Baseline Biological Resources Report for the Chula Vista Central City Preserve Baseline Biological Survey, City of Chula Vista

Prepared for

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1.0 EXECUTIVE SUMMARY

The following baseline biological information was obtained through the California Natural Community Conservation Plan (NCCP) grant funded special study. This data was gathered in order to provide baseline biological information to allow for the preparation of Area Specific Management Directives (ASMD) plans that are intended to provide guidelines for the protection, maintenance, and management of preserved natural open space on four Preserve Management Areas (PMAs) of the City of Chula Vista's Central City Preserve. The Central City Preserve was created in response to the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan as a means to protect sensitive biological resources within the jurisdiction. Each PMA consists of a number of subunits that are disjunct areas of open space set aside as part of mitigation requirements for the surrounding primarily residential development. The natural open space of the PMAs support sensitive and depleted plant communities and species unique to the region. MSCP covered flora and fauna species and sensitive habitats are the primary resources identified for protection in the PMAs. The PMAs also act to protect the quality of life for residents of Chula Vista.

The MSCP is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species and the preservation of natural vegetation communities of San Diego County (City of Chula Vista 2003). The County of San Diego MSCP is a subregional plan under the California Natural Community Conservation Planning Act of 1991 and was prepared for the subregion, an area encompassing 12 jurisdictions and 582,243 acres. This plan provides a framework for preserving and protecting natural resources and federal and state endangered, threatened, or sensitive species. It addresses the potential impacts of urban growth, loss of natural habitat and species endangerment, and creates a plan to mitigate for the potential loss of covered species and their habitats due to direct, indirect, and cumulative impacts of future development of both public and private lands within the MSCP area. The County of San Diego MSCP Subregional Plan is implemented through local Subarea Plans. These Subarea Plans are prepared in coordination with federal and state resource agencies and result in the issuance of permits that allow for a certain level of impact to state and federally listed species.

The City of Chula Vista has prepared and adopted an MSCP Subarea Plan to guide implementation of the MSCP within its corporate boundaries (City of Chula Vista 2003). The MSCP Subarea Plan is a plan and a process for the local issuance of permits under the federal and state Endangered Species Acts for impacts to threatened and endangered species. Also included in the MSCP Subarea Plan are implementation strategies, preserve design, and management guidelines.

The MSCP Subarea Plan designates a natural habitat preserve system and provides a regulatory framework for determining impacts and designating mitigation associated with

proposed projects. The MSCP Subarea Plan identifies a series of focused planning areas within which some lands will be dedicated for preservation of native habitats.

Eighty-six sensitive plant and wildlife species are MSCP Subarea Plan covered species. These species are considered to be adequately protected within the MSCP Subarea Plan Preserve lands.

There are eight plants that are considered to be "narrow endemic species" based on their limited distributions in the region and their potential to occur in Chula Vista. Four of these species are present in the Central City Preserve Area: Otay tarplant (*Deinandra conjugens*), San Diego thornmint (*Acanthomintha ilicifolia*), variegated dudleya (*Dudleya variegata*), and snake cholla (*Cylindropuntia californica* var. *californica*). These narrow endemics are sensitive biological resources and some are state or federally listed as threatened or endangered species.

As described in Section 7.3.1 of the Subarea Plan, the baseline biological studies were conducted to better define the locations and biological values of resources found in the Central City PMAs. The primary goal of these studies was to identify specific biological resources appropriate for management focus and to define functional biological management units for the PMA. As described in Section 7.3.1 of the Subarea Plan (City of Chula Vista 2003), this baseline survey was anticipated to pay particular attention to potential locations of narrow endemic species and specifically Otay tarplant.

RECON biologists conducted general plant surveys in 2002 and 2003 and all plant species apparent at the time of the surveys were recorded for each subunit. Any additional plants identified during the sensitive plants focused surveys were also recorded and the species lists revised accordingly. RECON biologists also conducted sensitive plant surveys. All sensitive plants observed during the general and focused rare plant surveys were mapped on an aerial photograph flown in January 2001.

General wildlife surveys were conducted by walking extensively throughout each PMA subunit. All wildlife observed or detected directly or by sign was recorded. Direct observations of predators or their sign were also mapped on an aerial photograph.

RECON biologists conducted seasonal bird surveys in all PMAs during the summer and fall of 2002 and the winter of 2002/2003. Birds were identified visually or by their vocalizations. All sensitive bird species locations were mapped. Focused surveys were conducted in the spring of 2003 for three listed bird species: coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). All other incidental birds identified during these surveys were also recorded.

Any roadkill on (or near) roads and highways adjacent to or within each PMA subunit was recorded. A carcass would be considered roadkill if death was clearly caused by

motorized vehicular traffic. Any signs of illegal trash dumping or trespassing, including bicycle paths and vagrant encampments, were also noted and mapped.

RECON biologists also noted and mapped major drainages and channels, culverts used for both roadway drainage and for channel crossings, and desiltation basins.

1.1 PMA 1

There are nine vegetation communities and land cover types present in PMA 1: maritime succulent scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern willow scrub, native grassland, freshwater marsh, non-native grassland, eucalyptus woodland, and disturbed.

Eleven listed, sensitive, and rare plant species are present in PMA 1. Four species, Otay tarplant, San Diego thornmint, snake cholla, and variegated dudleya, are covered species under the MSCP designated as narrow endemics. San Diego barrel cactus is an MSCP covered species. Seven additional species are considered sensitive by the California Native Plant Society (CNPS): south coast saltbush, long-spined spineflower, San Diego sand aster, Palmer sagewort, San Diego bur-sage, Palmer's grappling hook, small-flowered morning glory, and San Diego County viguiera.

Two MSCP covered species were observed in PMA 1: Belding's orange-throated whiptail and San Diego horned lizard. One additional sensitive species, red diamond rattlesnake, was also observed within PMA 1.

Five MSCP covered bird species were detected on PMA 1: coastal California gnatcatcher, Cooper's hawk, coastal cactus wren, Swainson's hawk, and southern California rufous-crowned sparrow. A willow flycatcher of undetermined subspecies was observed in the southern willow scrub habitat along Rice Canyon. Willow flycatchers are state listed endangered species. This individual was likely using the area as a migration stop-over and did not breed locally. Three additional sensitive species were observed within PMA 1 subunits: sharp-shinned hawk, yellow warbler, and Vaux's swift.

One MSCP covered mammal species, southern mule deer (*Odocoileus hemionus fuliginata*), was detected in PMA 1.

1.2 PMA 2

There are seven vegetation communities and land cover types present in PMA 2: maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, freshwater marsh, southern willow scrub, disturbed, and developed.

Eleven listed, sensitive, and rare plant species are present in PMA 2. Two species, Otay tarplant and snake cholla, are covered species under the MSCP designated as narrow endemics. San Diego barrel cactus is an MSCP covered species. Eight additional

species are considered sensitive by CNPS: south coast saltbush, long-spined spineflower, San Diego sand aster, golden-spined cereus, Palmer sagewort, cliff spurge, Palmer's grappling hook, and San Diego County viguiera.

Two MSCP covered reptile species were observed in PMA 2: Belding's orange-throated whiptail and San Diego horned lizard.

Six MSCP covered bird species were detected on PMA 2: coastal California gnatcatcher, Cooper's hawk, coastal cactus wren, golden eagle, southern California rufous-crowned sparrow, and northern harrier. Four additional sensitive species were observed within PMA 2 subunits: sharp-shinned hawk, white-tailed kite, yellow-breasted chat, and yellow warbler.

One MSCP covered mammal species, southern mule deer (*Odocoileus hemionus fuliginata*), was detected in PMA 2.

1.3 PMA 3

There are eight vegetation communities present on PMA 3: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, southern willow scrub, native grassland, non-native grassland, eucalyptus, and disturbed.

Ten listed, sensitive, and rare plant species are present in PMA 3. Two species, Otay tarplant and snake cholla, are covered species under the MSCP designated as narrow endemics. Two others are also MSCP covered species: San Diego barrel cactus and Orcutt's bird-beak. Six additional species are considered sensitive by CNPS: San Diego sand aster, golden-spined cereus, San Diego marsh elder, small-flowered morning glory, spiny rush, and San Diego County viguiera.

One MSCP covered reptile species was observed in PMA 2: Belding's orange-throated whiptail.

Two MSCP covered bird species were detected on PMA 3: coastal California gnatcatcher and southern California rufous-crowned sparrow. One additional sensitive species: yellow warbler, was also observed within PMA 3 subunits.

1.4 PMA 4

There are 10 vegetation communities present in PMA 4: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, disturbed maritime succulent scrub, mule fat scrub, southern willow scrub, non-native grassland, freshwater marsh, tamarisk scrub, and disturbed.

Thirteen listed, sensitive, and rare plant species are present in PMA 4. Four species, Otay tarplant, San Diego thornmint, snake cholla, and variegated dudleya, are covered

species under the MSCP and designated as narrow endemics. Two others are also MSCP covered species: San Diego barrel cactus and Orcutt's bird-beak. Seven additional species are considered sensitive by CNPS: San Diego sand aster, Palmer's grappling hook, California adolphia, Munz's sage, small-flowered morning glory, San Diego County viguiera, and graceful tarplant.

Two MSCP covered reptile species were observed in PMA 4: Belding's orange-throated whiptail and San Diego horned lizard. One additional sensitive species, red diamond rattlesnake, was also observed within PMA 4.

Eight MSCP covered bird species were detected on PMA 4: least Bell's vireo, coastal California gnatcatcher, American peregrine falcon, Swainson's hawk, Cooper's hawk, coastal cactus wren, southern California rufous-crowned sparrow, and northern harrier. Four additional sensitive species were observed within PMA 4 subunits: white-tailed kite, yellow warbler, yellow-breasted chat, and double-crested cormorant.

One MSCP covered mammal species, southern mule deer, was detected in PMA 4.

2.0 INTRODUCTION

This draft baseline biological resources report has been prepared for the City of Chula Vista to be used in support of the preparation of four distinct Area Specific Management Directives (ASMDs) for the 1,350-acre Central City Preserve Management Area within the city of Chula Vista.

The city of Chula Vista is located in southwestern San Diego County, which is in southern California near the U.S.-Mexico border. The Central City Preserve Management Area (preserve area) is in the central portion of the city of Chula Vista (Figure 1) east of Interstate 805 (I-805), south of State Route 54 (SR-54) and Bonita Road, and north of Otay Lakes Road (Figure 2). The Central City Preserve Management Area covers approximately 1,350 acres and is subdivided into four Preserve Management Areas for data management purposes and for the development of the ASMDs. PMA 1, PMA 2, PMA 3, and PMA 4 are shown in Figure 3. Each PMA consists of a number of subunits that are isolated open space areas surrounded by residential development. Each of these subunits has been assigned a number to organize and distinguish each distinct survey area (Figures 4-11, which are located at the end of each PMA section).

Current land uses in the Central City Preserve area include residential and commercial development. In association with the development of the area, areas were set aside for brush management activities and as permanent open space. The areas set aside as the City's PMA open space are natural canyon areas that are used mainly for recreation activities such as hiking and biking.

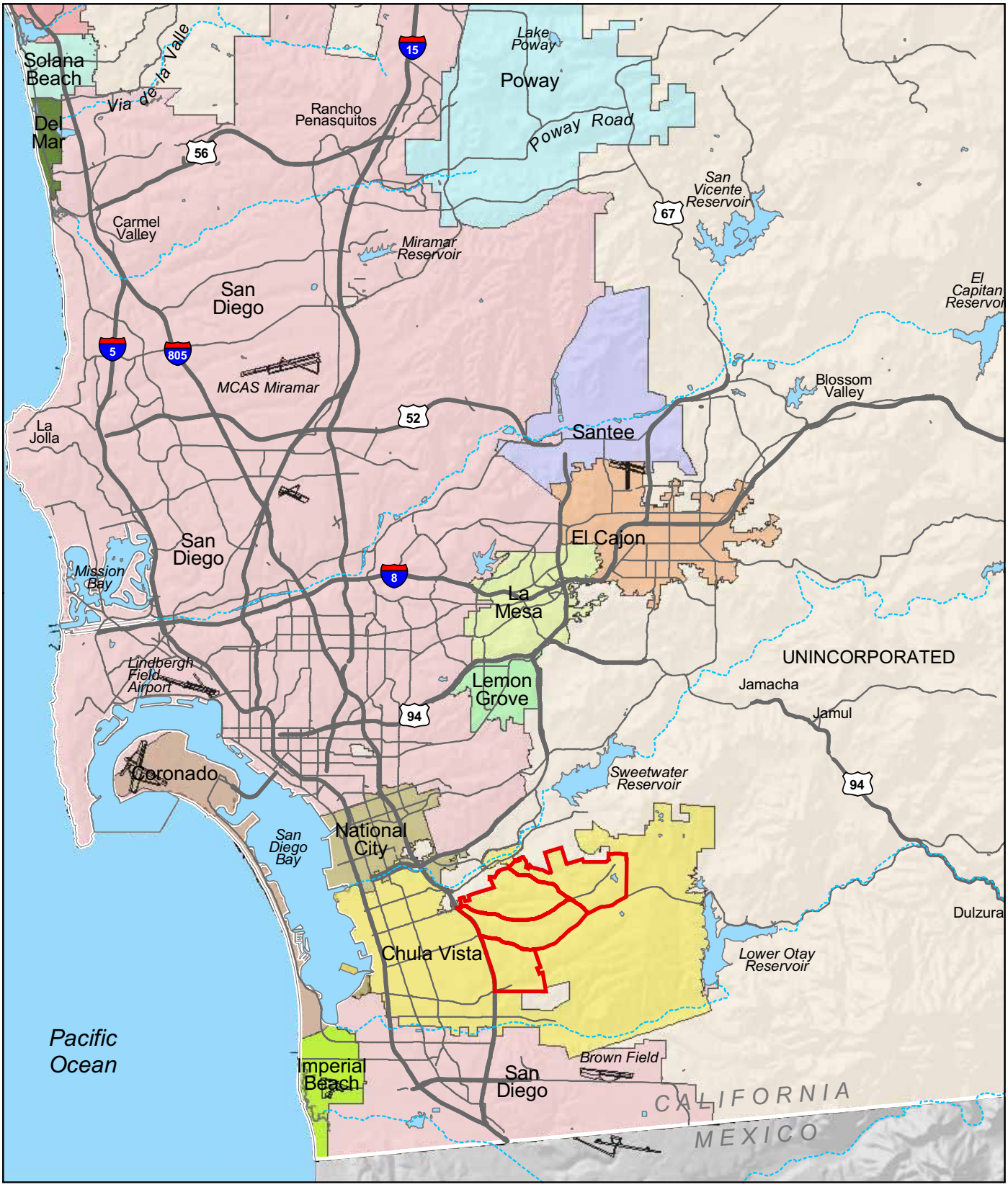

FIGURE 1

Regional Location

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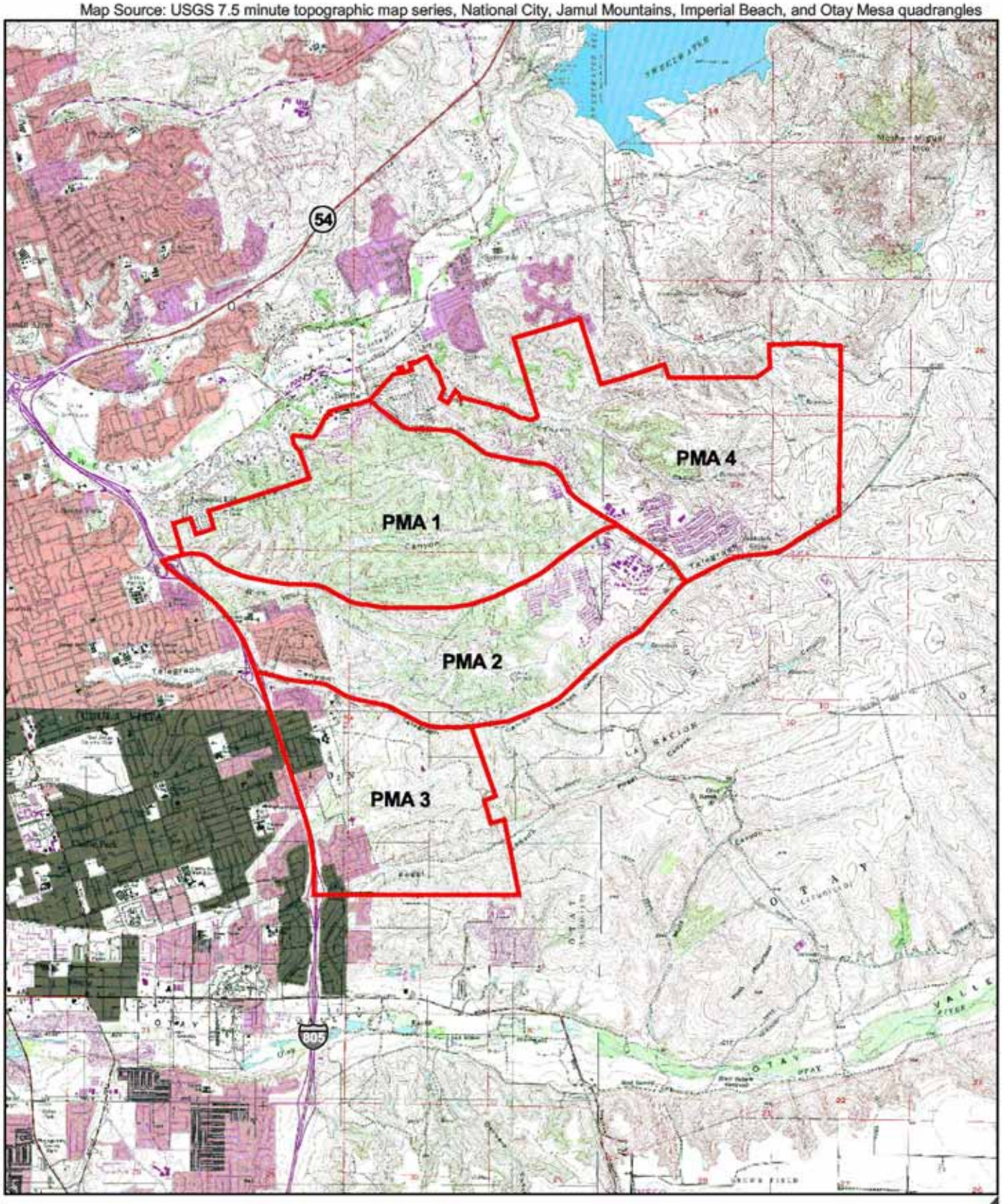
Map Source: USGS 7.5 minute topographic map series, National City, Jamul Mountains, Imperial Beach, and Otay Mesa quadrangles



Preserve Management Areas (PMAs)

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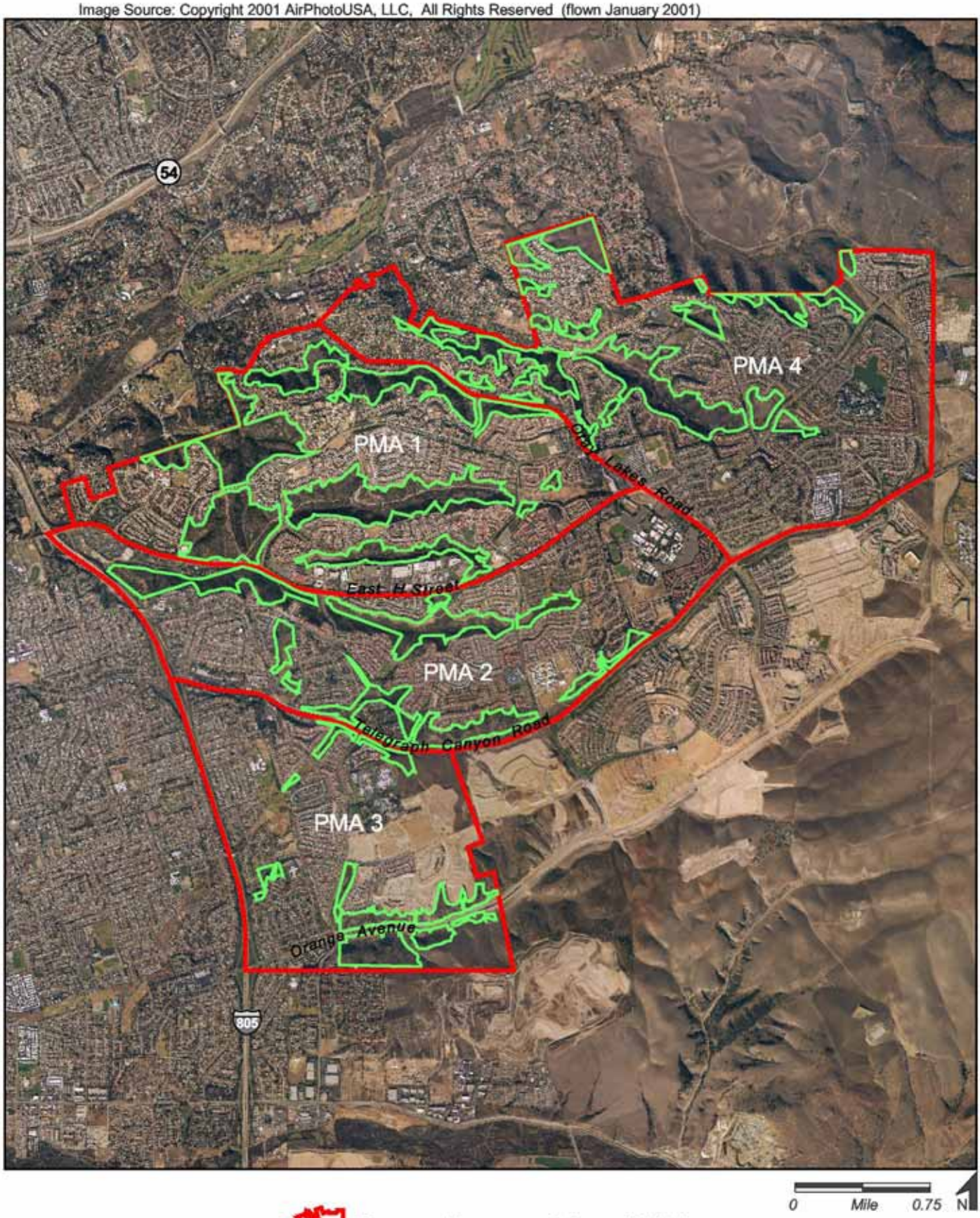
fig2 (usgs) 06/02/08

FIGURE 2
Project Location on USGS Map



Preserve Management Areas (PMAs)

PMA subunits

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fig3 (aerial) 06/02/08

FIGURE 3
Aerial Photograph of Project

Four main canyons are present in the PMAs: Rice Canyon (PMA 1), Telegraph Canyon (PMA 2), Poggi Canyon (PMA 3), and Long Canyon (PMA 4). Rice, Telegraph, and Long Canyons and their associated drainages are part of the Sweetwater River watershed. Poggi Canyon and its associated drainage, in PMA 3, is part of the Otay River watershed. The drainages convey water to the river of their respective watershed from the San Miguel Mountain area, which is part of the southern Peninsular Range, and urban runoff.

Environmental documents prepared for the construction of residential developments around the canyons in the preserve area were reviewed in an effort to compile all available historical data on the flora and fauna present in this open space. Data was compiled from various resources, including surveys that were conducted by RECON in 2002 and 2003, biological technical reports, environmental impact reports, and revegetation plans. The City of Chula Vista is responsible for the management of this open space, which is included as preserve land in the City of Chula Vista Multiple Species Conservation Program.

