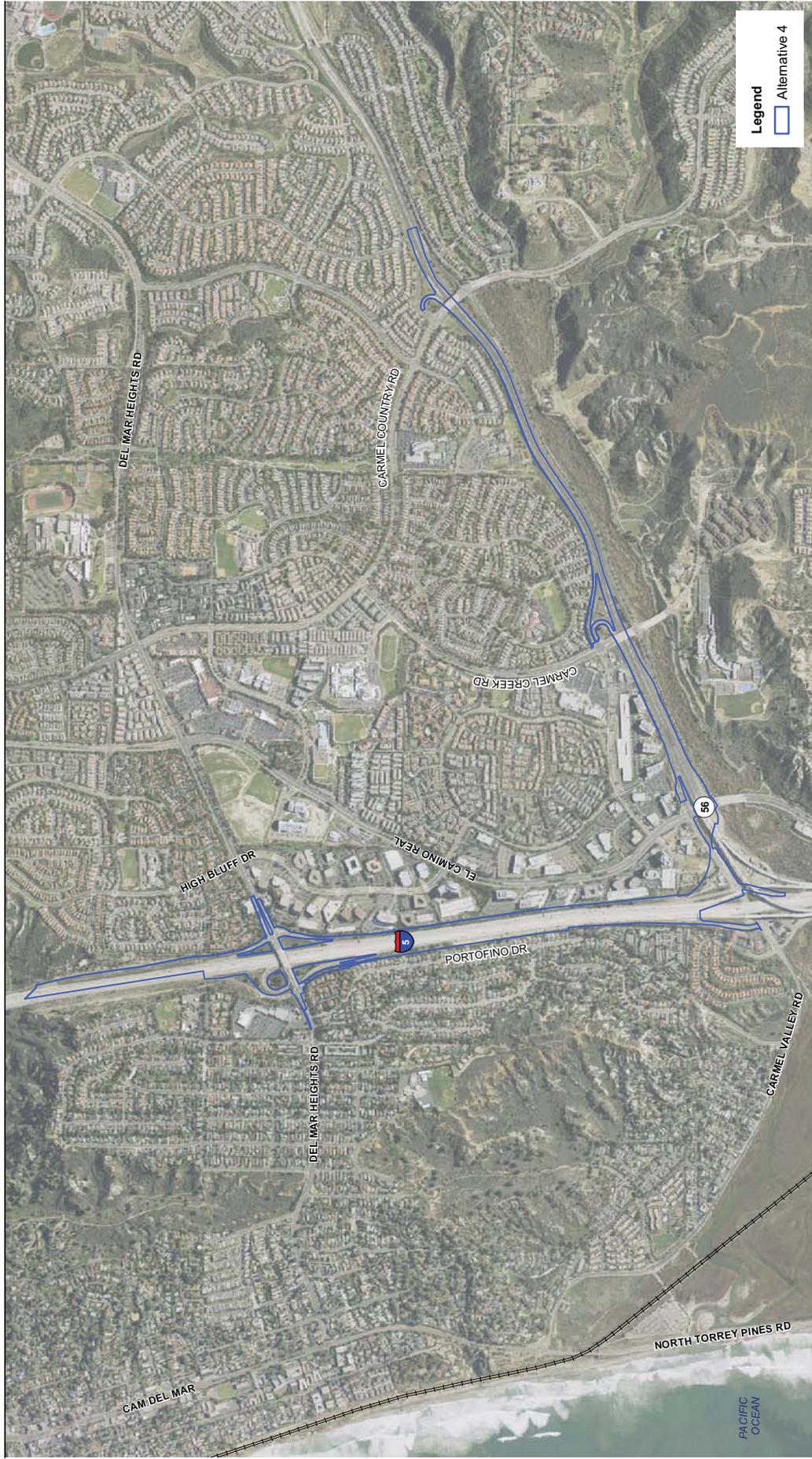


I-5/SR-56 Interchange Project Natural Environment Study

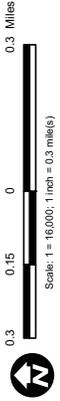
P:\2010\08\08\08\14 SR 56 EIR\_EIS\10 Graphics\Non-CDD\14 Proj\_Graphics\Figures\Figure 2-2 aerialmap\_070110

**Figure 3b**  
Proposed Construction Footprint: Alternative 3

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Source: DigitalGlobe 2008; EDAX 2008; Doerken 2008



0.3 Miles

Scale: 1 = 16,000; 1 inch = 0.3 mile(s)

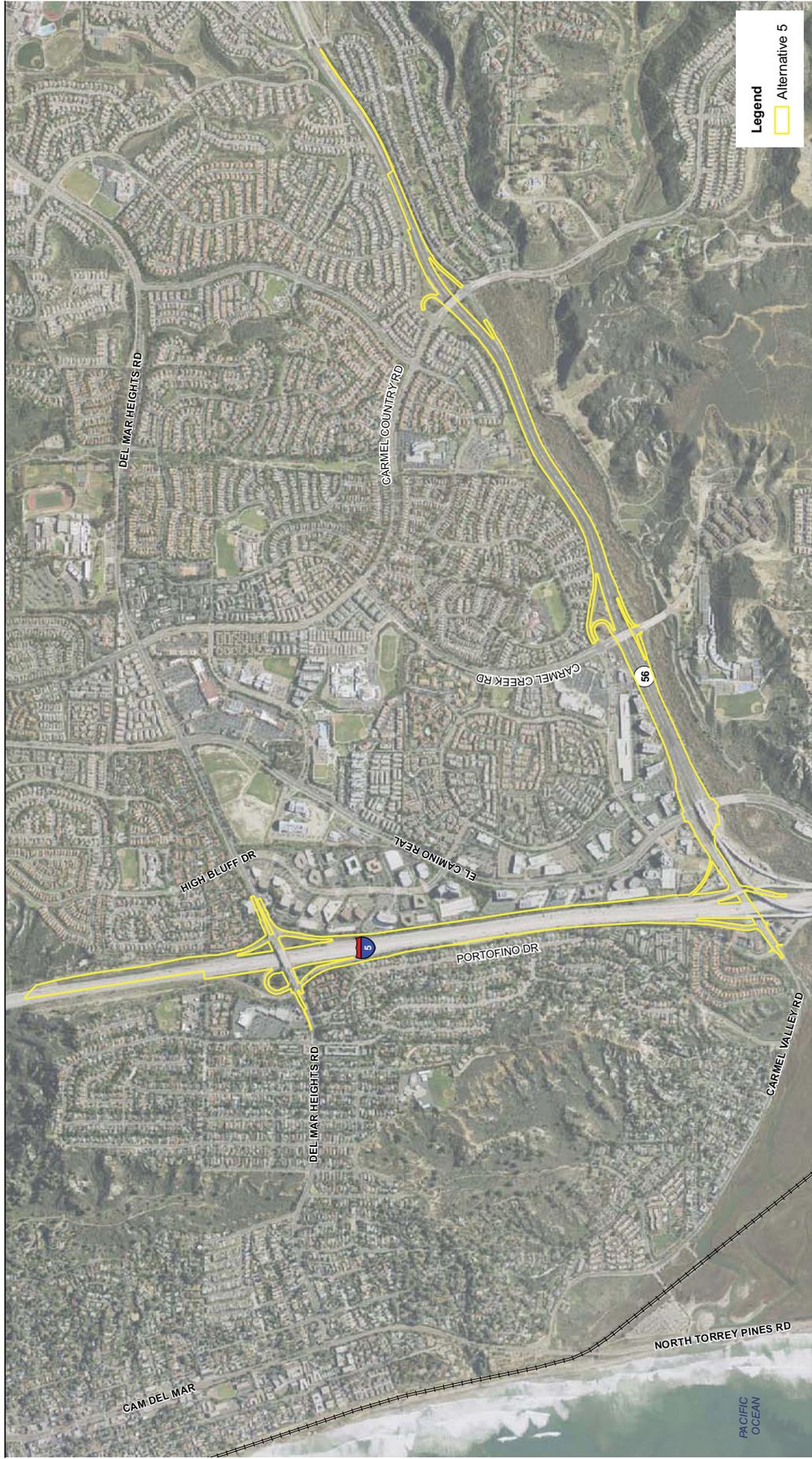
**I-5/SR-56 Interchange Project Natural Environment Study**

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**Figure 3c**

**Proposed Construction Footprint: Alternative 4**

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Source: DigitalGlobe 2008; ED&W 2008; Dokken 2008  
 Scale: 1 = 16,000; 1 inch = 0.3 mile(s)  
 0.3 Miles  
 0.15  
 0  
 Legend  
 Alternative 5

**Figure 3d**  
**Proposed Construction Footprint: Alternative 5**

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## **Chapter 2. Study Methods**

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### **2.1. Regulatory Requirements**

The laws that apply to this project include the Federal Endangered Species Act of 1973, as amended; California Endangered Species Act; Migratory Bird Treaty Act (MBTA); the California Coastal Act (CCA); and Executive Order (E.O.) 13112. This determination was made by reviewing a U.S. Fish and Wildlife Service (USFWS) list of species potentially occurring within the project area (Appendix A), the California Natural Diversity Data Base (CNDDDB) (CDFG 2008a), the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants (CNPS 2001), and the MSCP (SANDAG 1996), all of which revealed the sensitive species known from the region within and surrounding the BSA. The resulting regulatory requirements associated with each of the laws listed above are given below.

#### **2.1.1. Federal Endangered Species Act of 1973**

The Federal Endangered Species Act designates and protects federally threatened and endangered plants and animals and their critical habitats. Protocol surveys for federally listed plants and animals are required since they are either present, or have the potential to occur, within or near the proposed project.

#### **2.1.2. California Endangered Species Act of 1984**

The California Endangered Species Act protects California's endangered and threatened species, including species designated as candidates for listing. Protocol surveys for state listed plants and animals are required since they are either present, or have the potential to occur, within or near the proposed project.

#### **2.1.3. Migratory Bird Treaty Act of 1918**

The Migratory Bird Treaty Act prohibits take of protected migratory birds. Although not planned, if vegetation removal is necessary during the breeding season, surveys for migratory bird nests and raptor nests are required.

#### **2.1.4. State and Regional Regulations**

The California Coastal Commission (CCC) regulates coastal resources within the coastal zone under jurisdiction of the CCA of 1976. A Coastal Development Permit is required since the proposed project is within the coastal zone.

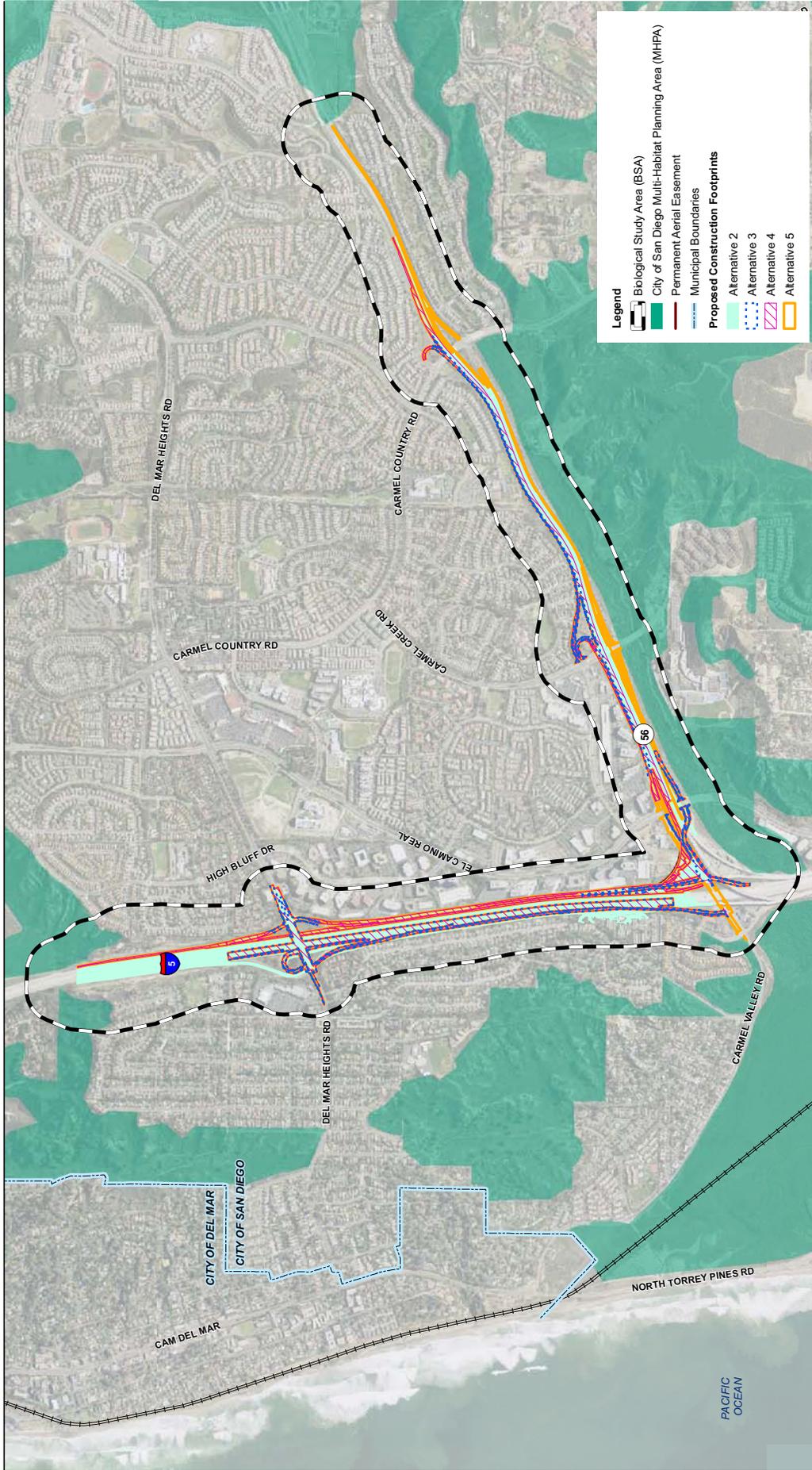
### **2.1.5. Invasive Species**

Under E.O. 13112, landscaping will be designed to prevent and control the introduction and spread of invasive species.

## **2.2. Studies Required**

The Biological Study Area (BSA) analyzed for this proposed project covers an area of approximately 830 acres and includes the proposed construction limits and a 500-foot buffer around the construction limits. Since four build alternatives are currently under consideration, the BSA encompasses the maximum extent of potential construction footprints and associated buffers. Generally, the BSA runs along the I-5 freeway beginning approximately 0.3 mile south of the interchange with SR-56 and extends northward for approximately 2.3 miles. In addition, the BSA includes a stretch that begins approximately 0.2 mile west of the I-5/SR-56 interchange and continues eastward for approximately 2.8 miles. There are also lateral extensions of the BSA that occur at Del Mar Heights Road, Carmel Creek Road, and Carmel Country Road, all of which extend off of the I-5 or SR-56 for an average distance of 0.1 mile. The BSA is host to a few native vegetation communities and other land cover types with the majority of the BSA being landscaped or developed (residential/commercial) zones. Within the BSA, native upland habitat includes southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, and disturbed coastal sage scrub; and native riparian habitat includes southern willow scrub and disturbed southern willow scrub. Southern willow scrub exists in the southern portion of the BSA but is excluded from the construction footprint by a large earthen berm approximately 20 feet wide by 10 feet tall. The BSA is entirely within the MSCP Planning Area; however, it does not overlap with the San Diego Multiple Habitat Planning Area (Figure 4).

Previous studies performed by Caltrans, URS Corporation (URS), Konecny Biological Services (KBS), Tierra Environmental Services (TES), and EDAW, Inc. (EDAW) were reviewed and included in the analysis when appropriate. Technical tools such as CNDDDB RareFind 3 (CDFG 2008a) and the 2004 Bird Atlas database (Unitt 2004) were used to search for regional sensitive species, confirm previous site locations, and describe habitat requirements. The results of the data query were refined through site visits involving habitat assessments for these species. If a habitat was not present within the BSA for a particular sensitive species, it was dropped from further consideration for focused project studies.



**Figure 4**  
**Jurisdictions and Preserve Boundaries**  
 Page 17

Source: DigitalGlobe 2008; EDAAW 2008; Dokken 2008  
 0.3 0.15 0 0.3 Miles  
 Scale: 1" = 18,000'; 1 inch = 0.3 miles

**I-5/SR-56 Interchange Project Natural Environment Study**

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Based on review of biological resource databases, communication with the USFWS, and previous studies/reports, it was determined that specific biological resource surveys would be required for this proposed project. Focused surveys would be required for rare plants, including federally threatened/state endangered Encinitas baccharis (*Baccharis vanessae*), federally endangered Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), state endangered short-leaved dudleya (*Dudleya brevifolia*); and four federally listed animal species, including the coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), light-footed clapper rail (*Rallus longirostris levipes*), and southwestern willow flycatcher (*Empidonax traillii extimus*).

Regarding jurisdictional waters, it was determined that a formal jurisdictional delineation for regulated waters of the U.S. and state waters was not necessary as the project build alternatives were designed to avoid impacts to these resources.

From May 2003 through November 2005, Caltrans, URS, TES, and KBS conducted vegetation mapping, rare plant surveys, and focused wildlife surveys in support of the proposed project. During spring 2007/2008, EDAW and KBS conducted vegetation mapping, rare plant surveys, and focused wildlife surveys within the BSA to supplement the earlier survey information. Relevant results from previous studies (prior to 2007) are presented within this report when applicable, primarily relying on the 2007/2008 survey results. Survey methodologies used are described in the following text.

### **2.2.1. Botanical Surveys**

General botanical surveys of the BSA were conducted in July 2003 by Caltrans and April/June 2008 by EDAW. Surveying was conducted in a similar manner by Caltrans and EDAW and consisted of walking through or near all habitat/potential habitats within the BSA to compile a general list of native and nonnative plant species and to map vegetation communities. Vegetation communities were classified and mapped in the field on a 1:200 scale (1 inch equals 200 feet) topographic aerial photograph of the BSA. Habitats were classified based on the dominant and characteristic plant species in accordance with Holland's description of natural communities (Holland 1986). Acreages of each habitat type were determined by delineating habitat polygons on field maps, which were later hand digitized into a geographic information system (GIS; ArcMap v.9.2) so that acreages could be calculated. A complete list of all plant species, including sensitive plants, detected

within the BSA during surveys conducted 2003 through 2008 is included in Appendix B.

#### **2.2.1.1. SENSITIVE PLANT SURVEYS**

Focused surveys for sensitive plant species were conducted in April and June 2008 by EDAW. The methodology for the sensitive plant surveys followed guidelines for rare, threatened, and endangered (sensitive) plants and plant communities as described by the USFWS, California Department of Fish and Game (CDFG), and CNPS. Surveys were conducted throughout the entire BSA, with the exception of developed areas, as sensitive plants are not anticipated to occur in developed areas due to lack of appropriate habitat and/or frequent anthropogenic disturbance. All sensitive plants detected by EDAW biologists in 2008 were recorded using a submeter global positioning system (GPS) unit in the form of points or polygons.

#### **2.2.2. Wildlife Surveys**

General wildlife surveys of the BSA were conducted from May to July 2003 by Caltrans, April to June 2004 by TES, and March to July 2007 by EDAW biologists. General wildlife surveys included habitat assessments and were conducted by walking meandering transects across the BSA and noting all animal species observed or detected (by sign or scat). These surveys were conducted in a similar manner by Caltrans and EDAW. A complete list of all animal species, including sensitive animal species, detected in the BSA during surveys conducted 2003 through 2008 by EDAW and Caltrans is included in Appendix C.

##### **2.2.2.1. SENSITIVE WILDLIFE SURVEYS**

Focused surveys for sensitive animal species were conducted for several species by EDAW (EDAW 2007, 2008). Habitat assessments for these sensitive animal species were conducted by EDAW, noting the presence or absence of habitat features required by, or associated with, these species. All accessible areas of habitat within the BSA were surveyed. Animal sign, track, or direct observations of sensitive animal species detected during focused protocol surveys and habitat assessments were recorded with a submeter GPS unit.

#### **Coastal California Gnatcatcher Surveys**

Protocol-level surveys for federally threatened coastal California gnatcatcher were conducted by permitted EDAW biologists under USFWS 10(a)(1)(A) Threatened and Endangered Species Permit TE-820658-4 (EDAW 2008). The coastal California gnatcatcher surveys followed the current USFWS protocol guidance, revised July 28, 1997 (USFWS 1997). Three surveys were completed at least seven days apart during

the specified survey period of February 15 to August 31, 2008. Additionally, Caltrans conducted protocol-level surveys for coastal California gnatcatcher in 2003, 2005, and 2007 on the fill-slopes of San Dieguito Lagoon.

### **Least Bell's Vireo Surveys**

Surveys for least Bell's vireo (federally and state listed endangered) were previously conducted within the BSA by Caltrans from May to July 2003 and by Caltrans from May to July in 2003 and April to June 2004 using the same methodology as EDAW (described below). Protocol-level surveys for least Bell's vireo were again conducted by EDAW biologists from April 30 to June 18, 2007 (EDAW 2007). Surveys were conducted in accordance with the most recent 2001 USFWS survey guidelines. Eight surveys were conducted at least 10 days apart between the designated survey period from April 10 and July 31 and occurred between dawn and 11:00 a.m. All other wildlife species observed during surveys were also recorded. Only passive, auditory surveys were conducted for the species (e.g., no tape playbacks of least Bell's vireo vocalizations were used at any time during the surveys).

### **Light-footed Clapper Rail Surveys**

At this time, the USFWS does not have a survey protocol for the light-footed clapper rail (federally and state listed endangered). Surveys were conducted following a methodology formulated by KBS in consultation with Clapper Rail Study Team Principal Investigator Richard Zembal and approved by the USFWS (KBS 2007). KBS previously conducted light-footed clapper rail surveys within the BSA from April to June 2004 and February to March 2005. Five focused light-footed clapper rail surveys were conducted at least 1 week apart between April 26 and June 4, 2007. Dusk surveys were conducted on May 13, May 27, and June 4, 2007. Dawn surveys were conducted on April 26 and May 4, 2007. Each dawn or dusk survey lasted approximately 3 hours. Dawn surveys were conducted from predawn to no later than 2 hours after sunrise. Dusk surveys were conducted between sunset and no more than 2 hours prior to sunset. Surveys were conducted by stopping at stations with appropriate freshwater marsh habitat area and listening for vocalizing light-footed clapper rails. If light-footed clapper rails were not detected passively, a call-prompt or digital vocalization of the light-footed clapper rail "dueting" was played at 30-second intervals with an MP3 player and amplified speakers. At each station, the surveyor listened for a response for approximately 5 minutes before proceeding to the next survey station.

### **Southwestern Willow Flycatcher Surveys**

During project surveys, EDAW biologists heard a southwestern willow flycatcher (*Empidonax traillii extimus*) in Peñasquitos Lagoon and approximately 235 feet east of Carmel Creek Road and south of the Carmel Valley Creek. Due to the detections occurring during the migratory season for this species, it was determined that the individuals heard were likely using the area as a stopover. Although not required by the USFWS, EDAW conducted five protocol-level surveys from May 30 to July 17, 2007, to determine the presence/absence of southwestern willow flycatcher within the BSA (EDAW 2007). Surveys for the federally and state listed endangered southwestern willow flycatcher were conducted following the guidelines established by the U.S. Geological Survey (USGS), and updated by the USFWS, which has a designated survey period from May 15 through July 17, per the survey protocol. Prior to 2008, there had not been any southwestern willow flycatcher surveys performed by Caltrans.

### **2.2.3. Wetlands and Waters of the U.S.**

Presurvey investigations of web-based information systems (e.g., National Wetlands Inventory), soil survey data, and USGS topographic quadrangles were conducted to collect pertinent information about the BSA such as previously mapped riparian areas, wetlands, waters, and/or hydric soils that may suggest the potential or presence of wetlands at the time of the study. It was determined that the proposed project alternatives have been designed to avoid the riparian corridor along the south side of SR-56, as well as other water features designated as waters of the U.S., or waters of the state.

### **2.3. Personnel and Survey Dates**

General biological reconnaissance surveys, vegetation mapping, and protocol-level surveys for sensitive plants, coastal California gnatcatcher, light-footed clapper rail, least Bell's vireo, and southwestern willow flycatcher have been conducted for the project. Table 1 is organized by survey type and then in chronological order.

### **2.4. Agency Coordination and Professional Contacts**

The proposed project requires coordination with the USFWS in regard to federally listed species that have the potential to occur within the BSA and vicinity. Based on prior coordination between Caltrans and the USFWS, protocol-level surveys were required for light-footed clapper rail. Surveys for this species were conducted from 2003 through 2005. As the planning and design for the proposed project progressed, it

was determined that updated surveys were required. Updated surveys were performed for light-footed clapper rail during 2007. Additionally, protocol-level surveys for coastal California gnatcatcher were required. Surveys for this species occurred in 2007 and 2008, respectively. Surveys for federally listed Del Mar manzanita and Encinitas baccharis were also required. A letter from the USFWS that provides information regarding federally listed species that are known to occur within, or near, the BSA is presented in Appendix A.

**Table 1. Survey Information**

<b>Survey Personnel</b>	<b>Date</b>	<b>Survey Activity</b>
Suellen Lynn and Mason Ryan	April 30, 2007	Least Bell's Vireo
Erin Riley and Mason Ryan	May 10, 2007	Least Bell's Vireo
Andrea CurryLow and Mason Ryan	May 21, 2007	Least Bell's Vireo
Lyndon Quon	May 30, 2007	Southwestern Willow Flycatcher
Barbra Calantas and Andrea CurryLow	June 6, 2007	Least Bell's Vireo
Suellen Lynn and Erin Riley	June 18, 2007	Southwestern Willow Flycatcher/ Least Bell's Vireo
Lyndon Quon and Paul Moreno	June 28, 2007	Southwestern Willow Flycatcher/ Least Bell's Vireo
Lyndon Quon and Christopher Ward	July 9, 2007	Southwestern Willow Flycatcher/ Least Bell's Vireo
Lyndon Quon	July 17, 2007	Southwestern Willow Flycatcher
Lyndon Quon	July 27, 2007	Least Bell's Vireo
John Konecny (KBS)	April 26, 2007	Light-footed Clapper Rail
John Konecny (KBS)	May 4, 2007	Light-footed Clapper Rail
John Konecny (KBS)	May 13, 2007	Light-footed Clapper Rail
John Konecny (KBS)	May 27, 2007	Light-footed Clapper Rail
John Konecny (KBS)	June 4, 2007	Light-footed Clapper Rail
Rich Dwerlkotte	April 18, 2008	General Botanical/Rare Plant
Rich Dwerlkotte	April 19, 2008	General Botanical/Rare Plant
Rich Dwerlkotte	April 20, 2008	General Botanical/Rare Plant
Rich Dwerlkotte	June 9, 2008	General Botanical/Rare Plant
Rich Dwerlkotte	June 11, 2008	General Botanical/Rare Plant
Rich Dwerlkotte	June 12, 2008	General Botanical/Rare Plant
Andrew Fisher	August 7, 2008	Coastal California Gnatcatcher
Andrew Fisher	August 18, 2008	Coastal California Gnatcatcher
Andrew Fisher	August 25, 2008	Coastal California Gnatcatcher

\*KBS - Konecny Biological Services

## **2.5. Limitations That May Influence Results**

Two rare plant surveys were conducted in 2008, a year with satisfactory rainfall levels for performing such surveys. In addition, focused wildlife surveys in 2007 and 2008 followed approved USFWS protocols and/or industry-standard protocols and there were no limitations (e.g., timing of surveys, atypical weather issues, or seasonal limitations) that affected the results of those surveys (EDAW 2007, 2008; KBS 2007). Therefore, 2007 and 2008 survey data and results are sound and directly applicable to the biological resource assessment associated with the proposed project.

## **Chapter 3. Results: Environmental Setting**

### **3.1. Description of the Study Area and Physical Conditions**

#### **3.1.1. Study Area**

The approximately 830-acre BSA includes the proposed construction limits and a 500-foot buffer around the construction limits. Since there are currently four build alternatives under consideration, the BSA encompasses the maximum extent of potential construction footprints and associated buffers. The BSA encompasses native vegetation communities and other land cover types with the majority of the BSA consisting of landscaped or developed (residential/commercial) zones. Within the BSA, native upland habitat includes southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, and disturbed coastal sage scrub; and native riparian habitat includes southern willow scrub and disturbed southern willow scrub. The approximately 2-mile stretch of southern willow scrub exists along Carmel Valley Creek in the southern portion of the BSA but is excluded from the construction footprint by a large earthen berm approximately 20 feet wide by 10 feet tall.

#### **3.1.2. Physical Conditions**

The BSA elevation ranges from approximately 20 to 275 feet above mean sea level. Topography slopes moderately downward from north to south. The north-south portion of the BSA consists of the I-5 corridor, which mostly has steep slopes leading from the freeway up to residential developments, and moderately steep slopes leading to a commercial business district east of I-5. The west-east portion of the BSA consists of a relatively flat stretch of land along the SR-56 corridor that is one of the major drainages of the surrounding area into Los Peñasquitos Lagoon, via Carmel Valley Creek. Flanking the SR-56 corridor are slopes that lead into residential/commercial areas to the north and south.

Of the seven soil series occurring within the BSA none are listed on the National Hydric Soils List (NRCS 2008b), or the Local Hydric Soil List (SCS 1992). The seven soil types occurring within the BSA are Corralitos Loamy Sand, Huerhuero Loam, Loamy Alluvial Land – Huerhuero Complex, Made Land, Salinas Clay Loam, Terrace Escarpments, and Tujunga Sand (NRCS 2008a).

Outside of the BSA is Los Peñasquitos Lagoon, which is one of San Diego County's largest wetlands. The lagoon is an approximate 630-acre estuary and coastal wetland and is specifically located southwest of the BSA. The lagoon includes mudflats, shallow channels, and broad tidal pans forming an extensive marsh area. Both the Los Peñasquitos Creek and the Carmel Valley Creek flow into the lagoon. The mouth of the lagoon connects to the Pacific Ocean through a tidal channel.

## **3.2. Biological Conditions in the Biological Study Area**

### **3.2.1. Vegetation Communities**

A variety of vegetation communities and land cover types were identified within the BSA, three of which are native vegetation communities (see Figures 5a and 5b). The native vegetation types include southern maritime chaparral, southern willow scrub, and coastal sage scrub. Nonnative grassland, areas landscaped with ornamental species, disturbed areas, and developed areas were also identified in the BSA.

Each vegetation community and land cover type, their associated dominant plants, animals, and invasive species observed during surveys are discussed in the following text. Additionally, information regarding disturbed native vegetation community types that were detected in the BSA is also provided below.