RECON biologists conducted surveys in 2002 and 2003 to locate and map the following biological resources: sensitive plant and animal species (including narrow endemics), vegetation communities, exotic plants, predator sign, and wildlife crossings. In addition, RECON biologists surveyed for and mapped the following: vagrant encampments, illegal dumping sites, observed and potential roadkill areas, potentially clogged culverts, desiltation basins, and channels. This baseline biological resources report describes the methods and results of these surveys. Attachment 1 provides a list of the personnel that contributed to this effort and their qualifications.

3.0 SURVEY METHODS

3.1 Literature Review

RECON biologists conducted a review of existing literature relevant to the biological resources with the potential to occur in the Central City Preserve Management Areas.

Literature reviewed included, but was not limited to, the documents listed in Attachment 2.

3.2 Botanical Resources

Table 1 provides the dates and times all botanical surveys were conducted, the personnel involved, and the weather conditions under which the surveys were conducted.

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
09/27/02	All	W. Loeffler J. MacAller C. Kim J. Seed B. Primrose	Vegetation mapping General survey	7:30 A.M.; 61° F; 0-2 mph	3:30 P.M.; 73° F; 0-2mph
10/2/02	N/A	W. Loeffler C. Kim D. Busby B. Woodward	Wildlife survey Fall bird survey	8:15 A.M.; 53° F; 0-2 mph; 95% cloud cover	12:00 P.M; 60° F; 0-2 mph; 95% cloud cover
10/3/02	N/A	C. Jones J. MacAller J. Seed B. Woodward	Wildlife survey Fall bird survey	8:00 A.M.; 50° F; 0-3 mph	12:30 P.M;75° F;0-3 mph
10/4/02	N/A	C. Jones J. MacAller C. Kim J. Seed D. Busby B. Woodward	Wildlife survey Fall bird survey	7 A.M.; 46° F; 0-2 mph; light haze	12:15 P.M.; 79° F; 1-7 mph; 0% cloud cover
10/7/02	N/A	C. Jones J. MacAller J. Seed B. Woodward	Wildlife survey	8:00A.M.; 56° F; 0-2 mph	12:45 P.M.; 86 ° F; 0-2 mph
10/8/02	N/A	C. Jones J. MacAller J. Seed B. Woodward	Wildlife survey Fall bird survey	7:15 A.M.; 54° F; 0-2 mph; light haze	11:45 A.M.; 84° F; 0-5 mph; 0% cloud cover
10/9/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/10/02	N/A	C. Kim D. Busby	Wildlife survey Fall bird survey	7:00 A.M.; 55° F; 0-2 mph; 0% cloud cover	12:00 P.M.; 73° F; 0-2 mph; 0% cloud cover

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
10/11/02	N/A	W. Loeffler B. Woodward	Wildlife survey Fall bird survey	7:15; 59° F; 1-3 mph; 5% cloud cover	N/A
10/15/02	N/A	W. Loeffler B. Woodward	Wildlife survey Fall bird survey	7:10; 59° F; 1-3 mph; 100% cloud cover	11:30 A.M.; 70° F; 1-3 mph; 40% cloud cover
10/15/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/16/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/17/02	N/A	B. Primrose	Plant survey	N/A	N/A
10/21/02	N/A	B. Primrose A. Hamel	Plant survey	N/A	N/A
10/24/02	N/A	B. Primrose A. Hamel	Plant survey	N/A	N/A
10/25/02	N/A	B. Primrose A. Hamel	Plant survey	N/A	N/A
10/29/02	N/A	B. Primrose	Plant survey Culvert mapping	N/A	N/A
10/31/02	N/A	B. Primrose	Plant survey Culvert mapping	N/A	N/A
11/7/02	N/A	B. Primrose	Culvert mapping	N/A	N/A
11/13/02	N/A	B. Primrose D. Busby	Culvert mapping	N/A	N/A
10/15/02	N/A	W. Loeffler B. Woodward	Wildlife survey Fall bird survey	7:10; 59° F; 1-3 mph; 100% cloud cover	11:30 A.M.; 70° F; 1-3 mph; 40% cloud cover

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
12/31/02	N/A	B. Woodward	Wildlife survey Winter bird survey	N/A	N/A
1/6/03	N/A	D. Busby B. Woodward	Wildlife survey Winter bird survey	7:00 A.M.; 53° F; 0-2 mph; 0% cloud cover	11:30 A.M.; 74° F; 3-6 mph; 0% cloud cover
1/7/03	N/A	D. Busby	Wildlife survey Winter bird survey	7:30 A.M.; 64° F; 10-25 mph; 30% cloud cover	1:00 P.M.; 82° F; 10-25 mph; 50% cloud cover
1/8/03	N/A	D. Busby B. Woodward	Wildlife survey Winter bird survey	7:15 A.M.; 56° F; 0-2 mph; 50% cloud cover	12:00 P.M.; 78° F; 0-2 mph; 50% cloud cover
1/9/03	N/A	D. Busby	Wildlife survey Winter bird survey	7:30 A.M.; 57° F; 0 mph; 10% cloud cover	10:00 A.M.; 75° F; 0 mph; 0% cloud cover
1/10/03	N/A	D. Busby B. Woodward C. Kim	Wildlife survey Winter bird survey	7:00 A.M.; 55° F; 0 mph; 25% cloud cover	11:30 A.M.; 74° F; 0 mph; 25% cloud cover
1/13/03	N/A	D. Busby	Wildlife survey Winter bird survey	7:30 A.M.; 48° F; 0 mph; 0% cloud cover	11:30 A.M.; 65° F; 0-2 mph; 0% cloud cover
1/14/03	N/A	C. Kim	Wildlife survey Winter bird survey	6:30 A.M.; 46° F; 0 mph; A.M. fog	11:00 A.M.; 64° F; 0 mph; 40% cloud cover

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
2/19/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/7/03	N/A	M. Dodero B. Primrose	Rare plant survey	8:30 A.M.	4:30 P.M.
3/11/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/12/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/14/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/19/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/21/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/25/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
3/27/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
3/31/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/3/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/4/03	N/A	B. Primrose M. Dodero A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
4/8/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
4/9/03	N/A	B. Primrose A. Hamel	Rare plant survey	8:30 A.M.	4:00 P.M.
4/11/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/12/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/16/03	N/A	B. Primrose D. Busby	Rare plant survey	8:30 A.M.	4:00 P.M.
4/22/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/25/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
4/28/03	1-1b 1-1c	A. Clark	CAGN 1	6:00 A.M.; 56° F; winds 0-3 mph; 100% cloud cover	10:00 A.M.; 64° F; winds 3-7 mph; 40% cloud cover
4/28/03	2-1a	J. MacAller	CAGN 1	10:45 A.M.; 63° F; winds 1-5 mph; 10% cloud cover	12:15 P.M.; 70° F; winds 1-5 mph; 10% cloud cover
4/28/03	3-1a, b 3-2b, c 3-3a, b	C. Kim	CAGN 1	6:00 A.M.; 56° F; winds 1-3 mph; 90% cloud cover	11:30 A.M.; 71° F; winds 2-6 mph; 5% cloud cover
4/28/03	4-2b	J. MacAller B. Woodward	CAGN 1	7:45 A.M.; 60° F; winds 0-2 mph; 90% cloud cover	10:30 A.M.; 63° F; winds 3-5 mph; 10% cloud cover
4/29/03	1-1d 1-2a	A. Clark D. Saucedo-Ortiz	CAGN 1	7:00 A.M.; 53° F; winds 0-3 mph; 10% cloud cover	12:00 P.M.; 72° F; winds 5-8 mph; 10% cloud cover
4/30/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
4/30/03	3-2b 3-3a, b, c 4-3b	D. Busby	LBV 1	7:00 A.M.; 55° F; winds 2-5 mph; 10% cloud cover	N/A

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
5/1/03	2-1b 2-1c 2-2aN	C. Jones	CAGN 1	6:15 A.M.; 54° F; winds 0-2 mph; 100% cloud cover	12:15 A.M.; 76° F; winds 3-5 mph; 50% thin cloud cover
5/2/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
5/4/03	1-2a, b 2-1b, c 2-2b, c	D. Busby	LBV 2	6:15 A.M.; 55° F; winds 0-2 mph; 50% cloud cover	11:00 A.M.; 65° F; winds 2-5 mph; 75% cloud cover
5/5/03	1-2b 1-2e 1-2d	J. MacAller	CAGN 2	7:30 A.M.; 58° F; winds 0-3 mph; 95% cloud cover	10:40 A.M.; 63° F; winds 0-3 mph; 80% cloud cover
5/5/03	3-1a, b 3-2b, c 3-3a, b	C. Kim	CAGN 2	6:00 A.M.; 56° F; winds 0-2 mph; 100% cloud cover	11:30 P.M.; 65° F; winds 3-6 mph; 100% cloud cover
5/6/03	1-1c 1-1a	A. Clark D. Saucedo-Ortiz	CAGN 2	6:30 A.M.; 61° F; winds 0-2 mph; 100% cloud cover	11:15 A.M.; 58° F; winds 4-8 mph; 100% cloud cover
5/6/03	2-2b 2-2c 2-2dW 2-2dE	C. Kim	CAGN 2	6:00 A.M.; 56° F; winds 3-6 mph; 100% cloud cover	11:30 P.M.; 72° F; winds 3-6 mph; 80% cloud cover
5/7/03	1-1d 1-2a	A. Clark	CAGN 2	6:30 A.M.; 57° F; winds 0-2 mph; 50% cloud cover	11:15 A.M.; 61° F; winds 3-5 mph; 95% cloud cover
5/7/03	4-1dS 4-2a, b, c, d	D. Busby	LBV 2	6:15 A.M.; 55° F; winds 0-1 mph; 90% cloud cover	10:15 A.M.; 62° F; winds 3-9 mph; 25% cloud cover
5/8/03	1-2c	J. MacAller	CAGN 2	8:30 A.M.; 54° F; winds 1-5 mph; 100% cloud cover	10:15 A.M.; 58° F; winds 1-5 mph; 95% cloud cover
5/8/03	2-2aS	J. MacAller	CAGN 1	7:45 A.M.; 54° F; winds 0-5 mph; 100% cloud cover	8:05 A.M.; 54° F; winds 0-5 mph; 100% cloud cover
5/9/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
5/10/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	2:00 P.M.
5/12/03	2-2b 2-2c 2-2dW 2-2dE	C. Kim	CAGN 3	6:00 A.M.; 60° F; winds 0-2 mph; 10% cloud cover	11:00 A.M.; 73° F; winds 3-5 mph; 35% cloud cover
5/12/03	3-2b 3-3a, b, c	D. Busby	LBV 2	7:45 A.M.; 62° F; winds 0-2 mph; 25% cloud cover	10:15 A.M.; 70° F; winds 0-2 mph; 50% cloud cover
5/14/03	N/A	B. Primrose M. Dodero H. Price	Rare plant survey	8:30 A.M.	12:00 P.M.
5/14/03	2-1a	J. MacAller	CAGN 2	10:15 A.M.; 58° F; winds 1-3 mph; 100% cloud cover	11:45 A.M.; 61° F; winds 1-3 mph; 100% cloud cover
5/14/03	4-2b	J. MacAller	CAGN 2	7:30 A.M.; 59° F; winds 1-3 mph; 100% cloud cover with fog	10:00 A.M.; 57° F; winds 1-5 mph; 100% cloud cover with fog and light mist
5/15/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	2:00 P.M.
5/15/03	1-1c 1-1a	A. Clark D. Busby	CAGN 3	7:15 A.M.; 58° F; winds 0-2 mph; clear sky	11:30 A.M.; 70° F; winds 3-5 mph; clear sky
5/16/03		B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
5/16/03	1-2e 1-2d	J. MacAller	CAGN 3	9:10 A.M.; 65° F; winds 0-2 mph; clear sky	10:00 A.M.; 67° F; winds 0-2 mph; clear sky
5/16/03	1-1d 1-2a	A. Clark	CAGN 3	7:00 A.M.; 59° F; winds 0-2 mph; 50% hazy cloud cover	12:00 P.M.; 71° F; winds 3-8 mph; 30% hazy cloud cover
5/16/03	2-1a	J. MacAller	CAGN 2	7:00 A.M.; 58° F; winds 1-3 mph; 10% haze	9:00 A.M.; 64° F; winds 1-3 mph; clear sky
5/16/03	2-2aN 2-1c	C. Jones	CAGN 2	8:00 A.M.; 64° F; winds 0-3 mph; clear sky	10:15 A.M.; 67° F; winds 0-3 mph; clear sky
5/19/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	12:00 P.M.

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
5/20/03	1-2b	J. MacAller	CAGN 3	7:15 A.M.; 60° F; winds 0-5 mph; 100% hazy cloud cover	10:00 A.M.; 69° F; winds 0-5 mph; 40% cloud cover
5/20/03	2-2aS	J. MacAller	CAGN 2	10:20 A.M.; 69° F; winds 1-3 mph; 300% cloud cover	10:45 A.M.; 69° F; winds 1-3 mph; 30% cloud cover
5/20/03	2-2b 2-2c 2-2dW 2-2dE	C. Kim	CAGN 3	6:30 A.M.; 64° F; winds 0-2 mph; 100% cloud cover with A.M. fog	11:30 A.M.; 77° F; winds 1-3 mph; 40% cloud cover with high haze
5/22/03	1-2a, b 4-1dS 4-2a, b, c	C. Jones	LBV 3 WIFL 1	6:15 A.M.; 62° F; winds 0-3 mph; 100% cloud cover	10:30 A.M.;74° F; winds 0-3 mph; clear sky
5/22/03	3-3a, b, c 2-1b, c 2-2c 3-2b 4-2d	D. Busby	LBV 3	5:45 A.M.; 62° F; winds 0-2 mph; 100% cloud cover	10:45 A.M.; 66° F; winds 0-2 mph; clear sky
5/23/03	1-2c	J. MacAller	CAGN 3	9:15 A.M.; 65° F; winds 0-5 mph; 10 % cloud cover	11:00 A.M.; 70° F; winds 1-5 mph; 80% cloud cover
5/27/03	4-1dS 4-1e, f, h 4-2b, c 4-1cW 4-3c, d	A. Clark D. Busby	CAGN 2	7:30 A.M.; 64° F; winds 0-1 mph; 40% cloud cover with light haze	12:00 P.M.; 78° F; winds 1-2 mph; light haze
5/27/03	2-2b	D. Busby	LBV 3	6:30 A.M.; 63° F; winds 0-1 mph; 100% cloud cover	7:15 A.M.; 64° F; winds 0-1 mph; 100% cloud cover
5/28/03	4-1a 4-1cE 4-3a, b	A. Clark D. Busby	CAGN 2	7:00 A.M.; 62° F; winds 0-2 mph; clear sky	11:45 A.M.; 61° F; winds 1-3 mph; 100% cloud cover
5/30/03	2-1b	C. Jones	CAGN 3	6:15 A.M.; 63° F; winds 0-3 mph; 100% cover	10:15 A.M.; 70° F; winds 0-3 mph; 100% cover
6/2/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	12:00 P.M.

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
6/2/03	2-1c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 4	6:30 A.M.; 62° F; winds 0-3 mph; 100% cloud cover	9:30 A.M.; 64° F; winds 0-2 mph; 100% cloud cover
6/3/03	2-1c 2-2aN	C. Jones	CAGN 3	7:30 A.M.; 63° F; winds 0 mph; 100% cloud cover	10:30 P.M.; 65° F; winds 0-3 mph; 100% cloud cover
6/3/03	1-2a, b 2-1b	D. Busby	LBV 4	7:00 A.M.; 60° F; winds 0-2 mph; 100% cloud cover	10:30 A.M.; 63° F; winds 0-2 mph; 100% cloud cover
6/4/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
6/4/03	4-1a 4-1cE, cW 4-1dN, dS 4-1e, f, g, h 4-2c 4-3a, b, c, d	A. Clark D. Busby W. Loeffler	CAGN 3	7:30 A.M.; 62° F; winds 0 mph; 100% cloud cover	12:00 A.M.; 76° F; winds 0-2 mph; 10% cloud cover
6/5/03	2-1a 2-2aS	J. MacAller	CAGN 3	7:30 A.M.; 61° F; winds 0-2 mph; 100% cloud cover	11:20 A.M.; 64° F; winds 0-2 mph; 90% cloud cover
6/6/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
6/6/03	2-2b 4-1dS 4-2a, c	D. Busby	LBV 4	8:00 A.M.; 64° F; winds 0-1 mph; 100% cloud cover	11:00 A.M.; 66° F; winds 0-1 mph; 100% cloud cover
6/7/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	12:00 P.M.
6/9/03	4-2b	C. Jones	WIFL 3	10:25 A.M.; 73° F; winds 0-3 mph; clear sky	11:15 A.M.; 75° F; winds 0-5 mph; clear sky
6/11/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
6/12/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 5	6:30 A.M.; 64° F; winds 0 mph; 100% cloud cover	9:45 A.M.; 65° F; winds 0-2 mph; 100% cloud cover
6/13/03	1-2a, b 2-1b	D. Busby	LBV 5	7:00 A.M.; 62° F; winds 0-1 mph; 100% cloud cover	10:00 A.M.; 65° F; winds 0-1 mph; 50% cloud cover
6/16/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
6/16/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 5	8:00 A.M.; 63° F; winds 0-1 mph; 100% cloud cover	10:45 A.M.; 65° F; winds 0-1 mph; 100% cloud cover
6/17/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
6/18/03	1-2a 2-1b 4-2b, c	C. Jones	WIFL 2	7:00 A.M.; 61° F; winds 0-3 mph; 100% cloud cover	11:00 A.M.; 67° F; winds 0-3 mph; 100% cloud cover
6/20/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
6/25/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 6	6:15 A.M.; 59° F; winds 0 mph; clear sky	9:45 A.M.; 61° F; winds 0-1 mph; clear sky
6/26/03	2-1b 1-2a, b	D. Busby	LBV 6	8:00 A.M.; 69° F; winds 0 mph; clear sky	11:00 A.M.; 76° F; winds 2-6 mph; 50% cloud cover
6/27/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 6	6:45 A.M.; 64° F; winds 0 mph; 100% cloud cover	9:15 A.M.; 65° F; winds 0 mph; 100% cloud cover

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
7/3/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/7/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 7	7:30 A.M.; 64° F; winds 0-2 mph; 100% cloud cover	11:00 A.M.; 70° F; winds 0-2 mph; clear sky
7/9/03	1-2a, b 4-2b, c	C. Jones	LBV 7 WIFL 3	7:30 A.M.; 67° F; winds 0-3 mph; 100% cloud cover	11:15 A.M.; 75° F; winds 0-5 mph; clear sky
7/9/03	2-1b	D. Busby	LBV 7	8:00 A.M.; 67° F; winds 0 mph; 100% cloud cover	9:45 A.M.; 69° F; winds 0 mph; 500% cloud cover
7/10/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 7	7:00 A.M.; 67° F; winds 0-1 mph; 100% cloud cover	9:30 A.M.; 68° F; winds 0-1 mph; 100% cloud cover
7/11/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/16/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/18/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
7/23/03	2-1b 1-2a 1-2b	D. Busby	LBV 8	8:00 A.M.; 64° F; winds 0 mph; 100% cloud cover	10:45 A.M.; 70° F; winds 1-3 mph; light haze
7/25/03	2-2b 4-2a, b 4-1dS	D. Busby	LBV 8	7:15 A.M.; 68° F; winds 0 mph; 100% cloud cover	10:00 A.M.; 70° F; winds 0 mph; 50% cloud cover
7/28/03	2-1c 2-2c 3-2b 3-3a, b, c 4-2c, d	D. Busby	LBV 8	8:00 A.M.; 71° F; winds 0-3 mph; 100% cloud cover	11:00 A.M.; 79° F; winds 2-3 mph; 75% cloud cover

TABLE 1
SURVEY DETAILS FOR THE CHULA VISTA BASELINE BIOLOGICAL SURVEY
(continued)

Date	Subunit	Surveyor*	Survey	Beginning Conditions	Ending Conditions
7/31/03	N/A	B. Primrose M. Dodero	Rare plant survey	8:30 A.M.	4:00 P.M.
8/1/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
8/26/03	N/A	B. Primrose	Rare plant survey	8:30 A.M.	4:00 P.M.
10/7/03	N/A	B. Primrose	Vegetation Mapping	8:30 A.M.	4:00 P.M.
11/21/03	N/A	B. Primrose M. Dodero	Vegetation Mapping	8:30 A.M.	4:00 P.M.
11/22/03	N/A	B. Primrose M. Dodero	Vegetation Mapping	8:30 A.M.	4:00 P.M.

°F = degrees Fahrenheit; mph = miles per hour; % = percentage; N/A = Not available.

*Surveyors (full names):

Darin Busby; Amy Clark; Mark Dodero; Angelique Hamel; Cindy Jones; Cheri Kim; Wendy Loeffler; Jennifer MacAller; Harry Price; Brant Primrose; Diana Saucedo-Ortiz; Jill Seed; Brian Woodward

3.2.1 Vegetation Communities

RECON biologists Wendy Loeffler, Cheri Kim, Jennifer MacAller, and Jill Seed mapped vegetation communities on September 27, 2002 on a 1 inch equals 400 feet aerial photograph flown in January 2001. Vegetation communities were assessed and mapped within each subunit. Vegetation community classifications follow Holland (1986). Communities were field verified in 2003 by Mark Dodero and Brant Primrose during the sensitive plant surveys and the maps revised accordingly.

3.2.2 General Plant Surveys

RECON biologist Brant Primrose conducted general plant surveys. The survey dates are presented in Table 1. All plant species apparent at the time of the surveys were recorded for each subunit. Floral nomenclature for common species follows Hickman (1993) and Munz (1974) and for ornamental species follows Staff of the L. H. Bailey Hortorium (1976). Species that could not be readily identified in the field were collected and identified using a taxonomic key. Any additional plants identified during the sensitive plants focused surveys were also recorded and the species lists revised accordingly.

3.2.3 Sensitive Plant Surveys

RECON biologists Brant Primrose and Mark Dodero conducted sensitive plant surveys. The survey dates are presented in Table 1. All sensitive plants observed during the general and focused rare plant surveys were mapped on a 1 inch equals 400 feet aerial photograph flown in January 2001. Floral nomenclature for sensitive species follows Hickman (1993), California Native Plant Society (CNPS; 2001), Simpson and Rebman (2001), Beauchamp (1986), and Reiser (2001). Species that could not be readily identified in the field were collected and identified using a taxonomic key.

Suitable habitat for sensitive plant species was identified based on previously mapped locations and physical characteristics of the area (e.g., vegetation and soils). The schedule of the surveys accounts for the variances in plant species blooming periods.

3.3 Wildlife

Table 1 provides the dates and times that wildlife surveys were conducted, the personnel involved, and the weather conditions under which the surveys were conducted.

Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (1998) and Unitt (1984); for mammals, Jones et al. (1997) and Hall (1981); and for amphibians and reptiles, Crother (2001) and Crother et al. (2003). Assessments of the sensitivity of species and habitats are based primarily on CNPS (2001), State of California (2003a, 2003b, 2003c, 2003d, 2003e), U.S. Fish and Wildlife Service (USFWS; 2002), and Holland (1986).

3.3.1 General Wildlife Surveys

General wildlife surveys were conducted by walking extensively throughout each PMA subunit. All wildlife observed or detected was recorded. Tracks, scat, burrows, den sites, vocalizations, and other species-specific sign were also used to identify wildlife presence in the field. Wildlife observed incidentally while conducting other surveys were also recorded.

Direct observations of predators or their sign were mapped on a 1 inch equals 400 feet scale aerial photograph flown in January 2001. Predators of interest include, but are not limited to, western spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), Virginia opossum (*Didelphis virginiana*), and bobcat (*Lynx rufus*).