#### ***Southern Maritime Chaparral***

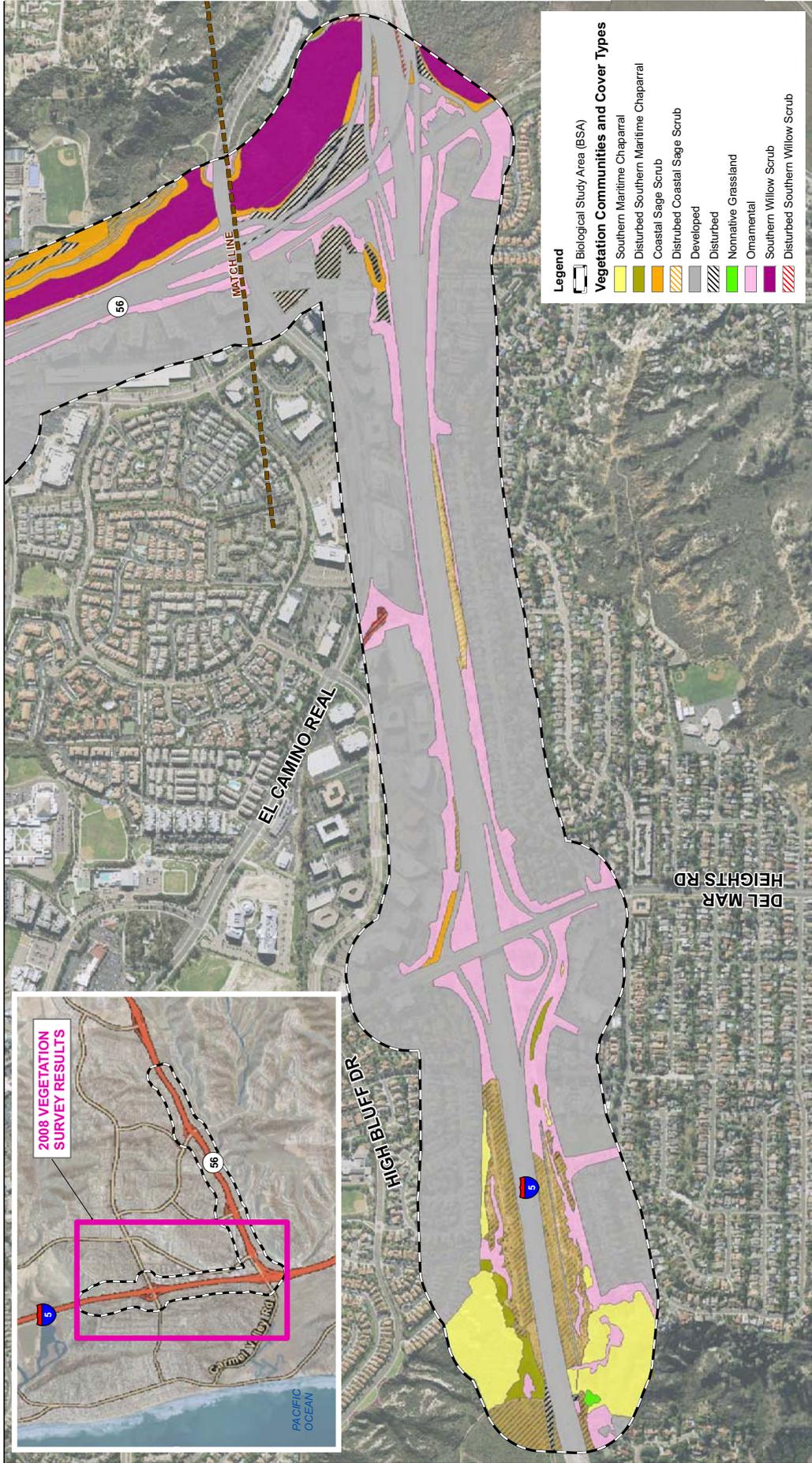
Southern maritime chaparral is a low, open chaparral community that is restricted to Torrey Pines State Reserve and a few other nearby localities in San Diego County. Southern maritime chaparral occurs near the northern end of the BSA, east and west of I-5, as well as in small isolated patches north and south of SR-56.

#### ***Dominant Plant Species***

Dominant plant species within the southern maritime chaparral communities encountered in the BSA include chamise (*Adenostoma fasciculatum*), Del Mar manzanita, black sage (*Salvia mellifera*), and scrub oak (*Quercus berberidifolia*). Additional plant species detected in southern maritime chaparral include wart-stem-lilac (*Ceanothus verrucosus*), toyon (*Heteromeles arbutifolia*), Torrey's hybrid scrub oak (*Quercus x acutidens*), and Mohave yucca (*Yucca schidigera*).

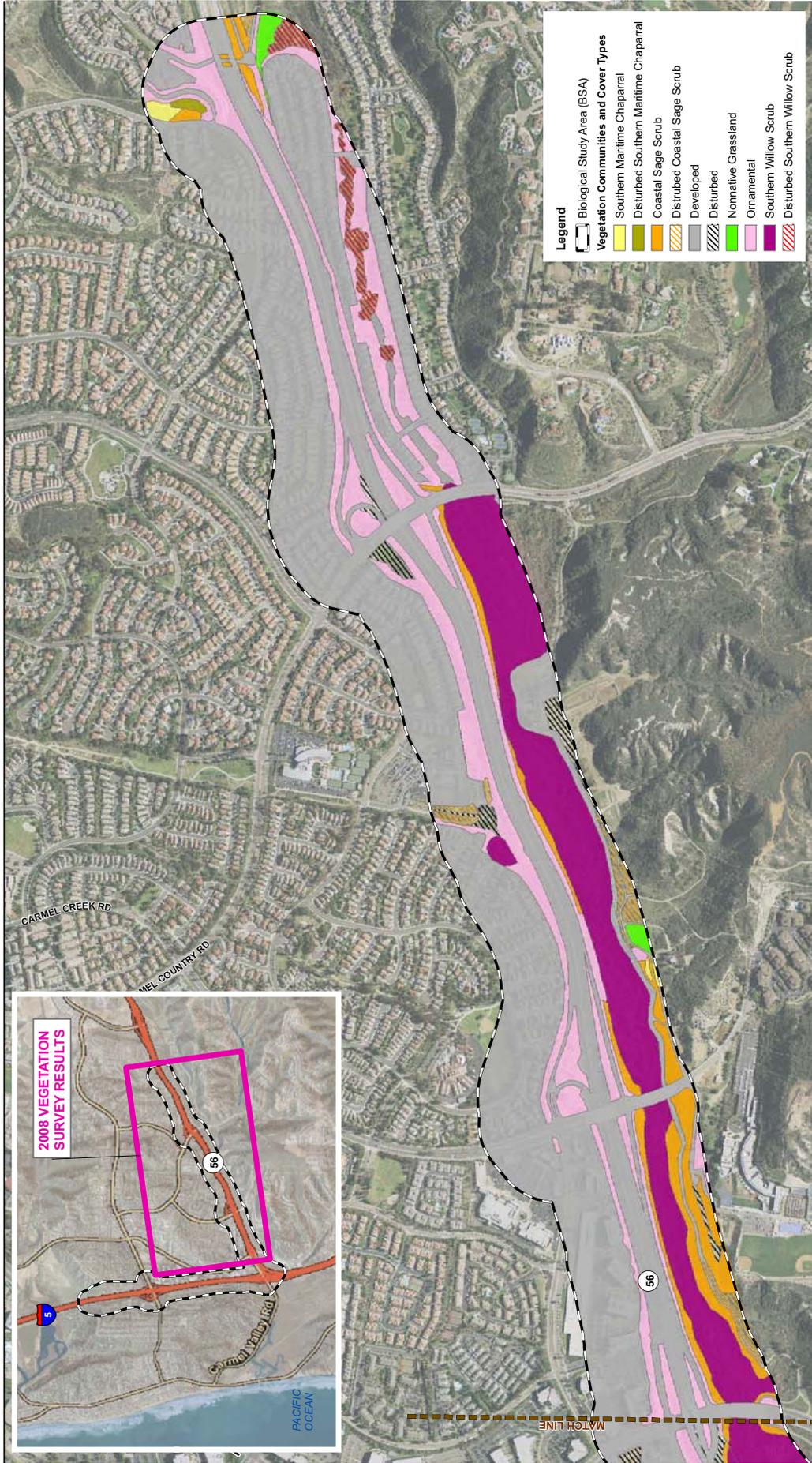
#### ***Animal Species***

Within the BSA, animal species detected in southern maritime chaparral habitat include Anna's hummingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), Bewick's wren (*Thryomanes bewickii*), scrub jay (*Aphelocoma coerulescens*),



**Figure 5a**  
**Biological Study Area and Vegetation Communities**  
**I-5 Portion**  
 Page 27

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**Figure 5b**  
**Biological Study Area and Vegetation Communities**  
**SR-56 Portion**  
 Page 29

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northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), western fence lizard (*Sceloporus occidentalis*), and California ground squirrel (*Spermophilus beecheyi*). For a complete list of animal species detected within the BSA, refer to Appendix C.

#### *Invasive Species*

Invasive species detected within southern maritime chaparral within the BSA include hottentot-fig (*Carpobrotus edulis*) and fennel (*Foeniculum vulgare*).

#### **Disturbed Southern Maritime Chaparral**

Disturbed southern maritime chaparral has been altered in structure and function mainly by human activities. Approximately 17 percent of the southern maritime chaparral within the BSA is classified as disturbed and is characterized by large amounts of bare ground due to human activities and a greater frequency and cover of nonnative plant species. This vegetation community is located in the northern portion of the BSA adjacent to I-5, and in isolated locations along the north and south side of SR-56.

#### *Dominant Plant Species*

Dominant plant species within disturbed southern maritime chaparral communities encountered in the BSA include chamise, black sage, black mustard (*Brassica nigra*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and sourclover (*Melilotus indica*).

#### *Animal Species*

Within the BSA, animal species detected in disturbed southern maritime chaparral habitat include Anna's hummingbird, mourning dove, scrub jay, and house finch. This habitat also supports western fence lizard and California ground squirrel.

#### *Invasive Species*

Invasive species detected within disturbed southern maritime chaparral within the BSA include black mustard, foxtail chess (*Bromus madritensis* ssp. *rubens*), hottentot-fig, and fennel.

#### **Coastal Sage Scrub**

Coastal sage scrub can be dominated by a variety of different species depending upon site-specific topographic, geographic, and edaphic conditions. In the BSA, coastal sage scrub is found on slopes adjacent to I-5 and SR-56.

### *Dominant Plant Species*

Dominant plant species occurring within coastal sage scrub detected in the BSA include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), California broom (*Lotus scoparius*), white sage (*Salvia apiana*), San Diego County viguiera (*Viguiera laciniata*), and black sage.

### *Animal Species*

Within the BSA, animal species detected in coastal sage scrub include Anna's hummingbird, scrub-jay, California thrasher (*Toxostoma redivivum*), house finch, California towhee (*Pipilo crissalis*), San Diego coast horned lizard (*Phrynosoma coronatum blainvilli*), and western fence lizard.

### *Invasive Plant Species*

Invasive species detected within coastal sage scrub within the BSA include hottentot-fig, fennel, and foxtail chess.

### **Disturbed Coastal Sage Scrub**

Disturbed coastal sage scrub has been altered in structure and function mainly due to human activities. Disturbed coastal sage scrub was encountered in the northern portion of the BSA adjacent to I-5 and in isolated locations along the north and south side of SR-56.

### *Dominant Plant Species*

Dominant plant species occurring within disturbed coastal sage scrub detected in the BSA include California sagebrush, California buckwheat, ripgut grass, and perennial veldt grass (*Ehrharta calycina*).

### *Animal Species*

Disturbed coastal sage scrub habitat was found to support fewer animal species than coastal sage scrub. Within the BSA, animal species encountered include mourning dove, house finch, western fence lizard, and California ground squirrel.

### *Invasive Plant Species*

Invasive species detected within disturbed coastal sage scrub within the BSA include hottentot-fig, fennel, foxtail chess, perennial veldt grass, and tocalote (*Centaurea melitensis*).

### **Southern Willow Scrub**

Southern willow scrub is a dense, broad-leaved, winter-deciduous riparian thicket dominated by several species of willows (*Salix* sp.). Southern willow scrub occurs within the BSA along the southern side of SR-56, and surrounding Carmel Valley Creek from I-5 to Carmel Country Road. It also occurs southwest of the I-5/SR-56 interchange.

#### *Dominant Plant Species*

The southern willow scrub community in the BSA is dominated by narrow-leaf willow (*Salix exigua*), Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*). Stands of cattail (*Typha* sp.) and southwestern spiny rush (*Juncus acutus*) were also detected within southern willow scrub areas.

#### *Animal Species*

Within the BSA, some of the animal species detected in southern willow scrub include black phoebe (*Sayornis nigricans*), bushtit (*Psaltriparus minimus*), yellow-rumped warbler (*Dendroica coronata*), song sparrow (*Melospiza melodia*), brown-headed cowbird (*Molothrus ater*), lesser goldfinch (*Carduelis psaltria*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and western spotted skunk (*Spilogale putorius*).

#### *Invasive Species*

Invasive plant species detected within southern willow scrub within the BSA include pampas grass (*Cortaderia selloana*) and fountain grass (*Pennisetum setaceum*).

### **Disturbed Southern Willow Scrub**

Disturbed southern willow scrub is similar to southern willow scrub, but it has been subjected to anthropogenic disturbances that cause changes in hydrologic regime or directly affect species composition. Disturbed southern willow scrub occurs in small areas on the south and north sides of SR-56.

#### *Dominant Plant Species*

Disturbed southern willow scrub that exists within the BSA is dominated by narrow-leaf willow, arroyo willow, mulefat (*Baccharis salicifolia*), and a variety of nonnative grasses.

### *Animal Species*

Disturbed southern willow scrub offers less structural diversity than undisturbed southern willow scrub and overall species abundance and diversity are lower. Within the BSA, animal species detected in disturbed southern willow scrub include Anna's hummingbird, bushtit, song sparrow, and brown-headed cowbird.

### *Invasive Species*

Invasive plant species within disturbed southern willow scrub within the BSA include pampas grass, fountain grass, and foxtail chess.

### **Nonnative Grassland**

Nonnative grassland occurs in a small portion of the BSA, south of Carmel Valley Creek and SR-56.

### *Dominant Plant Species*

Dominant species within nonnative grassland within the BSA include wild oat (*Avena fatua*), soft chess, foxtail chess, rigput grass, and storksbill (*Erodium cicutarium*).

### *Animal Species*

Within the BSA, animal species detected in nonnative grasslands include western fence lizard, common kingsnake (*Lampropeltus getula californiae*), red-tailed hawk (*Buteo jamaicensis*), mourning dove, and California ground squirrel.

### *Invasive Plant Species*

Invasive plant species within the BSA include foxtail chess, fennel, and tocalote.

### **Ornamental**

Areas designated as ornamental within the BSA represent those areas planted with ornamental trees, shrubs, and ground cover. Ornamental vegetation occurs along many of the shoulders and ramps of I-5 and SR-56 within the BSA.

### *Dominant Plant Species*

Dominant species within areas mapped as ornamental within the BSA include eucalyptus trees (*Eucalyptus* spp.), Torrey pine (*Pinus torreyana*), Afghan pine (*Pinus eldarica*), acacia (*Acacia* sp.), and hottentot-fig. Within some areas landscaped with ornamentals, native species such as Torrey's hybrid oak and toyon were detected.

### ***Animal Species***

Within the BSA, animals detected within areas landscaped with ornamental species include western fence lizard, black phoebe, northern mockingbird, house finch, and house sparrow (*Passer domesticus*) mourning dove, American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*).

### ***Invasive Species***

Invasive plant species within the BSA include foxtail chess, fennel, tocalote, hottentot-fig, and fountain grass.

### ***Disturbed***

Those areas of the BSA designated as disturbed have a little to no habitat value due to previous activities associated with human development. Soils are generally compacted and fail to support many plant species. Consequently, few animal species utilize disturbed areas. Disturbed areas were detected in various locations throughout the BSA, most of which were noted in the vicinity of the I-5/SR-56 interchange area.

### ***Dominant Plant Species***

Where vegetation exists within this community it is dominated by broadleaved nonnative plant species such as mustards (*Brassica* spp.) with scattered brome grasses (*Bromus* spp.).

### ***Animal Species***

Within the BSA, animal species detected in disturbed areas include crow, raven, house finch, house sparrow, and California ground squirrel.

### ***Invasive Species***

Invasive plant species within the BSA include foxtail chess, fennel, tocalote, hottentot-fig, fountain grass, and pampas grass.

### ***Developed***

Developed land is composed of areas of intensive use with much of the land covered by structures. Included in this category are cities; transportation, power, and communications facilities; and areas such as those occupied by mills, shopping centers, industrial and commercial complexes, and institutions that may, in some instances, be isolated from urban areas. No attempt has been made to distinguish between the various forms of developed land, because the focus is on native biodiversity. Approximately 63 percent of the BSA was categorized as developed.

### *Dominant Plant Species*

Where vegetation exists within this community it is dominated by nonnative, ornamental plants.

### *Animal Species*

Within the BSA, animal species detected include rock pigeon (*Columba livia*), mourning dove, northern mockingbird, black phoebe, house finch, and house sparrow.

### *Invasive Species*

Invasive plant species within the BSA include pampas grass, fountain grass, and hottentot-fig.

## **3.2.2. Regional Species of Concern**

A summary of the sensitive species present or with a potential to occur in the BSA is provided in Table 2. Regional species of concern were identified as species occurring within 2 miles of the BSA as indicated in the CNDDDB.

### **3.2.2.1. SENSITIVE PLANTS**

Sensitive plants include those listed as threatened, endangered, or proposed for listing by the USFWS and CDFG (CDFG 2008b), considered sensitive by the CDFG (2008c), or considered sensitive by the CNPS (CNPS 2001). The CNPS Listing is sanctioned by the CDFG and serves as the list of candidate species for threatened or endangered status.

There are 24 sensitive plant species known to occur within the region surrounding the BSA that occur within 2 miles of the BSA (Table 2). However, due to various factors, such as lack of habitat and known range restrictions, only four of these sensitive plant species were detected within the BSA during project surveys. These include Del Mar manzanita, wart-stem-lilac, sea dahlia (*Coreopsis maritima*), and Del Mar Mesa sand aster (*Corethrogyne filaginifolia* var. *linifolia*) (see Figure 6).

The four sensitive plant species that were detected within the BSA during project surveys are discussed further below along with results from surveys. Although Encinitas baccharis was not detected within the BSA during surveys, it is discussed below.

### **Discussion of Del Mar Manzanita**

Del Mar manzanita is federally endangered and included by the CNPS on List 1B.1 (rare, threatened, or endangered in California and elsewhere). This species is native

**Table 2. Sensitive Plant and Animal Species Potentially Occurring or Known to Occur in the I-5/SR-56 Interchange Project Biological Study Area<sup>1</sup>**

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
<i>Plants</i>					
California adolphia	<i>Adolphia californica</i>	CNPS: List 2.1	Chaparral, coastal scrub, valley and foothill grassland, on clay soils; elevation 150-980 feet. Shrub (deciduous), blooms December-May.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present within the BSA. The closest known location occurs approximately 2.0 miles to the northeast of the BSA.
Shaw's agave	<i>Agave shawii</i>	CNPS: List 2.1 MSCP: Covered	Coastal bluff scrub and coastal scrub; elevation 30-250 feet. Shrub (leaf succulent), blooms September-May.	Absent	Not expected to occur within the BSA. This species was not detected during surveys and is not expected to occur within the BSA due to lack of suitable habitat. The closest known location occurs approximately 0.97 mile to the west of the BSA.
Del Mar manzanita	<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	USFWS: Endangered CNPS: List 1B.1 MSCP: Covered	Chaparral (maritime, sandy), elevation 0-1,200 feet. Evergreen shrub, blooms December-April.	Present	Detected. Suitable habitat is present and this species was detected within the BSA during the surveys.
coastal dunes milk-vetch	<i>Astragalus tener</i> var. <i>titi</i>	USFWS: Endangered CDFG: Endangered CNPS: List 1B.1 MSCP: Covered	Coastal bluff scrub (sandy), mesic coastal dunes and coastal prairie; elevation 3-165 feet. Annual herb, blooms March-May.	Absent	Not expected to occur within the BSA. This species was not detected during surveys and is not expected to occur within the BSA due to lack of suitable habitat. The closest known location occurs approximately 1.6 miles to the southwest of the BSA.
south coast saltscale	<i>Atriplex pacifica</i>	CNPS: List 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub and playas; elevation 0-330 feet. Annual herb, blooms March-October.	Absent	Not expected to occur within the BSA. This species was not detected during surveys and is not expected to occur within the BSA due to lack of suitable habitat. The closest known location occurs approximately 2.0 miles to the southeast of the BSA.
Encinitas baccharis	<i>Baccharis vanessae</i>	USFWS: Threatened CDFG: Endangered CNPS: List 1B.1 MSCP: Covered, Narrow Endemic	Maritime chaparral, on sandstone substrate; elevation 200-2,360 feet. Shrub (deciduous) blooms August-November.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present within the BSA. The closest known location occurs approximately 0.2 mile to the south of the BSA.

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
golden-spined cereus	<i>Bergerocactus emoryi</i>	CNPS: List 2.2	Closed-cone coniferous forest, chaparral, and coastal scrub, on sandy soils; elevation 10-1,300 feet. Shrub (stem succulent), blooms May-June.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present within the BSA. The closest known location occurs approximately 1.1 miles to the southwest of the BSA.
wart-stem lilac	<i>Ceanothus verrucosus</i>	CNPS: List 2.2 MSCP: Covered MHCP: Covered	Chaparral; elevation 3-1,250 feet. Shrub (evergreen) blooms December-April.	Present	Detected. Suitable habitat is present and this species was detected within the BSA during surveys.
southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>	CNPS: List 1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), and vernal pools; elevation 0-1,400 feet. Annual herb, blooms May-November.	Absent	Not expected to occur within the BSA. This species was not detected onsite during the surveys and is not expected to occur within the BSA due to lack of suitable habitat. The closest known location occurs approximately 1.93 miles to the northwest of the BSA.
Orcutt's spineflower	<i>Chorizanthe orcuttiana</i>	USFWS: Endangered CDFG: Endangered CNPS: List 1B.1	Maritime chaparral, closed-cone coniferous forest, and coastal scrub, in sandy openings; elevation 10-410 feet. Annual herb, blooms March-May.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 1.8 miles to the northwest of the BSA.
summer holly	<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	CNPS: List 1B.2	Chaparral; elevation 100-1,800 feet. Shrub (evergreen), blooms April-June.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 0.7 mile to the northwest of the BSA.
sea dahlia	<i>Coreopsis maritima</i>	CNPS: List 2.2	Coastal bluff scrub and coastal scrub; elevation 15-500 feet. Perennial herb, blooms March-May.	Present	Detected. Suitable habitat is present and this species was detected within the BSA during the surveys.
Del Mar Mesa sand aster	<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	CNPS: List 1B.1 MSCP: Covered	Coastal bluff scrub, coastal scrub, and maritime chaparral, in sandy openings;	Present	Detected. Suitable habitat is present and this species was detected within the BSA during the surveys.

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
short-leaved dudleya	<i>Dudleya brevifolia</i>	CDFG: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial herb, blooms May-September. Openings in maritime chaparral, coastal scrub, on Torrey sandstone; elevation 100-820 feet. Perennial herb, blooms April.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 0.2 mile to the northwest of the BSA.
sticky dudleya	<i>Dudleya viscida</i>	CNPS: List 1B.2 MSCP: Covered	Coastal bluff scrub, chaparral and coastal scrub, on a rocky substrate; elevation 30-1,800 feet. Perennial herb, blooms May-June.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 2.0 miles to the southwest of the BSA.
coast wallflower	<i>Erysimum ammophilum</i>	CNPS: List 1B.2 MSCP: Covered	Maritime chaparral, coastal dunes and coastal scrub, in sandy openings; elevation 0-200 feet. Perennial herb, blooms February-June.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 2.0 miles to the southeast of the BSA.
San Diego barrel cactus	<i>Ferocactus viridescens</i> var. <i>viridescens</i>	CNPS: List 2.1 MSCP: Covered	Chaparral, coastal scrub, valley and foothill grasslands, vernal pools; elevation 10-1,500 feet. Shrub (stem succulent), blooms May-June.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 1.1 miles to the southwest of the BSA.
San Diego marsh-elder	<i>Iva hayesiana</i>	CNPS: List 2.2	Marshes and swamps, playas; elevation 30-1,500 feet. Perennial herb, blooms April-October.	Present	Low potential to occur within the BSA. Marginally suitable habitat is present for this species within the BSA and this species was detected within the BSA during the surveys; however, the individuals encountered were not naturally occurring; that is, they were found on a slope that had been revegetated.
Nuttall's lotus	<i>Lotus nuttallianus</i>	CNPS: List 1B.1 MSCP: Covered	Coastal dunes and coastal scrub, sandy soils; elevation 0-30 feet. Annual herb, blooms March-June.	Absent	Not expected to occur within the BSA. This species was not detected onsite during the surveys and is not expected to occur within the BSA due to lack of suitable habitat. The closest known location occurs approximately 1.1 miles to the west of the BSA.

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
coast woolly-heads	<i>Nemacaulis denuadata</i> var. <i>denuadata</i>	CNPS: List 1B.2	Coastal dunes; elevation 0-325 feet. Annual herb, blooms April-September.	Absent	Not expected to occur within the BSA. This species was not detected onsite during the surveys and is not expected to occur within the BSA due to lack of suitable habitat. The closest known location occurs approximately 1.2 miles to the southeast of the BSA.
Torrey pine	<i>Pinus torreyana</i> ssp. <i>torreyana</i>	CNPS: List 1B.2 MSCP: Covered	Closed-cone coniferous forest and chaparral on sandstone; elevation 250-525 feet. Tree (evergreen).	Present	Low potential to naturally occur within the BSA. There are several torrey pine trees in the BSA; however, these were planted as part of landscaping activities. The closest known naturally occurring location is approximately 0.75 mile east of the BSA.
Nuttall's scrub oak	<i>Quercus dumosa</i>	CNPS: List 1B.1	Closed cone coniferous forests, chaparral, and coastal scrub, on sandy and clay loam soils; elevation 50-1,300 feet. Shrub (evergreen), blooms February-April.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 1.5 miles to the northwest of the BSA.
rayless ragwort	<i>Senecio aphanactis</i>	CNPS: List 2.2	Chaparral, cismontane woodland, and coastal scrub, usually on alkaline soils; elevation 50-2,700 feet. Annual herb, blooms January-April.	Present	Low potential to occur within the BSA. Although this species was not detected during project surveys, suitable habitat is present throughout the BSA. The closest known location occurs approximately 1.5 miles to the northwest of the BSA.
estuary seablite	<i>Suaeda esteroa</i>	CNPS: List 1B.1	Periphery of coastal salt marshes; elevation 1-15 feet. Perennial subshrub, blooms May-June.	Absent	Not expected to occur within the BSA. No suitable soils to support vernal pool basins occur within the BSA. The closest known location occurs approximately 1.5 miles to the northwest of the BSA.
<b>Invertebrates</b>					
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>	USFWS: Endangered MSCP: Covered	Restricted to vernal pools, hardpan, and claypan pools of Orange and San Diego counties, and Baja California, at elevations of 50-410 feet but can be found at elevations up to 1,640 feet.	Absent	Not expected to occur within the BSA. No suitable soils to support vernal pool basins occur within the BSA.

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
<b>Amphibians</b>					
western spadefoot toad	<i>Spea hammondi</i>	CDFG: Species of Special Concern	Temporary ponds, vernal pools, and backwaters of slow-flowing creeks. Also upland habitats such as grasslands and coastal sage scrub where burrows are constructed.	Absent	Not expected to occur within the BSA. No suitable soils to support vernal pool basins necessary for breeding occur within the BSA.
<b>Reptiles</b>					
San Diego coast horned lizard	<i>Phrynosoma coronatum blainvillii</i>	CDFG: Species of Special Concern MSCP: Covered	A variety of habitats including sage scrub, chaparral, coniferous and broadleaf woodlands (Stebbins 2003). Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.	Present	Detected. This species was detected by URS in 2003 on the edge of the northeastern portion of the BSA. This species was not detected during project surveys in 2007. Marginal habitat exists in portions of the BSA. The most recent occurrence (1998) documented in the CNDDDB for this species was approximately 1.25 miles southwest of the BSA, in the Torrey Pines State Reserve. Another occurrence documented in the CNDDDB was recorded (1997) approximately 1,900 feet west of the southern reach of the BSA (patch of southern maritime chaparral north of Carmel Valley Road).
Coronado skink	<i>Eumeces skiltonianus interparietalis</i>	CDFG: Species of Special Concern	Most commonly found in open areas, sparse brush, and in oak woodlands, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs.	Absent	Not expected to occur within BSA due to lack of suitable habitat. This species was not detected during project surveys. The most recent occurrence (1998) documented in the CNDDDB for this species was approximately 1.25 miles southwest of the BSA, in the Torrey Pines State Reserve. Another occurrence documented in the CNDDDB was recorded (1997) approximately 1,900 feet west of the southern reach of the BSA (patch of southern maritime chaparral north of Carmel Valley Road); however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species.
orange-throated whiptail	<i>Aspidoscelis hyperythra</i>	CDFG: Species of Special Concern MSCP: Covered	Sage scrub that covers about 50 percent of the ground without dense grasses in between. Also dense to extremely open stands of	Present	Moderate potential to occur within the BSA. This species was not detected during project surveys in 2007. Suitable habitat exists in a portion of the BSA. One occurrence documented in the CNDDDB was recorded (1997) approximately 1,900 feet west of the southern reach of

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
coastal western whiptail	<i>Aspidoscelis tigris stejnegeri</i>	CDFG: Special Animal	Often associated with dense vegetation such as chaparral and sage scrub especially in and around sandy washes and streambeds.	Absent	the BSA (patch of southern maritime chaparral north of Carmel Valley Road); however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species. Not expected to occur within BSA due to lack of suitable habitat. This species was not detected during project surveys. The most recent occurrence (1998) documented in the CNDDB for this species was approximately 1.25 miles southwest of the BSA, in the Torrey Pines State Reserve. Another occurrence documented in the CNDDB was recorded (1997) approximately 1,900 feet west of the southern reach of the BSA (patch of southern maritime chaparral north of Carmel Valley Road); however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species.
San Diego ringneck snake	<i>Diadophis punctatus similis</i>	CDFG: Special Animal	Typically inhabits areas with surface litter or herbaceous vegetation. Often in somewhat moist areas near intermittent streams. Also occurs in open, fairly rocky areas.	Absent	Not expected to occur within BSA due to lack of suitable habitat. This species was not detected during project surveys. The most recent occurrence (1998) documented in the CNDDB for this species was approximately 1.25 miles southwest of the BSA, in the Torrey Pines State Reserve. Another occurrence documented in the CNDDB was recorded (1997) approximately 1,900 feet west of the southern reach of the BSA (patch of southern maritime chaparral north of Carmel Valley Road); however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species.
<b>Birds</b>					
California brown pelican	<i>Pelecanus occidentalis californicus</i>	USFWS: Endangered CDFG: Endangered MSCP: Covered	Nests on offshore islands. Occurs on coastal saltwater and on the open ocean, particularly within a few miles of shore.	Absent	Not expected to occur within the BSA. This species was not detected during project surveys. Although the California brown pelican is known to use coastal beaches, lagoons, bays, and waterways as foraging and resting areas, this species nests on offshore islands. EDAW surveys for other projects in the region have documented this species as a flyover in the vicinity of Torrey Pines State Beach, located approximately 1.25

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
white-tailed kite	<i>Elanus leucurus</i>	CDFG: Fully Protected	Widespread over the coastal slope of San Diego County preferring riparian woodlands, oak groves, or sycamore groves, adjacent to grasslands.	Present	miles west of the BSA. There is no suitable habitat for this species within the BSA. Detected. This species was detected during spring 2007 surveys by EDAW biologists. Suitable habitat for foraging occurs adjacent to the BSA.
American peregrine falcon	<i>Falco peregrinus</i>	CDFG: Endangered CDFG: Fully Protected MSCP: Covered	This species nests on cliff edges, buildings, cranes, and nests. They feed along the coast, or inland near lakes and reservoirs.	Absent	Not expected to nest within the BSA due to lack of suitable habitat. This species was not detected during project surveys; however, this species was documented near (approximately 1.0 mile west) of the BSA by the San Diego Bird Atlas (Unitt 2004).
California black rail	<i>Laterallus jamaicensis coturniculus</i>	CDFG: Threatened	Occurs within tidal emergent wetlands dominated by pickleweed ( <i>Salicornia</i> sp.) In freshwater, found within bulrushes, cattails, and saltgrass. Usually found in vicinity of tidal sloughs.	Absent	Not expected to occur within the BSA due to lack of suitable habitat. This species was not detected during project surveys; however, this species has been detected in the past, near the BSA (2 miles away) in 1995 (CDFG 2008a) along the Los Peñasquitos Creek and adjacent to the I-5/Interstate 805 (I-805) merge.
light-footed clapper rail	<i>Rallus longirostris levipes</i>	USFWS: Endangered CDFG: Endangered MSCP: Covered	Occurs in salt marshes traversed by tidal sloughs where <i>Spartina foliosa</i> and pickleweed are dominant vegetation. Requires dense vegetation for nesting and/or escape cover.	Absent	Not expected to occur within the BSA due to lack of suitable habitat; however, a pair of light-footed clapper rail was detected during project surveys in spring 2007 in the western margin of Los Peñasquitos Lagoon (KBS 2007).
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	USFWS: Threatened CDFG: Species of Special Concern MSCP: Covered	Can be found on sandy beaches on marine and estuarine shores, salt pond levees, and the shores of large alkali lakes. Requires sandy or gravelly soils for nesting.	Absent	Not expected to occur within the BSA due to lack of suitable habitat. This species was not detected during project surveys. Occurrence of this species in the vicinity of the BSA has not occurred for over two decades.

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
California least tern	<i>Sterna antillarum browni</i>	USFWS: Endangered CDFG: Endangered MSCP: Covered	Breeds on bare or sparsely vegetated flat sandy beaches, alkali flats, landfills, or paved areas.	Absent	Not expected to occur within the BSA due to lack of suitable habitat. This species was not detected during project surveys. Occurrence of this species in the vicinity of the BSA has not occurred for over two decades.
western burrowing owl	<i>Athene cucularia</i>	CDFG: Species of Special Concern MSCP: Covered	Found mainly in grassland and open scrub from the seashore to foothills. Strongly associated with ground squirrel burrows.	Absent	Not expected to occur within the BSA due to lack of suitable habitat.
southwestern willow flycatcher	<i>Empidonax traillii eximius</i>	USFWS: Endangered CDFG: Endangered MSCP: Covered	Restricted to a few colonies in riparian woodlands scattered throughout southern California. Riparian forests are integral to this species persistence.	Present (marginal)	Low potential to nest within the BSA. Two willow flycatchers ( <i>E. traillii</i> ) were detected by EDAW during 2007 surveys. The individuals were heard approximately 235 feet east of Carmel Creek Road and outside of the BSA on May 21, 2007. The individuals were assumed to be using the area as a temporary stopover, as they were detected in upland habitat. The type of riparian habitat that occurs within the BSA is not preferred habitat for nesting and breeding activities of southwestern willow flycatcher ( <i>E. t. eximius</i> ); however, the habitat is suitable for temporary use during migratory activities. Furthermore, the nearest record of southwestern willow flycatcher is in 2003, when the species was detected 13.5 miles inland, just east of Lake Hodges (USFWS 2008), further supporting that habitat in the BSA is not historically suitable for this species.
least Bell's vireo	<i>Vireo bellii pusillus</i>	USFWS: Endangered CDFG: Endangered MSCP: Covered	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets (Unitt 2004).	Present (marginal)	Moderate potential to nest within the BSA. This species was not detected during project surveys in 2007; however, there was an incidental detection of least Bell's vireo in the BSA in 2002 (one or two singing males detected by Caltrans biologist Susan Scatolini; pers. comm.) and several detections of least Bell's vireo from 2000–2006 (USFWS 2008) approximately 1.7 miles south of the BSA and just west of the I-5/I-805 merge. The type of riparian habitat that occurs within the BSA is not preferred habitat for nesting and breeding activities of this species; however, the habitat is suitable for temporary use during migratory activities.

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
California horned lark	<i>Eremophila alpestris actia</i>	CDFG: Watch List	Found year-round in coastal strand, grasslands, and sandy deserts of San Diego County. Typically a disturbance regime species exploiting the open ground following plowed fields or fire in search of insects.	Absent	Not expected to occur within the BSA due to lack of suitable habitat.
coastal California gnatcatcher	<i>Polioptila californica californica</i>	USFWS: Threatened CDFG: Species of Special Concern MSCP: Covered	Diegan coastal sage scrub dominated by California sagebrush ( <i>Artemisia californica</i> ) and flat-topped buckwheat ( <i>Eriogonum fasciculatum</i> ) below 2,500 feet elevation in Riverside County and below 1,000 feet elevation along the coastal slope; generally avoids steep slopes above 25 percent and dense, tall vegetation for nesting.	Present (marginal)	Not expected to nest within the BSA due to lack of preferred habitat. This species was not detected within the BSA during project surveys in 2007; however, this species was detected by Caltrans in 2003–2005 on fill slopes near the San Dieguito Lagoon, exterior to the northernmost reach of the BSA. Besides the fill slopes near San Dieguito Lagoon, the only other marginally suitable habitat for this species occurs south of SR-56 and Carmel Valley Creek in areas with coastal sage scrub habitat.
yellow warbler	<i>Dendroica petechia brewsteri</i>	CDFG: Species of Special Concern	A fairly common summer breeding resident found along mature riparian woodlands that consist of cottonwood, willow, alder, and ash trees. It is restricted to this increasingly patchy habitat.	Present	Detected. This species was observed by EDAW during 2007 project surveys; however, the riparian habitat that occurs within the BSA is not preferred habitat for nesting and breeding activities of this species.
yellow-breasted chat	<i>Icteria virens</i>	CDFG: Species of Special Concern	Riparian woodland, with dense undergrowth.	Present	Detected. This species was observed by EDAW during 2007 project surveys; however, the riparian habitat that occurs within the BSA is not preferred habitat for nesting and breeding activities of this species.
southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	CDFG: WatchList MSCP: Covered	Grassy or rocky slopes with open scrub at elevations from sea level to 2,000 feet. Occurs mainly in coastal sage scrub.	Present	Low potential to occur within the BSA. This species was not detected during project surveys in 2007; however, there is marginal habitat for this species in portions of the BSA. EDAW surveys for other projects in the region have documented this species in the vicinity of Torrey

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
Bell's sage sparrow	<i>Amphispiza belli belli</i>	CDFG: WatchList (nesting)	Occurs mainly in coastal sage scrub and chaparral habitats.	Present	Pines State Beach, located approximately 1.25 miles west of the BSA (EDAW 2007). This species was incidentally detected by Caltrans in 2003 outside of the northernmost reach of the BSA.
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	CDFG: Endangered MSCP: Covered, Narrow Endemic	Occurs in and around coastal salt marshes. Nests in pickleweed ( <i>Salicornia</i> sp.) on and around margins of tidal flats.	Absent	Not expected to occur within the BSA due to lack of suitable habitat. This species was not detected during project surveys in 2007. Although there is suitable nesting habitat immediately adjacent (west) to the BSA in Los Peñasquitos Lagoon, there is no suitable nesting habitat within the BSA. EDAW surveys for other projects in the region have documented this species in the vicinity of Torrey Pines State Beach, located approximately 1.25 miles west of the BSA (EDAW 2007).
<b>Mammals</b>					
spotted bat	<i>Euderma maculatum</i>	CDFG: Species of Special Concern	Roosts in rock crevices and is occasionally in cliffs and buildings. Found mainly in the mountains, deserts, and foothills of southern California.	Present	Moderate potential to occur within the BSA. This species was not detected during project surveys; however, suitable habitat is present in surrounding buildings or within the existing SR-56 elevated segments. Additionally, suitable roosting habitat was reported present within the North Torrey Pines Bridge, approximately 1.25 miles west of the BSA (EDAW 2007).
pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	CDFG: Species of Special Concern WBWG: Medium Priority	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.	Present	Moderate potential to occur within the BSA. This species was not detected during project surveys; however, this species was detected during focused bat surveys and acoustical monitoring for the North Torrey Pines Bridge project, located approximately 1.25 miles west of the BSA (EDAW 2007).

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
big free-tailed bat	<i>Nyctinomops macrotis</i>	CDFG: Species of Special Concern WBWG: Medium Priority	Pinyon-juniper and Douglas fir forests, chaparral and oak forests in rugged, rocky habitats, low-lying arid areas.	Absent	Not expected to occur within the BSA due to lack of suitable habitat. This species was not detected during project surveys; however, this species does have a low potential to occur as a migrant and may utilize the BSA as a stopover.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	CDFG: Species of Special Concern	Typical habitat includes early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush.	Present	Low potential to occur within the BSA. This species was not detected during project surveys. Suitable habitat occurs adjacent to the BSA but not within.
San Diego pocket mouse	<i>Chaetodipus fallax fallax</i>	CDFG: Species of Special Concern	Occurs in open, sandy areas of coastal sage scrub, grassland, and chaparral communities, and has been known to occur in rocky or gravelly substrates.	Present	Detected. This species was detected by URS in 2003 on the edge of the northeastern portion of the BSA; however, this species was not detected during project surveys in 2007. Another occurrence documented in the CNDDB was recorded (CDFG 2008a) approximately 1,200 feet east of the northern reach of the BSA. Marginal habitat exists in the fringes of the BSA; however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species.
Pacific pocket mouse	<i>Perognathus longimembris pacificus</i>	USFWS: Endangered CDFG: Species of Special Concern	Occurs on fine, sandy soils within 2 to 4 miles of the Pacific Ocean.	Absent	Not expected to occur within the BSA, due to extremely limited distribution of this species, and lack of appreciable amounts of fine, sandy soils within the BSA. Although one occurrence is documented in the CNDDB within the local region, it occurred in 1999 and was recorded approximately 1,400 feet west of the northernmost reach of the BSA (CDFG 2008a). Pacific pocket mouse is known to exist in four locations in coastal southern California: three on Marine Corps Base Camp Pendleton in San Diego County and one at Dana Point in Orange County (CRES 2008).
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	CDFG: Species of Special Concern	Occurs in a variety of habitats including Joshua tree and pinyon-juniper woodland, mixed and chamise-redshank chaparral, sagebrush, and	Present	Detected. This species was detected during surveys in 2003 by URS on the edge of the northeastern portion of the BSA. Another occurrence documented in the CNDDB was recorded (1996) approximately 1,600 feet east of the northern reach of the BSA. Marginal habitat is

Common Name	Scientific Name	Sensitivity Status <sup>2</sup>	General Habitat Description <sup>3</sup>	Habitat	Potential to Occur within the BSA <sup>4</sup>
			most desert habitats. Also occurs in rocky areas or in patches of prickly-pear cactus ( <i>Opuntia</i> sp.).		present within the BSA; however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species.

<sup>1</sup> The California Natural Diversity Database (CDFG 2008a) was reviewed to determine the proximity of plant and animal species occurrences to the BSA. Those occurrences within 2 miles of the BSA were included in this study.

<sup>2</sup> Sensitivity Status Codes

Federal U.S. Fish and Wildlife Service (USFWS)  
State California Department of Fish and Game (CDFG)

Other

California Native Plant Society (CNPS)

1B.1: Rare, threatened, or endangered in California and elsewhere; seriously threatened in California.

1B.2: Rare, threatened, or endangered in California and elsewhere; fairly threatened in California.

2.1: Rare, threatened, or endangered in California only; seriously threatened in California.

2.2: Rare, threatened, or endangered in California only; fairly threatened in California.

Multiple Species Conservation Program (MSCP)

Multiple Habitat Conservation Plan (MHCP)

Western Bat Working Group (WBWG)

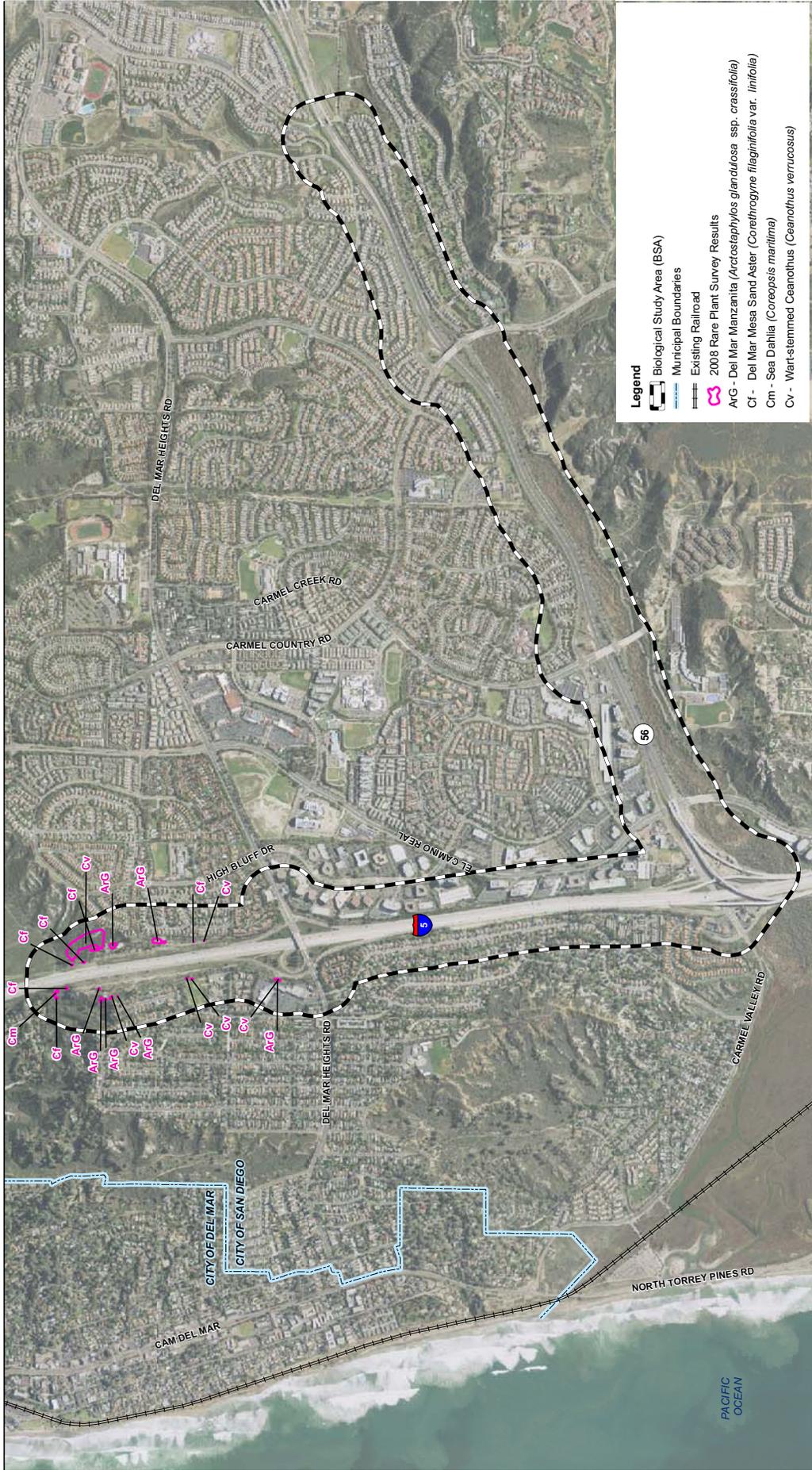
High Priority – Indicates species are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology, and known threats.  
 Medium Priority – Indicates a level of concern that should warrant closer evaluation, more research, and conservation actions of both species and possible threats.

<sup>3</sup> General Habitat Description

CNPS 2001

<sup>4</sup> Plant Locality Information

Reiser 2001



**Figure 6**  
**Sensitive Plant Species Detected**  
**during Project Surveys**  
 Page 49

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to California and Baja California, Mexico. Within California, this species is restricted to San Diego County. The preferred habitat of Del Mar manzanita is southern maritime chaparral below 1,200 feet. This species is a perennial shrub in the heath family (Ericaceae) and blooms December through April. Del Mar manzanita was observed within the BSA during the spring 2008 rare plant surveys (EDAW 2008), which were conducted during this species' traditional flowering period (December through April). Forty individuals were observed in the northern portion of the BSA.

#### **Discussion of Encinitas Baccharis**

Encinitas baccharis is federally threatened, and state endangered, included by the CNPS on List 1B.1 (rare, threatened, or endangered in California and elsewhere). Encinitas baccharis is restricted to San Diego and Los Angeles counties and Baja California, Mexico. It can be found in maritime chaparral on sandstone substrate below 2,400 feet. This species is a perennial shrub in the sunflower family (Asteraceae) and blooms August through November. The nearest known location of Encinitas baccharis documented in the CNDDB is approximately 0.2 mile south of the BSA. Encinitas baccharis was not observed during the April and June 2008 surveys. Since this species is a perennial shrub, it would have been observable if present.

#### **Discussion of Wart-stem Lilac**

Wart-stem lilac is included by the CNPS on List 2.2 (rare, threatened, or endangered in California but more common elsewhere). Wart-stem lilac is native to California and Baja California, Mexico. Within California, this species is found in San Diego and Riverside counties. The preferred habitat of wart-stem lilac is southern maritime chaparral below 1,250 feet. This species is a perennial shrub in the buckthorn family (Rhamnaceae) and blooms December through April. Wart-stem lilac was observed within the BSA during the spring 2008 rare plant surveys (EDAW 2008), which were conducted during this species' traditional flowering period (December through April). Two hundred fifty-nine individuals were observed in the northern portion of the BSA.

#### **Discussion of Sea Dahlia**

Sea dahlia is included by the CNPS on List 2.2 (rare, threatened, or endangered in California but more common elsewhere). Sea dahlia is native to California and Baja California, Mexico. Within California, this species is found in San Diego and Los Angeles counties. The preferred habitat of sea dahlia is coastal bluff scrub and coastal scrub below 500 feet. This species is a perennial herb in the sunflower family (Asteraceae) and blooms March through May. Sea dahlia was observed within the

BSA during the spring 2008 rare plant surveys (EDAW 2008), which were conducted during this species' traditional flowering period (March through May). One hundred fifty individuals were observed in the BSA.

#### **Discussion of Del Mar Mesa Sand Aster**

Del Mar Mesa sand aster is included by the CNPS on List 1B.1 (rare, threatened, or endangered in California). This species is native to California and endemic (limited) to California alone, found throughout the state from San Diego to Del Norte County. The preferred habitat of Del Mar Mesa sand aster is chaparral below 500 feet. This species is a perennial herb in the sunflower family (Asteraceae) and blooms May through September. Del Mar Mesa sand aster was observed within the BSA during the spring 2008 rare plant surveys (EDAW 2008), which were conducted during this species' traditional flowering period (May through September). One hundred ninety-eight individuals were observed in the BSA.

#### **3.2.2.2. SENSITIVE ANIMALS**

Sensitive animal species are species listed as threatened or endangered by the USFWS and/or CDFG (CDFG 2008d), considered fully protected species or species of special concern by the CDFG (2008e), or designated as a medium or high priority species by the Western Bat Working Group (WBWG). Species that are federally or state listed are afforded a degree of protection that entails a permitting process, requiring the implementation of mitigation measures to compensate for impacts to the species.

There are 31 sensitive animal species known to occur within the region surrounding the BSA that occur within 2 miles of the BSA (see Table 2 above). However, due to various factors, such as lack of habitat and known range restrictions, only six sensitive animal species were detected within the BSA during project surveys: San Diego coast horned lizard, white-tailed kite, yellow warbler, yellow-breasted chat, San Diego pocket mouse, and San Diego desert woodrat (see Figure 7). Five of the six species detected within the BSA are CDFG species of special concern; the white-tailed kite is CDFG fully protected. Discussion of each of the six species detected within the BSA is provided below. Southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher also have the potential to occur in the BSA and are discussed below. Light-footed clapper rail is also discussed below since it was detected near the BSA.



**Figure 7**  
**Sensitive Animal Species**  
**Detected during Project Surveys**  
 Page 53

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### **Discussion of San Diego Coast Horned Lizard**

The San Diego coast horned lizard is a state species of special concern. It prefers friable, rocky, or shallow sandy soils in coastal sage scrub and chaparral in arid and semiarid climates where there are open areas for sunning and bushes for cover, from sea level to elevations of over 8,000 feet. In San Diego County, it is relatively widespread and locally common from the coast to the western edge of the desert. San Diego coast horned lizard was detected by URS in 2003 (URS 2005) within the northeastern portion of the BSA. This species was not detected during project surveys in 2007. Approximately 82 acres of suitable (or marginally suitable) habitat for the San Diego coast horned lizard occur within the BSA that consists of southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, disturbed coastal sage scrub, and nonnative grasslands.

### **Discussion of White-tailed Kite**

The white-tailed kite is a state fully protected species within its breeding range. In North America it occurs along the Pacific Coast from Washington south to Baja California, Mexico. This species inhabits riparian or oak woodland adjacent to grassland or open fields where it hunts its primary prey species, the California vole (*Microtus californicus*) (Unitt 2004). The white-tailed kite is a common resident in San Diego County. This species was detected within the BSA during 2007 surveys (EDAW 2007). Although the white-tailed kite was detected within the BSA, this species is not expected to breed or nest within the BSA. There is a total of 2.4 acres of suitable (or marginally suitable) foraging habitat for the white-tailed kite within the BSA that consists of nonnative grasslands.

### **Discussion of Light-footed Clapper Rail**

The light-footed clapper rail is a federally and state listed endangered species. It is restricted to coastal salt marshes in southern California where cord grass and pickleweed are the dominant vegetation. This species forages in higher marsh vegetation and along tidal creeks and requires dense vegetation for nesting and escape cover. The light-footed clapper rail ranges in disjunct populations from Santa Barbara County to San Diego County and into Baja California, Mexico. It is an uncommon and very localized resident in San Diego County (Unitt 2004). Major populations occur in San Elijo, Batiquitos, Agua Hedionda, and Buena Vista Lagoons. All major population areas and all freshwater marsh vegetation upstream from these major population areas that are used by wintering rails are considered critical locations. This species was detected within BSA during 2007 surveys (KBS 2007). However, the original BSA has expanded in some areas and been reduced in others (KBS 2007);

therefore, in relation to the current BSA boundaries, the light-footed clapper rail was detected outside of the BSA. Suitable habitat for light-footed clapper rail is not present within the current BSA.

### **Discussion of Southwestern Willow Flycatcher**

The southwestern willow flycatcher is a federally and state listed endangered species. The willow flycatcher breeds across southern Canada through the middle United States and in isolated populations in California. It winters in Central and South America. There are three willow flycatcher subspecies in California, including the southwestern willow flycatcher, which breeds in California from the Mexican border north to Independence in the Owens Valley, the South Fork Kern River, and the Santa Ynez River in Santa Barbara County and appears to winter from Guatemala to Costa Rica (Craig and Williams 1998). In San Diego County, this species is known to breed annually only along the Santa Margarita River and between Lake Henshaw and the La Jolla Indian Reservation along the San Luis Rey River (Unitt 2004). There have been reports of additional scattered pairs at other riparian sites, but the largest colonies remain at the upper San Luis Rey River and along the Santa Margarita River in Camp Pendleton (Unitt 2004). This species occurs in riparian woodland; specifically, the southwestern willow flycatcher breeds only in dense riparian vegetation near surface water or saturated soil. While breeding habitat is fairly restricted, characteristics such as dominant plant species, habitat patch size, and canopy structure may vary. Two willow flycatchers (*E. trailii*) were detected by EDAW during 2007 surveys. The individuals were heard approximately 235 feet east of Carmel Creek Road and outside of the BSA on May 21, 2007. Another individual was heard in Peñasquitos Lagoon. The three individuals were assumed to be using the area as a temporary stopover since detections occurred during a period of active migration. The type of riparian habitat that occurs within the BSA is not preferred habitat for nesting and breeding activities of southwestern willow flycatcher (*E. t. extimus*); however, the habitat may be suitable for temporary use during migratory activities. Furthermore, the nearest record of southwestern willow flycatcher is in 2003, when the species was detected 13.5 miles inland, just east of Lake Hodges (USFWS 2008), further supporting that the riparian habitat in the BSA is not historically suitable for this species.

### **Discussion of Least Bell's Vireo**

The least Bell's vireo is a federally and state listed endangered species within its breeding range. It is limited to semi-open, willow- and mule fat-dominated riparian woodlands with dense shrub understory in southern California and northern Baja

California, Mexico. Locally, there is only one major population, located in Oceanside at the San Luis Rey River and Pilgrim Creek, and several smaller populations on other drainages throughout the plan area. The San Luis Rey River/Pilgrim Creek area is considered a critical location. The Bell's vireo breeds from southern California and southern Nevada to central North Dakota, Iowa, Indiana, and Arkansas southward to northern Mexico and winters in southern Mexico. The least Bell's vireo is the westernmost subspecies of the Bell's vireo. It breeds entirely within California and northern Baja California and winters in southern Baja California, Mexico. During the breeding season, the least Bell's vireo is restricted to riparian woodland and riparian scrub. In San Diego County, it occurs mainly in coastal lowland, rarely up to an elevation of 3,000 feet. This species was not detected during project surveys in 2007; however, there was an incidental detection of least Bell's vireo in the BSA in 2002 (one or two singing males heard by Caltrans biologist Susan Scatolini; pers. comm.) and several detections of least Bell's vireo from 2000–2006 (USFWS 2008) approximately 1.7 miles south of the BSA and just west of the I-5/Interstate 805 merge. The type of riparian habitat that occurs within the BSA is not preferred habitat for nesting and breeding activities of this species; however, the habitat may be suitable for temporary use during migratory activities.

#### **Discussion of Coastal California Gnatcatcher**

The coastal California gnatcatcher is federally listed threatened, and a state species of special concern. This subspecies is usually found in association with coastal sage scrub communities, particularly Diegan coastal sage scrub, occurring on gentle slopes within the maritime and coastal climate zones, generally below 1,000 feet in elevation. Often, California sagebrush and California buckwheat are the dominant plant species. The coastal California gnatcatcher's range is restricted to the coastal slopes of southern California, from Los Angeles County south to El Rosario, Baja California, Mexico. Concentrations of this subspecies are found throughout Carlsbad, southwest San Marcos, and Oceanside, with lesser concentrations in portions of Escondido, Vista, and Encinitas. Critical populations occur in northeast Carlsbad (the Calavera Lake/Calavera Highlands area), southeast Carlsbad/southwest San Marcos (the La Costa/University Commons area), and north Oceanside adjacent to Camp Pendleton. The regional stepping-stone corridor through Oceanside, east Carlsbad, and southwest San Marcos is considered a critical linkage area (Unitt 2004). Species decline is attributed to regional loss of coastal sage scrub habitat. The primary source of potential effects to the breeding and behavior pattern of the coastal California gnatcatcher would be due to potential changes to the sound environment associated with construction activities. To date, a noise analysis has not been performed for this

proposed project. Since all construction activities proposed for this project would occur immediately adjacent to I-5 (a major freeway that is heavily used), it is assumed that this species would not experience any increased noise effects from construction activities. This species was not detected within the BSA during project surveys in 2007. Preferred habitat for this species does not occur in the BSA; however, this species has historical activity in the area with several other sightings in the last decade (USFWS 2008). This species was incidentally detected by Caltrans in 2003 and 2005 outside of the northernmost reaches of the BSA.

#### **Discussion of Yellow Warbler**

The yellow warbler (*brewsteri* subspecies) is designated as a state species of special concern. It remains a fairly common species in mature riparian woodland on the California coastal slope. In coastal San Diego County, breeding yellow warblers are most widespread from Carlsbad north and more localized farther south (Unitt 2004). This species occurs most commonly in riparian woodlands dominated by willows. The yellow warbler was detected several times foraging in southern willow scrub habitat within the southern portion of the BSA during 2007 surveys (EDAW 2007). Suitable foraging habitat occurs within the BSA, as well as nesting/breeding habitat. Approximately 80 acres of suitable (or marginally suitable) habitat for the yellow warbler occur within the BSA that consists of southern willow scrub and disturbed southern willow scrub.

#### **Discussion of Yellow-breasted Chat**

The yellow-breasted chat is designated as a state species of special concern. In San Diego County, this species occurs in the coastal lowlands and is strongly concentrated in the county's northwest, along the Santa Margarita and San Luis Rey rivers and smaller creeks (Unitt 2004). The yellow-breasted chat was detected several times foraging in southern willow scrub habitat within the southern portion of the BSA during 2007 surveys (EDAW 2007). Suitable foraging habitat occurs within the BSA, as well as nesting/breeding habitat. Approximately 80 acres of suitable (or marginally suitable) habitat for the yellow-breasted chat occur within the BSA that consists of southern willow scrub and disturbed southern willow scrub.

#### **Discussion of San Diego Pocket Mouse**

The San Diego pocket mouse is a state species of special concern. Its habitat preferences include coastal sage scrub, chaparral, and grasslands with sandy substrate and/or gravelly areas. San Diego pocket mouse was detected by URS in 2003 (URS 2005) within the northeastern portion of the BSA; however, this species was not

detected during project surveys in 2007. Marginal habitat for this species exists in the fringes of the BSA; however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species within the BSA. Approximately 82 acres of suitable (or marginally suitable) habitat for the San Diego pocket mouse occur within the BSA that consists of open, sandy areas of southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, disturbed coastal sage scrub, and nonnative grasslands.