3.3.2 General Bird Surveys

RECON biologists conducted seasonal bird surveys in all PMAs during the summer and fall of 2002 (see Table 1). Birds were identified visually or by their vocalizations. All sensitive bird species locations were mapped on a 1 inch equals 400 feet scale aerial photograph flown in January 2001. Winter bird surveys were conducted in December of 2002 and January of 2003. Nesting bird surveys were conducted between April and June of 2003.

3.3.3 Focused Bird Surveys

Focused surveys were conducted for three listed bird species: coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*). See Table 1 for survey dates, times, personnel, and weather conditions.

RECON biologists conducted focused surveys for the federally listed threatened coastal California gnatcatcher in the spring of 2003 according to the USFWS Coastal California Gnatcatcher Survey Guidelines (USFWS 1997) that require three surveys conducted at least seven days apart. Surveys were conducted between April 22 and June 5. Incidental sightings of this species made during all other surveys were recorded.

RECON biologists Cynthia Jones and Darin Busby conducted focused surveys for least Bell's vireo according to USFWS survey guidelines that require eight surveys at least 10 days apart between April 1 and July 31 (USFWS 2001). The surveyors walked meandering transects adjacent to areas of suitable least Bell's vireo habitat within the survey area.

Cynthia Jones conducted focused surveys for the southwestern willow flycatcher according to the accepted guidelines provided by the USFWS protocol (Sogge et al. 1997; USFWS 2000), which require at least one survey between May 15 and 31; one

survey between June 1 and 21; and three surveys, at least five days apart, between June 22 and July 17.

3.3.4 Roadkill

Roadkill surveys consisted of searching for any animal remains on (or near) roads and highways adjacent to or within each PMA subunit. A carcass would be considered roadkill if death was clearly caused by motorized vehicular traffic.

3.4 Wildlife Movement and Corridors

Habitat linkages and wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Habitat linkages and wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations. These areas are considered sensitive by the City of Chula Vista and resource and conservation agencies.

Wildlife movement corridors and potential wildlife movement corridors were mapped based on the presence of adjacent or nearby open space, the connectivity of PMA subunits, and the ability for wildlife to flow from region to region. Areas identified as potential wildlife movement corridors include pathways that connect subunits across lower-traffic volume roads, where nocturnal terrestrial movement may be possible.

3.5 Drainages, Culverts, and Desiltation Basins

Major drainages and channels are defined here as either natural or artificial channels that provide a course for the flow of water, whether that flow is continuous or intermittent. These drainages occur in the canyon bottoms and are often associated with riparian vegetation.

Culverts are structures that allow the flow of water along the ground level or a drainage structure that extends across or beneath roadways, canals, or embankments. Culverts are used for both roadway drainage and for channel crossings. Culverts are made of a variety of materials, including corrugated metal pipe, concrete, and plastic. They also come in a variety of shapes, including round, box, and arch. End sections are often placed on culverts to control and enhance the entrance and exit hydraulic conditions. Often times, larger culverts contribute to wildlife movement. The locations of culverts and potential wildlife movement areas are shown on Figures 5 through 11, which are at the end of each PMA section.

Desiltation basins, for the purposes of this document, are man-made structures that are able to reduce the velocity of moving water with a resulting deposition of silt particles

onto the bottom of the basin or behind the structure. The locations of desiltation basins are shown on Figures 5 through 11, which are at the end of each PMA section.

Sewer alignments traverse various subunits. Access roads and staging areas for maintenance are situated on or adjacent to the sewer alignments. These maintenance roads and areas are depicted on Figures 5 through 11, which are at the end of each PMA section.

3.6 Dumping, Trespassing, and Vagrant Encampments

Any signs of illegal trash dumping or trespassing, including bicycle paths and vagrant encampments, were noted and mapped.

4.0 RESOURCES AND SURVEY RESULTS

Resources and survey results for PMAs 1 through 4 are discussed separately in the following sections. To eliminate repetition of general information throughout the document, resource descriptions and survey results have been provided in attachments at the end of this document. Attachment 3 provides general vegetation communities descriptions, Attachment 4 is a list of all plant species historically observed/detected in PMAs 1-4, Attachment 5 lists all sensitive plant species observed or potential to occur in PMAs 1-4, and Attachment 6 is the species status codes. Attachment 7 provides general descriptions of sensitive plant species discussed in this document. Attachment 8 is a list of all wildlife species observed/detected in PMAs 1-4, Attachment 9 lists all sensitive wildlife species observed or with potential to occur in PMAs 1-4. Attachment 10 provides general descriptions of sensitive wildlife species discussed in this document. Attachments 11-18 provide the detailed breakdown of plants and animal species identified during the current surveys by subunit within each PMA.

4.1 PMA 1

PMA 1 consists of nine subunits totaling 502.6 acres. All figures pertaining to PMA 1 are in numerical order at the end of this section. Figure 4 presents an overview of the subunits and Figure 5 is the locator map for Figures 5a-5m.

4.1.1 Site Description

4.1.1.1 Topography

The subunits in PMA 1 contain a series of moderately steep hills and canyons cut by arroyos that feed into Rice Canyon through the center of the PMA and the Sweetwater Valley to the north. Elevation varies between 100 feet above mean sea level (AMSL) at the western edge to three peaks in the eastern part of the PMA that are between 480 and 490 feet AMSL. The southeastern half of the PMA forms part of the watershed of Rice Creek, an intermittent stream that flows from riparian habitat into culverts where it

reaches the I-805 corridor. The northern part of PMA 1 contains generally north-facing slopes above the broad floodplain of the Sweetwater River (U.S. Geological Survey [USGS] 1967a).

4.1.1.2 Soils

PMA 1 contains the following soil types: Linne clay loam, Diablo clay, Olivenhain cobbly loam, Salinas clay loam, and terrace escarpments. Linne clay loam and Diablo clay soils are well-drained, moderately deep to deep soils that are derived from calcareous marine sandstone and shale. The topsoil in Diablo clay soils is dark gray topsoil, and in Linne clay loam soils is gray. Olivenhain cobbly loam soils are similar to these soils, but are formed from alluvium and have a brown to reddish brown cobbly loam topsoil layer. Olivenhain cobbly loam soils are found in or on the plateaus and high hills in the area. Diablo clay soils are found predominantly in the northern part of the area and in Rice Canyon. Other common soils in the area are Salinas clay loams, which occur along Rice Canyon, and terrace escarpments in the western end of the site (U.S. Department of Agriculture [USDA] 1973).

4.1.2 Botanical Resources

There are nine vegetation communities and land cover types present in PMA 1: maritime succulent scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern willow scrub, native grassland, freshwater marsh, non-native grassland, eucalyptus woodland, and disturbed. The acreages of these vegetation communities within PMA 1 are shown in Table 2. Vegetation communities mapped on-site are shown on Figures 5a-5m. The following text provides detailed descriptions of the vegetation communities specific to PMA 1. See Attachment 3 for complete general vegetation community descriptions.

Plants historically observed within the PMA 1 are listed in Attachment 4. Attachment 11 provides a list of plants identified during the current surveys in each subunit of PMA 1.

TABLE 2
VEGETATION COMMUNITIES AND
LAND COVER TYPES ON PMA 1

Vegetation Type	Acres
Maritime succulent scrub	149.5
Diegan coastal sage scrub	297.0
Disturbed Diegan coastal sage scrub	8.5
Southern willow scrub	16.8
Native grassland	15.0
Non-native grassland	2.1
Freshwater marsh	0.3
Eucalyptus woodland	0.7
Disturbed	12.7
Total for PMA 1	502.6

4.1.2.1 Maritime Succulent Scrub (149.5 acres) (Holland Code 32400)

In PMA 1, this vegetation community is generally dense and dominated by jojoba (*Simmondsia chinensis*) and succulent species such as shore cactus (*Opuntia littoralis*), cholla (*Cylindropuntia prolifera*), snake cholla (*Cylindropuntia californica* var. *californica*), and Mohave yucca (*Yucca schidigera*). Maritime succulent scrub provides quality habitat for sensitive wildlife species such as the coastal cactus wren (*Campylorhynchus brunneicapillus couesi*).

4.1.2.2 Diegan Coastal Sage Scrub (297.0 acres) and Disturbed Diegan Coastal Sage Scrub (8.5 acres) (Holland Code 32500)

In PMA 1, this vegetation community is considered to be high-quality habitat for a number of wildlife species including the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) and woodrat (*Neotoma* spp.). This vegetation community is dominated by species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), broom baccharis (*Baccharis sarothroides*), common encelia (*Encelia californica*), coast goldenbush (*Isocoma menziesii*), and lemonadeberry (*Rhus integrifolia*). Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry dominated areas average shrub height ranges from 8 to 15 feet. These areas are generally on the north-facing slopes.

Disturbed Diegan coastal sage scrub is present in areas that include a greater percentage of weedy, non-native species. These include black mustard (*Brassica nigra*), star-thistle (*Centaurea melitensis*), wild oats (*Avena* sp.), pampas grass (*Cortaderia selloana*), and bromes (*Bromus* spp.).

4.1.2.3 Non-native Grassland (2.1 acres) (Holland Code 42200)

In PMA 1, non-native grassland is primarily dominated by wild oats, black mustard, pampas grass, and star-thistle. This vegetation community provides foraging habitat for raptor species such as red-shouldered hawk (*Buteo lineatus elegans*) and mammal species such as desert cottontail (*Sylvilagus audubonii*). The average height of this vegetation ranges from two to three feet in the star-thistle dominated areas to eight feet and higher in black mustard dominated areas.

4.1.2.4 Southern Willow Scrub (16.8 acres) (Holland Code 63320)

Within PMA 1, southern willow scrub is primarily dominated by western sycamore (*Platanus racemosa*), western cottonwood (*Populus fremontii*), Gooding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*). This habitat provides foraging and breeding habitat for several sensitive birds including yellow warbler (*Dendroica petechia*). Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

4.1.2.5 Native Grassland (15.0 acres) (Holland Code 42100)

Native grassland occurs in patches averaging approximately 0.75 acre in size. These patches are present within the Diegan coastal sage scrub vegetation and are dominated by species including needlegrass (*Nassella* sp.), common goldenstar (*Bloomeria crocea* ssp. *crocea*), and blue-eyed grass (*Sisyrinchium bellum*). Significant Otay tarplant (*Deinandra conjugens*) and small-flowered morning glory (*Convovulus similans*) populations are present in several of the subunits; these areas are mapped on Figures 5b, 5c, 5e, 5f, and 5j. Non-native grass species such as wild oats and bromes have invaded the native grassland areas to some extent. Native grasslands range in average vegetation height from one to three feet.

4.1.2.6 Freshwater Marsh (0.3 acre) (Holland Code 52400)

The small patch of freshwater marsh in subunit 1-2a is dominated by cattails (*Typha* sp.). The extremely small patch size does not provide quality habitat for many species; however, amphibian species such as Pacific treefrog (*Hyla regilla*) have the potential to occur. The average vegetation height of a freshwater marsh is approximately five to seven feet.

4.1.2.7 Eucalyptus Woodland (0.7 acre) (Holland Code 11100)

The area of eucalyptus woodland in subunit 1-1b is dominated by eucalyptus (*Eucalyptus* spp.) trees with little to no understory species present. Despite the monoculture of plant species and lack of canopy diversity, eucalyptus woodland areas

support nectar and insect-eating bird species such as Anna's hummingbird (*Calypte anna*) and house finch (*Carpodacus mexicanus frontalis*). Raptor species use eucalyptus woodlands for hunting and nesting. Eucalyptus woodlands range in height from 30 to 50 feet or higher in more mature stands.

4.1.2.8 Disturbed (12.7 acres) (Holland Code 12000)

Disturbed habitat in PMA 1 includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of native and non-native vegetation including California buckwheat, broom baccharis, wild oats, ripgut grass (*Bromus diandrus*), and star-thistle (*Centaurea melitensis*).

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the eastern portion of PMA 1 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 1-2c, 1-2d, and 1-2e.

4.1.3 Zoological Resources

Attachment 8 provides a complete list of all wildlife species present in PMAs 1-4. Attachment 12 provides a list of species present specifically within each subunit of PMA 1. Wildlife observed includes 15 species of butterflies, 6 species of reptiles, 69 species of birds, and 8 species of mammals.

4.1.3.1 Amphibians

Amphibians require moisture for at least a portion of their lifecycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season.

No amphibians were observed in PMA 1. Some common species expected to occur in the central drainage (subunits 1-2a and 1-2b) include Pacific treefrog (*Hyla regilla*) and bullfrog (*Rana catesbeiana*).

4.1.3.2 Reptiles

The diversity and abundance of reptile species vary with habitat type. Many reptiles are restricted to certain vegetation communities and soil types, although some species may forage in adjacent communities. Other species are ubiquitous and use a variety of vegetation types for foraging and shelter.

Six reptile species were detected in PMA 1. The three common species are the western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), and the San Diego gopher snake (*Pituophis catenifer annectens*). Belding's orange-throated whiptail (*Aspidoscelis* [=*Cnemidophorus*] *hyperythrus* beldingi), San Diego horned lizard (*Phrynosoma coronatum* blainvillii), and red diamond rattlesnake (*Crotalu exsul*) were all detected within PMA 1 as well. These sensitive reptile species are described in the Sensitive Species section.

4.1.3.3 Birds

The ability of native habitats to support a diversity of bird species is dependent on quality, habitat size and diversity, and the degree of fragmentation. Diegan coastal sage scrub provides good foraging, nesting, and cover for a variety of birds, including songbirds. Grassland habitats support a number of grassland birds and provides foraging habitat for raptors as well. Riparian habitats typically have a high number of bird species because they provide protection and food even throughout the dry summer months.

Bird species commonly observed in the scrub vegetation include wrentit (*Chamaea fasciata henshawi*), California towhee (*Pipilo crissalis*), spotted towhee (*P. maculatus*), western scrub-jay (*Aphelocoma californica*), Bewick's wren (*Thyromanes bewickii*), and lesser goldfinch (*Carduelis psaltria*).

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed within the southern willow scrub include song sparrow (*Melospiza melodia*), common yellowthroat (*Geothlypis trichas*), house wren (*Troglodytes aedon parkmanii*), lesser goldfinch, yellow-rumped warbler (*Dendroica coronata*), and song sparrow (*Melospiza melodia*).

Birds typically found in non-native grassland and disturbed environments include American crow (*Corvus brachyrhynchos hesperis*), black phoebe (*Sayornis nigricans semiatra*), mourning dove (*Zenaida macroura marginella*), northern mockingbird (*Mimus polyglottos*), and house finch (*Carpodacus mexicanus frontalis*).

4.1.3.4 Mammals

Naturally vegetated areas provide cover and foraging opportunities for a variety of mammal species. Many mammal species are nocturnal and are detected during daytime surveys by sign such as scat, tracks, and burrows.

Mammal species observed and detected within PMA 1 include desert cottontail, California ground squirrel (*Spermophilus beecheyi*), coyote, common raccoon (*Procyon lotor*), gray fox, and bobcat. These are likely to be present in any of the vegetation communities and habitats found within PMA 1.

4.1.4 Sensitive Species

For purposes of this report, a species is considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or are candidates or proposed for such listing; (2) considered rare, endangered, or threatened by the State of California and listed in the Natural Diversity Data Base (NDDB; State of California 2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista Multiple Species Conservation Program Subarea Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered rare, sensitive, or noteworthy by local conservation organizations or specialists. Noteworthy plant species are considered to be those that are on Lists 3 and 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by the NDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life history, and range. Figures 5a-5m map the locations of sensitive wildlife and plants detected during the current surveys.

4.1.4.1 Sensitive Plant Species

Twelve listed, sensitive, and rare plant species are present in PMA 1. Several sensitive plant species are historically known from the PMA or are known to occur in the vicinity of the site, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed on the site during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are

regionally considered sensitive by CNPS, such as San Diego County viguiera or small-flowered morning glory because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

Observed

San Diego thornmint (*Acanthomintha ilicifolia*)—a narrow endemic species covered under the MSCP. This annual is federally listed threatened, state listed as endangered, and is a CNPS List 1B species. San Diego thornmint individuals are present along the southeast side of Rice Canyon in subunit 1-2b. There is a population of approximately 1,430 individuals growing in a clay lens adjacent to the drainage.

San Diego bur-sage (*Ambrosia chenopodifolia*). This perennial shrub is a CNPS List 2 species. A few individuals of this species are present in PMA subunit 1-1a, within Diegan coastal sage scrub.

South coast saltbush (*Atriplex pacifica*). This prostrate perennial is a CNPS List 1B species. This plant is present in subunits 1-1a and 1-2b; and four individuals are present in subunit 1-2a.

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*). This annual is a CNPS List 1B species. This species was found in subunits 1-1b (15 individuals) and 1-2a (two individuals).

Small-flowered morning glory (*Convolvulus similans*). This annual is a CNPS List 4 species. Thousands of individuals of this species were found along the drainage of Rice Canyon in subunit 1-2b, and in subunits 1-1c and 1-1d.

Snake cholla (*Cylindropuntia californica* [=*Opuntia californica* var. *californica*])—a narrow endemic covered under the MSCP. This perennial cactus is a CNPS List 1B species. A few individuals are scattered in Diegan coastal sage scrub in PMA 1 subunits 1-1a, 1-1b, and 1-2b. Thirty-four individuals are present in subunit 1-2a.

Otay tarplant (*Deinandra conjugens* [=*Hemizonia conjugens*])—a narrow endemic species covered under the MSCP. This annual is federally threatened, state listed as endangered, an MSCP covered species, is considered a narrow endemic, and is a CNPS List 1B species. There is a population of this species exceeding 60,000 individuals in subunit 1-1a immediately adjacent to the access road that leads to a desiltation basin. Approximately 100,000 individuals are present in the native grassland vegetation in subunit 1-2b. There are populations of this species of approximately 50 individuals in subunit 1-1b, 1000 individuals in subunit 1-1d, and 30,000 individuals in subunit 1-1c.

Variegated dudleya (*Dudleya variegata*)—a narrow endemic species covered under the MSCP. This succulent perennial is a MSCP covered species, is considered to

be a narrow endemic, and a CNPS List 1B species. This species is present in subunits 1-1c (30 individuals) and 1-2b (220 individuals).

San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species. This succulent perennial is a CNPS List 2 species. There are a few individuals present in subunit 1-1a, and approximately 15 individuals in subunit 1-2a. A population of approximately 60 individuals is present in subunit 1-2e.

Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*). This annual herb is a CNPS List 2 species. This species is present in subunits 1-1a, 1-1b, and 1-1c. A population of approximately 200 individuals is present in subunit 1-2b.

San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [=*Corethrogyne filaginifolia* var. *incana*]). This perennial herb is a CNPS List 1B species. Small, scattered populations of this species are present in subunits 1-1a, 1-1b, 1-1c, 1-1d, 1-2a, 1-2c, and 1-2d, typically in Diegan coastal sage scrub.

San Diego County viguiera (*Viguiera laciniata*). This perennial shrub is a CNPS List 4 species. This species was observed in PMA subunits 1-1a, 1-1c, 1-1d, 1-2a, 1-2b, 1-2c, 1-2d, and 1-2e.

Not Observed

California adolphia (*Adolphia californica*). This perennial shrub is a CNPS List 2 species. There is low potential for this shrub to occur on the clay-soil slopes. Although not observed, a few scattered individuals may have not been detected in the dense matrix of coastal sage scrub.

San Diego ambrosia (*Ambrosia pumila*). This perennial herb is a federally threatened species and considered to be an MSCP narrow endemic species. San Diego ambrosia has a low potential to occur in the drainage of Rice Canyon. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Loamy clay soils are present in these areas in PMA 1.

Golden-spined cereus (*Bergerocactus emoryi*). This perennial cactus is a CNPS List 2 species. There is a low potential for golden-spined cereus to occur even though suitable habitat is present because the species is at the northern limits of its range and the species is unlikely to have been missed during surveys.

Orcutt's brodiaea (*Brodiaea orcuttii*). This perennial herb is a CNPS List 1B species. Orcutt's brodiaea has a low potential to occur on PMA 1. This plant typically grows adjacent to vernal pools, which do not occur in PMA 1.

Orcutt's bird's-beak (*Cordylanthus orcuttianus*). This annual herb is a CNPS List 2 species. Orcutt's bird's beak has a moderate potential to occur. The species may be

present in low numbers, but may not have been detected due to seasonal survey constraints as discussed above.

Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [=*Haplopappus palmeri* ssp. *palmeri*]). This perennial shrub is a narrow endemic covered under the MSCP. Palmer's ericameria has a low potential to occur. The preferred habitat contains sandy loam soils, as opposed to the clay and clay loams found in PMA 1.

Cliff spurge (*Euphorbia misera*). This succulent perennial shrub is a CNPS List 2 species. There is a low potential for cliff spurge to occur in areas of Olivenhain soils with a sufficient cobbly loam layer to support this species, but much of that soil type on the mesa tops in the area has been impacted by development.

San Diego marsh elder (*Iva hayesiana*). This perennial shrub is a CNPS List 2 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 1, but the species was not detected.

Spiny rush (*Juncus acutus* ssp. *leopoldii*). This is a CNPS List 4 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 1.

San Diego goldenstar (*Muilla clevelandii*). This perennial herb is a CNPS List 1B species. San Diego goldenstar typically grows in gravelly clay loam soils. There is a moderate potential for this species to occur, but common goldenstar was observed in all areas that appeared to have suitable habitat for San Diego goldenstar. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

Spreading navarretia (*Navarretia fossalis*). This annual herb is a federally threatened species, and is a narrow endemic covered under the MSCP. Suitable vernal pool habitat is not present in PMA 1 and this species is not expected to occur.

Otay mesa mint (*Pogogyne nudiuscula*). This annual herb is a federal and state endangered species, an MSCP covered species, and is considered to be a narrow endemic. Suitable vernal pool habitat is not present in PMA 1 and this species is not expected to occur.

Nuttall's scrub oak (*Quercus dumosa*). This perennial shrub is a CNPS List 1B species. This species was not observed during surveys and has a low potential to occur on more densely vegetated north-facing slopes.

Munz's sage (*Salvia munzii*). This perennial shrub is a CNPS List 2 species. Munz's sage was not detected on PMA 1, and has a low potential to occur in coastal sage scrub.

4.1.4.2 Sensitive Amphibians

No sensitive amphibians have been detected in PMA 1. One sensitive species with the potential to occur is the western spadefoot (*Spea hammondii*). This species is discussed below.

Not Observed

Western spadefoot (*Spea hammondii*). The western spadefoot is a CDFG species of special concern. There is a moderate potential for this species to occur in the riparian and wetland habitat present on PMA 1.

4.1.4.3 Sensitive Reptiles

Two sensitive species were observed in PMA 1. A number of other sensitive species have a potential to occur. These species are discussed below.

Observed

Belding's orange-throated whiptail (*Aspidoscelis* [=*Cnemidophorus*] *hyperythrus beldingi*)—an MSCP covered species. Belding's orange-throated whiptail is a CDFG species of special concern. This species was observed in subunit 1-2b and is expected to occur throughout PMA 1.

San Diego horned lizard (*Phrynosoma coronatum blainvillii*)—an MSCP covered species. This species is a CDFG species of special concern. San Diego horned lizard was observed in subunits 1-2a and 1-2c. This species is likely to occur in the coastal sage scrub habitat throughout PMA 1.

Red diamond rattlesnake (*Crotalusexsul*). The red diamond rattlesnake is a CDFG species of special concern. A red diamond rattlesnake was observed in subunit 1-2a and is expected to occur throughout PMA 1.

Not Observed

Coronado skink (*Eumeces skiltonianus interparietalis*). The Coronado skink is a CDFG species of special concern. Suitable grassland habitat for this species is present on PMA 1 and there is a moderate potential for it to occur.

Silvery legless lizard (*Anniella pulchra pulchra*). This species is a CDFG species of special concern. The silvery legless lizard has a low potential to occur in loose, sandy areas of the southern willow scrub vegetation in Rice Canyon.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*). This species has a moderate potential to occur in open areas of PMA 1, including the native grassland and southern willow scrub habitat.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*). The coast patch-nosed snake is a CDFG species of special concern. This species has a potential to occur in grassland or scrub areas of PMA 1 that have sandy or rocky soils suitable for burrowing.

Two-striped garter snake *(Thamnophis hammondii).* The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur near the drainages in PMA 1.

4.1.4.4 Sensitive Birds

Seven sensitive bird species were detected on PMA 1 and are shown on Figures 5a-5m. Several others have the potential to occur. These species are discussed below.

Observed

Cooper's hawk (*Accipiter cooperii*)—an MSCP covered species. The Cooper's hawk is a CDFG species of special concern. Cooper's hawk was observed in subunits 1-1a, 1-1c, 1-1d, 1-2b, and 1-2d. Nesting evidence was observed in subunit 1-2a. Suitable foraging and nesting habitat is present in PMA 1.

Sharp-shinned hawk (*Accipiter striatus*). This species is a CDFG species of special concern. Sharp-shinned hawk was observed in subunits 1-1a and 1-2b. Foraging habitat is present in the southern willow scrub and eucalyptus woodland, and to a lesser extent, in the scrub habitat. This species is a rare breeder in San Diego County and not expected to nest within PMA 1.

Swainson's hawk (*Buteo swainsoni*)—an MSCP covered species. The Swainson's hawk is state listed as threatened. Swainson's hawk was observed flying over PMA 1 (subunit 1-1a). Foraging habitat is present, but this species is not expected to breed in the area as the local breeding population has been extirpated (Unitt 1984).

Vaux's swift (*Chaetura vauxi vauxi*). The Vaux's swift is a CDFG species of special concern. This fall migrant was observed flying over subunits1-1a and 1-2b. This species is not expected to nest locally.

Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*) —an MSCP covered species. The coastal cactus wren is a CDFG species of special concern. Seven coastal cactus wren locations were observed in PMA 1. One location is in the maritime succulent scrub in subunit 1-1a. Six locations are in the maritime succulent scrub in subunit 1-2b. Individuals exhibiting nesting behavior (i.e., carrying nesting material or feeding young) were observed in subunit 1-2a. Potential nesting habitat is

present in areas containing large patches of cactus species, particularly in the maritime succulent scrub habitat.

Willow flycatcher (*Empidonax traillii*). The willow flycatcher is a state listed endangered species. A willow flycatcher of undetermined subspecies was observed in the southern willow scrub habitat along Rice Canyon. This individual was likely using the area as a migration stop-over and did not breed locally.

Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species. The coastal California gnatcatcher is a federally listed threatened species and a CDFG species of special concern. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and in general, represents a probable territory. A total of 29 gnatcatcher locations were observed in PMA 1. Five gnatcatcher locations were observed in subunit 1-1a; one of which includes a pair exhibiting nesting behavior (i.e., carrying nesting material). One gnatcatcher nest was positively identified. Two gnatcatcher locations were identified in subunit 1-1d. Six coastal California gnatcatcher locations were observed in subunit 1-2a, one of which includes a pair with three fledglings. Nine gnatcatcher locations were identified in subunit 1-2b. Six gnatcatcher locations were identified in subunit 1-2c. One gnatcatcher location was identified in subunit 1-2e. Additionally, two gnatcatcher locations were identified and mapped outside of the preserve lands (see Figures 5b and 5m). Suitable nesting habitat is available in all of the PMAs.

Yellow warbler (*Dendroica petechia*). The yellow warbler is a CDFG species of special concern. A male yellow warbler was observed in the southern willow scrub habitat in subunit 1-2a. Suitable nesting habitat is present, and it is likely that the observed male was part of a breeding pair.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species. The southern California rufous-crowned sparrow is a CDFG species of special concern. Southern California rufous-crowned sparrow was observed in subunit 1-2b in the coastal sage scrub. Potential breeding and nesting habitat is present in all of the subunits.

Not Observed

White-tailed kite (*Elanus leucurus*). The white-tailed kite is a CDFG fully protected species. Potential foraging and nesting habitat for the white-tailed kite is present in PMA 1.

Northern harrier (*Circus cyaneus hudsonius*). The northern harrier is an MSCP covered species and a CDFG species of special concern. Potential foraging and nesting habitat for the northern harrier is present in the grassland and open scrub areas of PMA 1.

Golden eagle (*Aquila chrysaetos*). The golden eagle is an MSCP covered species and a CDFG species of special concern. Potential foraging habitat for the golden eagle is present in PMA 1, but the potential for nesting is low. The closest known breeding location is to the northeast at San Miguel Mountain.

Western burrowing owl (*Speotyto cunicularia hypugaea*). The western burrowing owl is an MSCP covered species and a CDFG species of special concern. This species has a low potential to occur on PMA 1 during the fall and winter in areas with existing burrows. This species is not expected to nest in the PMA.

Southwestern willow flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 1 due to a lack of suitable breeding habitat. The southern willow scrub present is too narrow and does not provide the proper canopy configuration. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.

California horned lark (*Eremophila alpestris actia*). The California horned lark is a CDFG species of special concern. There is a moderate potential for this species to forage and breed in the grassland and open scrub areas of PMA 1.

Loggerhead shrike (*Lanius ludovicianus*). The loggerhead shrike is a CDFG species of special concern. This species has a high potential to occur in PMA 1, as suitable foraging and breeding habitat is available in the grassland and open scrub areas.

Least Bell's vireo (*Vireo bellii pusillus*). The least Bell's vireo is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003. There is a moderate potential for this species to breed in the large drainage in subunits 1-2a and 1-2b that supports southern willow scrub vegetation. This is currently not occupied by this species but could become so in the future if the habitat remains suitable.

Yellow-breasted chat (*Icteria virens*). The yellow-breasted chat is a CDFG species of special concern. This species was not observed during the focused riparian bird surveys conducted in 2003. There is moderate potential for the yellow-breasted chat to forage and nest in the suitable southern willow scrub habitat present in PMA 1. This is currently not occupied by this species but could become so in the future if the habitat remains suitable.

Bell's sage sparrow (*Amphispiza belli belli*). The Bell's sage sparrow is a CDFG species of special concern. This species was not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and

there is a low potential for this species to colonize areas of dense scrub in PMA 1 in the future.

Grasshopper sparrow (*Ammodramus savannarum*). There is a moderate potential for this species to occur in areas of tall grassland habitat on PMA 1.

Tricolored blackbird (*Agelaius tricolor*). The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. There is a potential for this species to forage in PMA 1, but it is unlikely to breed given the lack of a sizable area of freshwater marsh habitat and the proclivity of this species to occur in flocks.

Western bluebird (*Sialia mexicana*). The western bluebird is an MSCP covered species. The western bluebird is a potential winter migrant to all habitats in PMA 1.

4.1.4.5 Sensitive Mammals

One sensitive mammal species, southern mule deer (*Odocoileus hemionus fuliginata*), was detected in PMA 1. There is a potential for several other sensitive species to occur, including San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), southern grasshopper mouse (*Onychomys torridus ramona*), and San Diego desert woodrat (*Neotoma lepida intermedia*). These species are discussed below.

Observed

Southern mule deer (*Odocoileus hemionus fuliginata*)—an MSCP covered species. Southern mule deer tracks were observed in subunit 1-2a. This species is likely to occur in most subunits of PMA 1, provided the open space area is large enough or provides movement from one open area to another.

Not Observed

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a high potential for this species to be present in grassland or disturbed coastal sage scrub areas with sandy soils in PMA 1.

Southern grasshopper mouse (*Onychomys torridus ramona*). The southern grasshopper mouse is a CDFG species of special concern. There is a moderate potential for this species to be present in scrub areas with cactus patches in PMA 1.

San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present throughout the coastal sage scrub and maritime succulent scrub habitats in PMA 1.

4.1.5 Undescribed Plant Species

***Senecio* sp.** This unknown Senecio is a previously undescribed species found by Brant Primrose in Rice Canyon, PMA 1, subunits 1-2a and 1-2b in October of 2002. This perennial species is growing adjacent to a drainage that flows year-round. At the upper end of the drainage, the Senecio grows in an alkaline crust with the salt marsh species alkali-heath (*Frankenia salina*). Where the Senecio is found further downstream, the habitat becomes more riparian with changing soil composition and plant association. The Senecio grows two to eight feet tall. Leaves are linear along the entire stem of the plant and the flowers are small, yellow, and daisy-like. It grows in a large colonial-type pattern through the drainage areas. There are thousands of Senecio plants in the two subunits.

One individual of this species was detected in Irvine, California, several years ago by a biologist. Taxonomic identification was never pursued and this specimen is kept at the Rancho Santa Ana Botanical Garden.

Since the discovery of the Senecio in Chula Vista, the specimen has been examined at the San Diego Natural History Museum where it was determined by Jon Rebman, the Curator of Botany, to have not been previously detected in San Diego County. The specimen was then sent to Ted Barkley, a North American *Senecio* expert, who was also unfamiliar with this particular species. The plant has been examined by botanists at the Missouri and New York Botanical Gardens and is currently under examination at the Kew Botanical Gardens in England. There is a potential that this species will be declared an undescribed, new species.

4.1.6 Invasive Exotic Plant Species

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass (*Lolium* sp.), other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Pampas grass is a serious threat to native plants throughout PMA 1. Wind disperses this species' seed and it will rapidly outcompete native plants for resources. Subunit 1-1c has been invaded by a large population of pampas grass and a large number of pampas grass individuals are scattered throughout Rice Canyon in subunit 1-2b. All other subunits have been invaded by pampas grass to some degree.

Star-thistle, a ubiquitous weed that occurs throughout PMA 1, is a serious threat to native species.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include sweet fennel (*Foeniculum vulgare*), ice plant (*Carpobrotis edulis*), tamarisk (*Tamarix* sp.), hollow-stem asphodel (*Asphodelus fistulosus*), and filaree (*Erodium* sp.).

Figures 5d-5f and 5j illustrate the locations of invasive exotic species identified in PMA 1.

4.1.7 Other Survey Results

4.1.7.1 Roadkill

No roadkill was observed along any of the roadways adjacent to the subunits of PMA 1 during any of the surveys conducted.

4.1.7.2 Drainages, Channels, Culverts, and Detention Basins

Figures 5a-5m indicate culverts, detention basins, and maintenance access roads mapped in PMA 1. A detention basin is in subunit 1-1a where the coastal sage scrub and maritime succulent scrub interfaces. Culverts connect subunits 1-1c and 1-1d at the southern end. A culvert is in the coastal sage scrub in subunit 1-1d; this culvert likely drains runoff and storm water from the residential development to the south. A culvert in subunit 1-2a likely drains runoff and storm water from the residential development to the north. Two culverts are in the southern edge of subunit 1-2a near the freshwater marsh vegetation. A culvert connects subunits 1-2a and 1-2b under Rancho del Rey Parkway. The culverts that connect subunits are constructed to convey minor water flow. They would be large enough for small mammals, amphibians, and reptiles to pass through when dry or nearly dry. Medium-sized mammals, such as raccoon, fox, coyote, and bobcat could potentially use some of the larger culverts. Large mammals, such as southern mule deer and mountain lion, are not expected to use these culverts as movement corridors.

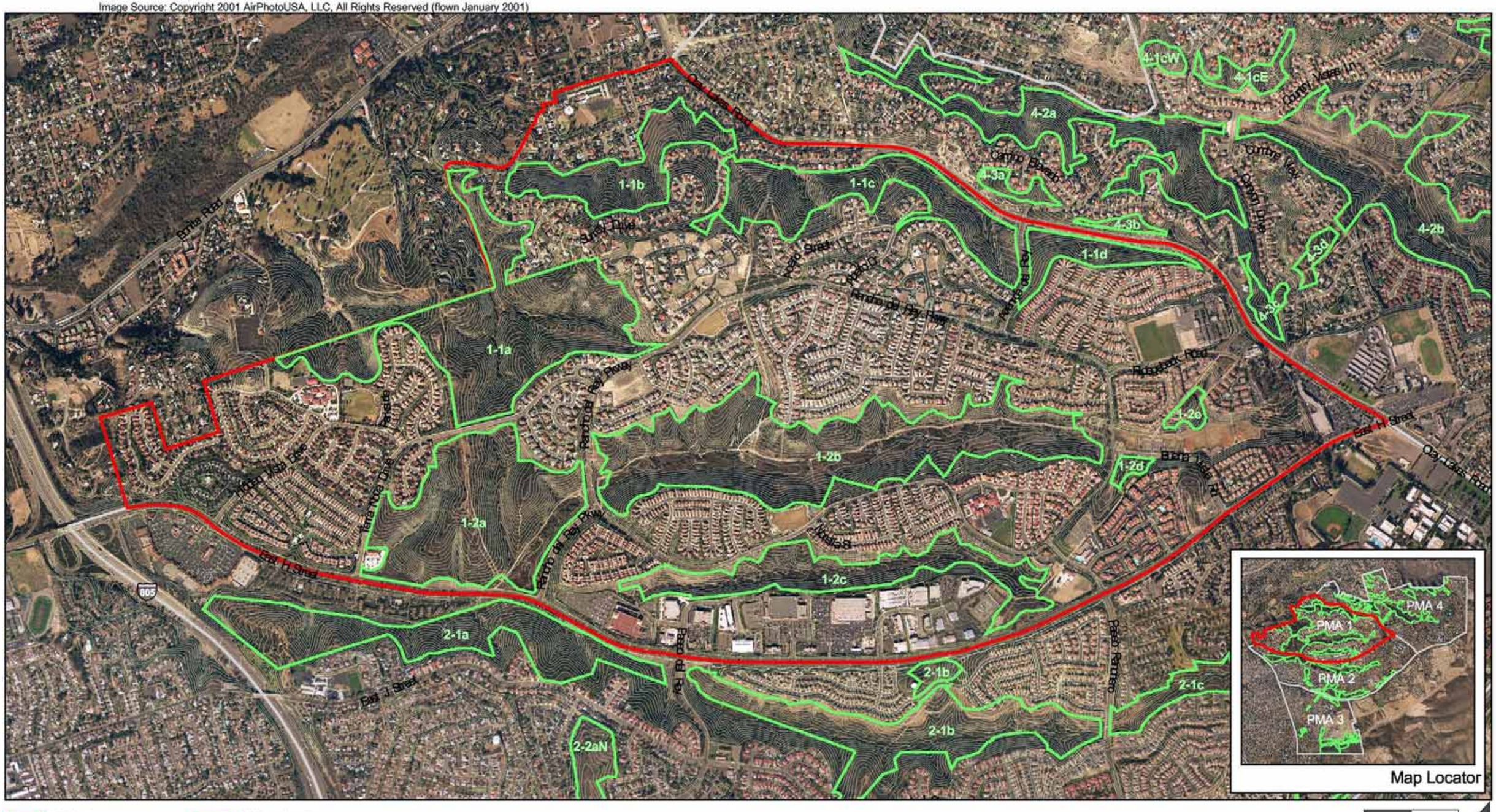
4.1.7.3 Wildlife Movement Corridor

Subunits in PMA 1 are situated sufficiently close together to allow for unimpeded bird movement between subunits. However, in many instances, roads that separate subunits likely decrease the number of terrestrially mobile animals that successfully cross from one subunit to another. Certain major roads, Otay Lakes Road, East H Street, Corral Canyon Road, and Telegraph Canyon Road, are not expected to provide significant pedestrian wildlife movement due to traffic volume and/or physical barriers such as cement lane dividers. Figures 5c-5d, 5f-5h, and 5k identify potential wildlife movement corridors or pathways in PMA 1. As mentioned above, the culverts identified are not large enough to support large mammals, but could potentially allow movement of smaller mammals, amphibians, and reptiles.

4.1.7.4 Dumping, Trespassing, and Vagrant Encampments

Two locations of dumping were mapped in PMA 1 and are shown on Figures 5a and 5g. City of Chula Vista workers were observed dumping landscape clippings over the side of the canyon near the tennis courts and park off Hidden Vista Drive. Trash lines the edges of the established trail that runs north-south in subunit 1-2a.

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)



RECON

M:\jobs2538931\bio\gis\pmss_figs.apr\
fig4 (pma1) 06/02/08

FIGURE 4
Preserve Management
Area 1 (PMA 1)

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

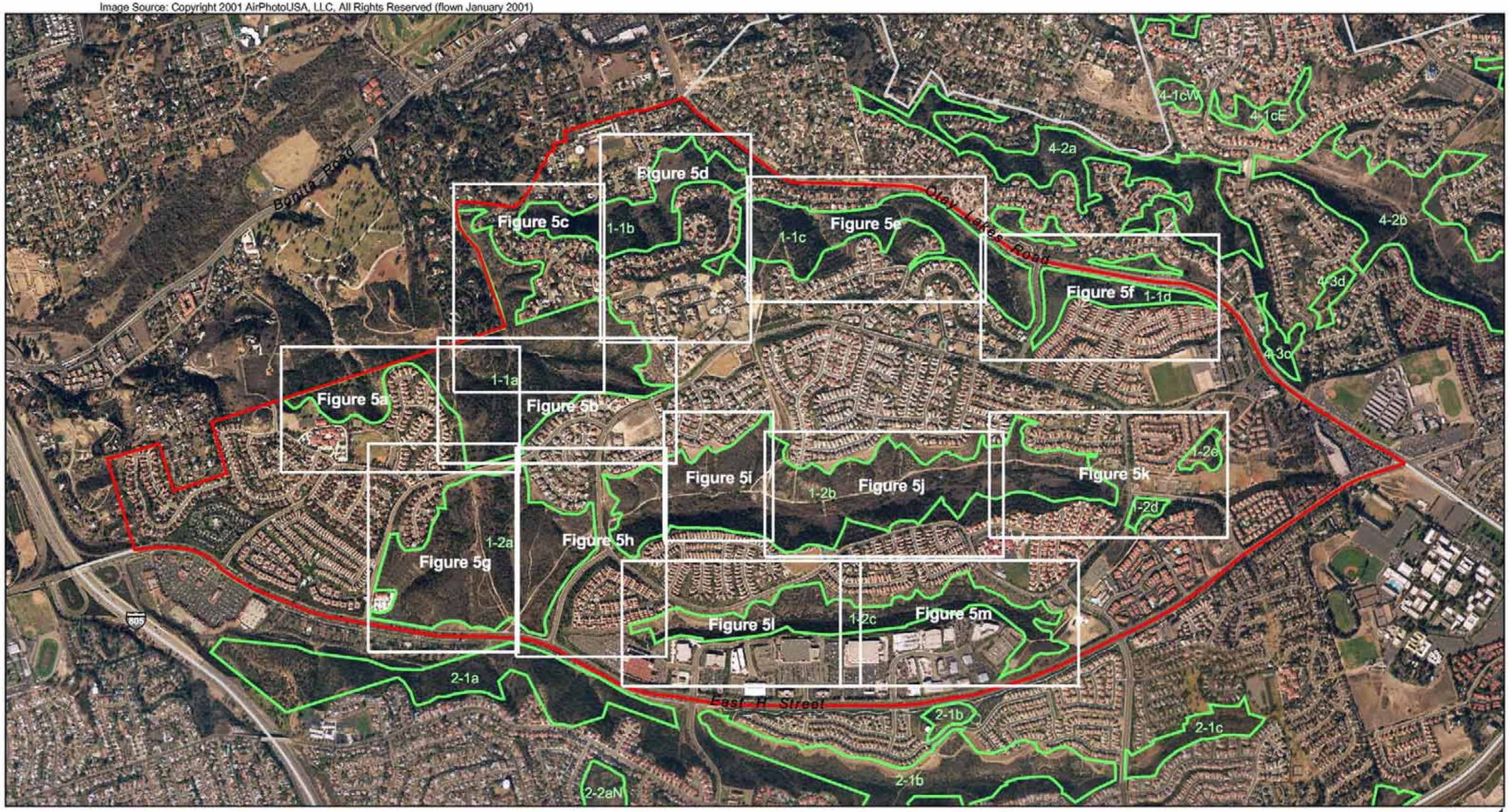


FIGURE 5
Existing Biological Resources
PMA 1 Locator Map

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5 (bio1) 06/02/06

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Disturbed (11300)

Sensitive plant locations
D San Diego barrel cactus
D San Diego barrel cactus
K Palmer's grappling hook
K Palmer's grappling hook
Q Snake cholla
R South coast saltbush
R South coast saltbush

Sensitive animal locations
Coastal California gnatcatcher
Coastal California gnatcatcher (nesting)
Coastal California gnatcatcher nest

Potential wildlife crossing

Desiltation basin

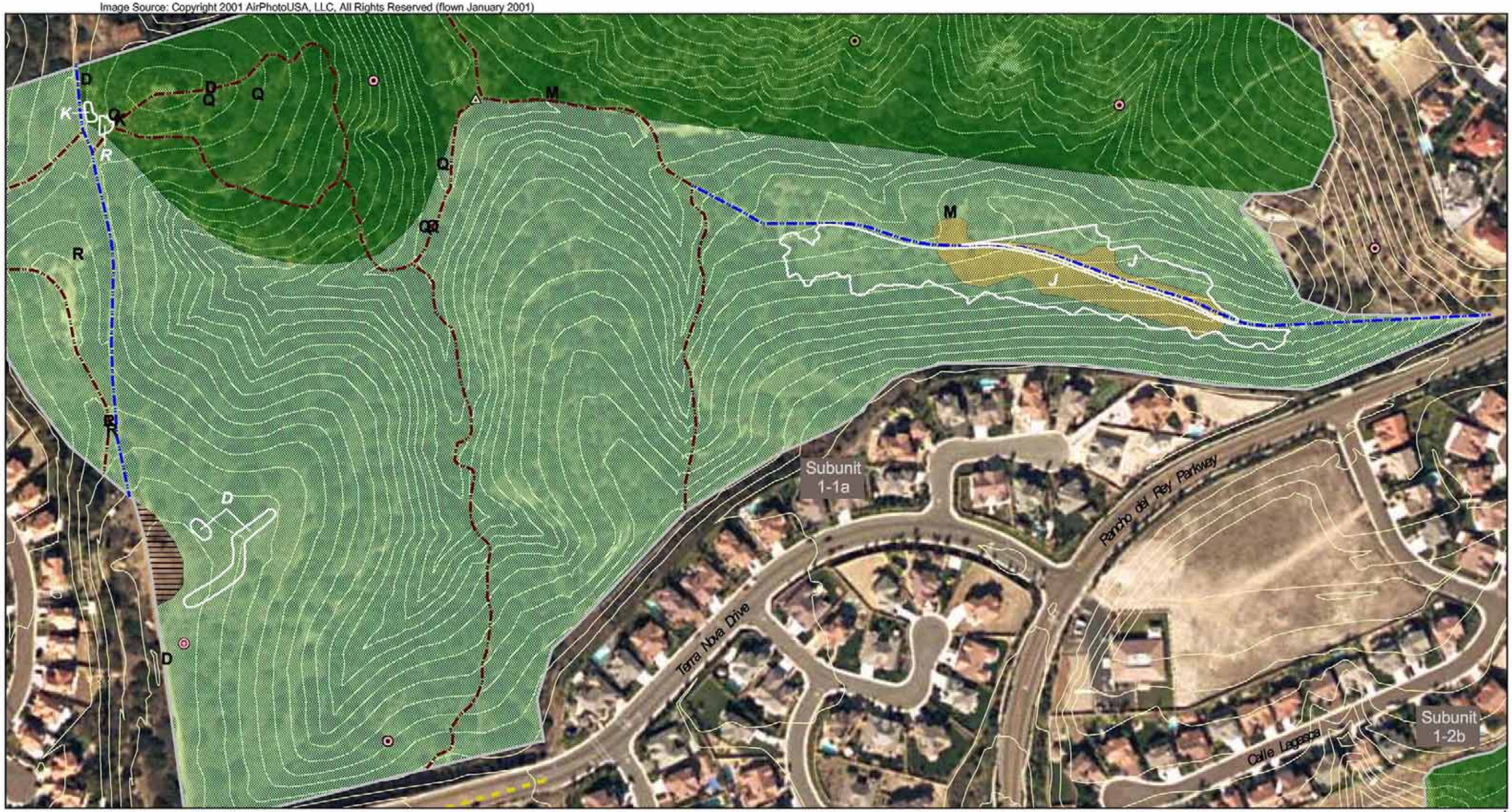
Dumping area

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5a (bio1) 06/02/06

FIGURE 5a
Existing Biological Resources
PMA 1 Map A



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Native grassland (42100)
- Disturbed (11300)