### **Discussion of San Diego Desert Woodrat**

The San Diego desert woodrat is considered a state species of special concern. It occupies rocky habitats in association with chaparral and coastal sage scrub. This subspecies is restricted to southern California from San Luis Obispo south to northwestern Baja California, Mexico. San Diego desert woodrat was detected by URS in 2003 within the northeastern portion of the BSA (URS 2005); however, this species was not detected during project surveys in 2007. Marginal habitat for this species exists in the fringes of the BSA; however, increased development in the area and proximity of the BSA to the freeway decrease the potential presence of this species within the BSA. Approximately 82 acres of suitable (or marginally suitable) habitat for the San Diego desert woodrat occur within the BSA that consists of southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, disturbed coastal sage scrub, and nonnative grasslands.

### **3.2.3. Migration Corridors**

Connectivity, or the ability of organisms to move through a landscape, is essential in heterogeneous landscapes, especially in increasingly urban settings, for the persistence of healthy and genetically diverse animal communities. Southern California has been subjected to rapid and sprawling urbanization, resulting in isolated fragments of varying sizes surrounded by a primarily urban matrix. Many studies indicate the impact of urbanization is a synergistic combination of the direct and indirect effects of both habitat fragmentation and edge effects.

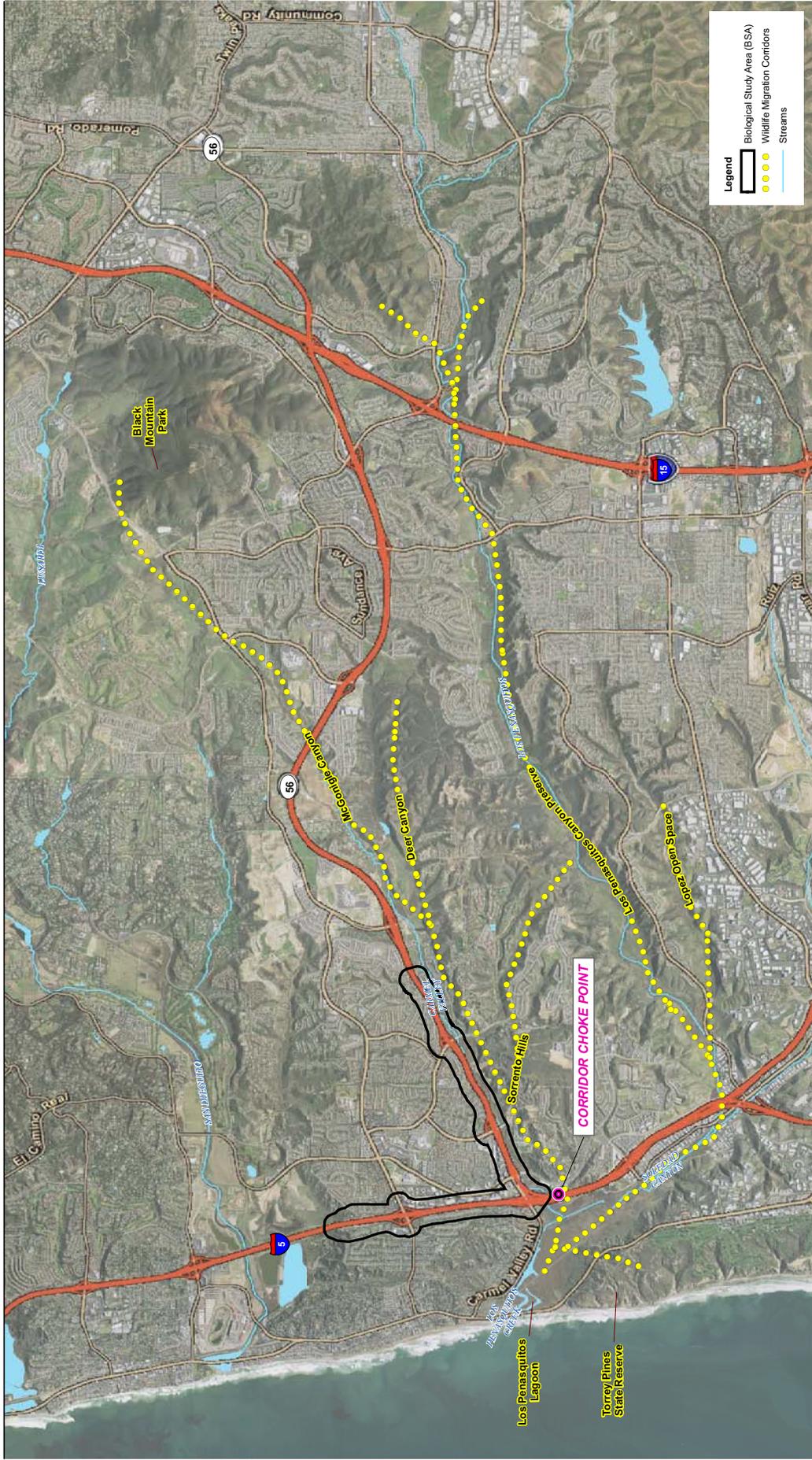
In a comprehensive literature review, Henle et al. (2004) found the following five traits to have clear empirical support for animal sensitivity to fragmentation: (1) population size; (2) large population fluctuations; (3) microhabitat selection, specialization, and ability to use the matrix; (4) rarity in the form of low abundance within the habitat, or species that occur naturally at low abundances; and (5) relative biogeographic position, or the biome the fragmented system occurs in. Thus,

providing connectivity for species subject to fragmentation sensitivity is essential in an increasingly urban area such as southern California.

Corridors can facilitate connectivity on different temporal and spatial scales. Corridors are linear landscape features that allow for species movement over time between two patches that would otherwise be disconnected (Beier and Noss 1998, Lidicker and Peterson 1999; Beier et al. 2008). Because many wildlife species have species-specific habitat requirements for survival and dispersal, corridors are species specific. At a minimum, corridors promote local colonization or recolonization of distinct habitat patches and potentially increase genetic variability within and between populations. Isolation of populations can have harmful effects on both population genetics and metapopulation dynamics. In addition, increased exposure to an inhospitable matrix due to reductions in connectivity can increase general mortality. All of these factors can contribute significantly to local species extinctions. Thus, corridors help species populations distributed in and among habitat patches to persist over time.

In an urban context, wildlife corridors are linear landscape features that allow animal movement between two patches of comparatively undisturbed habitat, or between a patch of habitat and some vital resources. Regional corridors, or linkages, consist of multiple species-specific corridors within the same general vicinity and connect two or more large areas of natural open space. Local corridors allow resident animals to access critical resources (food, water, and cover) in a smaller area that might otherwise be isolated by urban development.

Currently, the I-5/SR-56 interchange is surrounded by commercial and residential communities to the north and east. However, the area directly south of the I-5/SR-56 interchange extends over an important choke point (not within the BSA) of a larger regional corridor consisting of upland and riparian habitat. This corridor connects Los Peñasquitos Lagoon and Torrey Pines State Reserve through a narrow strip of habitat to several canyons and open space preserves to the east. The corridor bottlenecks under I-5 at Carmel Valley Creek, then extends eastward on the south side of SR-56 to a canyon in Sorrento Hills. From this canyon, wildlife can access Deer Canyon, McGonigle Canyon, Lopez Canyon Open Space, and Los Peñasquitos Canyon Preserve (Figure 8).



Source: DigitalGlobe 2008; EDAAW 2008

1 0.5 0 1 Mile

Scale: 1" = 61,000'; 1 inch = 1 mile

**Figure 8**  
**Migration Corridors**

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## **Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation**

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This chapter presents information regarding the anticipated impacts to biological resources for the proposed project. Anticipated impacts to biological resources include impacts to natural communities of special concern and sensitive plant/animal species, as well as migration corridors and cumulative impacts from a regional perspective. Impacts were calculated for each alternative based on current engineering designs. In addition, this chapter presents proposed measures that would be implemented to avoid and/or minimize sensitive resource impacts to the extent feasible and presents compensatory mitigation for these impacts.

### **4.1. Impacts to Vegetation Communities and Other Land Cover Types**

Alternative 2 is anticipated to result in temporary impacts to southern maritime chaparral, and permanent impacts to disturbed southern maritime chaparral, coastal sage scrub, as well as ornamental, disturbed, and developed areas. Alternatives 3 and 4 are anticipated to result in temporary and permanent impacts to coastal sage scrub and disturbed coastal sage scrub, as well as ornamental, disturbed, and developed areas. Alternative 4 is anticipated to also result in temporary impacts to disturbed southern maritime chaparral. Alternative 5 is anticipated to result in temporary impacts to disturbed southern maritime chaparral, and temporary and permanent impacts to coastal sage scrub and disturbed coastal sage scrub, as well as ornamental, disturbed, and developed areas. Anticipated temporary and permanent impacts to vegetation communities and land cover types can be reviewed in Table 3. Anticipated impacts to vegetation communities and land cover types are also depicted graphically in Figures 9a/9b (Alternative 2), 10a/10b (Alternative 3), 11a/11b (Alternative 4), and 12a/12b (Alternative 5).

#### **4.1.1. Impacts to Vegetation Communities of Special Concern**

Sensitive habitats are those that are wetland and/or riparian habitats regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act and by the CDFG under Section 1600 of the California Fish and Game Code, considered rare within the region, or are considered sensitive by the CDFG (2002). Vegetation communities listed on the CNDDDB as having the highest inventory priorities are also considered sensitive (CDFG 2002). Biologically, the vegetation types that provide the highest habitat values within the BSA are native upland habitat and riparian habitat.

**Table 3. Summary of Anticipated Impacts to Vegetation Communities and Other Land Cover Types**

Vegetation Communities and Cover Types	Impacts (Acres)									
	Alternative 2		Alternative 3		Alternative 4		Alternative 5		No Build Alternative	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
Southern Maritime Chaparral	0.07	0	0	0	0	0	0	0	0	0
Disturbed Southern Maritime Chaparral	0.39	0.03	0	0	0.07	0	0.07	0	0	0
Coastal Sage Scrub	0.31	0.56	0.24	0.09	0.28	0.56	0.29	0.56	0	0
Disturbed Coastal Sage Scrub	5.41	7.62	0.45	1.19	3.85	2.73	3.84	2.72	0	0
<b>Subtotal:</b>	<b>6.2</b>	<b>8.2</b>	<b>0.7</b>	<b>1.3</b>	<b>4.2</b>	<b>3.3</b>	<b>4.2</b>	<b>3.3</b>	<b>0</b>	<b>0</b>
<b>Other Cover Types</b>										
Ornamental	19.89	26.26	10.57	7.67	14.94	16.44	22.70	20.53	0	0
Disturbed	0.71	1.15	0.29	0.23	0.42	0.87	0.67	0.87	0	0
Developed	10.37	99.91	8.39	31.55	11.97	51.65	14.13	72.17	0	0
<b>Subtotal:</b>	<b>31.0</b>	<b>127.3</b>	<b>19.2</b>	<b>39.5</b>	<b>27.3</b>	<b>69.0</b>	<b>37.5</b>	<b>93.6</b>	<b>0</b>	<b>0</b>
<b>Total Acreage:</b>	<b>37.1</b>	<b>135.5</b>	<b>19.9</b>	<b>40.7</b>	<b>31.5</b>	<b>72.3</b>	<b>41.7</b>	<b>96.8</b>	<b>0</b>	<b>0</b>

Two natural communities of special concern that would be impacted by the proposed project include southern maritime chaparral (as well as disturbed southern maritime chaparral) and coastal sage scrub (as well as disturbed coastal sage scrub). Specific impacts for each one of the build alternatives is discussed below.

**Southern Maritime Chaparral**

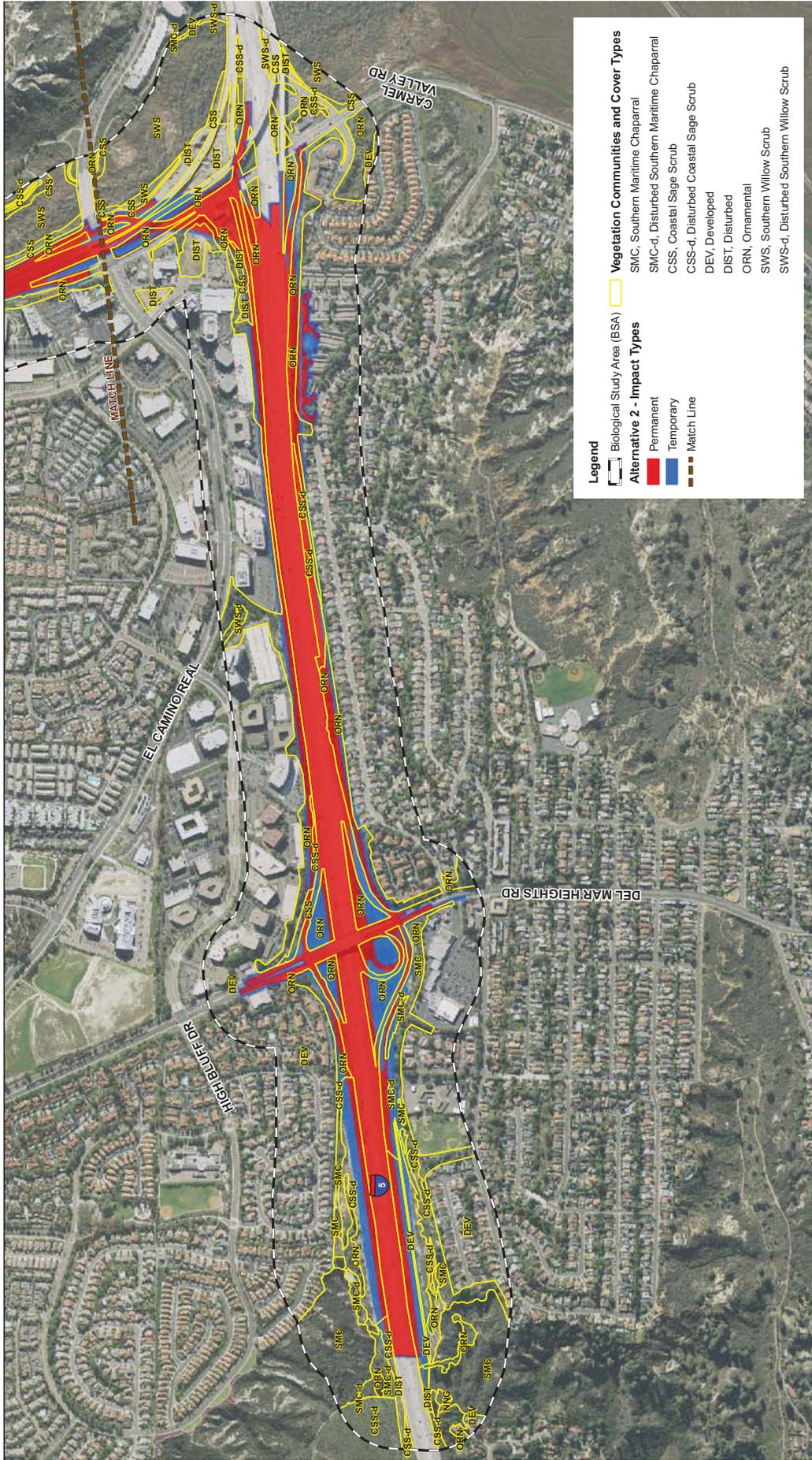
Anticipated impacts to southern maritime chaparral associated with the current build alternatives (i.e., Alternative 2, 3, 4, or 5) and the No Build Alternative are summarized in Table 3.

Alternative 2 – Direct Connector Alternative

It is anticipated that construction of the Direct Connector Alternative would temporarily impact 0.07 acre of southern maritime chaparral; and temporarily impact 0.39 acre and permanently impact 0.03 acre of disturbed southern maritime chaparral.

Alternative 3 – Auxiliary Lane Alternative

Construction of the Auxiliary Lane Alternative would not impact southern maritime chaparral.



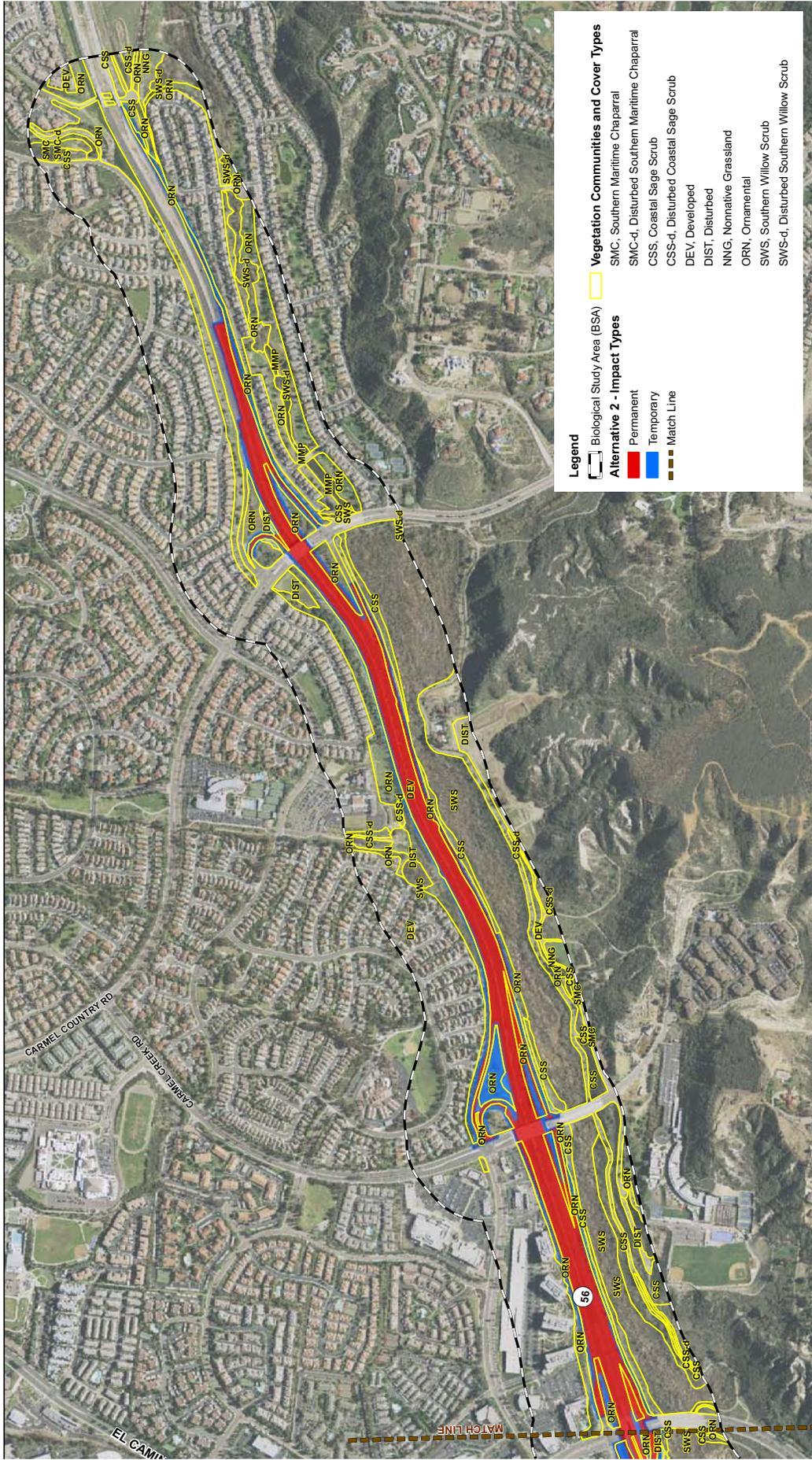
Source: DigitalGlobe 2008; EDAAW 2008  
 Scale: 1" = 8000'; 1 inch = 800 feet  
 Figure 9a  
 Impacts to Vegetation Communities - Alternative 2  
 I-5 Portion  
 Page 65

Legend

- Biological Study Area (BSA)
- Alternative 2 - Impact Types
  - Permanent
  - Temporary
  - Match Line
- Vegetation Communities and Cover Types
  - SMC, Southern Maritime Chaparral
  - SMC-d, Disturbed Southern Maritime Chaparral
  - CSS, Coastal Sage Scrub
  - CSS-d, Disturbed Coastal Sage Scrub
  - DEV, Developed
  - DIST, Disturbed
  - ORN, Ornamental
  - SWS, Southern Willow Scrub
  - SWS-d, Disturbed Southern Willow Scrub

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**Legend**

- Biological Study Area (BSA)
- Alternative 2 - Impact Types**
- Permanent
- Temporary
- Match Line
- Vegetation Communities and Cover Types**
- SMC, Southern Maritime Chaparral
- SMC-d, Disturbed Southern Maritime Chaparral
- CSS, Coastal Sage Scrub
- CSS-d, Disturbed Coastal Sage Scrub
- DEV, Developed
- DIST, Disturbed
- ORN, Ornamental Grassland
- ORN, Ornamental
- SWS, Southern Willow Scrub
- SWS-d, Disturbed Southern Willow Scrub

Source: DigitalGlobe 2008; EDRAW 2008  
 Scale: 1" = 9600'; 1 inch = 800 feet  
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 I-5/SR-56 Interchange Project Natural Environment Study  
 Path: P:\2008\080809\6\_I-5\_SR-56\_Interchange\MS\56\MSD\MSD\_mdb\final\_versions\final2\_vegetation\_impacts\_56\_20100226.mxd, 09/28/10, IrelandM  
**Figure 9b**  
**Impacts to Vegetation Communities - Alternative 2**  
**SR-56 Portion**  
 Page 67

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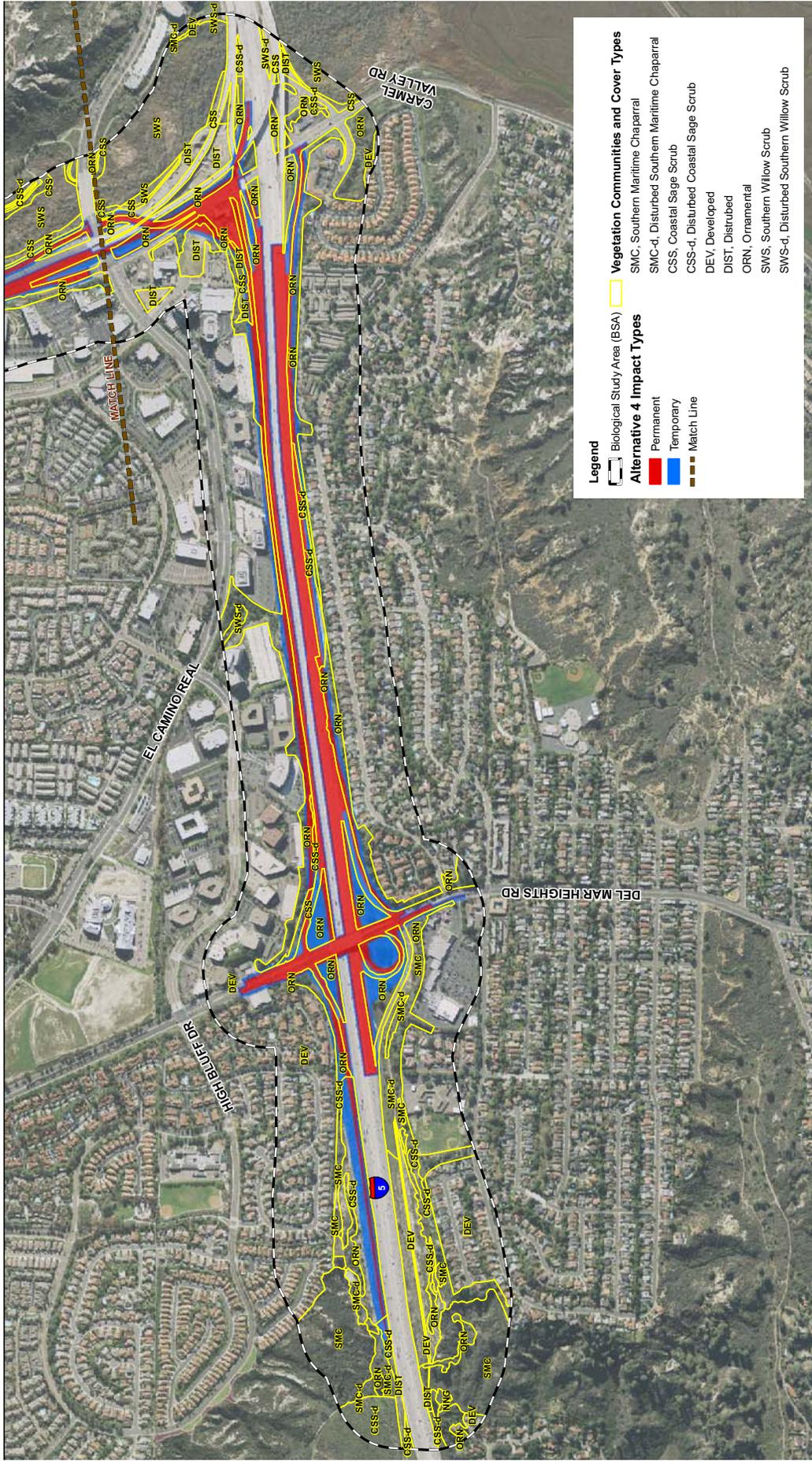


Figure 11a  
 Impacts to Vegetation Communities - Alternative 4  
 I-5 Portion  
 Page 73

Source: DigitalGlobe 2008; EDAAW 2008  
 Scale: 1" = 8000'; 1 inch = 800 feet

I-5/SR-56 Interchange Project Natural Environment Study

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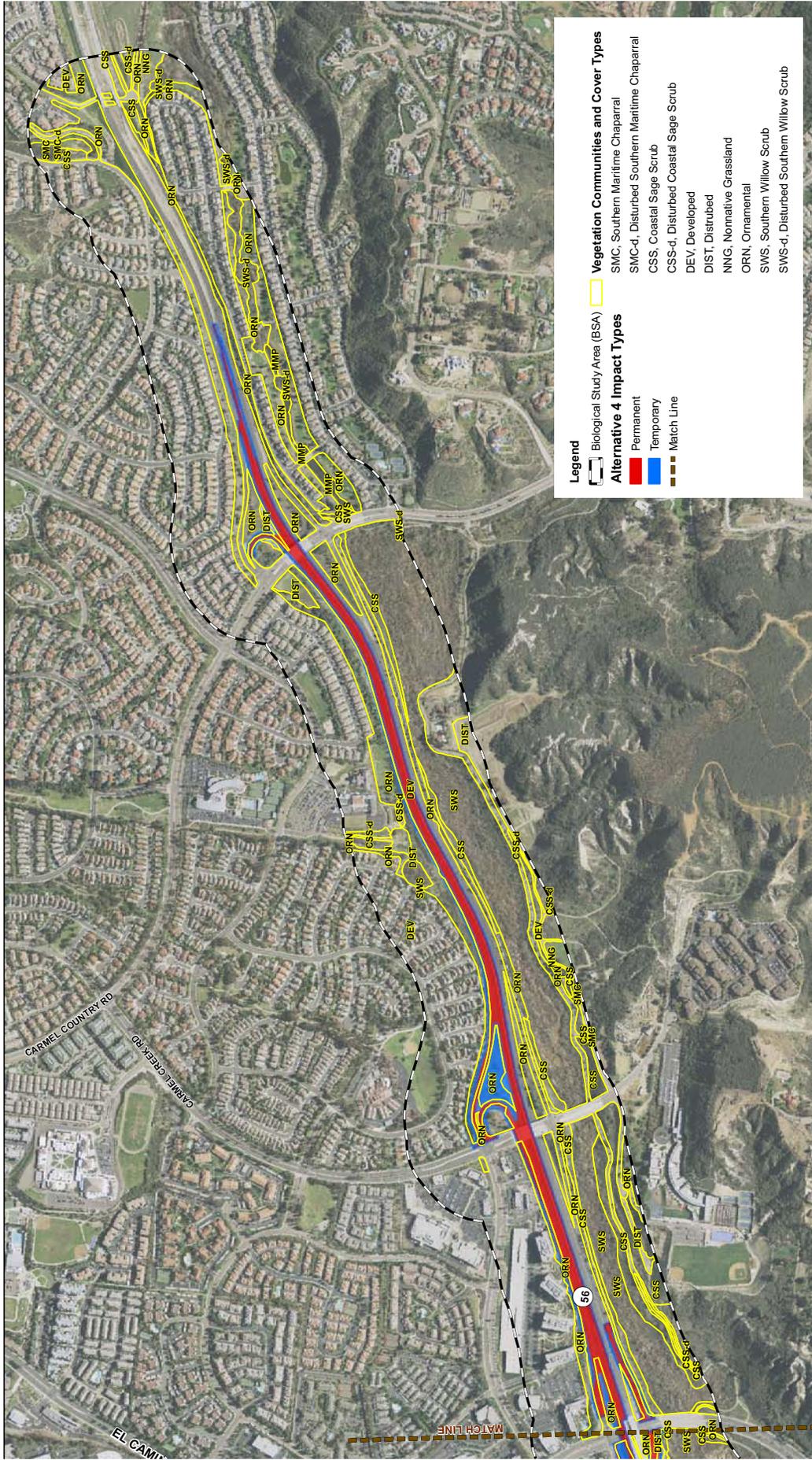


Figure 11b  
 Impacts to Vegetation Communities - Alternative 4  
 SR-56 Portion  
 Page 75

Source: DigitalGlobe 2008; EDRAW 2008  
 Scale: 1" = 8000'; 1 inch = 800 feet  
 800 400 0 800 Feet

I-5/SR-56 Interchange Project Natural Environment Study

Path: P:\2008\08080906\_1-2\_SR-56\_Interchange\NEN\GIS\MXD\NED\_mxd\final\_vers\swa114\_4\_vegetation\_impact\_05/04/09\_Leaf