Sensitive plant locations
- D San Diego barrel cactus
- D San Diego barrel cactus
- J Otay tarplant
- J Otay tarplant
- K Palmer's grappling hook
- K Palmer's grappling hook
- M San Diego bur-sage
- Q Snake cholla
- R South coast saltbush
- R South coast saltbush

Sensitive animal locations
- Coastal California gnatcatcher
- Coastal California gnatcatcher nest
- Potential wildlife crossing

Desiltation basin

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5b (bio1) 06/02/06

FIGURE 5b
Existing Biological Resources
PMA 1 Map B

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Native grassland (42100)
Non-native grassland (42200)
Southern willow scrub (63320)
Disturbed (11300)

Sensitive plant locations
D San Diego barrel cactus
J Otay tarplant
K Palmer's grappling hook
M San Diego bur-sage
Q Snake cholla
R South coast saltbush

Sensitive animal locations
Coastal California gnatcatcher
Cactus wren
Potential wildlife crossing

0 Feet 200 N

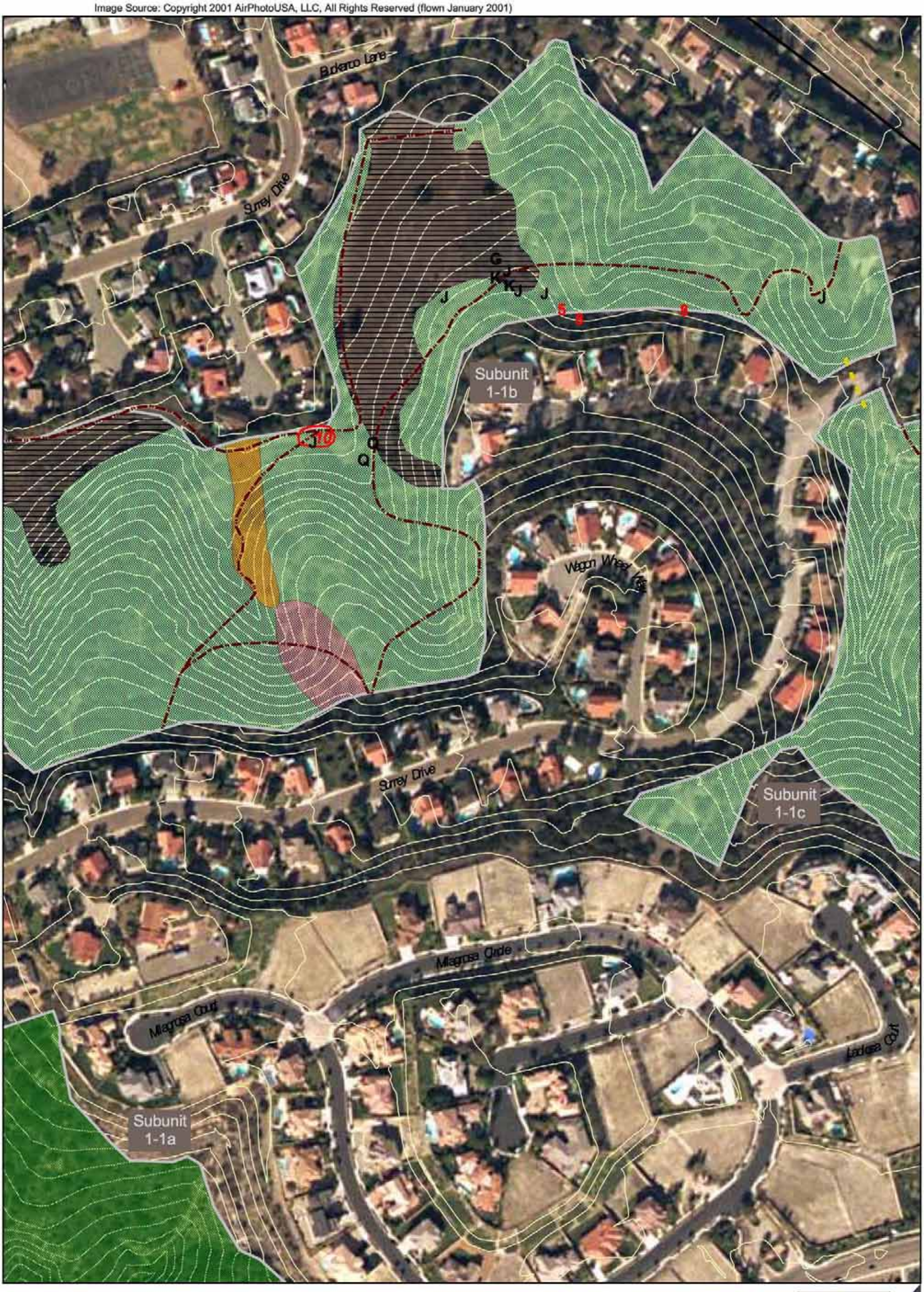
Desiltation basin

FIGURE 5c
Existing Biological Resources
PMA 1 Map C

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5c (bio1) 06/02/07

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Non-native grassland (42200)
Eucalyptus (11100)
Disturbed (11300)

Sensitive plant locations
G Knotweed spineflower
J Otay tarplant
K Palmer's grappling hook
Q Snake cholla

Invasive plant locations
5 Pampas grass
8 Tamarisk
10 Hottentot fig

Potential wildlife crossing

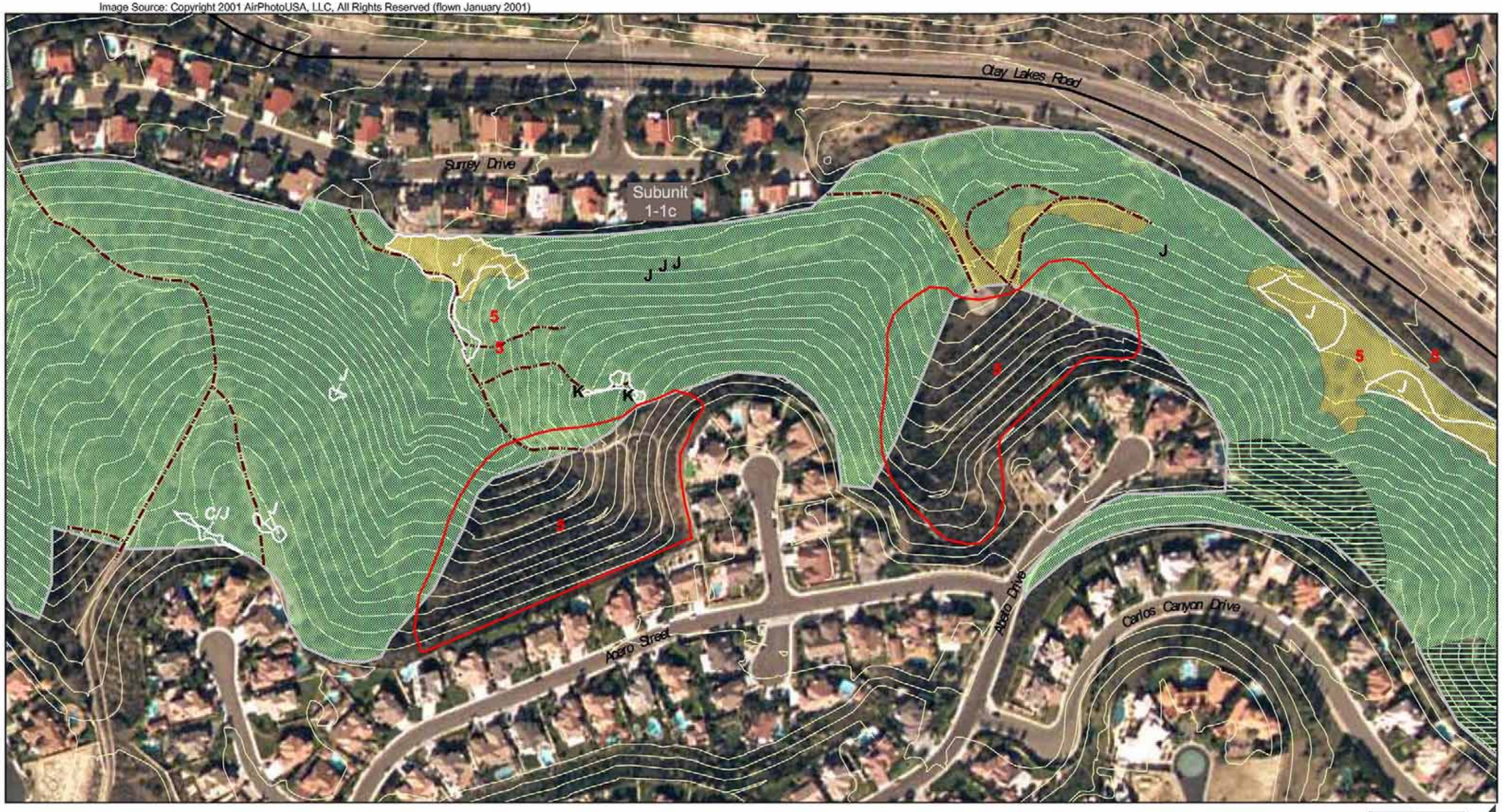
0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pmas_figs.apr\
fig5d (bio1) 06/02/08

FIGURE 5d
Existing Biological Resources
PMA 1 Map D

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Disturbed coastal sage scrub (32500)
Native grassland (42100)

Sensitive plant locations
C/J Small-flowered morning glory/ Otay tarplant
J Otay tarplant
J Otay tarplant
K Palmer's grappling hook

Invasive plant locations
5 Pampas grass
5 Pampas grass

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5e (bio1) 06/02/08

FIGURE 5e
Existing Biological Resources
PMA 1 Map E

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Disturbed coastal sage scrub (32500)
- Native grassland (42100)
- Native grassland/Clay lens (42100)
- Freshwater marsh (52400)
- Disturbed (11300)

Sensitive plant locations
- CJ Small-flowered morning glory/ Otay tarplant
- J Otay tarplant
- T Variegated dudleya

Invasive plant locations
- 5 Pampas grass
- 5 Pampas grass
- 7 Sweet fennel
- 8 Tamarisk
- 9 Tree tobacco
- 10 Hottentot fig

Sensitive animal locations
- Coastal California gnatcatcher
- Coastal California gnatcatcher (nesting)

Predator locations
- Fox scat

Potential wildlife crossing
Culvert

0 Feet 200 N

RECON

M:\jobs2\3693\biol\gis\pma_figs.apr\ fig5f (bio1) 06/02/06

FIGURE 5f
Existing Biological Resources
PMA 1 Map F

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Disturbed coastal sage scrub (32500)

Sensitive plant locations
D San Diego barrel cactus
D San Diego barrel cactus
Q Snake cholla
R South coast saltbush

Sensitive animal locations
Cactus wren
Coastal California gnatcatcher
Coastal California gnatcatcher (nesting)
Red diamond rattlesnake
San Diego horned lizard scat

Predator locations
Coyote
Potential wildlife crossing

Culvert
Desiltation basin
Dumping area

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5g (bio1) 06/02/08

FIGURE 5g
Existing Biological Resources
PMA 1 Map G

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Freshwater marsh (52400)
- Southern willow scrub (63320)

Potential wildlife crossing
Culvert
Desiltation basin

Sensitive plant locations
- D San Diego barrel cactus
- G Long-spined spineflower
- Q Snake cholla
- R South coast saltbush

Noteworthy plant locations
- P Senecio species
- P Senecio species

Invasive plant locations
- 3 Croceum iceplant

Sensitive animal locations
- Coastal California gnatcatcher
- Coastal California gnatcatcher (nesting)
- Cooper's hawk
- San Diego horned lizard scat
- Yellow warbler

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5h (bio1) 06/02/06

FIGURE 5h
Existing Biological Resources
PMA 1 Map H

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Sensitive plant locations
C Small-flowered morning glory
R South coast saltbush

Noteworthy plant locations
P Senecio species
P Senecio species
Senecio species

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Native grassland (42100)
Southern willow scrub (63320)

Sensitive animal locations
Cactus wren (nesting)
Coastal California gnatcatcher
Rufous-crowned sparrow

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5i (bio1) 06/02/08

FIGURE 5i
Existing Biological Resources
PMA 1 Map I

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Native grassland (42100)
- Southern willow scrub (63320)

Sensitive plant locations
- C Small-flowered morning glory
- C/J Small-flowered morning glory/ Otay tarplant
- J Otay tarplant
- K Palmer's grappling hook
- O San Diego thornmint
- T Variegated dudleya

Noteworthy plant locations
- P Senecio species
- Senecio species

Invasive plant locations
- 2 Artichoke thistle

Sensitive animal locations
- Cactus wren
- Coastal California gnatcatcher
- Yellow-breasted chat

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5j (bio1) 06/02/06

FIGURE 5j
Existing Biological Resources
PMA 1 Map J

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Native grassland (42100)
- Native grassland/Clay lens (42100)
- Southern willow scrub (63320)
- Disturbed (11300)

Sensitive plant locations
- C Small-flowered morning glory
- C/J Small-flowered morning glory/ Otay tarplant
- D San Diego barrel cactus
- J Otay tarplant
- J Otay tarplant
- K Palmer's grappling hook
- O San Diego thornmint
- O San Diego thornmint
- T Variegated dudleya

Sensitive animal locations
- Cactus wren
- Coastal California gnatcatcher

Potential wildlife crossing

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5k (bio1) 06/02/05

FIGURE 5k
Existing Biological Resources
PMA 1 Map K

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Coastal sage scrub (32500)

Sensitive animal locations
Coastal California gnatcatcher

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5l (bio1) 06/0206

FIGURE 5l
Existing Biological Resources
PMA 1 Map L

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)

Sensitive animal locations
Coastal California gnatcatcher
San Diego horned lizard scat
White-tailed kite

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig5m (bio1) 06/02/08

FIGURE 5m
Existing Biological Resources
PMA 1 Map M

4.2 PMA 2

PMA 2 consists of nine subunits totaling 253.2 acres. All figures pertaining to PMA 2 are located at the end of this section, in numerical order. Figure 6 presents an overview of the subunits and Figure 7 is the locator map for Figures 7a-7k.

4.2.1 Site Description

4.2.1.1 Topography

The subunits in PMA 2 contain mesas and canyons cut by arroyos that feed into Rice Canyon in the northeast and Telegraph Canyon along the south. A central mesa extends from the western end of the area through the center of the area, with another finger extending along the northern part of the area. Elevation increases from 100 feet AMSL at the northwestern corner of the PMA to 500 feet in the western mesa. All streams in the area are intermittent or ephemeral (U.S. Geological Survey 1955, 1967a).

4.2.1.2 Soils

PMA 2 contains the following soil types: Linne clay loam, Olivenhain cobbly loam, Diablo clay, Diablo-urban complex, and Salinas clay loam. Linne clay loam soils are moderately deep, well-drained soils found on the north- and south-facing hillsides throughout the area. Olivenhain cobbly loams have brown and red-brown topsoil and are found on the hilltops and mesas in the center and northern part of the area. Diablo and Diablo-urban soils occupy the broad mesa on the western end of the site. Salinas clay loam soils are well-drained and moderately well-drained soils formed in sediments washed down from the surrounding hills. Salinas soils are found along Telegraph and Rice Canyons at the southern and northeastern perimeter of the area (USDA 1973).

4.2.2 Botanical Resources

There are seven vegetation communities and land cover types present in PMA 2: maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, freshwater marsh, southern willow scrub, disturbed, and developed. The acreages of these vegetation communities in PMA 2 are shown in Table 3. Vegetation communities mapped on-site are shown on Figures 7a-7k. The following text provides detailed descriptions of the vegetation communities specific to PMA 2. See Attachment 3 for complete general vegetation community descriptions.

Plants historically observed within PMA 2 are listed in Attachment 4. Attachment 13 provides a list of plants identified during the current surveys in each subunit of PMA 2.

TABLE 3
VEGETATION COMMUNITIES AND
LAND COVER TYPES ON PMA 2

Vegetation Type	Acres
Maritime succulent scrub	3.8
Diegan coastal sage scrub	225.5
Southern willow scrub	6.0
Mule fat scrub	0.2
Freshwater marsh	1.0
Disturbed	14.1
Developed	2.6
Total for PMA 2	253.2

4.2.2.1 Maritime Succulent Scrub (3.8 acres) (Holland Code 32400)

This vegetation community in PMA 2 is generally dense and dominated by jojoba and succulent species such as shore cactus, coast cholla, snake cholla, and Mohave yucca. Maritime succulent scrub provides quality habitat for sensitive wildlife species such as the coastal cactus wren. Maritime succulent scrub average shrub height ranges from three feet in open or sage scrub dominated areas to eight feet in woody species or coast cholla dominated areas.

4.2.2.2 Diegan Coastal Sage Scrub (225.5 acres) (Holland Code 32500)

Within PMA 2, this vegetation community is considered to be high-quality habitat for a number of species that reside within each subarea. This vegetation community is dominated by species such as California sagebrush, California buckwheat, broom baccharis, common encelia, coast goldenbush, lemonadeberry, matchweed (*Gutierrezia sarothrae*), jojoba, and San Diego County viguiera (*Viguiera laciniata*). Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry dominated areas average shrub height ranges from 8 to 15 feet. These areas are generally on the north-facing slopes.

4.2.2.3 Southern Willow Scrub (6.0 acres) (Holland Code 63320)

In PMA 2, southern willow scrub is primarily dominated by western sycamore, western cottonwood, Gooding's black willow, arroyo willow, and red willow. Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

4.2.2.4 Mule Fat Scrub (0.2 acre) (Holland Code 63310)

A small strip of this vegetation community dominated by mule fat (*Baccharis salicifolia*) is present in the drainage along Paseo Ladera in subunit 2-2c. Mule fat scrub average shrub height ranges from six to eight feet.

4.2.2.5 Freshwater Marsh (1.0 acres) (Holland Code 52400)

Freshwater marsh vegetation occurs in strips that abut southern willow scrub vegetation in the drainages of subunits 2-1b and 2-1c. This vegetation is dominated by cattails and provides suitable foraging and nesting habitat for amphibian and some riparian bird species. The average vegetation height of a freshwater marsh is approximately five to seven feet.

4.2.2.6 Disturbed (14.1 acres) (Holland Code 11300)

Disturbed habitat found in PMA 2 includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of native and non-native vegetation including California buckwheat, broom baccharis, wild oat, ripgut grass, star-thistle, and filaree.

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the center of PMA 2 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 2-1b, and 2-2b.

4.2.2.7 Developed (2.6 acres) (Holland Code 12000)

An area in subunit 2-1b is mapped as developed. The area encompasses part of the residential neighborhood north of the subunit.

4.2.3 Zoological Resources

Attachment 8 provides a complete list of all wildlife species present in PMAs 1-4. Attachment 14 provides a list of species present within each subunit of PMA 2. Wildlife observed to date includes 17 butterfly species, 4 reptile species, 65 bird species, and 7 mammal species.

4.2.3.1 Amphibians

No amphibian species were observed in PMA 2 during surveys. Common species expected to occur in the drainages include Pacific treefrog and bullfrog. The garden slender salamander (*Batrachoseps major*) has the potential to occur in the uplands adjacent to the drainages.

4.2.3.2 Reptiles

Four reptile species have been detected within PMA 2: western fence lizard, San Diego horned lizard, Belding's orange-throated whiptail, and San Diego gopher snake. San Diego horned lizard and Belding's orange-throated whiptail are discussed in the Sensitive Species section.

4.2.3.3 Birds

Bird species commonly observed in the Diegan coastal sage scrub include western scrub-jay, wrentit, California towhee, spotted towhee, song sparrow, and California thrasher.

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed within the southern willow scrub and mule fat scrub include yellow-breasted chat, house wren, lesser goldfinch, orange-crowned warbler (*Vermivora celata*), yellow-rumped warbler, song sparrow, and Pacific slope flycatcher (*Empidonax difficilis*).

Typical birds seen in disturbed environments include black phoebe, European starling, mourning dove, northern mockingbird, and house finch.

4.2.3.4 Mammals

Common mammal species observed and detected in PMA 2 include desert cottontail, California ground squirrel, woodrat, coyote, common raccoon, and southern pocket gopher (*Thomomys umbrinus* [=*bottae*]). These are likely to be present in any of the vegetation communities and habitats found within PMA 2.

4.2.4 Sensitive Species

For purposes of this report, a species will be considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or is a candidate or proposed for such listing; (2) considered rare, endangered, or threatened by the state of California and listed in the NDDB (2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista MSCP Subara Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered sensitive by local conservation organizations or specialists. Noteworthy plant species are those that are on Lists 3 or 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by NDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life history, and range. Figures 7a-7k map the locations of sensitive plants and wildlife detected during the current surveys.

4.2.4.1 Sensitive Plant Species

Twelve listed, sensitive, and rare plant species are present in PMA 2. Several other sensitive plant species are historically known from the PMA or are known to occur in the vicinity, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are regionally considered sensitive by CNPS, such as San Diego County viguiera or clay bindweed, because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

Observed

Palmer sagewort (*Artemesia palmeri*). This perennial shrub is a CNPS List 2 species. This species is present in subunit 2-1b.

South coast saltbush (*Atriplex pacifica*). This prostrate perennial is a CNPS List 1B species. This species is present in subunits 2-1b and 2-2c.

Golden-spined cereus (*Bergerocactus emoryi*). This perennial cactus is a CNPS List 2 species. A few small populations were observed in subunit 2-1b, mainly in Diegan coastal sage scrub habitat.

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*). This annual is a CNPS List 1B species. Five individuals of this species are present in subunit 2-2c growing among fringed spineflower (*Chorizanthe fimbriata*) and south coast saltbush.

Snake cholla (*Cylindropuntia californica* var. *californica* [= *Opuntia calfornica* var. *californica*])—a narrow endemic covered under the MSCP. This perennial cactus is a MSCP covered species, is considered a narrow endemic, and a CNPS List 1B species. A few individuals are scattered throughout the Diegan coastal sage scrub in subunits 2-1a, 2-1b, 2-2aN, 2-2b, 2-2c, and 2-2dW.

Otay tarplant (*Deinandra conjugens* [=*Hemizonia conjugens*])—a narrow endemic covered under the MSCP. This annual is federally threatened, state listed as endangered, and is a CNPS List 1B species. A population of 2,500 individuals is present in subunit 2-2c.

Cliff spurge (*Euphorbia misera*). This succulent perennial shrub is a CNPS List 2 species. A small population of 15 individuals is present in the Diegan coastal sage scrub of subunit 2-1a.

San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species. This succulent perennial is a CNPS List 2 species. Thirty-five San Diego barrel cactuses are present in subunit 2-1b. The population grows on the south-facing slopes of the canyon adjacent to mitigation sites by the public access roads.

Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*). This annual herb is a CNPS List 2 species. A few individuals are present in subunit 2-2c, in Diegan coastal sage scrub.

San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]). This perennial herb is a CNPS List 1B species. Small, scattered populations of San Diego sand aster are present in subunits 2-1a and 2-1b, typically in Diegan coastal sage scrub.

San Diego County viguiera (*Viguiera laciniata*). This perennial shrub is a CNPS List 4 species. This species is present in most PMA 2 subunits with the exception of subunits 2-2b and 2-2dE.

Not Observed

San Diego thornmint (*Acanthomintha ilicifolia*). This annual is federally listed as threatened, state listed as endangered, a CNPS List 1B species, and is a narrow endemic covered under the MSCP. This plant species has been historically reported near PMA 2 (State of California 2003e). The suitable habitat has been disturbed by development. There is a low potential for this species to occur.

California adolphia (*Adolphia californica*). This perennial shrub is a CNPS List 2 species. California adolphia was not detected on any of the subunits of PMA 2; though suitable habitat is present on the clay-soil slopes. Although not observed, a few scattered individuals may not have been detected in the dense matrix of coastal sage scrub.

San Diego bur-sage (*Ambrosia chenopodifolia*). This perennial shrub is a CNPS List 2 species. There is a low potential for San Diego bur-sage to occur on PMA 2.

San Diego ambrosia (*Ambrosia pumila*). This perennial herb is a federally threatened species and considered to be an MSCP narrow endemic species. San Diego ambrosia has a low potential to occur in the drainages of PMA 2. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Salinas clay loam soils are present in these areas in PMA 2.

Orcutt's brodiaea (*Brodiaea orcuttii*). This perennial herb is a CNPS List 1B species. This plant species is generally associated with vernal pool areas and the adjacent uplands. There is a low potential for Orcutt's brodiaea to occur due to the lack of suitable habitat.

Orcutt's bird's-beak (*Cordylanthus orcuttianus*). This annual herb is a CNPS List 2 species. Orcutt's bird's beak has a low potential to occur.

Variegated dudleya (*Dudleya variegata*). This small succulent perennial is a narrow endemic covered under the MSCP and a CNPS List 1B species. There is moderate potential for this species to occur in the native grassland areas where needlegrass and soap plant (*Chlorogalum parviflorum*) grow together, but small populations may have escaped detection.

Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [=*Haplopappus palmeri* ssp. *palmeri*]). This perennial shrub is an MSCP covered species and is considered to be a narrow endemic. Palmer's ericameria has a low potential to occur. The preferred habitat contains sandy loam soils, as opposed to the clay and clay loams on PMA 2.

San Diego marsh elder (*Iva hayesiana*). This perennial shrub is a CNPS List 2 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 2.

Spiny rush (*Juncus acutus* ssp. *leopoldii*). This is a CNPS List 4 species. There is a low potential for this species to occur in the ephemeral drainage habitats in PMA 2, but the species is likely to have been detected if present.

San Diego goldenstar (*Muilla clevelandii*). This perennial herb is a CNPS List 1B species. San Diego goldenstar typically grows in gravelly clay loam soils. There is a moderate potential for this species to occur, but common goldenstar was observed in all

areas that appeared to have suitable habitat for San Diego goldenstar. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

Spreading navarretia (*Navarretia fossalis*). This annual herb is a federally threatened species, an MSCP covered species, and is considered to be a narrow endemic. Suitable vernal pool habitat is not present in PMA 2 and this species is not expected to occur.

Otay mesa mint (*Pogogyne nudiuscula*). This annual herb is a federal and state endangered species, an MSCP covered species, and is considered to be a narrow endemic. Suitable vernal pool habitat is not present in PMA 2 and this species is not expected to occur.

Nuttall's scrub oak (*Quercus dumosa*). This perennial shrub is a CNPS List 1B species. This species was not detected in PMA 2 during the current surveys and there is a low potential for it to occur in the more densely vegetated north-facing slopes.

Munz's sage (*Salvia munzii*). This perennial shrub is a CNPS List 2 species. This species has a low potential to occur in the coastal sage scrub habitat in PMA 2.

4.2.4.2 Sensitive Amphibians

No sensitive amphibians were detected during surveys. One sensitive species with the potential to occur is the western spadefoot. This species is discussed below.

Not Observed

Western spadefoot (*Spea hammondii*). The western spadefoot is a CDFG species of special concern. There is a low potential for this species to be present in the riparian and wetland habitat in PMA 2.

4.2.4.3 Sensitive Reptiles

Two sensitive species, San Diego horned lizard and Belding's orange-throated whiptail, were observed in PMA 2. A number of other sensitive species have a potential to occur. These species are discussed below.

Observed

Belding's orange-throated whiptail (*Aspidoscelis* [=*Cnemidophorus*] *hyperythrus beldingi*)—an MSCP covered species. Belding's orange-throated whiptail is a CDFG species of special concern. Belding's orange-throated whiptail was observed in subunit 2-2aN during surveys. Suitable scrub and streamside habitat is present in several subunits where this species is also expected to occur.

San Diego horned lizard (*Phrynosoma coronatum blainvillii*)—an MSCP covered species. This species is a CDFG species of special concern. San Diego horned lizard was detected by scat in subunit 2-2aN during the current surveys. This species has a low potential to occur in the coastal sage scrub habitat throughout PMA 2, as its numbers are declining due to edge effects, likely including predation by domestic cats. Prior to urban development, this species would have been common on the mesa tops of PMA 2.

Not Observed

Coronado skink (*Eumeces skiltonianus interparietalis*). This species is a CDFG species of special concern. There is a moderate potential for this species to occur in PMA 2.

Silvery legless lizard (*Anniella pulchra pulchra*). This species is a CDFG species of special concern. This species has a moderate potential to occur in PMA 2.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*). This species has a moderate potential to occur in PMA 2.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*). The coast patch-nosed snake is a CDFG species of special concern. This species has a moderate potential to occur in PMA 2.

Two-striped garter snake *(Thamnophis hammondii).* The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur near the drainage on PMA 2.

Red diamond rattlesnake (*Crotalus exsul*). The red diamond rattlesnake is a CDFG species of special concern. This species has a moderate potential to occur in the scrub habitat in PMA 2.

4.2.4.4 Sensitive Birds

Eleven sensitive bird species were observed or detected in PMA 2. These species, and other sensitive species with the potential to occur, are discussed below.

Observed

White-tailed kite (*Elanus leucurus*). The white-tailed kite is a CDFG fully protected species. This species was observed flying over subunits 2-1a and 2-2b; suitable foraging and nesting habitat is present throughout this PMA.

Northern harrier (*Circus cyaneus hudsonius*)—an MSCP covered species. The northern harrier is a CDFG species of special concern. Northern harriers were observed

flying over subunit 2-1b. Potential foraging habitat is present throughout PMA 2; there is a moderate potential for this species to nest along low scrub and concealed areas such as black mustard patches.

Sharp-shinned hawk (*Accipiter striatus*). This species is a CDFG species of special concern. A sharp-shinned hawk was observed in subunit 2-1b. Foraging habitat is present in all of the PMAs. This species is a rare breeder in San Diego County (Unitt 1984), and is not expected to nest within PMA 2.

Cooper's hawk (*Accipiter cooperii*)—an MSCP covered species. The Cooper's hawk is a CDFG species of special concern. A Cooper's hawk was observed in subunits 2-1c, 2-2aN, and 2-2b. Individuals exhibiting nesting behavior were observed in subunit 2-1b. Suitable foraging and nesting habitat is present in the southern willow scrub habitat and dense stands of lemonadeberry shrubs.

Golden eagle (*Aquila chrysaetos*)—an MSCP covered species. The golden eagle is a CDFG species of special concern. A golden eagle was observed flying and perching in several subunits of PMA 2. It is expected to have been the same individual visiting each subunit. Foraging habitat is present though the potential for nesting is low. The closest known breeding location is to the northeast at San Miguel Mountain.

Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*)—an MSCP covered species. The coastal cactus wren is a CDFG species of special concern. A coastal cactus wren and nest were observed in the coastal sage scrub in subunit 2-1b.

Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species. The coastal California gnatcatcher is a federally listed threatened species and a CDFG species of special concern. Coastal California gnatcatchers were observed in most PMA 2 subunits. Nesting evidence was observed in subunits 2-1a, 2-1b, and 2-2aN, though no nests were directly observed. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and in general, represents a probable territory. A total of 29 locations were identified during the current surveys. Three gnatcatcher locations were observed in subunit 2-1a; one of which includes a pair exhibiting nesting behavior (i.e., carrying nesting material). Thirteen gnatcatcher locations were identified in subunit 2-1b; four of which include a pair exhibiting nesting behavior. Two coastal California gnatcatcher locations were observed in subunit 2-1c, one of which includes a pair exhibiting nesting behavior. One gnatcatcher location was identified in subunit 2-2aN. Three gnatcatcher locations were identified in subunit 2-2b. Five gnatcatcher locations were mapped in subunit 2-2c, and two locations were mapped in subunit 2-2dW. Additionally, two gnatcatcher locations were identified and mapped outside of the preserve lands (see Figures 5b and 5m). Suitable nesting habitat is available in all of the subunits.

Yellow warbler (*Dendroica petechia*). The yellow warbler is a CDFG species of special concern. The yellow warbler was observed in subunits 2-1a, 2-1c, 2-2b, 2-2c, and 2-2dE. These individuals are expected to breed in these locations due to the quality of suitable southern willow scrub habitat present.

Yellow-breasted chat (*Icteria virens*). The yellow-breasted chat is a CDFG species of special concern. Yellow-breasted chat was detected by vocalization in subunit 2-1b and 2-2b. This species is expected to breed in the southern willow scrub habitat present in these areas.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species. The southern California rufous-crowned sparrow is a CDFG species of special concern. Southern California rufous-crowned sparrow was observed in subunit 2-2b. Potential breeding and nesting habitat is present throughout the coastal sage scrub habitat in PMA 2.

Not Observed

Swainson's hawk (*Buteo swainsoni*). The Swainson's hawk is state listed as threatened. Swainson's hawk was not observed in PMA 2. Foraging habitat is present. However, there is a low potential for this species to nest in PMA 2, as the local breeding population has been extirpated (Unitt 1984).

Vaux's swift (*Chaetura vauxi vauxi*). The Vaux's swift is a CDFG species of special concern. This fall migrant was not observed during the current surveys, but it is expected to occur in PMA 2 during migration.

Western burrowing owl (*Athene cunicularia hypugaea*). The western burrowing owl is an MSCP covered species and a CDFG species of special concern. The western burrowing owl has a low potential to occur in PMA 2 during the fall and winter in areas with existing burrows. This species is not expected to nest in the PMA.

Southwestern willow flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 2 due to a lack of suitable breeding habitat. The southern willow scrub present is too small and does not provide the proper canopy configuration. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.

California horned lark (*Eremophila alpestris actia*). The California horned lark is a CDFG species of special concern. There is a low potential for this species to occur in PMA 2 due to the absence of suitable grassland habitat.

Loggerhead shrike (*Lanius ludovicianus*). The loggerhead shrike is a CDFG species of special concern. Suitable foraging and breeding habitat is available in the coastal sage scrub in PMA 2.

Least Bell's vireo (*Vireo bellii pusillus*). The least Bell's vireo is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003. There is a moderate potential for the least Bell's vireo to breed in the southern willow scrub habitat in PMA 2. The southern willow scrub areas are narrow, which may not be as desirable to vireos as a broader stand. If the southern willow scrub habitat improves, it would provide more suitable habitat for vireos. This PMA is not currently occupied by this species, but as the vireo population continues to recover, individuals may expand into less desirable habitat areas, such as these, for breeding.

Bell's sage sparrow (*Amphispiza belli belli*). The Bell's sage sparrow is a CDFG species of special concern. This species was not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and there is a low potential for this species to colonize areas of dense scrub in PMA 2 in the future.

Grasshopper sparrow (*Ammodramus savannarum*). There is a low potential for this species to occur on PMA 2 given the absence of grassland habitat. There are historical records of this species' presence in PMA 2, prior to the development of grassland habitat areas.

Tricolored blackbird (*Agelaius tricolor*). The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. There is a low potential for this species to forage and breed in the freshwater marsh habitat in PMA 2.

Western bluebird (*Sialia mexicana*). The western bluebird is an MSCP covered species. The western bluebird is a potential winter visitor to all open space areas of PMA 2.

4.2.4.5 Sensitive Mammals

One sensitive mammal species, southern mule deer, was observed in PMA 2. There is potential for several other species to occur. These species are discussed below.

Observed

Southern mule deer (*Odocoileus hemionus fuliginata*)—an MSCP covered species. The southern mule deer was observed in subunit 2-1c and is expected to forage throughout the open space of PMA 2.

Not Observed

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a high potential for this species to be present throughout the coastal sage scrub habitat in PMA 2.

Southern grasshopper mouse (*Onychomys torridus ramona*). The grasshopper mouse is a CDFG species of special concern. There is a low potential for this species to be present in coastal sage scrub areas with cactus patches.

San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present in the scrub areas of PMA 2.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The San Diego black-tailed jackrabbit is a CDFG species of special concern. There is a moderate to high potential for this species to occur in the coastal sage scrub areas of PMA 2.

4.2.5 Invasive Exotic Plant Species

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass, other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Pampas grass is a serious threat to native plants throughout PMA 2. Wind disperses this species' seed and it will rapidly outcompete native plants for resources. A large population of pampas grass has invaded the southern willow scrub in subunit 2-2c. All other subunits have been invaded by pampas grass to some degree.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include star-thistle, sweet fennel, crystalline ice plant, tamarisk, hollow-stem asphodel, and filaree.

Figures 7a, 7h, and 7i illustrate the locations of invasive exotic species identified in PMA 2.

4.2.6 Other Survey Results

4.2.6.1 Roadkill

No roadkill was observed along any of the roadways adjacent to the subunits of PMA 2 during any of the surveys conducted.

4.2.6.2 Drainages, Channels, Culverts, and Detention Basins

Figures 7b-7j indicate culverts and maintenance access roads mapped during surveys. Culverts connect subunits 2-1a and 2-1b under Paseo del Rey. Two culverts are at the east end of the drainage in subunit 2-1b. Another culvert is at the western end of the drainage in subunit 2-1c. These culverts may connect under Paseo Ranchero. The distance between the two culverts is approximately 600 feet; this distance lessens the potential for wildlife movement. Two culverts are in subunit 2-2aN and likely convey runoff and storm water from the adjacent residential development. Culverts connect subunits 2-2b and 2-2c under Paseo Ladera. Several culverts are along or outside the southern edges of subunits 2-2c, 2-2dW, and 2-2dE. These culverts convey runoff from the slopes to the north and Telegraph Canyon Road.

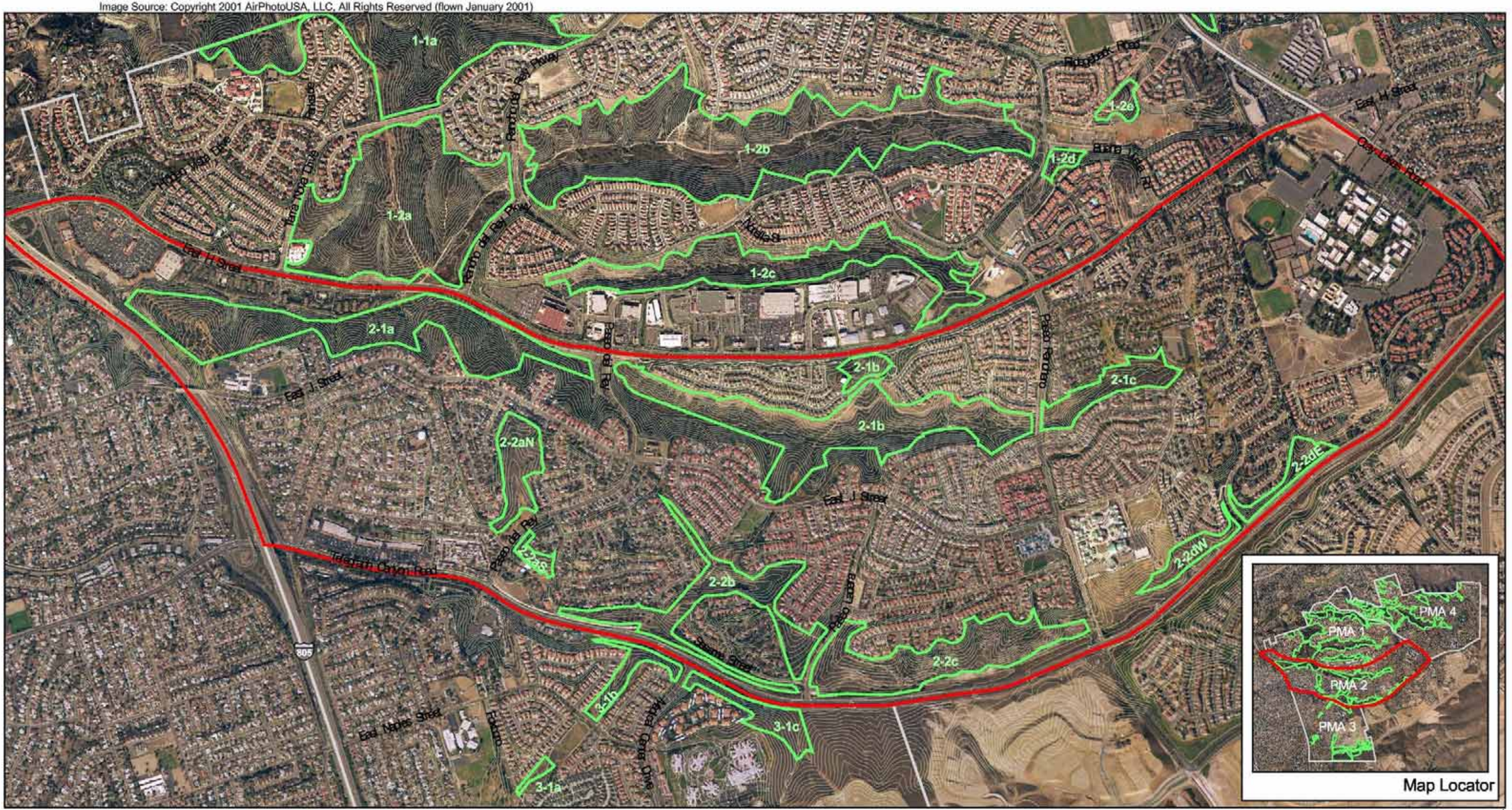
The culverts that connect subunits are constructed to convey minor water flow. They would be large enough for small mammals, amphibians, and reptiles to pass through when dry or nearly dry. Medium-sized mammals, such as raccoon, fox, coyote, and bobcat, could potentially use some of the larger culverts. Large mammals, such as southern mule deer and mountain lion, are not expected to use these culverts as movement corridors.

4.2.6.3 Wildlife Movement Corridor

In general, subunits in the PMA 2 are situated sufficiently close together to allow for unimpeded bird movement between subunits. However, in many instances, roads impede the movement of mammals and reptiles between subunits. Major roads such as Otay Lakes Road, East H Street, Corral Canyon Road, and Telegraph Canyon Road, are not expected to provide significant pedestrian wildlife movement due to traffic volume and/or physical barriers such as cement lane dividers. From the perspective of north-south wildlife movement, the subunits of PMA 2 are fairly far apart. This distance would make it difficult for land-bound animals to move north-south. Subunits 2-2aN and 2-2aS are fairly isolated from subunit 2-1b and 2-2b to the east. Figures 7b-7f and 7h-7k indicate potential wildlife movement corridors or pathways in PMA 2. As mentioned above, the culverts identified are not large enough to support large mammals, but could potentially allow movement of small and medium-sized mammals, amphibians, and reptiles.

4.2.6.4 Dumping, Trespassing, and Vagrant Encampments

A large swath of trespassing evidence is mapped in subunit 2-1a. This area is shown on Figure 7a. The trespassing consists of well-established trails used by off-road bicycles and motorcycles.



RECON

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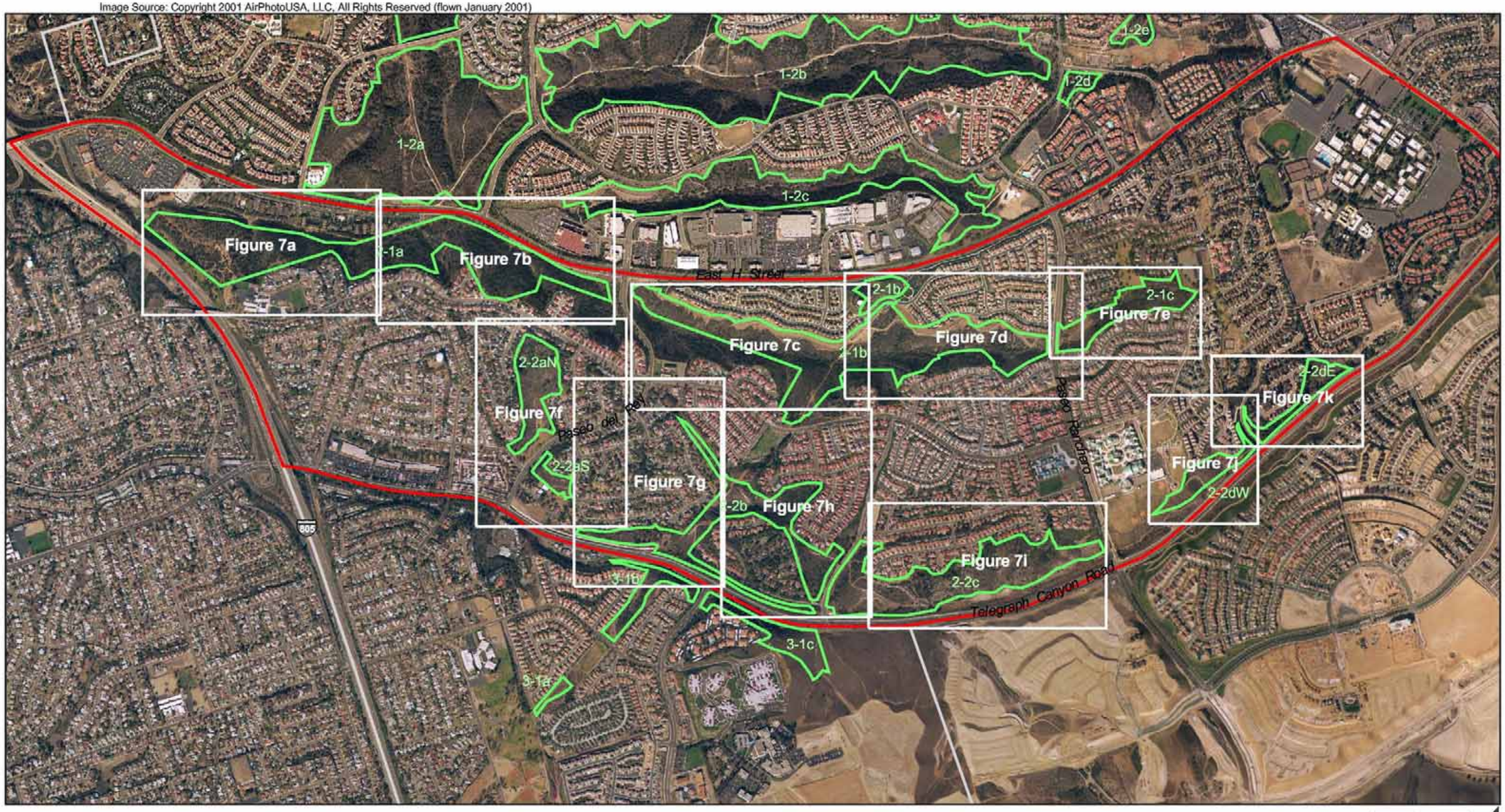
fig6 (pma2) 06/02/08

FIGURE 6
Preserve Management
Area 2 (PMA 2)

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)



PMA 2
Other PMAs
PMA subunits

0 Feet 1250 N

RECON

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fig7 (bio2) 06/02/06

FIGURE 7
Existing Biological Resources
PMA 2 Locator Map

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

East H Street

Subunit 1-2a

Subunit 2-1a

D

V

5

INTERSTATE 805

Floyd Avenue

Gilbert Place

East J Street

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Disturbed (11300)