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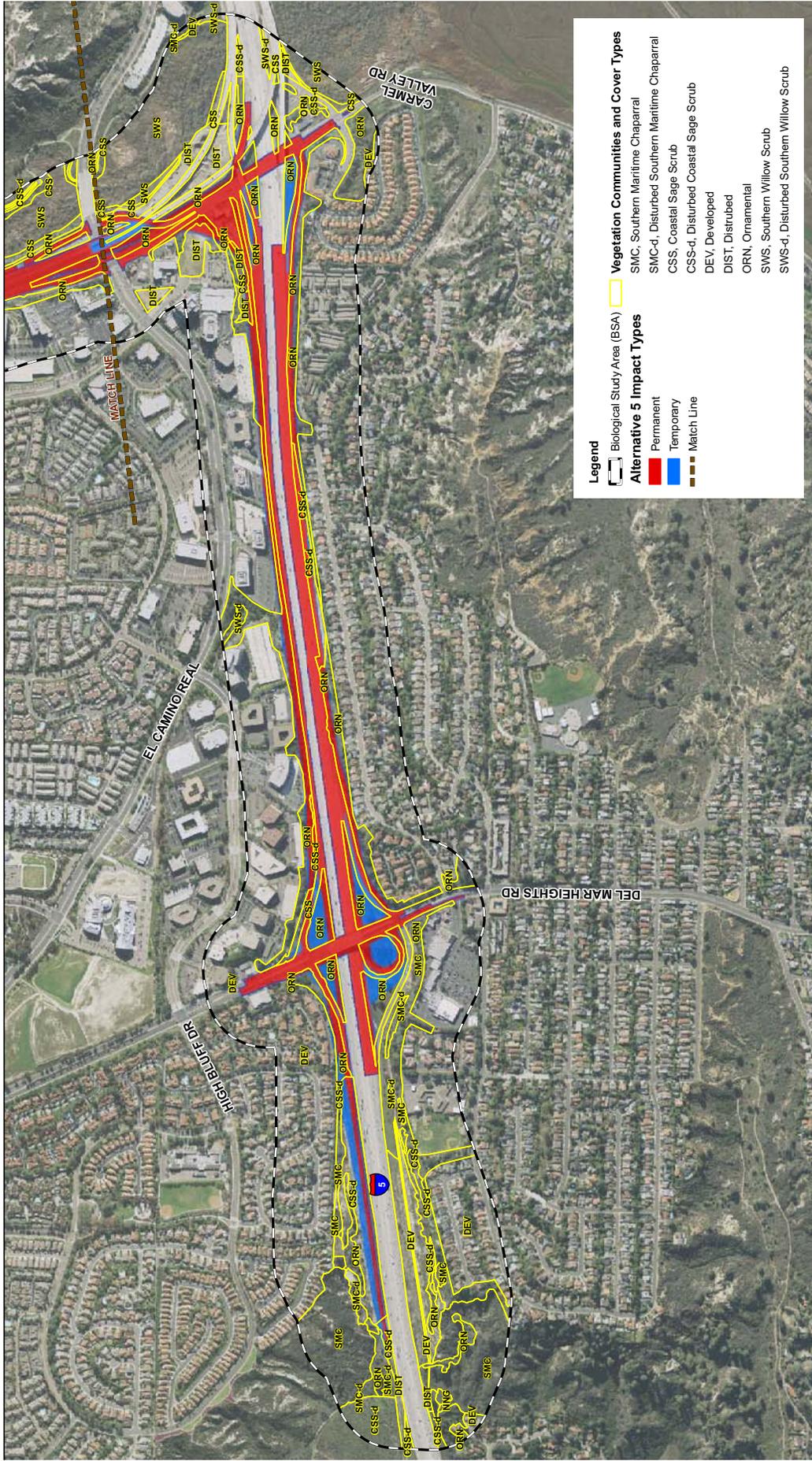


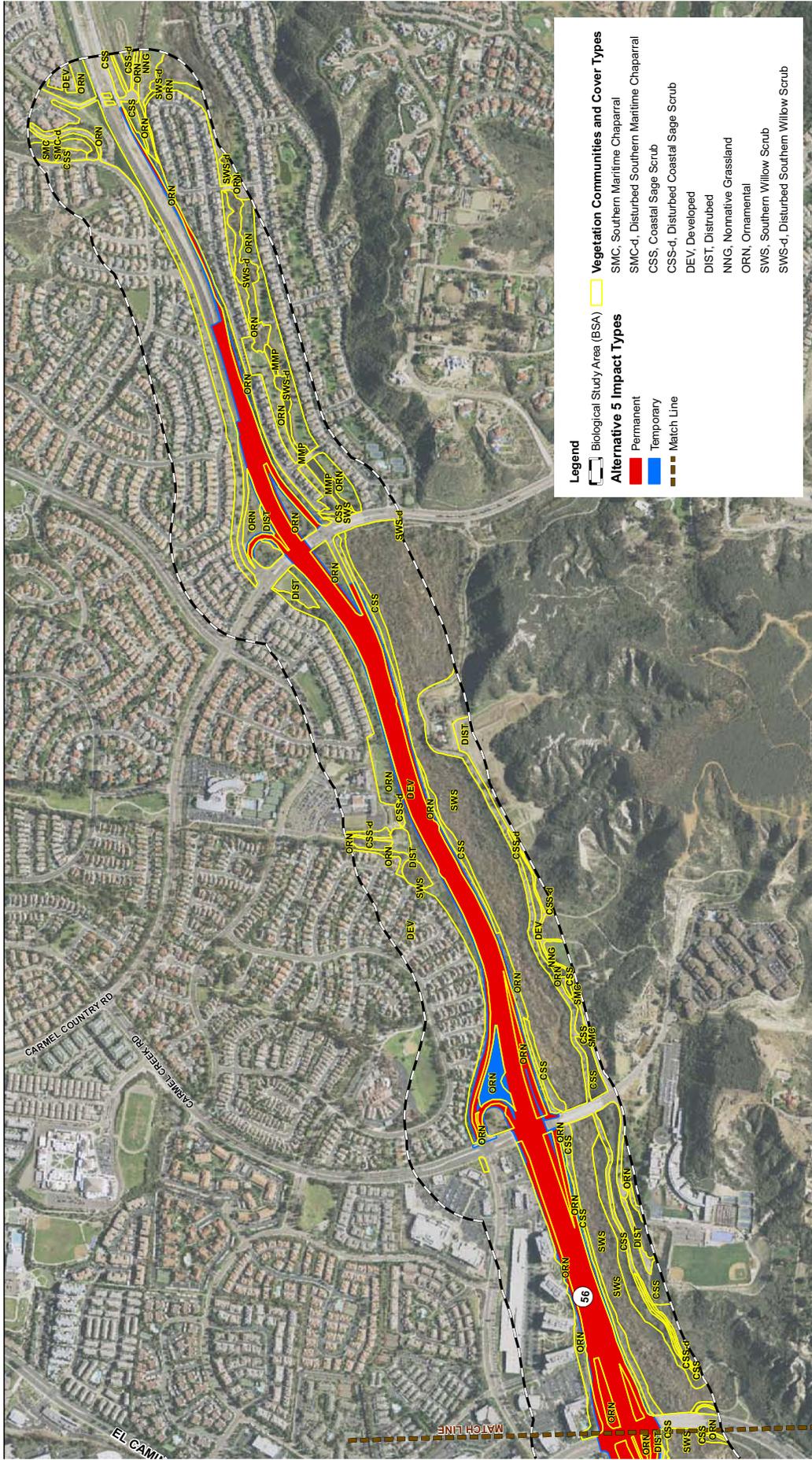
Figure 12a  
 Impacts to Vegetation Communities - Alternative 5  
 I-5 Portion

Source: DigitalGlobe 2008; EDRAW 2008  
 Scale: 1" = 8000'; 1 inch = 800 feet

I-5/SR-56 Interchange Project Natural Environment Study

Path: P:\2008\080809\6\_12\_SR-56\_Interchange\NESH\GIS\MXD\NESH\_mxd\final\_vers\sw015\_vegetation\_impacts\_f5\_20100923.mxd, 09/23/10, IndianaM

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Source: DigitalGlobe 2008; EDAAW 2008  
 Scale: 1" = 8000'; 1 inch = 800 feet  
 800 400 0 800 Feet

**Figure 12b**  
**Impacts to Vegetation Communities - Alternative 5**  
**SR-56 Portion**  
 Page 79

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Alternative 4 – Hybrid Alternative

It is anticipated that construction of the Hybrid Alternative would temporarily impact 0.07 acre of disturbed southern maritime chaparral.

Alternative 5 – Hybrid with Flyover Alternative

It is anticipated that construction of the Hybrid with Flyover Alternative would temporarily impact 0.07 acre of disturbed southern maritime chaparral.

No Build Alternative

No impacts to southern maritime chaparral would occur if the No Build Alternative were selected.

**Coastal Sage Scrub**

Anticipated impacts to coastal sage scrub associated with the current build alternatives (i.e., Alternative 2, 3, 4, or 5) and the No Build Alternative are summarized in Table 3.

Alternative 2 – Direct Connector Alternative

It is anticipated that construction of the Direct Connector Alternative would temporarily impact 0.31 acre, and permanently impact a 0.56 acre, of coastal sage scrub; and temporarily impact 5.41 acres, and permanently impact 7.62 acres, of disturbed coastal sage scrub.

Alternative 3 – Auxiliary Lane Alternative

It is anticipated that construction of the Auxiliary Lane Alternative would temporarily impact 0.24 acre, and permanently impact a 0.09 acre, of coastal sage scrub; and temporarily impact 0.45 acre, and permanently impact 1.19 acres, of disturbed coastal sage scrub.

Alternative 4 – Hybrid Alternative

It is anticipated that construction of the Hybrid Alternative would temporarily impact 0.28 acre, and permanently impact a 0.56 acre, of coastal sage scrub; and temporarily impact 3.85 acres, and permanently impact 2.73 acres, of disturbed coastal sage scrub.

Alternative 5 – Hybrid with Flyover Alternative

It is anticipated that construction of the Hybrid with Flyover Alternative would temporarily impact 0.29 acre, and permanently impact a 0.56 acre, of coastal sage scrub; and temporarily impact 3.84 acres, and permanently impact 2.72 acres, of disturbed coastal sage scrub.

No Build Alternative

No impacts to southern maritime chaparral would occur if the No Build Alternative were selected.

**4.2. Impacts to Sensitive Plant Species**

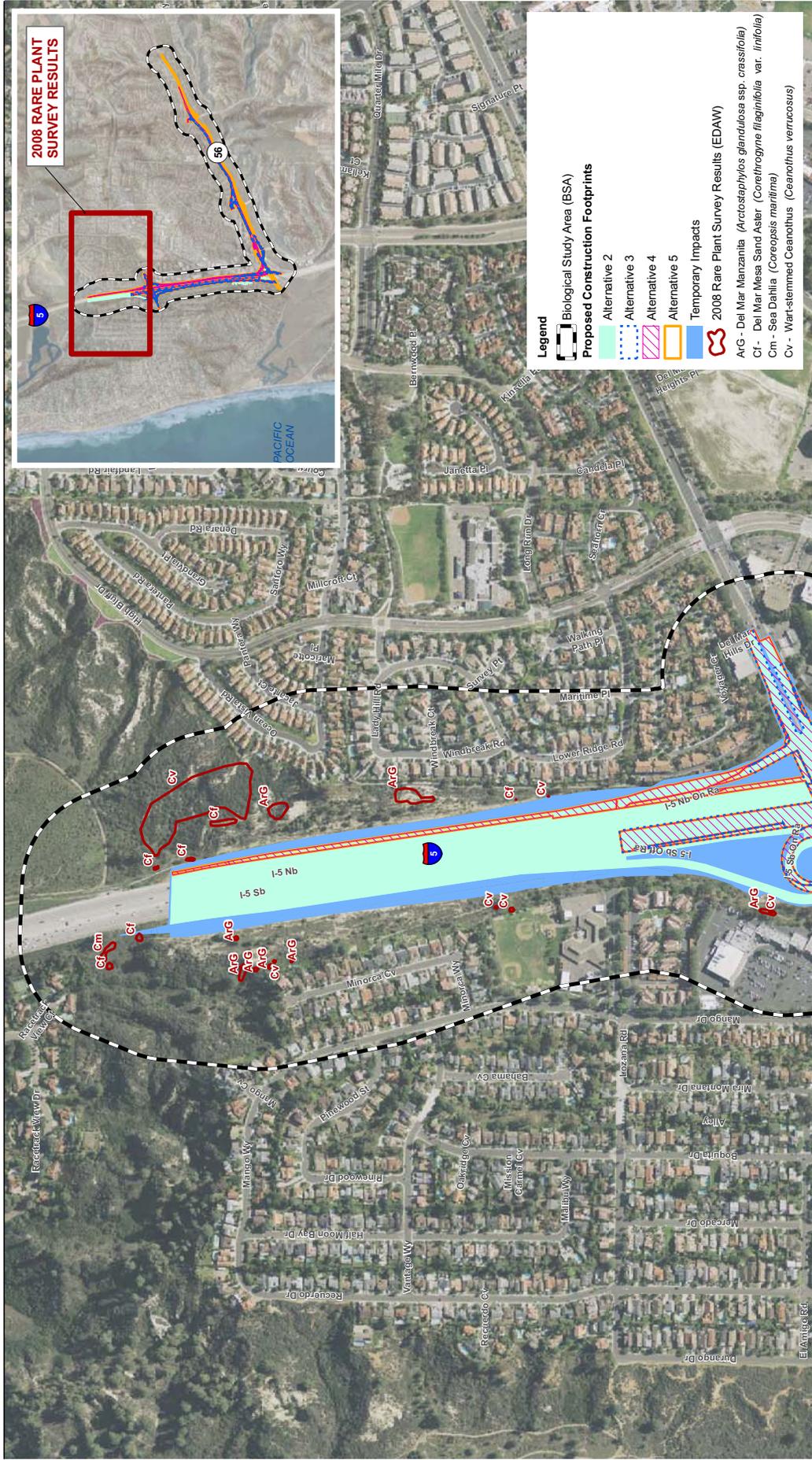
The proposed project has been designed to avoid three of the four sensitive plant species for the proposed project. It is anticipated that permanent impacts to two CNPS listed rare plant species [wart-stem lilac (CNPS List 2.2) and Del Mar Mesa sand aster (CNPS List 1B.1)] would occur as a result of this project. Impacts to Del Mar manzanita and sea dahlia are not anticipated to occur with selection of any of the current build alternatives (i.e., Alternative 2, 3, 4, or 5). Impacts to sensitive plant species for Alternatives 2, 3, 4, and 5 can be reviewed in Table 4 below and are depicted graphically in Figure 13.

**Table 4. Anticipated Impacts to Sensitive Plant Species within the BSA**

Sensitive Species	Impacts (# of individuals)									
	Alternative 2		Alternative 3		Alternative 4		Alternative 5		No Build Alternative	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
<i>Plants</i>										
Wart-stem lilac ( <i>Ceanothus verrucosus</i> )	0	0	0	0	0	0	0	0	0	0
Del Mar Mesa sand aster ( <i>Corethrogyne filaginifolia</i> var. <i>linifolia</i> )	10	0	0	0	0	0	0	0	0	0

**4.2.1. Wart-Stem Lilac**

Anticipated impacts to wart-stem lilac associated with the current build alternatives (i.e., Alternatives 2, 3, 4, and 5) and the No Build Alternative are summarized in Table 4.



**Figure 13**  
**Impacts to Sensitive Plants**

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Alternative 2 – Direct Connector Alternative

Construction of the Direct Connector Alternative would not impact wart-stem lilac.

Alternative 3 – Auxiliary Lane Alternative

Construction of the Auxiliary Lane Alternative would not impact wart-stem lilac.

Alternative 4 – Hybrid Alternative

Construction of the Hybrid Alternative would not impact wart-stem lilac.

Alternative 5 – Hybrid with Flyover Alternative

Construction of the Hybrid with Flyover Alternative would not impact wart-stem lilac.

No Build Alternative

No impacts to wart-stem lilac would occur if the No Build Alternative were selected.

**4.2.2. Del Mar Mesa Sand Aster**

Anticipated impacts to Del Mar Mesa sand aster associated with the current build alternatives (i.e., Alternatives 2, 3, 4, and 5) and the No Build Alternative are summarized in Table 4.

Alternative 2 – Direct Connector Alternative

It is anticipated that construction of the Direct Connector Alternative would temporarily impact a total of 10 individuals of Del Mar Mesa sand aster.

Alternative 3 – Auxiliary Lane Alternative

Construction of the Auxiliary Lane Alternative would not impact Del Mar Mesa sand aster.

Alternative 4 – Hybrid Alternative

Construction of the Auxiliary Lane Alternative would not impact Del Mar Mesa sand aster.

Alternative 5 – Hybrid with Flyover Alternative

Construction of the Hybrid with Flyover Alternative would not impact Del Mar Mesa sand aster.

No Build Alternative

No impacts to Del Mar Mesa sand aster would occur if the No Build Alternative were selected.

**4.3. Impacts to Sensitive Animal Species**

To the greatest extent possible the proposed project has been designed to avoid impacts to sensitive animal species. Anticipated impacts to sensitive animals detected within the BSA are listed in Table 5. No impacts are anticipated for federally or state listed animal species (individuals); however, temporary and permanent impacts are anticipated in the form of loss of suitable habitat for three CDFG species of special concern (San Diego coast horned lizard, San Diego pocket mouse, and San Diego desert woodrat). Impacts to these species in the form of impact area overlap of suitable (or marginally suitable) habitat are depicted graphically in Figure 14 for Alternatives 2, 3, 4, and 5.

**Table 5. Anticipated Impacts to Sensitive Animals within the BSA**

Sensitive Species	Impacts (acreage of habitat potentially used by species)									
	Alternative 2		Alternative 3		Alternative 4		Alternative 5		No Build Alternative	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
<i>Animals</i>										
San Diego coast horned lizard ( <i>Phrynosoma coronatum blainvillii</i> )	6.2	8.2	0.7	1.3	4.2	3.3	4.2	3.3	0.0	0.0
San Diego pocket mouse ( <i>Chaetodipus fallax fallax</i> )	6.2	8.2	0.7	1.3	4.2	3.3	4.2	3.3	0.0	0.0
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	6.2	8.2	0.7	1.3	4.2	3.3	4.2	3.3	0.0	0.0

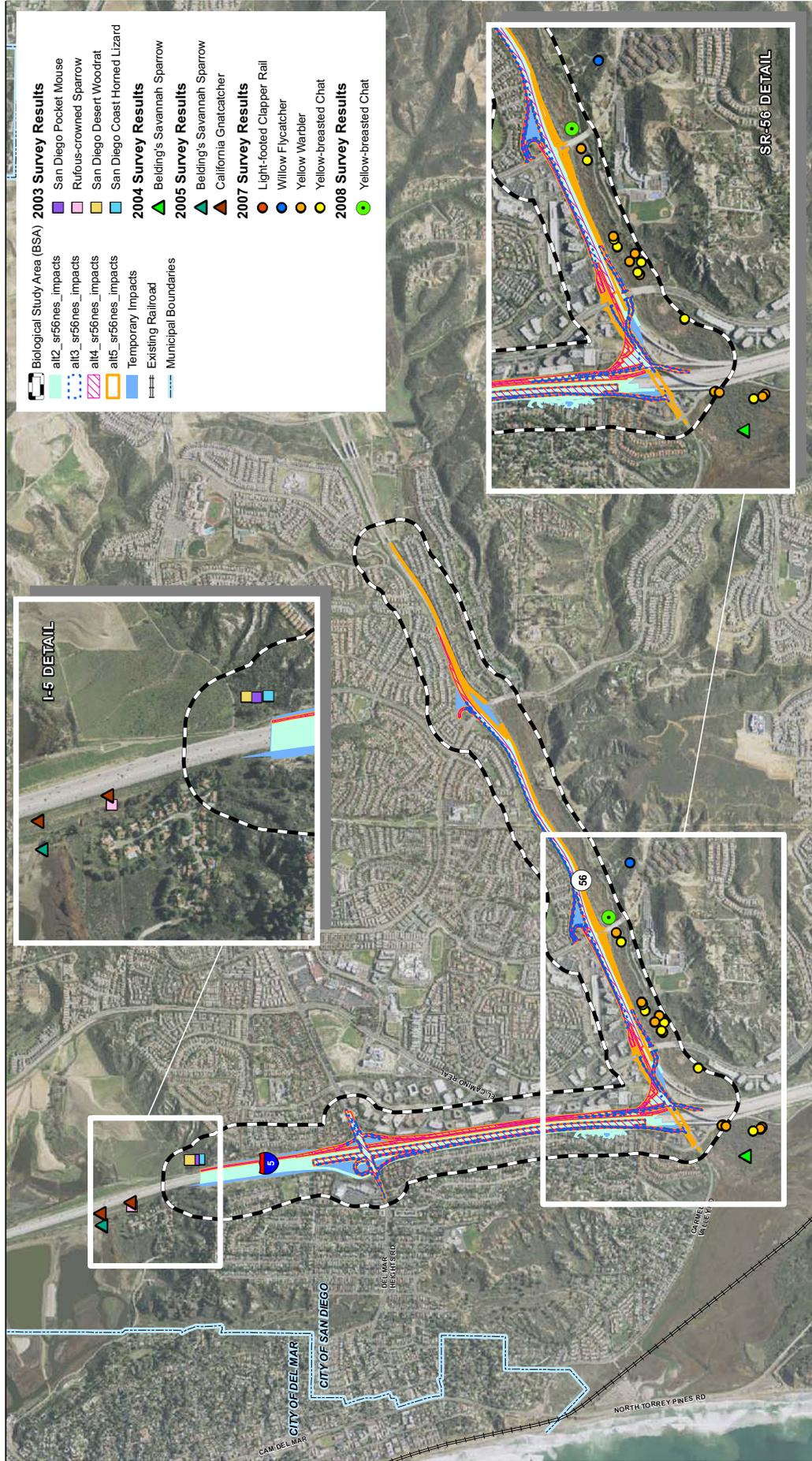


Figure 14  
Impacts to Sensitive Animals

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#### **4.3.1. San Diego Coast Horned Lizard, San Diego Pocket Mouse, and San Diego Desert Woodrat**

Anticipated impacts to habitat that could be used by San Diego coast horned lizard, San Diego pocket mouse, and San Diego desert woodrat associated with the current build alternatives (i.e., Alternative 2, 3, 4, or 5) and the No Build Alternative are summarized in Table 5 and discussed below. Suitable, to marginally suitable, habitat is considered to be southern maritime chaparral, disturbed southern maritime chaparral, coastal sage scrub, and disturbed coastal sage scrub (refer to Table 5 for specific acreages).

#### **4.3.2. Alternative 3 – Auxiliary Lane Alternative**

##### Alternative 2 – Direct Connector Alternative

It is anticipated that construction of the Direct Connector Alternative would temporarily impact 6.2 acres, and permanently impact 8.2 acres, of suitable, to marginally suitable, habitat for the San Diego coast horned lizard, San Diego pocket mouse, and San Diego desert woodrat.

##### Alternative 3 – Auxiliary Lane Alternative

It is anticipated that construction of the Auxiliary Lane Alternative would temporarily impact 0.7 acre, and permanently impact 1.3 acres, of suitable, to marginally suitable, habitat for the San Diego coast horned lizard, San Diego pocket mouse, and San Diego desert woodrat.

##### Alternative 4 – Hybrid Alternative

It is anticipated that construction of the Hybrid Alternative would temporarily impact 4.2 acres, and permanently impact 3.3 acres, of suitable, to marginally suitable, habitat for the San Diego coast horned lizard, San Diego pocket mouse, and San Diego desert woodrat.

##### Alternative 5 – Hybrid with Flyover Alternative

It is anticipated that construction of the Hybrid with Flyover Alternative would temporarily impact 4.2 acres, and permanently impact 3.3 acres, of suitable, to marginally suitable, habitat for the San Diego coast horned lizard, San Diego pocket mouse, and San Diego desert woodrat.

### No Build Alternative

No impacts to suitable, or marginally suitable, habitat for the San Diego coast horned lizard, San Diego pocket mouse, or San Diego desert woodrat would occur if the No Build Alternative were selected.

## **4.4. Impacts to Migration Corridors**

Animals can exhibit both direct sensitivity to roads (increased mortality and fitness) and indirect sensitivity to roads (altered behavior, altered movement, or avoidance of areas/roads). Common reasons credited for increased sensitivity to roads include increased noise as a result of traffic volume, increased artificial light, and increased human presence (Smith 2003). It is not anticipated that wildlife movement south of SR-56 (along the regional corridor) would be negatively affected during construction of the proposed project due to the presence of a preexisting 10-foot-tall earthen berm. This berm currently provides a physical barrier that significantly reduces the levels of noise, light, and human activity within the adjacent riparian corridor to the south of the project. The proposed project would not overlap with the regional corridor choke point (see Figure 8). In addition, it is not expected that construction activities would cause additional impacts to wildlife movement at the regional corridor choke point due to the existing ambient freeway noise, light, and traffic.

## **4.5. Cumulative Impacts for Proposed Project**

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time. One project that is planned for construction in the vicinity of the proposed project includes the I-5 North Coast Corridor Project.

The I-5 North Coast Corridor Project when complete will extend 27 miles along the I-5 transportation corridor in central and northern San Diego County. The main purpose of the project is to reduce congestion on I-5 by increasing capacity along this segment of the corridor through the addition of HOV lanes and/or main travel, or general purpose lanes. In addition, the existing corridor would be brought up to current transportation standards through the addition of auxiliary lanes in specified locations to facilitate traffic entering and exiting main travel lanes along the freeway. Other safety devices, such as concrete barriers, guard rails/end treatments, crash

cushions, bridge rails, noise barriers, retaining walls, drainage improvements, and signage, would also be placed at specific locations along the corridor.

The I-5 North Coast Corridor Project will expand a north/south freeway in coastal San Diego County through a variety of habitats including crossing six coastal lagoons, one perennial river, and several small streams and drainages. In addition to all of the wetland habitats that the project crosses, there are sensitive upland habitats including coastal sage scrub, maritime succulent scrub, southern maritime chaparral, and coastal bluff scrub. All of the sensitive habitats support a variety of sensitive species including several listed species. The light-footed clapper rail, coastal California gnatcatcher, California least tern, western snowy plover, brown pelican (*Pelecanus occidentalis*), Belding's savannah sparrow, and Del Mar manzanita are all federal and/or state listed species that occur within the project vicinity.

Another project that will contribute to cumulative impacts in the vicinity of the proposed project is the Pacific Highlands Ranch 17-22A Project (SDPC 2004). In October of 1992, the San Diego City Council adopted the North City Future Urbanizing Area Framework Plan (NCFUAFP). In response to the NCFUAFP, a Master Environmental Impact Report was prepared by the City of San Diego for the Pacific Highlands Ranch (Subarea III) Specific Plan (finalized on July 20, 1999). The Pacific Highlands Ranch 17-22A Project site would be situated north of SR-56 at the northwest corner of Carmel Valley Road and Santa Fe Farms Road. The project would result in construction of 677 single-family dwelling units and a private community recreational center.

The Pacific Highlands Ranch 17-22A Project would primarily impact abandoned agricultural fields that were likely a mix of coastal sage scrub and southern maritime chaparral prior to being transformed into farmland. On a north-facing slope just north of the planned project site, several acres of coastal sage scrub and chaparral habitat exist and could support a variety of sensitive species including orange-throated whiptail (*Aspidoscelis hyperythra*), coastal California gnatcatcher, western burrowing owl (*Athene cunicularia*), wart-stemmed ceanothus, and summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*).

Another project in the vicinity of the proposed project is the San Dieguito Lagoon Wetland Restoration Project. This project is in progress and aims to create and/or substantially restore at least 150 acres of tidally influenced wetlands and will therefore have beneficial effects to biological resources in the surrounding area. The

work is primarily being performed by Southern California Edison to satisfy a portion of mitigation requirements for the impacts from the cooling water systems for the San Onofre Nuclear Generating Station on the marine environment. As a condition of approval of the restoration plan, the CCC requires that the lagoon tidal inlet be maintained in an open condition in perpetuity. For this commitment, a 35-acre credit was given to Southern California Edison; therefore, 115 acres of wetlands needs to be created or restored.

The project site is located at the western end of the San Dieguito River Valley and is entirely within the coastal zone and within both the city of Del Mar and the city of San Diego. It is within 440 acres of public land bounded to the east, west, north, and south, respectively, by El Camino Real, the Pacific Ocean, Via de la Valle, and the north edge of the Carmel Valley Planning area. Restoration of the project will create subtidal and intertidal habitats through excavation and dredging, maintenance of the inlet channel in an open state, construction of berms along the river, establishment of disposal sites for excavated materials, and establishment of nesting sites for threatened and endangered bird species. Other project tasks include slope protection, permanent access roads, protection of utility lines and infrastructure, and planting of various types of habitats. These habitats include low, mid, and high salt marsh; uplands; coastal sage scrub; and grasslands. Construction of these features is expected to take approximately 3 years. Following construction, the San Dieguito Joint Powers Authority will be responsible for the long-term maintenance and monitoring of the project.

When considered with other projects that have been completed, are in progress, or are planned for the vicinity, such as the I-5 North Coast Corridor Project and the Pacific Highlands Ranch 17-22A Project, the I-5/SR-56 Interchange Project is anticipated to contribute to cumulative effects at a regional level, with some of those impacts being offset by projects resulting in a positive effect on biological resources, such as the San Dieguito Lagoon Wetland Restoration Project. Furthermore, the proposed mitigation measures (discussed below) for the proposed project have been designed to reduce impacts to a level below significance under CEQA.

#### **4.6. General Avoidance, Minimization, and Compensatory Mitigation**

Caltrans has finalized a project design that would include construction limits and staging areas that have been reduced or relocated to avoid or minimize direct effects to sensitive resources and maximize use of nonnative, disturbed, and developed land

cover types. Final avoidance, minimization, and mitigation measures would be determined by the resource agencies.

The following are general avoidance and minimization measures that would be implemented to minimize unavoidable impacts to natural communities of special concern, sensitive plants, and sensitive animals:

1. Limits of construction (including construction staging areas and access routes) would be clearly marked on project maps provided to the contractor(s) to indicate “no construction” zones. Natural vegetation communities outside or adjacent to impact areas would be designated as Environmentally Sensitive Areas (ESAs) and be delineated with ESA fencing (orange snow fencing) to prevent work from occurring in these areas. Temporary construction fencing would be removed upon project completion. A construction monitor would be present during vegetation clearing to ensure that work is limited to designated construction limits.
2. Vegetation clearing will occur outside of the breeding season (February 15 through August 31) so that impacts to nesting birds can be avoided. In addition, nest clearance surveys will be completed by a qualified biologist immediately prior to vegetation clearing to verify that no birds are nesting in the area.
3. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would occur in designated areas and within the fenced project impact limits. These designated areas would be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering jurisdictional wetlands or waters, and would be shown on the construction plans. Fueling of equipment would take place within existing paved areas greater than 100 feet from jurisdictional wetlands or waters. Contractor equipment would be checked for leaks prior to operation and repaired as necessary. “No-fueling” zones would be designated on construction plans.
4. In areas that do not require excavation or grading, vegetation would be trampled instead of completely removed.

5. The project site would be kept as clean of debris as possible to avoid attracting predators of sensitive wildlife. All food-related trash items would be enclosed in sealed containers and regularly removed from the site.
6. Pets of project personnel would not be allowed on the project site.
7. A majority of construction is expected to be undertaken during daylight; however, when nighttime construction is necessary, lighting would be of the lowest illumination necessary for human safety, would be diverted away from any native vegetation communities, and would consist of low-sodium or similar lighting equipped with shields to focus light downward onto the appropriate subject area.