Sensitive plant locations
D San Diego barrel cactus
V Cliff spurge

Invasive plant locations
5 Pampas grass

Sensitive animal locations
Red-tailed hawk nest

Bicycle trespass area

0 Feet 200 N

RECON

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fig7a (bio2) 06/02/08

FIGURE 7a
Existing Biological Resources
PMA 2 Map A

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Southern willow scrub (63320)
- Developed (12000)

Sensitive plant locations
- Q Snake cholla

Sensitive animal locations
- Coastal California gnatcatcher
- Coastal California gnatcatcher (nesting)
- San Diego horned lizard scat

Potential wildlife crossing

Culvert clear

0 Feet 200 N

RECON

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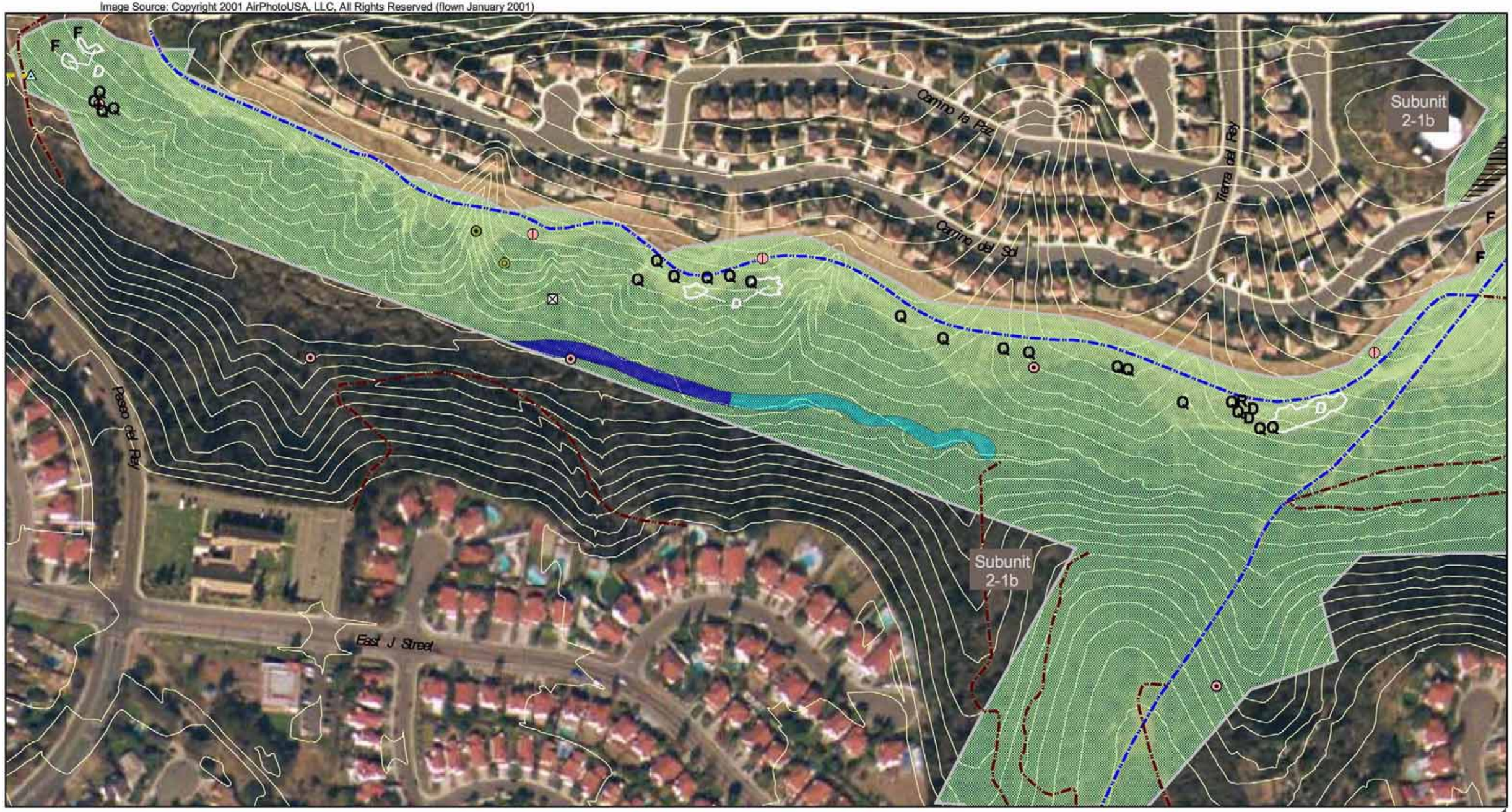
fig7b (bio2) 06/02/06

FIGURE 7b
Existing Biological Resources
PMA 2 Map B



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Coastal sage scrub (32500)
- Freshwater marsh (52400)
- Southern willow scrub (63320)
- Disturbed (11300)

Sensitive plant locations
- D San Diego barrel cactus
- D San Diego barrel cactus
- F Golden spined cereus
- Q Snake cholla
- R South coast saltbush

Sensitive animal locations
- Cactus wren
- Cactus wren nest
- Coastal California gnatcatcher
- Coastal California gnatcatcher (nesting)

Predator locations
- Large scat

Potential wildlife crossing

Culvert clear

0 Feet 200 N

RECON

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fig7c (bio2) 06/02/06

FIGURE 7c
Existing Biological Resources
PMA 2 Map C

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Southern willow scrub (63320)
Disturbed (11300)
Developed (12000)

Sensitive plant locations
F Golden spined cereus
L Palmer's sagewort

Sensitive animal locations
Coastal California gnatcatcher
Coastal California gnatcatcher (nesting)
Sharp shinned hawk

Potential wildlife crossing

Culvert
Culvert clear

0 Feet 200 N

RECON

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fig7d (bio2) 06/02/08

FIGURE 7d
Existing Biological Resources
PMA 2 Map D

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Freshwater marsh (52400)
Southern willow scrub (63320)
Disturbed (11300)

Sensitive animal locations
Coastal California gnatcatcher
Coastal California gnatcatcher (nesting)
Cooper's hawk
Potential wildlife crossing

Culvert clear

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig7e (bio2) 06/02/08

FIGURE 7e
Existing Biological Resources
PMA 2 Map E

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Southern willow scrub (63320)
Disturbed (11300)

Sensitive plant locations
Q Snake cholla

Sensitive animal locations
Coastal California gnatcatcher
Orange-throated whiptail
San Diego horned lizard scat
Potential wildlife crossing

Culvert
Culvert closed

0 Feet 200 N

RECON

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fig7f (bio2) 06/02/08

FIGURE 7f
Existing Biological Resources
PMA2 Map F

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Southern willow scrub (63320)
Disturbed (11300)

Sensitive animal locations
Coastal California gnatcatcher
Rufous-crowned sparrow
Yellow warbler
Yellow-breasted chat

Culvert clear

0 Feet 200 N

FIGURE 7g
Existing Biological Resources
PMA 2 Map G

RECON

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fig7g (bio2) 06/02/06

Subunit 2-1b
East J Street
Beehylen Drive
River Ash Drive
Blackwood Road
Red Maple Drive
Sage View
Subunit 2-2b
Subunit 2-2c
Paseo Ladera
Subunit 2-2b
Alamar Terrace
Telegraph Canyon Road
5
5

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Mule fat scrub (63310)
Southern willow scrub (63320)
Disturbed (11300)

Culvert clear

Invasive plant locations
5 Pampas grass
5 Pampas grass

Sensitive animal locations
Coastal California gnatcatcher
Potential wildlife crossing

0 Feet 200 N

FIGURE 7h
Existing Biological Resources
PMA 2 Map H

RECON

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fig7h (bio2) 06/02/08

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Southern willow scrub (63320)
Disturbed (11300)
Developed (12000)

Sensitive plant locations
D San Diego barrel cactus
G Long-spined spineflower
J Otay tarplant
J Otay tarplant
Q Snake cholla
R South coast saltbush

Noteworthy plant locations
B California fagonia
B California fagonia

Invasive plant locations
5 Pampas grass
5 Pampas grass

Sensitive animal locations
Blue-gray gnatcatcher
Coastal California gnatcatcher
Yellow warbler

Potential wildlife crossing
Culvert clear

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pmas_figs.apr\
fig7i (bio2) 06/02/09

FIGURE 7i
Existing Biological Resources
PMA 2 Map I

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Culvert clear

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Disturbed (11300)

Sensitive plant locations
N San Diego viguiera

Sensitive animal locations
Black-tailed jackrabbit
Coastal California gnatcatcher
Potential wildlife crossing

Feet 200 N

RECON

M:\jobs2\3693\biol\gis\pma_figs.apr\
fig7j (bio2) 06/02/08

FIGURE 7j
Existing Biological Resources
PMA 2 Map J

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Disturbed (11300)

Potential wildlife crossing

Culvert clear

0 Feet 200 N

RECON

M:\jobs2\3693\biol\gis\pma_figs.apr\
fig7k (bio2) 06/02/08

FIGURE 7k
Existing Biological Resources
PMA 2 Map K

4.3 PMA 3

PMA 3 contains seven subunits of preserve lands totaling 135.7 acres. All figures pertaining to PMA 3 are in numerical order at the end of this section. Figure 8 provides an overview of the subunits on PMA 3 and Figure 9 is the locator map for Figures 9a-9f.

4.3.1 Site Description

4.3.1.1 Topography

The central portion of PMA 3 contains gently sloping, west-facing hills that rise from 200 feet in the east to over 500 feet. The north and northwest part of PMA 3 contains slopes dropping into Telegraph Canyon to the north. The southern third of the PMA is bisected by Poggi Canyon with steep, incised canyons to the north and south. The southwestern part of the area contains more gradual slopes around an arroyo that feeds into Poggi Canyon to the southeast of the area. All streams in the area are intermittent or ephemeral (USGS 1967a, 1967b).

4.3.1.2 Soils

PMA 3 contains the following soil types: Olivenhain cobbly loam, Linne clay loam, Diablo clay, Salinas clay loam, Gaviota sandy loam, Huerheuro-Urban land complex, and marine terrace soil. Olivenhain cobbly loam soils occupy the upper slopes in the central part of the site. Linne clay loams predominate on the south-facing slopes above Poggi Canyon, with Diablo clays on the north-facing slopes. Salinas clay loam soils form the base of Poggi Canyon. Gaviota sandy loams dominate on the slopes south of Telegraph Canyon and around the canyon draining to Poggi Canyon. Gaviota sandy loams are well-drained, shallow, brown to yellowish brown soils formed from weathered sandstone. Huerhuero-Urban land complex soils occur in the low areas in the northeastern and southeastern corners of the site. These marine terrace soils had already been altered by cut and fill for building sites when the soils were surveyed (USGS 1967b).

4.3.2 Botanical Resources

There are eight vegetation communities present on PMA 3: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, southern willow scrub, native grassland, non-native grassland, eucalyptus, and disturbed. The acreages of these vegetation communities in PMA 3 are shown in Table 4. Vegetation communities mapped on-site are shown on Figures 9a-9f. The following text provides detailed descriptions of the vegetation communities specific to PMA 3. General vegetation community descriptions are provided in Attachment 3.

Plants historically observed within PMA 3 are listed in Attachment 4. Attachment 15 provides a list of plants identified during the current surveys in each subunit of PMA 3.

TABLE 4
VEGETATION COMMUNITIES AND
LAND COVER TYPES ON PMA 3

Vegetation Type	Acres
Maritime succulent scrub	44.0
Diegan coastal sage scrub	35.7
Disturbed Diegan coastal sage scrub	3.0
Native grassland	10.9
Non-native grassland	19.5
Southern willow scrub	5.1
Eucalyptus woodland	1.7
Disturbed	15.8
Total for PMA 3	135.7

4.3.2.1 Maritime Succulent Scrub (44.0 acres) (Holland Code 32400)

The maritime succulent scrub in PMA 3 is dominated by San Diego barrel cactus, Mohave yucca, snake cholla, and jojoba. This vegetation community occurs mainly on south-facing slopes. Maritime succulent scrub average shrub height ranges from three feet in open or sage scrub dominated areas to eight feet in woody species or coast cholla dominated areas.

4.3.2.2 Diegan Coastal Sage Scrub (35.7 acres) and Disturbed Diegan Coastal Sage Scrub (3.0 acres) (Holland Code 32500)

Diegan coastal sage scrub present in PMA 3 and is dominated by species such as California sagebrush, California buckwheat, broom baccharis, common encelia, coast goldenbush, lemonadeberry, and San Diego County viguiera. Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry-dominated areas average shrub height ranges from eight to 15 feet. These areas are generally on the north-facing slopes.

Disturbed Diegan coastal sage scrub is present in areas that include a greater percentage of weedy, non-native species. These include star-thistle, Russian thistle (*Salsola tragus*), tree tobacco (*Nicotiana glauca*), horehound (*Marrubium vulgare*), black mustard, wild oats, and bromes.

4.3.2.3 Native Grassland (10.9 acres) (Holland Code 42100)

Two areas of native grassland are present in subunit 3-3a (see Figure 9e). These areas are dominated by species including needlegrass, common goldenstar, and blue-eyed grass. Both areas support large populations of Otay tarplant, a sensitive plant species. The southern native grassland area also supports a substantial population of small-flowered morning glory, another sensitive plant species. Non-native grass species such

as wild oats and bromes have invaded the native grassland areas to some extent. Native grasslands range in average vegetation height from one to three feet.

4.3.2.4 Non-native Grassland (19.5 acres) (Holland Code 42200)

This vegetation community is present in PMA 3, and generally contains species such as bromes, wild oat, and ryegrass. The average height of this vegetation averages two to four feet for the annual grass dominated areas to eight feet and higher in black mustard dominated areas.

4.3.2.5 Southern Willow Scrub (5.1 acres) (Holland Code 63320)

In PMA 3, southern willow scrub is primarily dominated by western sycamore, western cottonwood, Gooding's black willow, arroyo willow, and red willow. Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

4.3.2.6 Eucalyptus Woodland (1.7 acres)

Eucalyptus woodland occurs in subunits 3-2aW and 3-2aE. Eucalyptus trees provide raptors with good perching sites and potential nesting habitat. Some species of eucalyptus excrete toxic substances from the roots in order to create conditions that are unfavorable for most other plant species to grow, which results in a very sparse understory, if any at all.

4.3.2.7 Disturbed (15.8 acres) (Holland Code 12000)

Disturbed habitat found in PMA 3 includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of bare ground, native, and non-native vegetation including California buckwheat, broom baccharis, wild oat, ripgut grass, star-thistle, and filaree.

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the western portion of PMA 3 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 3-1a and 3-1b.

4.3.3 Zoological Resources

Attachment 8 provides a complete list of all wildlife species historically known to occur in PMAs 1-4. Attachment 16 provides a list of species present within each subunit of

PMA 3. Wildlife species observed to date include two reptile species, forty species of birds, and four species of mammals.

4.3.3.1 Amphibians

No amphibians have been observed in PMA 3. Pacific treefrog is expected to occur in the drainages and garden slender salamander has the potential to occur in partially open-canopy areas with leaf litter ground cover.

4.3.3.2 Reptiles

Two reptile species were observed in PMA 3: granite spiny lizard (*Sceloporus orcutti*) and Belding's orange-throated lizard—a sensitive species that is discussed in the Sensitive Species section below. Other common species expected to occur include side-blotched lizard, western fence lizard, and San Diego gophersnake.

4.3.3.3 Birds

Bird species commonly observed in the Diegan coastal sage scrub and maritime succulent scrub include Anna's hummingbird, bushtit (*Psaltriparus minimus minimus*), western scrub-jay, California towhee, and house finch.

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed in the southern willow scrub include common yellowthroat, lesser goldfinch, and song sparrow.

Birds and raptors observed in non-native grassland and disturbed habitats include mourning dove, northern mockingbird, house finch, western meadowlark (*Sturnella neglecta*), and red-tailed hawk (*Buteo jamaicensis*).

4.3.3.4 Mammals

Mammal species detected in PMA 3 include desert cottontail, California ground squirrel, coyote, and bobcat. These species are likely to occur in any of the vegetation communities and habitats found within PMA 3.

4.3.4 Sensitive Species

For purposes of this report, a species will be considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or are candidates or proposed for such listing; (2) considered rare, endangered, or threatened by the state of California and listed in the NDDB (2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered sensitive by local conservation

organizations or specialists. Noteworthy plant species are those on Lists 3 or 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by the NDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life history, and range. Figures 9a-9f map the locations of sensitive plants and wildlife detected during the current surveys.

4.3.4.1 Sensitive Plant Species

Ten sensitive and noteworthy plant species are present within PMA 3. Several sensitive plant species are historically known from the PMA or are known to occur in the vicinity of the site, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed on the site during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are regionally considered sensitive by CNPS, such as San Diego County viguiera or small-flowered morning glory because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

Observed

Golden-spined cereus (*Bergerocactus emoryi*). A few individuals are present in the maritime succulent scrub near Olympic Parkway in subunit 3-2b.

Small-flowered morning glory (*Convovulus similans*). Populations exceeding a thousand individuals are present in the grassland habitat in subunits 3-3a and 3-3c.

Orcutt's bird's-beak (*Cordylanthus orcuttianus*)—an MSCP covered species. Four populations of Orcutt's bird's-beak, totaling approximately 275 individuals, are present in subunit 3-3b.

Snake cholla (*Cylindropuntia californica* var. *californica* [= *Opuntia californica* var. *californica*])—a narrow endemic covered under the MSCP. A few individuals are scattered throughout Diegan coastal sage scrub in PMA subunit 3-2c.

Otay tarplant (*Deinandra conjugens* [=*Hemizonia conjugens*])—a narrow endemic covered under the MSCP. Populations totaling approximately 40,000 individuals are present in subunit 3-3a; approximately 10,000 individuals are present in subunit 3-3b and three individuals are present in subunit 3-3c.

San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species. Small populations of San Diego barrel cactus are scattered throughout the Diegan coastal sage scrub in subunits 3-2b, 3-2c, and 3-3c.

San Diego marsh elder (*Iva hayesiana*). A few individuals are present in subunits 3-3b and 3-3c within the southern willow scrub vegetation of the major drainage.

Spiny rush (*Juncus acutus* ssp. *leopoldii*). A few individuals are present in subunits 3-3a, 3-3b, and 3-3c, within southern willow scrub vegetation that is present in the major drainage that runs through these subunits.

San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]). Small, scattered populations are present in subunits 3-3a and 3-3c, mostly in the Diegan coastal sage scrub.

San Diego County viguiera (*Viguiera laciniata*). A few San Diego County viguiera shrubs are widely scattered in the coastal sage scrub vegetation of subunits 3-2b, 3-3a, 3-3b, and 3-3c.

Not Observed

San Diego thornmint (*Acanthomintha ilicifolia*). This plant species has been historically reported in PMA 3, according to the NDDB (State of California 2003e). Though not observed during focused surveys for sensitive plants, there is a moderate potential for this species to be present in areas that continue to support suitable clay soils.

California adolphia (*Adolphia californica*). There is potential for this species to occur in the Diegan coastal sage scrub on clay slopes in PMA 3.

San Diego bur-sage (*Ambrosia chenopodifolia*). This species has a low potential to occur within the Diegan coastal sage scrub in PMA 3. One individual San Diego bur-sage occurs in PMA 1, which is the northern extent of its range.

San Diego ambrosia (*Ambrosia pumila*). San Diego ambrosia has a low potential to occur in the drainages of PMA 3. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Salinas clay loam soils are present in these areas in PMA 3.

South coast saltbush (*Atriplex pacifica*). There is a high potential for this species to occur in PMA 3. Suitable habitat present includes the open coastal sage scrub on Linne clay loam substrate.

Orcutt's brodiaea (*Brodiaea orcuttii*). There is a low potential for this species to occur. Suitable habitat, which consists of scrub or grassland communities with vernal pool areas, is not present in PMA 3.

Variegated dudleya (*Dudleya variegata*). There is potential for this species to occur in the native grassland areas where needlegrass and soap plant (*Chlorogalum parviflorum*) grow together.

Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [=*Haplopappus palmeri* ssp. *palmeri*]). Palmer's ericameria has a potential to occur on the Gaviota sandy loams on the slopes south of Telegraph Canyon and around the canyon draining to Poggi Canyon.

Cliff spurge (*Euphorbia misera*). There is a potential for cliff spurge to occur in areas of Olivenhain cobbly loam, the preferred substrate for this species.

Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*). Palmer's grappling hook was historically found in PMA 3, and it is currently present in the other three PMAs. There is a high potential for it to occur.

San Diego goldenstar (*Muilla clevelandii*). San Diego goldenstar typically grows in gravelly clay loam soils. There is a low potential for this species to occur, as the required substrate is not present. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

Spreading navarretia (*Navarretia fossalis*). Suitable vernal pool habitat is not present in PMA 3 and this species is not expected to occur.

Otay mesa mint (*Pogogyne nudiuscula*). Suitable vernal pool habitat is not present in PMA 2 and this species is not expected to occur.

Nuttall's scrub oak (*Quercus dumosa*). Nuttall's scrub oak was historically detected in PMA 3 and there is a low potential for this species to occur on densely vegetated north-facing slopes.

Munz's sage (*Salvia munzii*). This species has a low to moderate potential to occur in the coastal sage scrub habitat with cobbly soil in PMA 3.

4.3.4.2 Sensitive Amphibians

No sensitive amphibians have been detected in PMA 3. One sensitive species with the potential to occur is the western spadefoot. This species is discussed below.

Not Observed

Western spadefoot (*Spea hammondii*). The western spadefoot is a CDFG species of special concern. There is a moderate potential for this species to occur in the southern willow scrub in PMA 3.

4.3.4.3 Sensitive Reptiles

Belding's orange-throated whiptail was observed in PMA 3; several other species have the potential to occur. These species are discussed below.

Observed

Belding's orange-throated whiptail (*Aspidoscelis* [=*Cnemidophorus*] *hyperythrus beldingi*)—an MSCP covered species. Belding's orange-throated whiptail is a CDFG species of special concern. This species was observed in subunit 3-3b and has the potential to occur in the southern subunits of PMA 3 where larger areas of native vegetation are present.

Not Observed

San Diego horned lizard (*Phrynosoma coronatum blainvillii*). This species is a CDFG species of special concern. There is a high potential for San Diego horned lizards to occur in the coastal sage scrub and maritime succulent scrub habitats of PMA 3.

Coronado skink (*Eumeces skiltonianus interparietalis*). The Coronado skink is a CDFG species of special concern. There is a moderate potential for the Coronado skink to occur in areas covered with leaf litter that receive at least partial sun, such as north-facing slopes.

Silvery legless lizard (*Anniella pulchra pulchra*). This species is a CDFG species of special concern. This species has a moderate potential to occur in scrub and riparian areas in PMA 3, particularly areas with loose soil or leaf litter.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*). This species has a moderate potential to occur in areas of sparse vegetation in PMA 3.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*). The coast patch-nosed snake is a CDFG species of special concern. This species has a moderate potential to occur in sparsely vegetated habitats with loose or rocky soil in PMA 3.

Two-striped garter snake *(Thamnophis hammondii).* The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur in the riparian or adjacent upland areas of PMA 3.

Red diamond rattlesnake (*Crotalus exsul*). The red diamond rattlesnake is a CDFG species of special concern. This species has a moderate potential to occur in the scrub and grassland areas of PMA 3.

4.3.4.4 Sensitive Birds

Three sensitive bird species were observed or detected in PMA 3. There is the potential for several other species to occur. These species are described below.

Observed

Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species. The coastal California gnatcatcher is a federally listed threatened species and a CDFG species of special concern. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and, in general, represents a probable territory. A total of eight coastal California gnatcatchers locations are mapped in PMA 3. One location is mapped in the coastal sage scrub in subunit 3-1b. Two locations are mapped in the maritime succulent scrub in subunit 3-2b. Three locations were identified in subunit 3-2c and two locations were mapped in subunit 3-3a. Coastal California gnatcatchers have the potential to occur in subunit 3-3b in the coastal sage scrub. Subunits 3-1a, 3-2aW, 3-2aE, and 3-3c contain either insufficient quality or quantity of suitable habitat to be likely to support coastal California gnatcatchers.

Yellow warbler (*Dendroica petechia*). The yellow warbler is a CDFG species of special concern. The yellow warbler was detected in subunit 3-3b. This species is expected to occur in the southern willow scrub habitat in subunits 3-3a and 3-3c as well.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species. The southern California rufous-crowned sparrow is a CDFG species of special concern. This species was observed in the maritime succulent scrub habitat in subunit 3-2c. There is a moderate potential for this species to occur in the remaining southern subunits.

Not Observed

White-tailed kite (*Elanus leucurus*). The white-tailed kite is a CDFG fully protected species. This species has the potential to forage and nest in the riparian areas that border grasslands in the southern portion of the PMA.

Northern harrier (*Circus cyaneus hudsonius*). The northern harrier is an MSCP covered species and a CDFG species of special concern. Historically, northern harriers are known to occur in PMA 3 and have been detected recently in the vicinity. Northern harriers are expected to forage and nest in the grassland habitat present in PMA 3.

Cooper's hawk (*Accipiter cooperii*). The Cooper's hawk is a CDFG species of special concern. Suitable foraging and nesting habitat is present in the southern willow scrub and eucalyptus woodland in PMA 3.

Sharp-shinned hawk (*Accipiter striatus*). This species is a CDFG species of special concern. There is a moderate potential for this winter visitor to forage in the southern willow scrub and eucalyptus woodland in PMA 3.

Swainson's hawk (*Buteo swainsoni*). The Swainson's hawk is state listed as threatened. The Swainson's hawk has the potential to forage in the grassland areas; however, this species is not expected to breed as the local breeding population has been extirpated (Unitt 1984).

Golden eagle (*Aquila chrysaetos*). The golden eagle is an MSCP covered species and a CDFG species of special concern. There is a high potential for golden eagles to forage in PMA 3, as a golden eagle was observed foraging over many of the PMA 2 subunits. This species has a low potential to nest on-site; the closest known breeding location is to the northeast, at San Miguel Mountain.

Western burrowing owl (*Speotyto cunicularia hypugaea*). The western burrowing owl is an MSCP covered species and a CDFG species of special concern. This species has a low potential to occur in the open coastal sage scrub and grassland areas of PMA 3 that have existing burrows. This species is not expected to nest in the PMA.

Vaux's swift (*Chaetura vauxi vauxi*). The Vaux's swift is a CDFG species of special concern. This fall migrant is expected to occur in PMA 3 during migration.

Southwestern willow flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 3 due to a lack of suitable breeding habitat. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.

California horned lark (*Eremophila alpestris actia*). The California horned lark is a CDFG species of special concern. There is a moderate potential for this species to occur and breed in the grassland areas of PMA 3.

Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*). The coastal cactus wren is a CDFG species of special concern. There is potential for the coastal cactus wren to forage and breed in maritime succulent scrub and coastal sage scrub habitat with large cactus patches.

Loggerhead shrike (*Lanius ludovicianus*). The loggerhead shrike is a CDFG species of special concern. This species has the potential to forage in the sparse coastal sage scrub and grassland areas of subunits 3-3a, 3-3b, and 3-3c.

Least Bell's vireo (*Vireo bellii pusillus*). The least Bell's vireo is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003. There is a low potential for this species to breed in the narrow band of southern willow scrub present in PMA 3.

Yellow-breasted chat (*Icteria virens*). The yellow-breasted chat is a CDFG species of special concern. This species was not observed during the focused riparian bird surveys conducted in 2003. There is a low to moderate potential for this species to breed in the narrow band of southern willow scrub present in PMA 3. This is currently not occupied by this species but could become so in the future if the habitat remains suitable.

Bell's sage sparrow (*Amphispiza belli belli*). The Bell's sage sparrow is a CDFG species of special concern. Not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and there is a low potential for this species to colonize scrub areas in PMA 3 in the future.

Grasshopper sparrow (*Ammodramus savannarum*). There is a moderate potential for this species to occur in the grassland habitat in the southern portion of PMA 3.

Tricolored blackbird (*Agelaius tricolor*). The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. This species is not expected to occur in PMA 3 due to the lack of suitable marshy habitat.

Western bluebird (*Sialia mexicana*). The western bluebird is an MSCP covered species. The western bluebird has the potential to occur in the open space of PMA 3 during the winter.

4.3.4.5 Sensitive Mammals

No sensitive mammal species were detected in PMA 3 during recent surveys, but two are historically known to occur. These and other species with the potential to occur are discussed below.

Not Observed

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The San Diego black-tailed jackrabbit is a CDFG species of special concern. This species was not observed during surveys, but is expected to occur in PMA 3 due to the presence of suitable scrub and grassland habitat.

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a moderate to high potential for this species to be present in open coastal sage scrub and grassland areas with loose soil.

Southern grasshopper mouse (*Onychomys torridus ramona*). The grasshopper mouse is a CDFG species of special concern. There is a moderate potential for this species to be present in scrub areas with clumps of cactuses.

San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present in the coastal sage scrub and maritime succulent scrub habitat available in PMA 3.

Mountain lion (*Felis concolor*). Mountain lions are not expected to occur in PMA 3 due to the lack of suitable habitat connecting PMA 3 with known locations of this species.

Southern mule deer (*Odocoileus hemionus fuliginata*). The southern mule deer is an MSCP covered species. The southern mule deer is expected to occur in the suitable open habitat present.

4.3.5 Invasive Exotic Plant Species

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass, other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include pampas grass, star-thistle, sweet fennel, crystalline ice plant, tamarisk, hollow-stem asphodel, and filaree.

Figure 9e illustrates the locations of invasive exotic species identified in PMA 3.

4.3.6 Other Survey Results

4.3.6.1 Roadkill

No roadkill was observed along any of the roadways adjacent to the subunits of PMA 3 during any of the surveys conducted.

4.3.6.2 Drainages, Channels, Culverts, and Detention Basins

Figures 9a-9f indicate mapped culverts, detention basins, and maintenance access roads in PMA 3.

A culvert is at the southwest corner of subunit 3-1a. Another culvert is in subunit 3-1b at the end of the cul-de-sac to the west. These culverts likely convey residential runoff. A culvert is along the drainage on the north side of subunit 3-1c. Culverts connect subunits 3-2aW and 3-2aE at the north end under Oleander Avenue. Several culverts are along or outside the southern edges of subunits 3-2b and 3-2c; and along or outside the northern edges of subunits 3-3a, 3-3b, and 3-3c. These culverts convey runoff from the adjacent slopes and Olympic Parkway.

The culverts that connect subunits are constructed to convey minor water flow. They would be large enough for small mammals, amphibians, and reptiles to pass through when dry or nearly dry. Medium-sized mammals, such as raccoon, fox, coyote, and bobcat, could potentially use some of the larger culverts. Large mammals, such as southern mule deer and mountain lion, are not expected to use these culverts as movement corridors.

Two detention basins are mapped in PMA 3: at the eastern end of the drainage in subunit 3-3b and the western end of the drainage in subunit 3-3c.

4.3.6.3 Wildlife Movement Corridor

In general, subunits in PMA 3 are situated sufficiently close together to allow for unimpeded bird movement between subunits. However, in many instances, roads that separate subunits likely decrease the number of terrestrially mobile animals that successfully cross from one subunit to another. Major roads, such as Otay Lakes Road, East H Street, Corral Canyon Road, and Telegraph Canyon Road, are not expected to provide significant pedestrian wildlife movement due to traffic volume and/or physical barriers such as cement lane dividers. Figures 9b, 9c, 9e, and 9f indicate potential wildlife movement corridors or pathways in PMA 3. As mentioned above, the culverts identified are not large enough to support large mammals, but could potentially allow movement of small and medium-sized mammals, amphibians, and reptiles.

Subunits 3-1b and 3-1c are fairly close to subunits 2-2b and 2-2c; however, these PMAs are divided by Telegraph Canyon Road. The high volume of traffic on this well-traveled

road would preclude most land species from crossing safely from one subunit to another.

Subunit 3-1a is isolated from the other subunits. Pedestrian species would have to traverse approximately 1,000 feet and cross East Naples Street to reach the next closest subunit. Subunits 3-2aW and 3-2aE are similarly isolated from the next closest subunit, 3-2b, which is 2,300 feet away across residential neighborhoods.

Wildlife species could move between subunits 3-2b and 3-2c largely unimpeded. Wildlife species would also be able to move between subunits 3-3a, 3-3b, and 3-3c. However, Olympic Parkway would hinder the pedestrian movement of species between these two sets of subunits.

4.3.6.4 Dumping, Trespassing, and Vagrant Encampments

No areas of dumping, trespassing, or vagrant encampments were mapped in PMA 3.

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

N 0 Feet 1000

PMA 3
Other PMAs

PMA subunits

10-foot topographic contour lines

Map Locator

FIGURE 8
Preserve Management
Area 3 (PMA 3)

RECON

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fig8 (pma3) 06/02/08

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N 0 Feet 1000

PMA 3
Other PMA

PMA subunits

RECON

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fig9 (bio3) 06/02/06

FIGURE 9
Existing Biological Resources
PMA 3 Locator Map

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Disturbed coastal sage scrub (32500)
Disturbed (11300)

Potential wildlife crossing
Culvert clear

0 Feet 200 N

RECON

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fig9a (bio3) 06/02/08

FIGURE 9a
Existing Biological Resources
PMA 3 Map A

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Disturbed coastal sage scrub (32500)
Southern willow scrub (63320)
Disturbed (11300)

Sensitive animal locations
Coastal California gnatcatcher

Potential wildlife crossing
Culvert clear

0 Feet 200 N

RECON

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fig9b (bio3) 06/02/08

FIGURE 9b
Existing Biological Resources
PMA 3 Map B

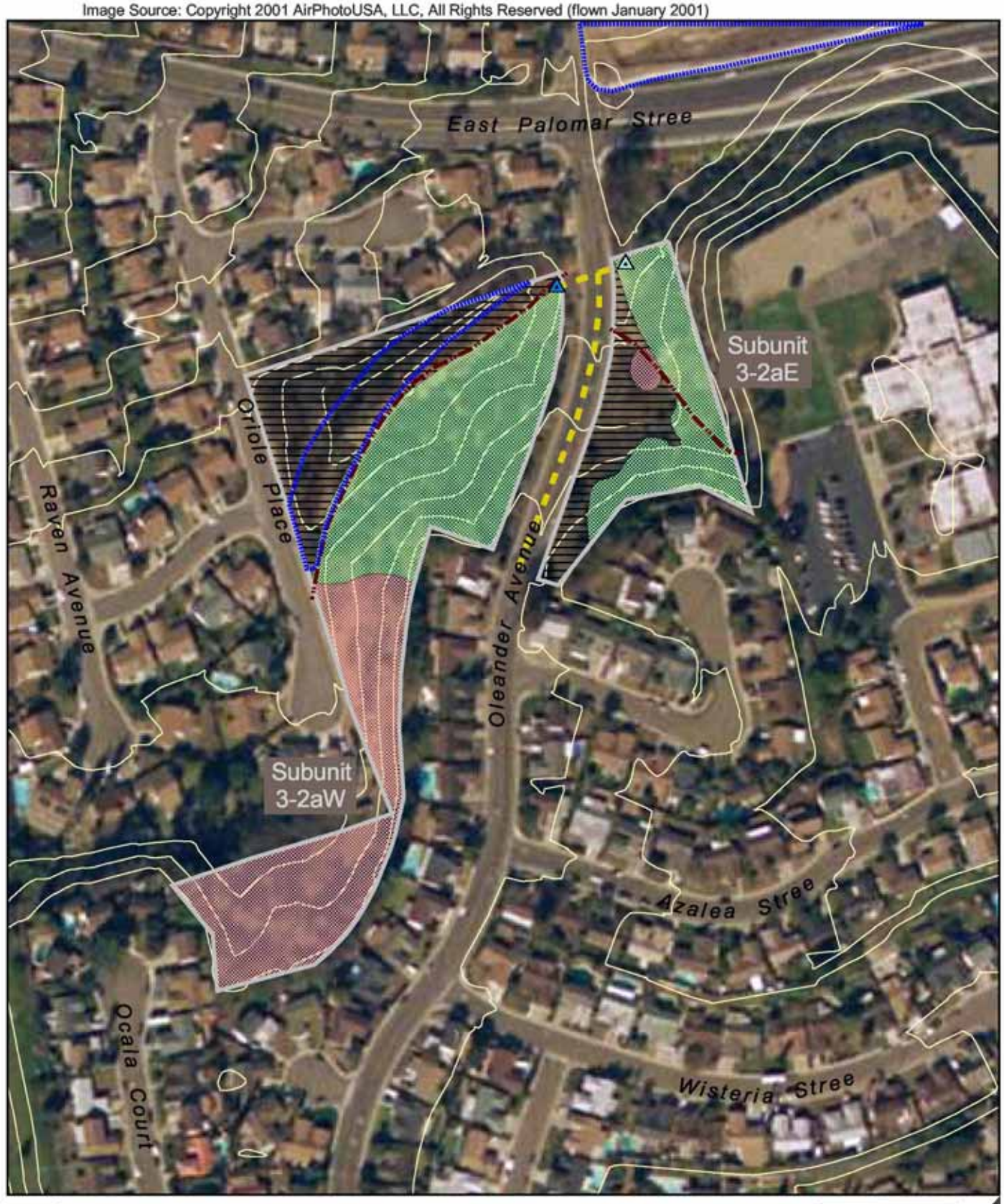

FIGURE 9c
Existing Biological Resources
PMA 3 Map C

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fig9c (bio3) 06/02/08

RECON

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fig9d (bio3) 06/02/06

FIGURE 9d
Existing Biological Resources
PMA 3 Map D

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Disturbed coastal sage scrub (32500)
- Native grassland (42100)
- Non-native grassland (42200)
- Southern willow scrub (63320)
- Disturbed (11300)

Sensitive plant locations
- F Golden spined cereus
- C Small-flowered morning glory
- D San Diego barrel cactus
- I Orcutt's bird's-beak
- I Orcutt's bird's-beak
- J Otay tarplant
- J Otay tarplant
- S Spiny rush

Invasive plant locations
- 1 Acacia
- 7 Sweet fennel
- 8 Tamarisk

Sensitive animal locations
- Blue-gray gnatcatcher
- Coastal California gnatcatcher

Potential wildlife crossing

Culvert
Culvert clear

0 Feet 200 N

RECON

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fig9e (bio3) 06/02/08

FIGURE 9e
Existing Biological Resources
PMA 3 Map E

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance area

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Non-native grassland (42200)
Southern willow scrub (63320)
Disturbed (11300)

Culvert clear
Detention basin

Sensitive plant locations
C Small-flowered morning glory
D San Diego barrel cactus
J Otay tarplant
J Otay tarplant
Q Snake cholla

Sensitive animal locations
Blue-gray gnatcatcher
Coastal California gnatcatcher
Rufous-crowned sparrow

Potential wildlife crossing

0 Feet 200 N

RECON

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fig9f (bio3) 06/02/06

FIGURE 9f
Existing Biological Resources
PMA 3 Map F

4.4 PMA 4

PMA 4 consists of 18 subunits totaling 310.0 acres. All figures pertaining to PMA 4 are located at the end of this section, in numerical order. Figure 10 presents an overview of the subunits and Figure 11 is the locator map for Figures 11a-11m.

An additional Otay tarplant preserve is within the PMA 4 boundary. This preserve is located east of subunit 4-1h (Figure 11f). The homeowners' association (HOA) for the Eastlake I development is the party responsible for this area. The preserve currently supports Otay tarplant, as well as invasive non-native species such as pampas grass, sweet fennel, and annual grasses. Due to the invasion by non-native weed species, it appears that this preserve is currently not being actively managed.

4.4.1 Site Description

4.4.1.1 Topography

The eastern half of PMA 4 is bisected by Long Canyon, which drops from 430 feet AMSL in the center of the area to 100 feet in the northeastern corner. Steep canyons surrounding it and other arroyos dominate the landscape in the western and northern parts of the area. The southern part of the site has a gentle, south-facing slope above Telegraph Canyon. The western half of the area is composed of rolling hills, with hilltops above 600 feet AMSL (USGS 1955, 1967a).

4.4.1.2 Soils

PMA 4 contains the following soil types: Diablo clay, Diablo-urban land complex, Linne clay loam, and Olivenhain cobbly loam. Diablo clay and Linne clay loam soils predominate throughout PMA 4. Diablo clays are most common, with Diablo-urban land complex soils mapped in the flat, southern area that has long been developed, and Linne clay loam soils on the gentle slopes in the north-central part of the area. Olivenhain cobbly loam is found on some of the steep slopes in the eastern part of the site.

4.4.2 Botanical Resources

There are 10 vegetation communities present in PMA 4: Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, maritime succulent scrub, disturbed maritime succulent scrub, mule fat scrub, southern willow scrub, non-native grassland, freshwater marsh, tamarisk scrub, and disturbed. The acreages of these vegetation communities within PMA 4 are shown in Table 5. Vegetation communities mapped on-site are shown on Figures 11a-11m. The following text provides detailed descriptions of the vegetation communities specific to PMA 4. Please see Attachment 3 for complete general vegetation community descriptions.

Plants historically observed are listed in Attachment 4. Attachment 17 provides a list of plants identified during the current surveys in each subunit of PMA 4.

TABLE 5
VEGETATION COMMUNITIES AND
LAND COVER TYPES ON PMA 4

Vegetation Type	Acres
Maritime succulent scrub	92.8
Disturbed maritime succulent scrub	1.3
Diegan coastal sage scrub	120.8
Disturbed Diegan coastal sage scrub	13.7
Southern willow scrub	14.2
Mule fat scrub	1.1
Fresh water marsh	1.0
Native grassland	6.7
Disturbed native grassland	2.8
Non-native grassland	37.6
Tamarisk scrub	1.7
Eucalyptus woodland	0.2
Disturbed	16.1
Total for PMA 4	310.0

4.4.2.1 Maritime Succulent Scrub (92.8 acres) and Disturbed Maritime Succulent Scrub (1.3 acres) (Holland Code 32400)

Maritime succulent scrub in PMA 4 consists of San Diego barrel cactus, Mohave yucca, snake cholla, and jojoba. This vegetation community occurs mainly on south-facing slopes and supports sensitive wildlife species such as coastal cactus wren. Maritime succulent scrub average shrub height ranges from three feet in open or sage scrub dominated areas to eight feet in woody species or coast cholla dominated areas.

4.4.2.2 Diegan Coastal Sage Scrub (120.8 acres) and Disturbed Diegan Coastal Sage Scrub (13.7 acres) (Holland Code 32500)

Diegan coastal sage scrub is considered to be high-quality habitat for a number of species that reside in the area. This community is dominated by species such as California sagebrush, California buckwheat, broom baccharis, common encelia, coast goldenbush, lemonadeberry, San Diego sand aster, jojoba, and San Diego County viguiera. Areas dominated by California sagebrush and California buckwheat range in average shrub height from three to six feet. These areas tend to occur on south-facing slopes. Lemonadeberry-dominated areas average shrub height ranges from 8 to 15 feet. These areas are generally on the north-facing slopes.

Disturbed Diegan coastal sage scrub is present in areas that include a greater percentage of weedy, non-native species. These include star-thistle, Russian thistle, tree tobacco, horehound, black mustard, wild oats, and bromes.

4.4.2.3 Southern Willow Scrub (14.2 acres) (Holland Code 63320)

Within PMA 4, southern willow scrub is primarily dominated by western sycamore, western cottonwood, Gooding's black willow, arroyo willow, and red willow. Southern willow scrub average vegetation height varies depending on the age and type of tree species present. In general, vegetation height averages 30 feet, and can be higher for more mature stands and/or those dominated by western sycamores and western cottonwoods.

4.4.2.4 Mule Fat Scrub (1.1 acres) (Holland Code 63310)

Mule fat dominates this small patch in subunit 4-2d. Due to the proximity to tamarisk scrub, this community is in danger of being invaded by the highly invasive tamarisk. Mule fat scrub average shrub height ranges from six to eight feet.

4.4.2.5 Freshwater Marsh (1.0 acre) (Holland Code 52400)

Freshwater marsh is dominated by salt marsh fleabane (*Pluchea odorata*), broad-leaved cattail (*Typha latifolia*), and salt heliotrope (*Heliotropium curassavicum*). A very narrow band of this community is present in the drainage that bisects the coastal sage scrub and maritime succulent scrub vegetation on the eastern half of subunit 4-1e. The average vegetation height of a freshwater marsh is approximately five to seven feet.

4.4.2.6 Native Grassland (6.7 acres) and Disturbed Native Grassland (2.8 acres) (Holland Code 42100)

Native grassland patches occur within the Diegan coastal sage scrub vegetation in subunit 4-2a and are dominated by species including needlegrass, common goldenstar, and blue-eyed grass. Non-native grass species such as wild oats and bromes have invaded the native grassland areas to some extent. Native grasslands range in average vegetation height from one to three feet.

The area mapped as disturbed native grassland is in subunit 4-2b, adjacent to a patch of disturbed land. The disturbed native grassland is dominated by the same native grass species as above, but with a greater percentage of bare ground and non-native grassland species.

4.4.2.7 Non-native Grassland (37.6 acres) (Holland Code 42200)

This vegetation community is dominated by non-native species including bromes and wild oats. The average height of this vegetation ranges from two to four feet.

4.4.2.8 Tamarisk Scrub (1.7 acres) (Holland Code 63810)

Tamarisk scrub is dominated by the non-native and highly invasive tamarisk. This weedy vegetation community is usually a monoculture of tamarisk that has supplanted native wetland plant species. Tamarisk typically invades following disturbance in sandy or gravelly braided washes or intermittent streams, often in areas where high evaporation creates high salinity in the stream (Holland 1986).

4.4.2.9 Eucalyptus Woodland (0.2 acre) (Holland Code 11100)

Eucalyptus woodland occurs in subunit 4-2a between residential housing, coastal sage scrub, and non-native grassland. Eucalyptus trees provide bird species, including raptors, with foraging and nesting opportunities. Eucalyptus woodlands range in height from 30 to 50 feet or higher in more mature stands.

4.4.2.10 Disturbed (16.1 acres) (Holland Code 12000)

Disturbed habitat is found in PMA 4 and includes trails and open areas that have been cleared of vegetation. These disturbed areas have a mixture of native and non-native vegetation including California buckwheat, broom baccharis, wild oat, star-thistle, and filaree.

The City of Chula Vista and SDG&E maintain access roads in the Preserve. The access roads are generally wider than pedestrian trails to allow for vehicular access. Specifically, an SDG&E transmission line traverses the center of PMA 4 in a southwest to northeast direction. Associated access roads for the transmission line are in subunits 4-3d, 4-2b, and 4-1dS.

4.4.3 Zoological Resources

Attachment 8 provides a complete list of all wildlife species present in PMAs 1-4. Attachment 18 provides a list of species present within each subunit of PMA 4. Wildlife observed includes seven reptile species, forty-eight species of birds, and five species of mammals.

4.4.3.1 Amphibians

No amphibians were observed in PMA 4. Some common species expected to occur in the drainages include the Pacific treefrog and bullfrog.

4.4.3.2 Reptiles

The side-blotched lizard was observed in PMA 4. Other common reptile species with the potential to occur include western fence lizard and San