Compensatory mitigation for impacts to upland habitats will likely be completed at the Dean Mitigation Parcel immediately east of I-5 in the former tomato field, or at the Sage Hill Mitigation Bank. Specifically, permanent impacts to coastal sage scrub and southern maritime chaparral will be completed on Caltrans mitigation property on the slopes of San Dieguito Lagoon at a proposed 2:1 ratio, subject to discussions with the resource agencies. The proposed mitigation measures have been designed to reduce each potentially significant impact to a level below significance under CEQA.

## **Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions**

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Several federal and state regulations were considered during preparation of this NES. Through protocol-level biological resource surveys, review of existing and historical sensitive species occurrence data, and literature reviews, it is anticipated that no impacts to federal or state listed plant species would occur. Additionally, it is anticipated that no impacts to federal or state listed animal species would occur under the current design alternatives for this project.

### **5.1. Regulatory Requirements**

Based on current engineering designs, the anticipated regulatory requirements that would apply to this proposed project include:

- Coastal Development Permit from the CCC pursuant to the CCA of 1976 (Public Resources Code 30000 et seq.).
- Pursuant to E.O. 13112, project-related landscaping activities would be performed in a manner that avoids the introduction or spread of invasive plant species.

### **5.2. Invasive Species**

E.O. 13112 prohibits the introduction of invasive species and directs federal agencies not to authorize, fund, or carry out actions that they believe are likely to cause or promote the introduction or spread of invasive species. There are already a number of aggressive invasive species on the slopes of I-5 and in some locations along SR-56. Construction of any of the build alternatives presents the opportunity for these exotic species to spread; however, the opportunity to control these invasive species is also possible. Through careful handling of the soil and equipment that works the soil, the invasive plants currently within the impact area can be removed. Revegetation of the slopes will require maintenance to keep the weed species from reinvading. Special care will be taken when transporting, using, and disposing of soils with invasive weed seeds. All heavy equipment will be cleared of weed debris to minimize spread of invasive weeds.

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## Chapter 6. References

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**Appendix A U.S. Fish and Wildlife Service  
Letter with List of Federally Endangered or  
Threatened Species with Potential to Occur  
within or near Project Area**

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road, Suite 101  
Carlsbad, California 92011



In Reply Refer To:  
FWS-SDG-09B0099-09SL0144

FEB 04 2009

Mr. Lyndon Quon  
EDAW Inc.  
1420 Kettner Boulevard, Suite 500  
San Diego, California 92101

Subject: Request for Candidate, Proposed, Threatened, or Endangered Species for the Proposed Interstate 5/State Route 56 Interchange Project, San Diego County, California

Dear Mr. Quon:

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided in your October 30, 2008, letter to assess the potential presence of federally listed species at the proposed project site. We do not have site specific information for your project area. However, to assist you in evaluating whether or not the proposed project may affect listed species, we are providing the enclosed list of federally listed species that may occur in the general project area. Please note that this is not a comprehensive list. You should also contact the California Department of Fish and Game for State-listed and sensitive species that may occur in the area of the proposed project. Please note that State-listed species are protected under the provisions of the California Endangered Species Act. We recommend that you seek assistance from a biologist familiar with your project site, and experienced in assessing the potential for direct, indirect, and cumulative effects to species and their habitats likely to result from the proposed activity.

If it is determined that the proposed project may affect a listed or proposed species, or the designation of any critical habitat, you should initiate consultation (or conference for proposed species) with the Service pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

If you have any questions regarding the species on the enclosed list or your responsibilities under the Act, please call Janet Stuckrath of my staff at (760) 431-9440.

Sincerely,

Karen A. Goebel  
Assistant Field Supervisor

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Listed Endangered, Threatened and Proposed Species that may  
Occur within or near the proposed  
Interstate 5/State Route 56 Interchange Project  
San Diego County, California

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
<u>MAMMALS</u>		
Pacific pocket mouse	<i>Perognathus longimembris pacificus</i>	E
<u>BIRDS</u>		
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T, CH
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E, CH
coastal California gnatcatcher	<i>Polioptila californica californica</i>	T*, CH
light-footed clapper rail	<i>Rallus longirostris levipes</i>	E
California least tern	<i>Sternula (Sterna) antillarum browni</i>	E
least Bell's vireo	<i>Vireo bellii pusillus</i>	E, CH
<u>PLANTS</u>		
Del Mar manzanita	<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	E
Encinitas baccharis	<i>Baccharis vanessae</i>	T

T=Threatened

E=Endangered

CH=Critical Habitat

T\*=Threatened - Proposed Distinct Population Segment

## Appendix B Plant Species Observed or Detected within the I-5/SR-56 Interchange Project Biological Study Area

Scientific Name	Common Name
<b>CONIFEROPSIDA</b>	
Pinaceae – Pine Family	
<i>Pinus torreyana</i> <sup>1,2</sup>	Torrey pine
<b>ANGIOSPERMAE</b>	
<b>Dicotyledoneae</b>	
Adoxaceae – Adoxa Family	
<i>Sambucus mexicana</i> <sup>1</sup>	blue elderberry
Aizoaceae – Ice Plant Family	
* <i>Carpobrotus edulis</i> <sup>1</sup>	hottentot-fig
Amaranthaceae – Amaranth Family	
<i>Chenopodium californicum</i> <sup>1</sup>	California goosefoot
<i>Sarcocornia pacifica</i> <sup>1</sup>	Pacific pickleweed
Anacardiaceae - Sumac Family	
<i>Rhus integrifolia</i> <sup>1</sup>	lemonadeberry
<i>Malosma laurina</i> <sup>1</sup>	laurel sumac
<i>Toxicodendron diversilobum</i> <sup>1</sup>	poison oak
Apiaceae – Carrot family	
<i>Apiastrum angustifolium</i> <sup>1</sup>	mock-parsley
* <i>Apium graveolens</i> <sup>1</sup>	common celery
* <i>Foeniculum vulgare</i> <sup>1</sup>	fennel
<i>Hydrocotyle verticillata</i> <sup>1</sup>	whorled marsh-pennywort
<i>Tauschia arguta</i> <sup>1</sup>	southern tauschia
Asteraceae - Sunflower Family	
<i>Ambrosia psilostachya</i> <sup>1</sup>	western ragweed
<i>Artemisia californica</i> <sup>1</sup>	coastal sagebrush
<i>Artemisia douglasiana</i> <sup>1</sup>	Douglas mugwort
<i>Artemisia dracunculoides</i> <sup>1</sup>	tarragon
<i>Baccharis pilularis</i> <sup>1</sup>	coyote brush
<i>Baccharis salicifolia</i> <sup>1</sup>	mulefat
* <i>Centauria melitensis</i> <sup>1</sup>	tozalote
<i>Chaenactis artemisiifolia</i> <sup>1</sup>	white pincushion

Scientific Name	Common Name
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i> <sup>1</sup> y	yellow pincushion
<i>Cirsium occidentale</i> var. <i>occidentale</i> <sup>1</sup>	cobwebby thistle
<i>Coreopsis maritima</i> <sup>1</sup> , (CNPS List 2.2)	sea dahlia
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i> <sup>1, 2</sup> , (CNPS List 1B.1)	Del Mar Mesa sand aster
* <i>Cotula coronopifolia</i> <sup>1</sup>	African brass-buttons
<i>Encelia californica</i> <sup>1</sup>	California encelia
<i>Encelia farinosa</i> <sup>1</sup>	brittlebush
<i>Eriophyllum confertiflorum</i> <sup>1</sup>	golden-yarrow
* <i>Filago gallica</i> <sup>1</sup>	narrow-leaf filago
<i>Gnaphalium pulustre</i> <sup>1</sup>	lowland cudweed
<i>Hazardia squarrosa</i> <sup>1</sup>	sawtooth goldenbush
* <i>Hedypnois cretica</i> <sup>1</sup>	crete
<i>Heterotheca grandiflora</i> <sup>1</sup>	telegraph weed
* <i>Hypochaeris radicata</i> <sup>1</sup>	hairy cat's ears
<i>Isocoma menziesii</i> <sup>1</sup>	coastal goldenbush
<i>Iva hayesiana</i> <sup>1</sup> (CNPS List 2.2)	San Diego marsh elder (planted)
<i>Jaumea carnosa</i> <sup>1</sup>	salty susan
<i>Lasthenia coronaria</i> <sup>1</sup>	southern goldfields
* <i>Picris echioides</i> <sup>1</sup>	bristly ox-tongue
* <i>Sonchus oleraceus</i> <sup>1</sup> co	common sow-thistle
<i>Stephanomeria virgata</i> ssp. <i>pleurocarpa</i> <sup>1</sup> tall	wreath-plant
<i>Stylocline gnaphaloides</i> <sup>1</sup>	everlasting nest-straw
<i>Xanthium strumarium</i> <sup>1</sup>	cocklebur
Boraginaceae - Borage Family	
<i>Amsinckia menziesii</i> var. <i>menziesii</i> <sup>1</sup>	rigid fiddleneck
<i>Cryptantha</i> sp. <sup>1</sup>	cryptantha
Brassicaceae - Mustard Family	
* <i>Brassica nigra</i> <sup>1</sup>	black mustard
<i>Descurainia pinnata</i> ssp. <i>glabra</i> <sup>1</sup>	western tansy-mustard
<i>Erysimum capitatum</i> ssp. <i>capitatum</i> <sup>1</sup>	western wallflower
* <i>Hirschfeldia incana</i> <sup>1</sup>	perennial mustard
* <i>Raphanus sativa</i> <sup>1</sup>	wild radish
<i>Rorippa nasturtium-aquaticum</i> <sup>1</sup>	water-cress
Caprifoliaceae – Honeysuckle Family	
<i>Lonicera subspicata</i> var. <i>denudata</i> <sup>1</sup>	Johnston's honeysuckle

Scientific Name	Common Name
Cactaceae - Cactus Family	
<i>Opuntia littoralis</i> <sup>1</sup>	coastal prickly-pear
Caryophyllaceae – Pink Family	
<i>Cardionema ramosissima</i> <sup>1</sup>	tread lightly
<i>Spergularia</i> sp. <sup>1</sup>	sand-spurry
Cistaceae – Rock Rose Family	
<i>Helianthemum scoparium</i> <sup>1</sup>	peak rush-rose
Convolvulaceae – Morning Glory Family	
<i>Calystegia macrostegia</i> <sup>1</sup>	morning glory
<i>Cressa truxillensis</i> <sup>1</sup>	alkali weed
Crassulaceae – Stonecrop Family	
<i>Crassula connata</i> <sup>1</sup>	pygmyweed
<i>Dudleya lanceolata</i> <sup>1</sup>	lance-leaf dudleya
Cucurbitaceae - Family	
<i>Marah macrocarpus</i> <sup>1</sup>	wild-cucumber
Ericaceae – Heath Family	
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> <sup>1,2, (FE), (CNPS List 1B.1)</sup>	Del Mar manzanita
<i>Xylococcus bicolor</i> <sup>1</sup>	mission manzanita
Euphorbiaceae - Heath Family	
<i>Croton californicus</i> <sup>1</sup>	California croton
<i>Euphorbia crenulata</i> <sup>1</sup>	Chinese caps
Fabaceae - Pea Family	
* <i>Acacia pycnantha</i> <sup>1</sup> golden	wattle
<i>Lathyrus vestitus</i> var. <i>alefeldii</i> <sup>1</sup>	San Diego sweet pea
* <i>Melilotus albus</i> <sup>1</sup>	white sweetclover
* <i>Melilotus indicus</i> <sup>1</sup> sourclover	
<i>Lotus scoparius</i> var. <i>scoparius</i> <sup>1</sup> California	broom
<i>Lupinus bicolor</i> <sup>1</sup>	miniature lupine
<i>Lupinus succulentus</i> <sup>1</sup>	arroyo lupine
<i>Lupinus truncatus</i> <sup>1</sup>	collar lupine
* <i>Trifolium hirtum</i> <sup>1</sup>	rose clover
Fagaceae – Oak Family	
<i>Quercus agrifolia</i> var. <i>agrifolia</i> <sup>1</sup>	coast live oak
<i>Quercus</i> x <i>acutidens</i> <sup>1</sup>	Torrey's hybrid oak
<i>Quercus berberidifolia</i> <sup>1</sup>	scrub oak

Scientific Name	Common Name
Frankeniaceae – Silk Tassel Family <i>Frankenia salina</i> <sup>1</sup>	alkali-heath
Geraniaceae – Geranium Family <i>*Erodium cicutarium</i> <sup>1</sup>	storksbill
Hydrophyllaceae – Waterleaf Family <i>Eriodictyon crassifolium</i> var. <i>crassifolium</i> <sup>1</sup> <i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i> <sup>1</sup> <i>Phacelia parryi</i> <sup>1</sup> <i>Phacelia ramosissima</i> var. <i>latifolia</i> <sup>1</sup> <i>Phacelia tanacetifolia</i> <sup>1</sup>	felt-leaf yerba santa common eucrypta Parry’s phacelia branching phacelia lacy phacelia
Lamiaceae - Mint Family <i>Salvia apiana</i> <sup>1</sup> <i>Salvia mellifera</i> <sup>1</sup>	white sage black sage
Lythraceae – Loosestrife Family <i>*Lythrum hyssopifolia</i> <sup>1</sup>	grass poly
Malvaceae – Mallow Family <i>Malacothamnus fasciculatus</i> <sup>1</sup>	chaparral bushmallow
Myrtaceae – Myrtle Family <i>*Eucalyptus camaldulensis</i> <sup>1</sup>	river red gum
Nyctaginaceae - Four O’Clock Family <i>Mirabilis californica</i> <sup>1</sup>	wishbone bush
Onagraceae - Evening Primrose Family <i>Camissonia bistorta</i> <sup>1</sup>	California sun cup
Orobanchaceae – Broom-Rape Family <i>Pedicularis densiflora</i> <sup>1</sup>	Indian warrior
Papaveraceae – Poppy Family <i>Dendromecon rigida</i> <sup>1</sup> <i>Eschscholzia californica</i> <sup>1</sup>	bush poppy California poppy
Plantaginaceae – Plantain Family <i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i> <sup>1</sup> <i>Plantago erecta</i> <sup>1</sup> <i>*Veronica anagallis-aquatica</i> <sup>1</sup>	Nuttall’s snapdragon dot-seed plantain water speedwell
Plumbaginaceae - Leadwort Family <i>*Limonium perezii</i> <sup>1</sup>	Perez’s marsh-rosemary
Polygonaceae - Buckwheat Family <i>Eriogonum fasciculatum</i> <sup>1</sup>	California buckwheat

Scientific Name	Common Name
<i>Pterostegia drymarioides</i> <sup>1</sup>	granny's hairnet
* <i>Rumex crispus</i> <sup>1</sup>	curly dock
Portulacaceae – Purslane Family	
<i>Calyptidium monandrum</i> <sup>1</sup>	common calyptidium
<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i> <sup>1</sup>	miner's-lettuce
Phrymaceae – Hopseed Family	
<i>Mimulus aurantiacus</i> var. <i>puniceus</i> <sup>1</sup>	coast monkey flower
Rhamnaceae – Buckthorn Family	
<i>Ceanothus verrucosus</i> <sup>1,(CNPS List 2.2)</sup>	wart-stem lilac
Rosaceae – Rose Family	
<i>Adenostoma fasciculatum</i> <sup>1</sup>	chamise
<i>Heteromeles arbutifolia</i> <sup>1</sup>	toyon
Rubiaceae – Coffee family	
<i>Galium angustifolium</i> ssp. <i>angustifolium</i> <sup>1</sup>	narrow-leaf bedstraw
<i>Galium porrigens</i> var. <i>porrigens</i> <sup>1</sup>	climbing bedstraw
Rutaceae – Citrus Family	
<i>Cneoridium dumosum</i> <sup>1</sup>	coast spice bush
Salicaceae – Willow Family	
<i>Salix exigua</i> <sup>1</sup>	narrow-leaf willow
<i>Salix gooddingii</i> <sup>1</sup>	Goodding's black willow
<i>Salix lasiolepis</i> <sup>1</sup>	arroyo willow
<i>Salix laevigata</i> <sup>1</sup>	red willow
Saururaceae – Lizard's Tail Family	
<i>Anemopsis californica</i> <sup>1</sup>	yerba mansa
Simmondsiaceae - Jojoba Family	
<i>Simmondsia chinensis</i> <sup>1</sup>	jojoba
Solanaceae - Nightshade Family	
<i>Datura wrightii</i> <sup>1</sup>	western jimson weed
* <i>Nicotiana glauca</i> <sup>1</sup>	tree tobacco
<i>Solanum parishii</i> <sup>1</sup>	Parish's nightshade
<b>Monocotyledoneae</b>	
Agavaceae – Agave Family	
<i>Hesperoyucca whipplei</i> <sup>1</sup>	chaparral candle
Alliaceae – Onion Family	
<i>Allium praecox</i> <sup>1</sup>	early onion

Scientific Name	Common Name
Cyperaceae – Sedge family	
<i>Bolboschoenus maritimus</i> ssp. <i>paludosus</i> <sup>1</sup>	prairie bulrush
<i>Carex triquetra</i> <sup>1</sup>	triangular-fruit sedge
<i>Cyperus eragrostis</i> <sup>1</sup>	tall flatsedge
<i>Eleocharis macrostachya</i> <sup>1</sup>	pale spike-rush
<i>Schoenoplectus pungens</i> <sup>1</sup>	common threesquare
Iridaceae – Iris Family	
<i>Sisyrinchium bellum</i> <sup>1</sup>	blue-eyed grass
Juncaceae - Rush Family	
<i>Juncus arcticus</i> var. <i>balticus</i> <sup>1</sup> wire	rush
<i>Juncus effusus</i> var. <i>austrocalifornicus</i> <sup>1</sup>	pacific rush
<i>Juncus acutus</i> <sup>1</sup>	southwestern spiny rush
Melanthiaceae – Camas Family	
<i>Zigadenus fremontii</i> <sup>1</sup>	Fremont's camas
Poaceae - Grass Family	
<i>Achnatherum coronatum</i> <sup>1</sup>	giant stipa
* <i>Bromus diandrus</i> <sup>1</sup>	ripgut grass
* <i>Bromus hordeaceus</i> <sup>1</sup>	soft chess
* <i>Bromus madritensis</i> ssp. <i>rubens</i> <sup>1</sup> foxtail	chess
* <i>Cortaderia selloana</i> <sup>1</sup>	pampas grass
* <i>Ehrharta calycina</i> <sup>1</sup>	perennial veldt grass
* <i>Hordeum murinum</i> ssp. <i>leporinum</i> <sup>1</sup> hare	barley
* <i>Lolium multiflorum</i> <sup>1</sup> Italian	ryegrass
<i>Melica imperfecta</i> <sup>1</sup>	coast range melic
<i>Nassella lepida</i> <sup>1</sup>	foothill needlegrass
* <i>Pennisetum setaceum</i> <sup>1</sup>	fountain grass
* <i>Polypogon monspeliensis</i> <sup>1</sup>	annual beard grass
Themidaceae – Brodiaea Family	
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i> <sup>1</sup>	wild hyacinth
Typhaceae - Cattail Family	
<i>Typha angustifolia</i> <sup>1</sup>	narrow-leaf cattail

<sup>1</sup> Indicates those species detected during EDAW 2008 rare plant surveys.

<sup>2</sup> Indicates those species detected during URS 2003 vegetation community analysis (vegetation mapping) (URS 2005).

(FE) Indicates species is listed as endangered under the Federal Endangered Species Act  
**California Native Plant Society (CNPS) Rare:**

**List 1B.1** – Rare, threatened, or endangered in California and elsewhere; Seriously threatened in California

**List 2.2** - Rare, threatened, or endangered in CA only; Fairly threatened in California

\*nonnative species (introduced)

## Appendix C Wildlife Species Observed or Detected within the I-5/SR-56 Interchange Project Biological Study Area

Scientific Names	Common Names
<b>Reptiles</b>	
Order Squamata	Lizards and Snakes
Family Iguanidae	
<i>Sceloporus occidentalis</i> <sup>1,2</sup>	western fence lizard
Fam    ily Phrysonomatidae	
<i>Phrynosoma coronatum</i>	San Diego coast horned lizard
<i>blainvillei</i> <sup>2</sup> (SSC)	
Family Colubridae	
<i>Lampropeltus getulus californiae</i> <sup>2</sup>	common kingsnake
<b>Birds</b>	
Order Pelecaniformes	Tropicbirds, Pelicans, and Relatives
Family Phalacrocoracidae	
<i>Phalacrocorax auritus</i> <sup>3</sup>	double-crested cormorant
<i>Phalacrocorax</i> sp. <sup>1</sup> cor	morant
Order Ciconiiformes	Herons, Storks, Ibises, and Relatives
Fam    ily Ardeidae	
<i>Ardea herodias</i> <sup>1,2,3</sup>	great blue heron
<i>Butorides striatus</i> <sup>1,2,3</sup>	green heron
<i>Casmerodius albus</i> <sup>2,3</sup>	great egret
<i>Egretta thula</i> <sup>1,2</sup>	snowy egret
<i>Nycticorax nycticorax</i> <sup>2</sup>	black-crowned night heron
Order Anseriformes	Screamers, Ducks, and Relatives
Fam    ily Anatidae	
<i>Anas platyrhynchos</i> <sup>1,2,3</sup>	mallard
<i>Oxyura jamaicensis</i> <sup>2</sup>	ruddy duck
Order Falconiformes	Vultures, Hawks, and Falcons
Fam    ily Accipitridae	
<i>Buteo lineatus</i> <sup>2</sup>	red-shouldered hawk
<i>Buteo jamaicensis</i> <sup>1,2</sup>	red-tailed hawk
<i>Elanus leucurus majusculus</i> <sup>1</sup> (FP)	white-tailed kite

Scientific Names	Common Names
Fam ily Falconidae <i>Falco sparverius</i> <sup>2,3</sup>	American kestrel
Order Galliformes	Megapodes, Curassows, Pheasants and Relatives
Fa mily Phasianidae <i>Callipepla californica</i> <sup>1</sup>	California quail
Order Gruiformes	Cranes Rails, and Relatives
Fam ily Rallidae <i>Rallus</i> sp. <sup>1(C)</sup> rail <i>Rallus limicola</i> <sup>2</sup> <i>Rallus longirostris levipes</i> <sup>2,3</sup> <b>(FE)(SE)</b> <i>Porzana carolina</i> <sup>3</sup>	Virginia rail light-footed clapper rail sora
Order Charadriiformes	Shorebirds, Gulls, and Relatives
Fa mily Charadriidae <i>Charadrius vociferous</i> <sup>1,2,3</sup>	killdeer
Fam ily Scolopacidae <i>Tringa melanoleuca</i> <sup>2</sup>	greater yellowlegs
Fam ily Laridae <i>Larus californicus</i> <sup>3</sup> <i>Larus delawarensis</i> <sup>3</sup> <i>Larus occidentalis</i> <sup>1,3</sup> <i>Sterna caspia</i> <sup>3</sup> <i>Sterna forsteri</i> <sup>2,3</sup>	California gull ring-billed gull western gull Caspian tern Forster's tern
Order Columbiformes	Doves and Pigeons
Fam ily Columbidae <i>Columba livia</i> <sup>2,3</sup> <i>Zenaida macroura</i> <sup>1,2,3</sup>	rock pigeon mourning dove
Order Strigiformes	Owls
Fam ily Strigidae <i>Otus kennicottii</i> <sup>1</sup>	western screech owl
Order Apodiformes	Swifts and Hummingbirds
Fam ily Apodidae <i>Aeronautes saxatalis</i> <sup>1,2</sup> <i>Chaetura vauxi</i> <sup>2</sup> <b>(SSC)</b>	white-throated swift Vaux's swift
Fam ily Trochilidae <i>Calypte anna</i> <sup>1,2,3</sup> <i>Calypte costae</i> <sup>2</sup>	Anna's hummingbird Costa's hummingbird

Scientific Names	Common Names
Order Coraciiformes	Kingfishers and Relatives
Fam ily Alcedinidae <i>Ceryle alcyon</i> <sup>2,3</sup>	belted kingfisher
Order Piciformes	Woodpeckers and Relatives
Fam ily Picidae <i>Picoides nuttallii</i> <sup>1,2,3</sup>	Nuttall's woodpecker
Order Passeriformes	Perching Birds
Family Tyrannidae	
<i>Contopus sordidulus</i> <sup>1</sup>	western wood-pewee
<i>Empidonax difficilis</i> <sup>1</sup>	pacific-slope flycatcher
<i>Empidonax traillii</i> <sup>1</sup> (SE)	willow flycatcher
<i>Myiarchus cinerascens</i> <sup>1,2,3</sup>	ash-throated flycatcher
<i>Sayornis nigricans</i> <sup>1,2,3</sup>	black phoebe
Ty rannus verticalis <sup>2,3</sup> western	kingbird
Ty rannus vociferans <sup>2</sup> Cassin'	s kingbird
Family Hirundinidae	
<i>Hirundo pyrrhonota</i> <sup>2,3</sup>	cliff swallow
<i>Riparia riparia</i> <sup>1</sup>	bank swallow
<i>Stelgidopteryx serripennis</i> <sup>1,2,3</sup>	northern rough-winged swallow
<i>Tachycineta thalassina</i> <sup>1</sup>	violet-green swallow
Family Corvidae	
<i>Apelocoma coerulescens</i> <sup>1,2</sup>	scrub-jay
<i>Corvus brachyrhynchos</i> <sup>1,2,3</sup>	American crow
<i>Corvus corax</i> <sup>1,2</sup>	common raven
Family Aegithalidae	
<i>Psaltriparus minimus</i> <sup>1,2,3</sup>	bushtit
Family Troglodytidae	
<i>Cistothorus palustris</i> <sup>1,2,3</sup>	marsh wren
<i>Thryomanes bewickii</i> <sup>1,2,3</sup>	Bewick's wren
<i>Troglodytes aedon</i> <sup>2</sup>	house wren
Family Muscicapidae	
<i>Catharus ustulatus</i> <sup>1</sup>	Swainson's thrush
<i>Chamaea fasciata</i> <sup>1,2</sup>	wrentit
<i>Sialia mexicana</i> <sup>2</sup>	western bluebird
Family Mimidae	
<i>Mimus polyglottos</i> <sup>2,3</sup>	northern mockingbird
<i>Toxostoma redivivum</i> <sup>1</sup>	California thrasher

Scientific Names	Common Names
Family Laniidae	
<i>Lanius ludovicianus</i> <sup>2</sup> (SSC)	loggerhead shrike
Family Sturnidae	
<i>Sturnus vulgaris</i> <sup>2</sup>	European starling
Family Vireonidae	
<i>Vireo gilvus</i> <sup>1</sup>	warbling vireo
<i>Vireo huttoni</i> <sup>1</sup>	Hutton's vireo
<i>Vireo olivaceus</i> <sup>1</sup>	red-eyed vireo
Family Emberizidae	
<i>Carduelis psaltria</i> <sup>1,2,3</sup>	lesser goldfinch
<i>Carduelis tristis</i> <sup>1,2</sup>	American goldfinch
<i>Carpodacus mexicanus</i> <sup>1,2,3</sup>	house finch
<i>Dendroica nigrescens</i> <sup>1</sup>	black-throated grey warbler
<i>Dendroica coronata</i> <sup>1,2</sup>	yellow-rumped warbler
<i>Dendroica petechia</i> <sup>1,2</sup> (SSC)	yellow warbler
<i>Dendroica townsendi</i> <sup>1</sup>	Townsend's warbler
<i>Geothlypis trichas</i> <sup>1,2,3</sup>	common yellowthroat
<i>Wilsonia pusilla</i> <sup>1,2</sup>	Wilson's warbler
<i>Icteria virens</i> <sup>1,2</sup> (SSC)	yellow-breasted chat
<i>Icterus galbula</i> <sup>1</sup>	northern oriole
<i>Melospiza melodia</i> <sup>1,2,3</sup>	song sparrow
<i>Molothrus ater</i> <sup>1,2,3</sup>	brown-headed cowbird
<i>Passerculus sandwichensis</i> <i>beldingi</i> <sup>2,3</sup> (SE)	Belding's savannah sparrow
<i>Chondestes grammacus</i> <sup>2</sup>	lark sparrow
<i>Passerina amoena</i> <sup>1,2</sup>	lazuli bunting
<i>Guiraca caerulea</i> <sup>2</sup>	blue grosbeak
<i>Pheucticus melanocephalus</i> <sup>1,2,3</sup>	black-headed grosbeak
<i>Pipilo crissalis</i> <sup>1,2,3</sup>	California towhee
<i>Pipilo erythrophthalmus</i> <sup>1</sup>	rufous-sided towhee
<i>Pipilo maculatus</i> <sup>2,3</sup>	spotted towhee
<i>Vermivora celata</i> <sup>1,2,3</sup>	orange-crowned warbler
<i>Zonotrichia leucophrys</i> <sup>3</sup>	white-crowned sparrow
Family Icteridae	
<i>Agelaius phoeniceus</i> <sup>1,2,3</sup>	red-winged blackbird
<i>Euphagus cyanocephalus</i> <sup>2,3</sup>	Brewer's blackbird

Scientific Names	Common Names
<b>Mammals</b>	
Order Marsupialia	Marsupials
Fam ily Didelphidae <i>Didelphis virginiana</i> <sup>1(R), 2</sup>	Virginia opossum
Order Lagomorpha	Rabbits, Hares, and Pikas
Fam ily Leporidae <i>Sylvilagus audubonii</i> <sup>1(T), 2(T)</sup>	Audubon's cottontail
Order Rodentia	Squirrels, Rats, Mice, and Relatives
Fam ily Sciuridae <i>Spermophilus beecheyi</i> <sup>1(T), 2(T)</sup>	California ground squirrel
Fam ily Heteromyidae <i>Chaetodipus fallax fallax</i> <sup>2 (SSC)</sup>	northwestern San Diego pocket mouse
Fam ily Cricetidae <i>Neotoma lepida intermedia</i> <sup>2 (SSC)</sup>	San Diego desert woodrat
Order Carnivora	Carnivores
Fam ily Canidae <i>Canis latrans</i> <sup>1(T), 2(T)</sup>	coyote
Fam ily Felidae <i>Felis rufus</i> <sup>1(T)</sup>	bobcat
Fam ily Mustelidae <i>Spilogale gracilis</i> <sup>1(T)</sup>	western spotted skunk
Fam ily Procyonidae <i>Procyon lotor</i> <sup>1(T)</sup>	raccoon
Order Artiodactyla	Even-toed Ungulates
Fam ily Cervidae <i>Odocoileus hemionus</i> <sup>1(T), 2</sup>	mule deer

<sup>1</sup> Indicates those species detected during EDAW 2007/2008 surveys.

<sup>2</sup> Indicates those species detected during URS 2003 - 2005 surveys.

<sup>3</sup> Indicates those species detected during KBS 2007 surveys.

**(FE)** Indicates species is listed as endangered under the federal Endangered Species Act

**(SE)** Indicates species is listed as endangered under the California Endangered Species Act

**(SSC)** Indicates California Department of Fish and Game species of special concern

**(FP)** Indicates California Department of Fish and Game fully protected species

<sup>C</sup> Indicates that only the call of this species was heard.

<sup>R</sup> Indicates that only the remains of this species were detected.

<sup>T</sup> Indicates that only the tracks of this species were detected.

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**Appendix D 45-Day Report Summarizing  
Results of Focused Surveys for the Coastal  
California Gnatcatcher for the Proposed  
Interstate 5/State Route 56 Interchange  
Project, City of San Diego, California**

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January 12, 2009

Ms. Sandy Marquez  
Recovery Permit Coordinator  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road, Suite 101  
Carlsbad, California 92011

**RE: 45-Day Report Summarizing Results of Focused Surveys for the Coastal California Gnatcatcher for the Proposed Interstate 5/State Route 56 Interchange Project, City of San Diego, California**

Dear Ms. Marquez:

This letter summarizes results of focused protocol surveys conducted by EDAW, Inc. (EDAW) to determine the presence or absence of the coastal California gnatcatcher (*Polioptila californica californica*; CAGN) within the proposed Interstate 5 (I-5)/State Route 56 (SR-56) interchange project area. Surveys were conducted on behalf of San Diego Association of Governments (SANDAG) and the California Department of Transportation (Caltrans).

### **Project Description**

Caltrans, in cooperation with SANDAG, the Federal Highway Administration (FHWA), and the City of San Diego, is proposing a project that would result in improvements to a freeway interchange located in San Diego County (Figure 1). The purpose of the proposed I-5/SR-56 interchange project is to improve the existing and future operations along the I-5 and SR-56 corridors between Del Mar Heights Road, Carmel Valley Road, and Carmel Country Road in order to improve the safe and efficient local and regional movement of people and goods, while minimizing environmental and community impacts for the planning design year of 2030. The proposed project site is located at the I-5 and SR-56 freeway interchange, in the City of San Diego, California (Figure 2).

### **Site Description**

The project site runs along the I-5 freeway beginning approximately 0.3 mile south of the interchange with SR-56 and extends northward for approximately 3.1 miles. In addition, the project site includes a stretch that begins approximately 0.3 mile west of the I-5/SR-56 interchange and continues eastward for approximately 3.1 miles. These two components were analyzed for potential CAGN habitat and protocol surveys were conducted only along the lower portion that encompasses the I-5/SR-56 interchange and the portion along SR-56. The project site, plus a 500-foot survey buffer around the site, constitutes the survey area. The majority of the survey area consists of Carmel Creek, which parallels SR-56 on the south side of the freeway. Carmel Creek is vegetated with riparian woodland vegetation along the central portion of the creek, which transitions into riparian scrub along the banks of the creek. Vegetation within Carmel Creek is dominated by willow species (*Salix* spp.), Fremont cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), coyote brush (*Baccharis pilularis*), and alder (*Alnus rhombifolia*). The areas within the survey area that were surveyed for CAGN consist of small patches of disturbed maritime chaparral transitioning into coastal sage scrub. This habitat lies in patchy locations adjacent to riparian vegetation between Carmel Creek and SR-56, along various slopes near two major bridges, and between developed habitats (Figure 2). Vegetation within these CAGN survey areas is dominated by coastal sage (*Artemisia californica*), coyote brush, Menzies' goldenbush (*Isocoma menziesii*), and alder. Elevation of the survey area ranges from approximately 15 to 60 feet above mean sea level (MSL).

Ms. Sandy Marquez  
Recovery Permit Coordinator  
Carlsbad Fish and Wildlife Office  
January 12, 2009  
Page 2

### **Background Information**

The CAGN, a subspecies of the California gnatcatcher (*Polioptila californica*), is federally listed as threatened by the U.S. Fish and Wildlife Service (USFWS 1993) and is considered a species of special concern by the California Department of Fish and Game (CDFG). The CAGN is an uncommon year-round resident of southern California. This species is declining proportionately with the continued loss of coastal sage scrub habitat in the six southern California counties (San Bernardino, Ventura, Los Angeles, Orange, San Diego, and Riverside) located within the coastal plain.

The primary cause of the CAGN's decline is the cumulative loss of coastal sage scrub vegetation to urban and agricultural development. Studies suggest that the CAGN may be highly sensitive to the effects of habitat fragmentation and development activity (Atwood 1990; ERCE 1990). The USFWS has estimated that coastal sage scrub habitat has been reduced by 70 to 90 percent of its historical extent (USFWS 1991) and little of what remains is protected in natural open space.

The CAGN generally inhabits Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush (*Artemisia californica*) and flat-topped buckwheat (*Eriogonum fasciculatum*), generally below 1,500 feet in elevation along the coastal slope. When nesting, the CAGN typically avoids slopes greater than 25 percent with dense, tall vegetation. CAGN pairs will attempt several nests each year, each placed in a different location inside their breeding territory, but most nest attempts are unsuccessful due to depredation by a variety of species (Atwood and Bontrager 2001). Clutch size ranges from one to five eggs, with three or four eggs most common. CAGN will remain paired through the nonbreeding season and will generally expand their home range when not breeding.

The CAGN is particularly vulnerable to habitat destruction and fragmentation because of poor dispersal, reliance on a specific habitat type, and difficulty in successful breeding. Juvenile CAGNs tend to remain close to their natal territories. On average, juveniles disperse less than 1.2 miles from their natal territories, making colonization of distant habitat patches difficult. CAGNs are closely tied to coastal sage scrub and have been described as "obligate residents of coastal sage scrub" (Atwood and Bontrager 2001). The CAGN typically experiences a high rate of nest failure with an annual mean number of four nest attempts per pair in San Diego County (Grishaver et al. 1998). The CAGN tends to have slightly smaller clutches in years with poor rainfall and will experience a higher rate of mortality during cold winters (Grishaver et al. 1998; Atwood and Bontrager 2001).

Critical habitat was designated for the CAGN in 2000, and according to the USFWS, no critical habitat was identified within or adjacent to the project site. According to the CDFG California Natural Diversity Data Base (CNDDB), the closest known CAGN occurrence to the project site is 0.40 mile southeast of the I-5/SR-56 interchange and 0.23 mile south of SR-56, in 2005 (CDFG 2008).

### **Survey Methodology**

Prior to conducting focused CAGN surveys in 2008, vegetation and general wildlife habitats were mapped by qualified EDAW biologists within the survey area. These survey results were combined and analyzed to determine areas of suitable CAGN habitat within and adjacent to the survey area (Figure 3). All suitable CAGN habitat within the survey area was surveyed for CAGN.

Three focused, protocol-level CAGN surveys occurred between August 7 and August 25, 2008, within the survey area. These surveys followed the current USFWS survey protocol for the species, dated February 28, 1997 (and as amended July 28, 1997; USFWS 1997). CAGN surveys were conducted between 6 AM and 12 PM according to protocol requirements. EDAW biologist Andrew Fisher conducted surveys under Endangered Species Permit

Ms. Sandy Marquez  
 Recovery Permit Coordinator  
 Carlsbad Fish and Wildlife Office  
 January 12, 2009  
 Page 3

TE-820658-4. The protocol requires only three surveys to be conducted because the area occurs within the boundaries of the City of San Diego and is subject to the provisions of the San Diego County Multiple Species Conservation Program (County of San Diego 1997).

The surveys consisted of walking meandering transects through potential CAGN habitat, including all scrub associations and uplands. Mr. Fisher conducted passive surveillance (i.e., listening and looking for the species) in all habitats with potential to support CAGN. If an observation was not made after approximately 5 to 10 minutes of passive survey activity, a taped vocalization of the CAGN was played for approximately 5 to 10 seconds (i.e., active survey activity), followed by another period of passive observation.

**Results**

Table 1 shows survey dates, time, weather conditions, personnel, and recorded CAGN observations for protocol surveys conducted for the survey area. Three surveys were conducted following the survey guidelines (USFWS 1997), beginning on August 7, 2008, and terminating on August 25, 2008. Field notes are presented in Appendix A.

**Table 1**  
**Coastal California Gnatcatcher Surveys**  
**Dates, Time, Weather Conditions, Personnel, and Observations**

Week Number	Survey Date	Time	Weather Conditions	Survey Personnel	CAGN Observations
1	8/7/2008	0700 – 1100	Start: 74.2°F, 0.6 mph wind, 100% cloud cover End: 91.7°F, calm, 0% cloud cover	Andrew Fisher	No CAGN detected
2	8/18/2008	0630 – 0920	Start: 69.7°F, 1.4 mph wind, 100% cloud cover End: 80.9°F, 1.0 mph wind, 0% cloud cover	Andrew Fisher	No CAGN detected
3	8/25/2008	0700 – 0950	Start: 69°F, 0.7 mph wind, 100% cloud cover End: 75°F, E 1.1 mph wind, 70% cloud cover	Andrew Fisher	No CAGN detected

Mr. Fisher surveyed all potential CAGN habitat at this site in 1 day during each survey period. Surveys generally began at the southwestern end of the survey area, proceeded east along the south side of SR-56 until the southeastern terminus of the survey area was reached, and ended at the westernmost section of potential CAGN habitat on the north side of SR-56. Call-back tapes were played approximately every 10 to 15 minutes from at least two points in each separate CAGN survey area.

No CAGN were detected during protocol surveys in 2008. One bird species designated as a state species of special concern, the yellow-breasted chat (*Icteria virens*), was detected within the survey area during focused CAGN surveys (Figure 3).

Locations of sensitive wildlife species detected during CAGN surveys are presented in Figure 3. Field data sheets are presented in Appendix A. A list of all wildlife species detected during protocol CAGN surveys is presented in Appendix B.

**Discussion**

The habitat within the project site was considered low-quality CAGN habitat. There was evidence of recent past disturbance and the majority of suitable habitat had low shrub height and cover. There was little potential

Ms. Sandy Marquez  
Recovery Permit Coordinator  
Carlsbad Fish and Wildlife Office  
January 12, 2009  
Page 4

breeding habitat on-site, which was dominated by maritime chaparral instead of the CAGN preferred coastal sage. The habitat within the project site was not connected to known locations of CAGN populations. Habitat was fragmented between various roads, riparian vegetation, bridges, and multiuse trails. Habitat on-site did not appear to function as part of a dispersal corridor for CAGN due to fragmentation. Traffic noise was a considerable issue for both hearing CAGN vocalizations, and for CAGN potentially hearing the play-back tape. When possible, the tape was played during periods of low traffic noise, but the effective audible distance was still small. The surveys were conducted in the late portion of the CAGN breeding season (from mid to end of August) and potentially any CAGN that were using the habitat for dispersing had already passed through. In general, the habitat on-site was considered unsuitable to support breeding CAGN and unlikely to function as a dispersal corridor. A total of 32 bird species were detected during CAGN surveys.

### **Certification Statement**

Qualified EDAW biologists who conducted CAGN surveys for the proposed I-5/SR-56 interchange project certify that the information in this survey report fully and accurately represents the work performed by EDAW biologists. Signatures of current EDAW biologists (Andrew Fisher) who conducted the protocol surveys are included below. The results of focused surveys for listed species are typically considered valid for one year by the resource agencies. If you have any questions or require additional information, please feel free to contact me at (619) 233-1454.

Yours sincerely,



Andrew Fisher  
Wildlife Biologist

Attachments: Figure 1 – Regional Location Map  
Figure 2 – Vicinity Map  
Figure 3 – Survey Results  
Appendix A – Field Notes  
Appendix B – Wildlife Species Detected During CAGN Surveys

08080096 I5-SR56 CAGN 45-Day Rpt Jan 2009

Ms. Sandy Marquez  
Recovery Permit Coordinator  
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January 12, 2009  
Page 5

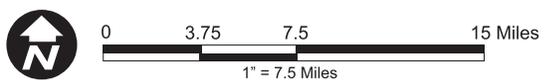
### **Literature Cited**

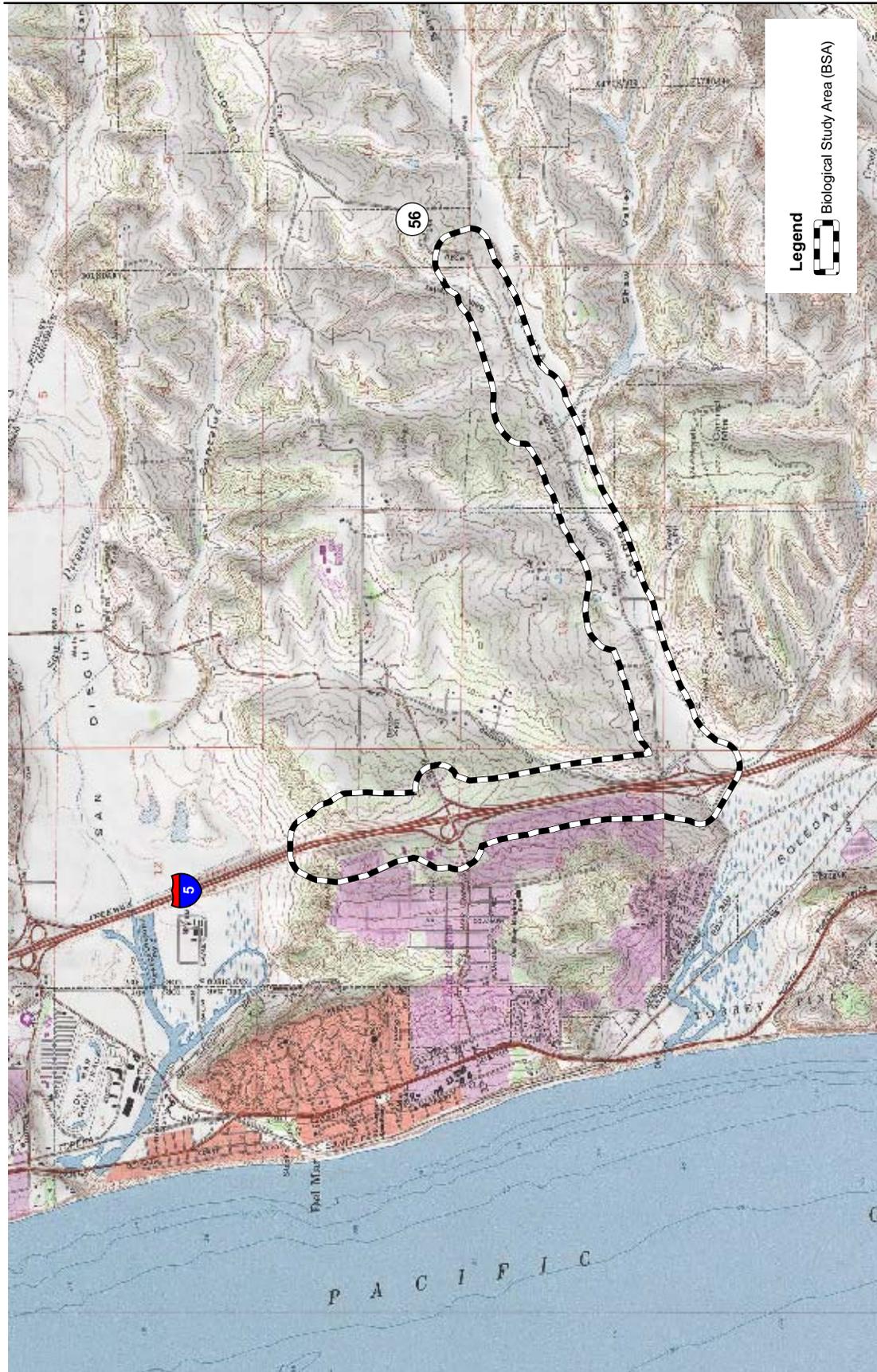
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## FIGURES

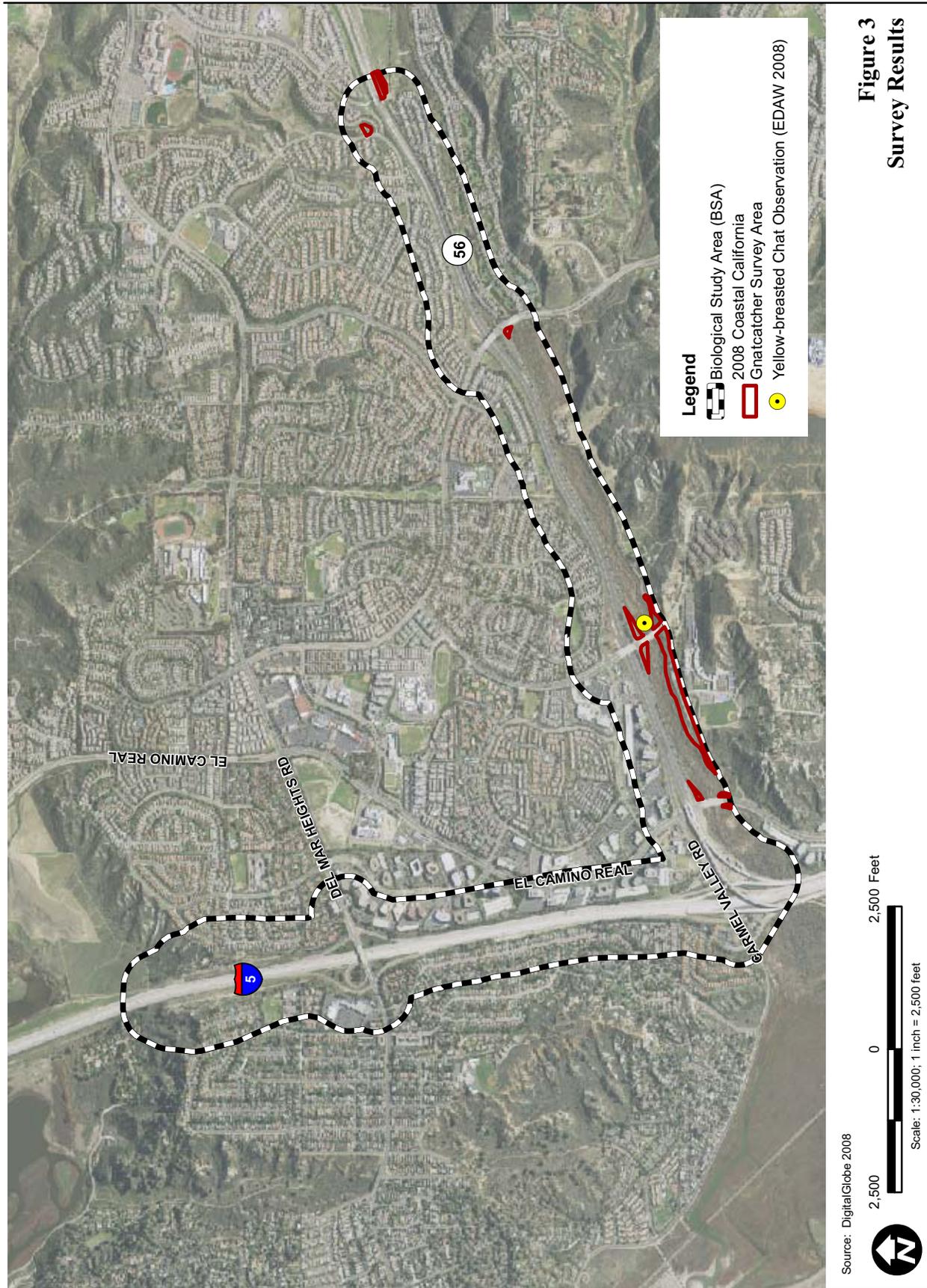


**Figure 1**  
**Regional Location Map**





**Figure 2**  
**Vicinity Map**



**Figure 3**  
**Survey Results**

**APPENDIX A**  
**FIELD NOTES**

CAGN SURVEYS

Recorder: RFZ Add'l Person: — GPS Unit: BTF6.4  
 Project: 50-50 Survey Section: TH Map #: 1  
 Date: 8/07/08 Survey Type: CAGN Survey 1 of 3  
 Time Start: 0700 Time End: 1100  
 Start T: 74.2 CC: 100% Wind Sp/Dir: 0.6 mph W General Weather Condition: Overcast, muggy  
 End T: 91.7 CC: 0 Wind Sp/Dir: 0 General Weather Condition: Sunny, hot

Map/ GPS #	Time	Species	Age	Sex	Point Type	Comments
		CALT	AJU	MFU		
		COYE	AJU	MFU		
		Cottontail	AJU	MFU		
		WPCEN	AJU	MFU		
		BUSH	AJU	MFU		
		HOFI	AJU	MFU		
		LEGO	AJU	MFU		
		SOSP	AJU	MFU		
		ANNU	AJU	MFU		
		BLPH	AJU	MFU		
		DOWN	AJU	MFU		
		MOOD	AJU	MFU		
		WSTRA	AJU	MFU		
		NUWD	AJU	MFU		
		CLSN	AJU	MFU		
		WTST	AJU	MFU		Western Tiger Swallowtail
		RGnd Eg.	AJU	MFU		
		CREG	AJU	MFU		
		PBGR	AJU	MFU		
		MAIL	AJU	MFU		
		AMCO	AJU	MFU		
		Western Fence	AJU	MFU		
		RWBB	AJU	MFU		
		Carolina Chickadee	AJU	MFU		
		Chickadee	AJU	MFU		
		BEAR	AJU	MFU		Small, very quiet
		SABU	AJU	MFU		of little bird
		ETHR	AJU	MFU		activity, very few
		AMER	AJU	MFU		birds vocalizing.
			AJU	MFU		





## **APPENDIX B**

### **WILDLIFE SPECIES DETECTED DURING CAGN SURVEYS**

**APPENDIX B**  
**Wildlife Species Detected During CAGN Surveys**

Scientific Name	Common Name
<b>INVERTEBRATES</b>	
Order Lepidoptera	Insects and Butterflies
Family Papilionidae	
<i>Papilio rutulus</i>	western tiger swallowtail
Family Pieridae	
<i>Pontia protodice</i>	checkered white
<i>Pontia sp.</i>	white species
Family Lycaenidae	
<i>Leptotes marina</i>	marine blue
<i>blue sp.</i>	blue species
Family Nymphalidae	
<i>Limenitis lorquini</i>	Lorquin's admiral
<b>AMPHIBIANS</b>	
<b>REPTILES</b>	
Order Squamata	Lizards and Snakes
Family Phrynosomatidae	
<i>Sceloporus occidentalis</i>	western fence lizard
<b>BIRDS</b>	
Order Gaviiformes	Grebes
Family Podicipedidae	
<i>Podilymbus podiceps</i>	pieb-billed grebe
Order Ciconiiformes	Hérons, Storks, Ibises, and Relatives
Family Ardeidae	
<i>Ardea herodias</i>	great blue heron
<i>Ardea alba</i>	great egret
Order Anseriformes	Screamers, Ducks, and Relatives
Family Anatidae	
<i>Anas platyrhynchos</i>	mallard
Order Falconiformes	Diurnal Birds of Prey
Family Accipitridae	
<i>Buteo jamaicensis</i>	red-tailed hawk
Order Galliformes	Magapodes, Curassows, Pheasants, and Relatives
Family Odontophoridae	
<i>Callipepla californica</i>	California quail
Order Gruiformes	Cranes, Rails, and Relatives
Family Rallidae	
<i>Fucila americana</i>	American coot
Order Columbiformes	Pigeons and Doves
Family Columbidae	
<i>Zenaida macroura</i>	mourning dove
Order Apodiformes	Hummingbirds and Swifts
Family Trochilidae	
<i>Calypte anna</i>	Anna's hummingbird
Order Piciformes	Woodpeckers
Family Picidae	
<i>Picoides nuttallii</i>	Nuttall's woodpecker
<i>Picoides pubescens</i>	downy woodpecker

<b>Scientific Name</b>	<b>Common Name</b>
Order Passeriformes	Song birds
Family Tyrannidae	
<i>Sayornis nigricans</i>	black phoebe
Family Corvidae	
<i>Aphelocoma californica</i>	western scrub jay
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
Family Hirundinidae	
<i>Petrochelidon pyrrhonota</i>	cliff swallow
Family Aegithalidae	
<i>Psaltriparus minimus</i>	bushtit
Family Troglodytidae	
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Troglodytes aedon</i>	house wren
Family Timaliidae	
<i>Chamaea fasciata</i>	wrentit
Family Mimidae	
<i>Toxostoma redivivum</i>	California thrasher
Family Parulidae	
<i>Geothlypis trichas</i>	common yellowthroat
<i>Icteria virens</i> *	yellow-breasted chat
Family Emberizidae	
<i>Melospiza melodia</i>	song sparrow
<i>Pipilo crissalis</i>	California towhee
<i>Pipilo maculatus</i>	spotted towhee
Family Cardinalidae	
<i>Passerina amoena</i>	lazuli bunting
<i>Pheucticus melanocephalus</i>	black-headed grosbeak
<i>Passerina caerulea</i>	blue grosbeak
Family Icteridae	
<i>Agelaius phoeniceus</i>	red-winged blackbird
Family Fringillidae	
<i>Carduelis psaltria</i>	lesser goldfinch
<i>Carpodacus mexicanus</i>	house finch
<b>MAMMALS</b>	
Order Lagomorpha	Rabbits, Hares, and Pikas
Family Leporidae	
<i>Sylvilagus audubonii</i>	Audobon's cottontail
Order Rodentia	Rodents
Family Scuridae	
<i>Spermophilus beecheyi</i>	California ground squirrel

\*Sensitive Wildlife Species/Species of Special Concern

**Appendix E** Results of Focused Protocol  
Surveys for the Least Bell's Vireo and  
Southwestern Willow Flycatcher along State  
Route 56 at Interstate 5, San Diego County,  
Calif., 2007

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December 27, 2007

Ms. Sue Scatolini  
California Department of Transportation, District 11  
Environmental Division, MS 242  
4050 Taylor Street  
San Diego, California 92110

Dear Ms. Scatolini:

**Subject: Results of Focused Protocol Surveys for the Least Bell's Vireo and Southwestern Willow Flycatcher along State Route 56 at Interstate 5, San Diego County, Calif., 2007**

This letter report presents the results of focused protocol-level field surveys for the federally and state-listed endangered least Bell's vireo (*Vireo bellii pusillus* - LBV) and southwestern willow flycatcher (*Empidonax traillii extimus* - SWFL) for the proposed improvements by Caltrans associated with State Route 56 (SR-56) at Interstate 5 (I-5) in San Diego County, California. Surveys for LBV and SWFL were conducted by EDAW wildlife biologists Lyndon Quon, Suellen Lynn, Barbra Calantas, Erin Riley, Mason Ryan, Andrea Currylow, Paul Moreno, and Christopher Ward.

## **INTRODUCTION**

### Southwestern Willow Flycatcher

The SWFL is a federally listed endangered subspecies of the willow flycatcher. The state recognizes the willow flycatcher (including all subspecies) occurring within California as a state-listed endangered species. The SWFL is also a covered species under the City of San Diego's Multiple Species Conservation Plan (MSCP). It is often restricted to willow-dominated riparian habitats, usually in proximity to water. However, nesting by the SWFL has also been documented in nonwillow riparian habitats, including native riparian vegetation dominated by other broadleaf species such as cottonwoods (*Populus* spp.), boxelder (*Acer negundo*), ash (*Fraxinus* spp.), and alder (*Alnus* spp.). The SWFL can also nest in nonnative habitats dominated by saltcedar (*Tamarix* sp.) or Russian olive (*Elaeagnus angustifolia*). In the southwestern United States, this subspecies' range is limited to a few major river drainages, with the largest population in southern California located on the south fork of the Kern River in Kern County. Within the San Diego County region, breeding SWFL are located primarily within the northern portion of the County, on Marine Corps Base (MCB) Camp Pendleton, and along the San Luis Rey River.

### Least Bell's Vireo

The LBV is a federally listed endangered and state-listed endangered species within its breeding range and is covered under the MSCP. It is limited to semi-open willow-mulefat-dominated riparian woodlands with dense shrub understory in southern California and northern Baja California, Mexico. Within San Diego County, there is only one major population, located in Oceanside/MCB Camp

Pendleton at the San Luis Rey River and Pilgrim Creek, and several smaller populations on other drainages throughout the County.

## **PROJECT LOCATION**

Caltrans proposes improvements to SR-56 in the vicinity of the SR-56 and I-5 interchange, in San Diego, California. The Caltrans I-5 / SR-56 Improvements project site is located at the western terminus of SR-56, in San Diego County, California (Figures 1 and 2). The survey area included the riparian vegetation south of SR-56, along Carmel Creek, between I-5 and Carmel Creek Road. Specifically, the Caltrans I-5 / SR-56 Improvements project site is located within Township 14 South, Range 3 West, Sections 19 and 30 of the U.S. Geological Survey Del Mar, CA 7.5-minute quadrangle map.

## **PROJECT SITE DESCRIPTION**

The survey area along Carmel Creek is vegetated with riparian woodland vegetation along the central portion of the drainage, and transitioning into riparian scrub along the banks of the creek. Vegetation within Carmel Creek was dominated by willow species (*Salix* spp.), also with occurrences of Fremont cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), coyote brush (*Baccharis pilularis*), and alder (*Alnus rhombifolia*). The age classes of the riparian vegetation varied throughout the survey area, with the more mature stands occurring on the eastern end of the creek, and stands of primarily mid-successional riparian habitat occurring on the western end of the survey area. Elevation of the survey area ranges from approximately 15 to 60 feet above mean sea level (MSL).

## **METHODS**

Survey methodologies followed guidelines established by the U.S. Geological Service (USGS) for the SWFL, and the U.S. Fish and Wildlife Service (USFWS) for the LBV (Sogge et al. 1997; USFWS 2000, 2001). Qualified EDAW biologists, surveying under a valid USFWS permit (TE-820658-4) walked meandering transects through and adjacent to riparian habitats suitable for SWFL and/or LBV, occasionally using a tape playback of SWFL vocalizations, in an attempt to elicit a response. No tape playback of LBV vocalizations was used at any time during the surveys, as only passive, auditory surveys were conducted for the species. If either species was observed or detected, the location would have been documented on both a field map and in a Geographic Positioning System (GPS).

A summary of the environmental conditions on the survey dates is provided in Table 1.

## **RESULTS**

No SWFL or LBV were observed or detected during the protocol surveys. During the course of the surveys, the locations of all brown-headed cowbirds (*Molothrus ater*) were documented, and are displayed on Figure 3. Copies of all field notes are included with this letter report as Attachment A. Wildlife species observed or detected during the surveys are summarized in Attachment B.

**Table 1. Summary of Weather Conditions During Focused Protocol Surveys for the Least Bell’s Vireo and Southwestern Willow Flycatcher along State Route 56 at Interstate 5, San Diego County, California, 2007**

Survey	Date	Surveyors <sup>1</sup>	Time	Weather Conditions
LBV #1	30 April 2007	SL, MR	0725-0955	Overcast skies, 61.5-63.7°F, no precipitation, wind 0.0-2.0 mph
LBV #2	10 May 2007	ER, MR	0640-0955	Overcast skies, 59.5-64.9°F, no precipitation, wind 1.0-1.6 mph
LBV #3	21 May 2007	MR, AC	0630-1100	Overcast skies, 60.0°F, no precipitation, no wind
SWFL #1	30 March 2007	LQ	0630-0830	Overcast skies, 60.7-67.0°F, no precipitation, wind 0.0-1.5 mph
LBV #4	6 June 2007	BC, AC	0600-0830	Patchy clouds, 53.2°F, no precipitation, wind 0.9-1.8 mph
SWFL #2 & LBV #5	18 June 2007	SL, ER	0632-0900	Overcast skies, 61.3-68.8°F, no precipitation, wind 1.7-5.4 mph
SWFL #3 & LBV #6	28 June 2007	LQ, PM	0710-0950	Overcast skies, 67.4-76.7°F, no precipitation, wind 0.0-2.0 mph
SWFL #4 & LBV #7	9 July 2007	LQ, CW	0700-0930	Overcast skies, 59.5-68.6°F, no precipitation, wind 0.0-1.7 mph
SWFL #5	17 July 2007	LQ	0715-1000	Overcast skies, 65.5-74.0°F, no precipitation, wind 0.0-2.3 mph
LBV #8	27 July 2007	LQ	0700-1100	Sunny and clear skies, 67.6-86.0°F, no precipitation, wind 1.2-4.9 mph

<sup>1</sup> AC – Andrea Currylow  
 BC – Barbra Calantas  
 ER – Erin Riley  
 LQ – Lyndon Quon  
 MR – Mason Ryan  
 PM – Paul Moreno  
 SL – Suellen Lynn

## DISCUSSION

### Least Bell’s Vireo Natural History

The Bell’s vireo breeds from southern California and southern Nevada to central North Dakota, Iowa, Indiana, and Arkansas southward to northern Mexico and winters in southern Mexico. The least Bell’s vireo is the westernmost subspecies of the Bell’s vireo. It breeds entirely within California and northern Baja California and winters in southern Baja California, Mexico.

The least Bell’s vireo breeding season extends from March through September. During the breeding season, the least Bell’s vireo is restricted to riparian woodland and riparian scrub. In San Diego County, it occurs mainly in coastal lowland, rarely up to 914 m (3,000 ft) elevation.

Least Bell's vireos are extremely vulnerable to brown-headed cowbird parasitism. In some areas, even with cowbird management, up to 43 percent of nests are parasitized, of which, on average, 29 percent are abandoned (Kus 2002). Territory size ranges from 0.2 to 3.0 ha (0.5 to 7.5 ac) and there is evidence of high site fidelity among adults (Kus 2002). Early to mid-successional riparian habitat is typically used for nesting by this vireo because it supports the dense shrub cover required for nest concealment as well as a structurally diverse canopy for foraging (Kus 2002).

### Southwestern Willow Flycatcher Natural History

The willow flycatcher breeds across southern Canada through the middle United States and in isolated populations in California. It winters in Central and South America. There are three willow flycatcher subspecies in California, including the southwestern willow flycatcher, which breeds in California from the Mexican border north to Independence in the Owens Valley, the South Fork Kern River, and the Santa Ynez River in Santa Barbara County and appears to winter from Guatemala to Costa Rica (Craig and Williams 1998). In San Diego County, this species is known to breed annually only along the Santa Margarita River and between Lake Henshaw and the La Jolla Indian Reservation along the SLR River (Unitt 2004). There have been reports of additional scattered pairs at other riparian sites, but the largest colonies remain at the upper SLR River and along the Santa Margarita River in Camp Pendleton (Unitt 2004).

Estimated territory sizes range from 0.06 to 1.5 ha (0.1 to 3.7 ac) (Finch and Stoleson 2000). In terms of site fidelity, while male flycatchers return to former breeding areas, they may move among sites within the same drainage.

This species occurs in riparian woodland; specifically, the southwestern willow flycatcher breeds only in dense riparian vegetation near surface water or saturated soil. While breeding habitat is fairly restricted, characteristics such as dominant plant species, habitat patch size, and canopy structure may vary.

Breeding chronology is also variable but includes arrival on the breeding site in May to June, nest building between May and July, incubation during the period of May through July, chicks from June through August, and fledging and departure sometime between August and September (Finch and Stoleson 2000).

Brown-headed cowbird parasitism rates on southwestern willow flycatchers tend to be high but vary from population to population and year to year.

### Survey Results

No LBV or SWFL were observed at either site during the focused protocol surveys for both species, although suitable habitat exists within the survey area. Incidental observations of both LBV and SWFL have been documented for the project site. The LBV was documented by Caltrans biologists in June 2002, as one or two singing males (S. Scatolini, pers. com.), and the SWFL sighting occurred during the third LBV survey for the project. Since the SWFL was documented within the survey area for a brief period of time, during a period of active migration for the SWFL, it is likely that the species utilize

the habitats onsite as stop-over resting areas along their migratory path during the breeding season. As such, it is not expected that either species would nest within the riparian corridor adjacent to the project. However, since the 2002 data indicate the presence of LBV late in the season, it is likely that the project area supports sufficient native broadleaf vegetation cover to provide adequate habitat for the LBV. Based on historic data, the LBV has a moderate potential to occur onsite. However, the results of the current survey indicate that the site is suitable for the LBV, but currently unoccupied.

## REFERENCES CITED

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Ms. Susan Scatolini  
Caltrans, District 11  
December 27, 2007  
Page 6

## CERTIFICATION

Current qualified EDAW biologists who conducted least Bell's vireo and southwestern willow flycatcher surveys along State Route 56 at Interstate 5 certify that the information in this survey report fully and accurately represents the work performed by EDAW biologists. Signatures of current EDAW biologists (i.e., Barbra Calantas, Erin Riley, and Lyndon Quon) who conducted protocol surveys are included below. The results of focused surveys for listed species are typically considered valid for one year by the resource agencies. If you have any questions or require additional information, please contact me at (619) 233-1454.



Barbra Calantas  
Wildlife Biologist



Erin Riley  
Wildlife Biologist

Yours sincerely,

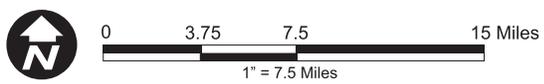
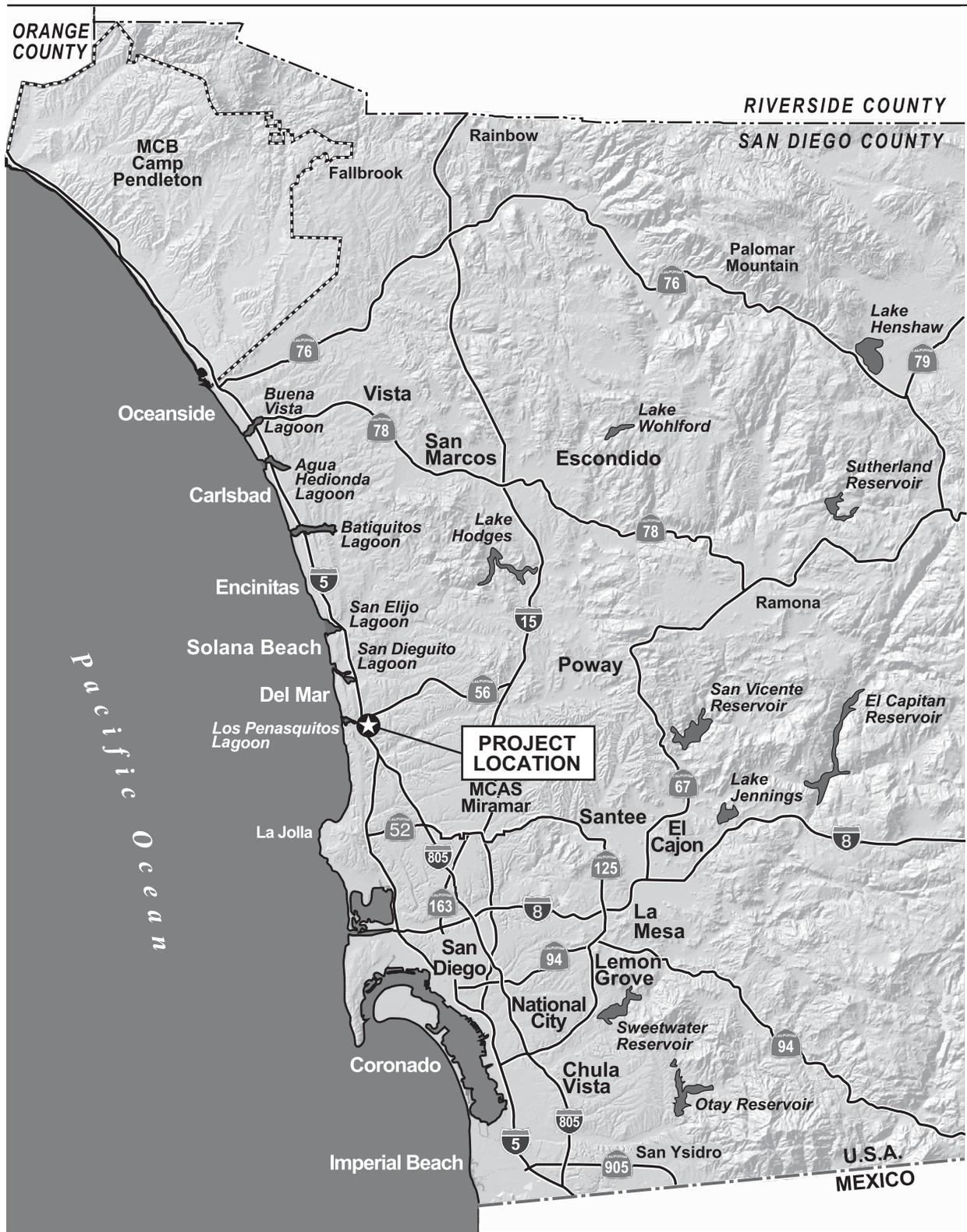


Lyndon Quon  
Senior Wildlife Biologist  
Lyndon.Quon@edaw.com

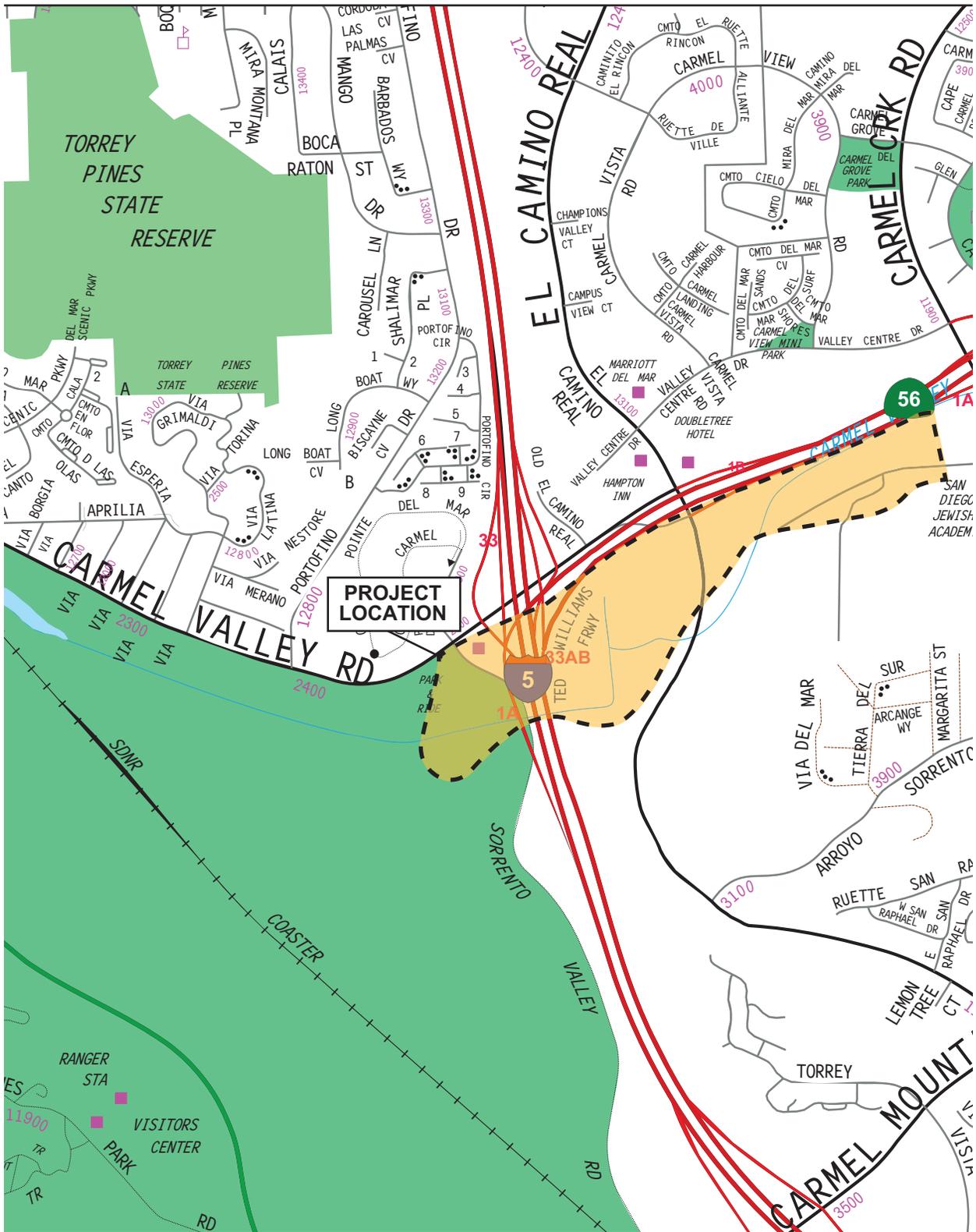
Attachments: Figure 1 – Regional Map  
Figure 2 – Vicinity Map  
Figure 3 – Survey Results  
A – Field Notes  
B – Wildlife Species Observed or Detected

07080129 LBV and SWFL Survey Letter Report\_Dec 2007.doc

## FIGURES



**Figure 1**  
**Regional Map**



**Figure 2**  
**Vicinity Map**

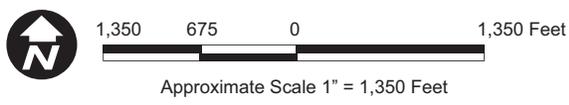




Figure 3  
Survey Results

**ATTACHMENT A**

**FIELD NOTES**

LBVI SURVEYS

Entered on 4/30/07

Recorder: Suellen Lynn Add'l Person: Mason Ryan GPS Unit: Garmin#2  
 Project: 51256 Survey Section: All Map #: 1  
 Date: 4/30/2007 Survey Type: LBVI Survey 1 of 8  
 Time Start: 0725 Time End: 0955

Start: T: 63 F CC: 100 Wind Sp/Dir: 0 - General Weather Condition: overcast, humid

Map/ GPS #	Time	Species	Age	Sex	Point Type	Comments
		HOFI	AJU	MFU		
		COYE	AJU	MFU		
		SOSP	AJU	MFU		
		SPTO	AJU	MFU		
		BUSH	AJU	MFU		
		ANHU	AJU	MFU		
		NRWS	AJU	MFU		
<sup>CB</sup> 56SLCB01	0729	BHCO	(A)JU	(M)FU	flying	
		WISW	AJU	MFU		
		WREN	AJU	MFU		
		CALT	AJU	MFU		
		WESC	AJU	MFU		
		BHGR	AJU	MFU		
		<sup>nest</sup> mammal	AJU	MFU		cat?
		OCWA	AJU	MFU		
		WAVI	AJU	MFU		
		AMCR	AJU	MFU		
<del>56SLCB02</del>	0745	BHCO	(A)JU	(M)FU		2
delete 236			AJU	MFU		
		BTGW	AJU	MFU		black-throated gray warbler
		WIWA	AJU	MFU		
		<del>BLPH</del>	AJU	MFU		
		WNPE	AJU	MFU		
		MODO	AJU	MFU		
		CAQU	AJU	MFU		
		<del>BEEN</del>	AJU	MFU		
		BEWR	AJU	MFU		
		MAWR	AJU	MFU		
		PSFL	AJU	MFU		
		CA and sp mixed	AJU	MFU		

End: T: 61.5 CC: 100 Wind Sp/Dir: 2. 0 W General Weather Condition: \_\_\_\_\_



### LBVI SURVEYS

Recorder: ERI Add'l Person: MRY GPS Unit: Mason's  
 Project: SL56 Survey Section: - Map #: -  
 Date: 051007 Survey Type: LBVI Survey 2 of 8  
 Time Start: 0640 Time End: 0955

Start: T: 59.5°F CC: 100% Wind Sp/Dir: 1.1 / 1.6 mph General Weather Condition: -

Map/ GPS #	Time	Species	Age	Sex	Point Type	Comments
		PSEL	AJU	MFU		
		SOSP	AJU	MFU		
		CORA	AJU	MFU		
		HOEI	AJU	MFU		
		COYE	AJU	MFU		
		BUSH	AJU	MFU		
		SPTD	AJU	MFU		
		LEGO	AJU	MFU		
		ANHU	AJU	MFU		
		BEWR	AJU	MFU		
		BHGB	AJU	MFU		
		NRW <sub>sw</sub>	AJU	MFU		
		WREN	AJU	MFU		
		CACT	AJU	MFU		
		WAVE	AJU	MFU		
		MAWR	AJU	MFU		
		W/WA	AJU	MFU		
		cottontail	AJU	MFU		
		GCWA	AJU	MFU		
56,MR4W0)		YEWA	AJU	MFU		
		WEST	AJU	MFU		
		RTHA	AJU	MFU		
		MALL	AJU	MFU		
		MOLSO	AJU	MFU		
		GRHE	AJU	MFU		
		Rail sp.	AJU	MFU		call heard only
		CATH	AJU	MFU		
		AMGO	AJU	MFU		
			AJU	MFU		
			AJU	MFU		

End: T: 64.9°F CC: 40% Wind Sp/Dir: 1.0 / 1.5 mph General Weather Condition: -



### LBVI SURVEYS

Recorder: A. Curnlow      Add'l Person: M. Ryan      GPS Unit: M. Ryan's  
 Project: SR-56 (07080129.02)      Survey Section: \_\_\_\_\_      Map #: \_\_\_\_\_  
 Date: 5-21-07      Survey Type: LBVI      Survey 3 of 8  
 Time Start: 0630      Time End: 1100

Start: T: 60°    CC: 100%    Wind Sp/Dir: 0 mph      General Weather Condition: Cool & Cloudy

Map/ GPS #	Time	Species	Age	Sex	Point Type	Comments
			A J U	M F U		
		BEWR	A J U	M F U		
		CATO	A J U	M F U		
		HOFI	A J U	M F U		
		RWBL	A J U	M F U		
		SPTD	A J U	M F U		
		COYE	A J U	M F U		
		BHGR	A J U	M F U		
		ANHU	A J U	M F U		
		SOSP	A J U	M F U		
		BLPH	A J U	M F U		
		BHCO	A J U	M F U		
		BUSH	A J U	M F U		
		BASW	A J U	M F U		
		NRWS	A J U	M F U		
		WAVI	A J U	M F U		
56MR WJFC	0710	WJFL	A J U	M F U		
		WJPE	A J U	M F U		
		MODO	A J U	M F U		
		MALL	A J U	M F U		
56MR REVI	0750	REVI	A J U	M F U		
		SNEG	A J U	M F U		
		AMCR	A J U	M F U		
		WTKI	A J U	M F U		
		WTSW	A J U	M F U		
		VGSW	A J U	M F U		
		LEGO	A J U	M F U		
		AMGO	A J U	M F U		
		CATH	A J U	M F U		
56MR YBCH	0945	YBCH	A J U	M F U		C/O

End: T: \_\_\_\_\_    CC: \_\_\_\_\_    Wind Sp/Dir: \_\_\_\_\_      General Weather Condition: \_\_\_\_\_



### SWFL SURVEYS

Recorder: LYNDON QUAIL Add'l Person: NONE GPS Unit: \_\_\_\_\_  
 Project: SR-56/I-5 Survey Section: \_\_\_\_\_ Map #: \_\_\_\_\_  
 Date: 5-30-07 Survey Type: SWFL Survey 1 of \_\_\_\_\_  
 Time Start: 0630 Time End: 0830

Start: T: 60.7 CC: 54 Wind Sp/Dir: 0.8-1.5 MPH/E General Weather Condition: OVERCAST  
 End: T: 67.0 CC: 62 Wind Sp/Dir: 0 MPH General Weather Condition: OVERCAST

Map/GPS #	Time	Species	Age	Sex	Point Type	Comments
		YRWA	AJU	MFU		
		SPTO	AJU	MFU		
		HDFI	AJU	MFU		
		SOSP	AJU	MFU		
		AMCR	AJU	MFU		
		VGSW	AJU	MFU		
		MAWR	AJU	MFU		
		CATO	AJU	MFU		
		BASW	AJU	MFU		
		ANHU	AJU	MFU		
		WEGU	AJU	MFU		
		LEGO	AJU	MFU		
		YEWA	AJU	MFU		
		WAVI	AJU	MFU		
		NOBR	AJU	MFU		
		SCJA	AJU	MFU		
		BUSH	AJU	MFU		
		WREN	AJU	MFU		
		YBCH	AJU	MFU		
		MODD	AJU	MFU		
		GBHE	AJU	MFU		
		WCSP	AJU	MFU		
		ATFL	AJU	MFU		
		RWBL	AJU	MFU		
		BHCO	AJU	MFU		
			AJU	MFU		
			AJU	MFU		
			AJU	MFU		
			AJU	MFU		
			AJU	MFU		
			AJU	MFU		
			AJU	MFU		



### LBVI SURVEYS

Recorder: B. Calantas Add'l Person: A. Cumy low GPS Unit: none  
 Project: SR 50 Survey Section: A11 Map #: SR50-L04  
 Date: 06/06/07 Survey Type: LBVI Survey 4 of 8  
 Time Start: 0900 Time End: 0830

Start: T: 53.2 CC: 40 Wind Sp/Dir: 0.9/1.0 W General Weather Condition: patchy clds.

Map/ GPS #	Time	Species	Age	Sex	Point Type	Comments
		HOP1	AJU	MFU		
		GOSP	AJU	MFU		
		COYE	AJU	MFU		
		LEGO	AJU	MFU		
		SNEG	AJU	MFU		
		ANTH	AJU	MFU		
		A-MCR	AJU	MFU		
		NRSW	AJU	MFU		
		HOWR	AJU	MFU		
		cormorant	AJU	MFU		
		BENR	AJU	MFU		
		BLPH	AJU	MFU		
		raccoon	AJU	MFU	trks.	
		ct-skunk	AJU	MFU	trks	
		cottontail	AJU	MFU	trks	
		gr Squirrel	AJU	MFU	trks	
		MODO	AJU	MFU		
		CORA	AJU	MFU		
		BHGB	AJU	MFU		
		ATFL	AJU	MFU		
		YAWA	AJU	MFU		
56BCY01		YBCA	ⓐJU	MFⓐ	ind.	
		CLSW	AJU	MFU		
		WTSW	AJU	MFU		
		TOWA	AJU	MFU		
		CALT	AJU	MFU		
		Gull sp.	AJU	MFU		
		BUSH	AJU	MFU		
		WREN	AJU	MFU		
		OCWA	AJU	MFU		

End: T: \_\_\_\_\_ CC: \_\_\_\_\_ Wind Sp/Dir: \_\_\_\_\_ General Weather Condition: \_\_\_\_\_



**SWFL SURVEYS**

Recorder: ERI Add'l Person: SLY GPS Unit: Garmin #1  
 Project: SR 56 Survey Section: - Map #: nothing marked  
 Date: 061807 Survey Type: SWFL Survey 2 of 5  
 Time Start: 0632 Time End: 0900 LBV 5 8

Start: T: 61.3 CC: 100 Wind Sp/Dir: 3.5/5.4 mph General Weather Condition: overcast light breeze  
 End: T: 68.8 CC: 30 Wind Sp/Dir: 1.7/2.8 W General Weather Condition: clearing, light breeze  
start @ Wend

Map/GPS #	Time	Species	Age	Sex	Point Type	Comments
		CALT	AJU	MFU		
		NRWS	AJU	MFU		
		BUSH	AJU	MFU		
56SLYW01,02,03,04,05		YEWA	AJU	MFU		56SLYW01,02
		ANHU	AJU	MFU		
		raccoon	AJU	MFU	trks	
		WREN	AJU	MFU		
		WTSW	AJU	MFU		
		BEWR	AJU	MFU		
		COYE	AJU	MFU		
		SOSP	AJU	MFU		
56SLCB01,02,03,04		BHCB	AJU	MFU		
		mule deer	AJU	MFU	trks	
		SPTO	AJU	MFU		
		LEGO	AJU	MFU		
		BHGB	AJU	MFU		
		MAWR	AJU	MFU		
		HOFZ	AJU	MFU		
		OCWA	AJU	MFU		
56SLYC01		YBCH	AJU	MFU		
		coyote	AJU	MFU	trks	
		bobcat	AJU	MFU	trks	
		raccoon	AJU	MFU	trks	
		AMGO	AJU	MFU		
		western fence lizard	AJU	MFU		
		opossum	AJU	MFU	kill site	
		cottontail	AJU	MFU		
		MOBO	AJU	MFU		
			AJU	MFU		
			AJU	MFU		



















**ATTACHMENT B**

**WILDLIFE SPECIES OBSERVED OR DETECTED**

**WILDLIFE SPECIES OBSERVED OR DETECTED  
LEAST BELL'S VIREO AND SOUTHWESTERN WILLOW FLYCATCHER SURVEYS  
STATE ROUTE 56 AT INTERSTATE 56, SAN DIEGO COUNTY, CALIFORNIA**

Scientific Name

Common Name

**REPTILES AND AMPHIBIANS\***

**Order Squamata**

**Lizards and Snakes**

Family Iguanidae

*Sceloporus occidentalis*

western fence lizard

**BIRDS\***

**Order Pelecaniformes**

**Tropicbirds, Pelicans and Relatives**

Family Phalacrocoracidae

*Phalacrocorax* sp.

cormorant

**Order Ciconiiformes**

**Hérons, Storks, Ibises, and Relatives**

Family Ardeidae

*Ardea herodias*

*Egretta thula*

*Butorides striatus*

great blue heron

snowy egret

green heron

**Order Anseriformes**

**Screamers, Ducks, and Relatives**

Family Anatidae

*Anas platyrhynchos*

mallard

**Order Falconiformes**

**Vultures, Hawks, and Falcons**

Family Accipitridae

*Elanus leucurus majusculus*

*Buteo jamaicensis*

white-tailed kite

red-tailed hawk

**Order Galliformes**

**Megapodes, Curassows, Pheasants, and Relatives**

Family Phasianidae

*Callipepla californica*

California quail

**Order Charadriiformes**

**Shorebirds, Gulls, and Relatives**

Family Charadriidae

*Charadrius vociferus*

killdeer

Family Laridae

*Larus occidentalis*

western gull

**Order Columbiformes**

**Pigeons and Doves**

Family Columbidae

*Zenaida macroura*

mourning dove

Scientific Name

Common Name

**Order Apodiformes**

**Swifts and Hummingbirds**

Family Apodidae

*Aeronautes saxatalis*

white-throated swift

Family Trochilidae

*Calypte anna*

Anna's hummingbird

**Order Piciformes**

**Woodpeckers and Relatives**

Family Picidae

*Picoides nuttallii*

Nuttall's woodpecker

**Order Passeriformes**

**Perching Birds**

Family Tyrannidae

*Contopus sordidulus*

western wood-pewee

*Empidonax traillii*

willow flycatcher

*Empidonax difficilis*

Pacific slope flycatcher

*Sayornis nigricans*

black phoebe

*Myiarchus cinerascens*

ash-throated flycatcher

Family Hirundinidae

*Tachycineta thalassina*

violet-green swallow

*Stelgidopteryx serripennis*

northern rough-winged swallow

*Riparia riparia*

bank swallow

*Hirundo pyrrhonota*

cliff swallow

Family Corvidae

*Aphelocoma coerulescens*

scrub jay

*Corvus brachyrhynchos*

American crow

*Corvus corax*

common raven

Family Aegithalidae

*Psaltriparus minimus*

bushtit

Family Troglodytidae

*Thryomanes bewickii*

Bewick's wren

*Cistothorus palustris*

marsh wren

Family Muscicapidae

*Catharus ustulatus*

Swainson's thrush

*Chamaea fasciata*

wrentit

Family Mimidae

*Toxostoma redivivum*

California thrasher

Family Vireonidae

*Vireo huttoni*

Hutton's vireo

*Vireo olivaceus*

red-eyed vireo

*Vireo gilvus*

warbling vireo

Scientific Name

Common Name

Family Emberizidae

*Vermivora celata*  
*Dendroica petechia*  
*Dendroica coronata*  
*Dendroica nigrescens*  
*Dendroica townsendi*  
*Geothlypis trichas*  
*Wilsonia pusilla*  
*Icteria virens*  
*Pheucticus melanocephalus*  
*Passerina amoena*  
*Pipilo erythrophthalmus*  
*Pipilo crissalis*  
*Melospiza melodia*  
*Zonotrichia leucophrys*  
*Agelaius phoeniceus*  
*Molothrus ater*  
*Icterus galbula*  
*Carpodacus mexicanus*  
*Carduelis psaltria*  
*Carduelis tristis*

orange-crowned warbler  
yellow warbler  
yellow-rumped warbler  
black-throated gray warbler  
Townsend's warbler  
common yellowthroat  
Wilson's warbler  
yellow-breasted chat  
black-headed grosbeak  
lazuli bunting  
rufous-sided towhee  
California towhee  
song sparrow  
white-crowned sparrow  
red-winged blackbird  
brown-headed cowbird  
northern oriole  
house finch  
lesser goldfinch  
American goldfinch

**MAMMALS\***

**Order Marsupialia**

Family Didelphidae

*Didelphis virginiana*

**Marsupials**

Virginia opossum

**Order Lagomorpha**

Family Leporidae

*Sylvilagus audubonii*

**Rabbits, Hares, and Pikas**

Audubon's cottontail

**Order Rodentia**

Family Sciuridae

*Spermophilus beecheyi*

**Squirrels, Rats, Mice, and Relatives**

California ground squirrel

**Order Carnivora**

Family Procyonidae

*Procyon lotor*

**Carnivores**

raccoon

Family Mustelidae

*Spilogale gracilis*

western spotted skunk

Family Felidae

*Felis rufus*

bobcat

**Order Artiodactyla**

Family Cervidae

*Odocoileus hemionus*

**Even-Toed ungulates**

mule deer

\* Amphibian, reptile, bird, and mammal nomenclature follows Laudenslayer et al. 1991.

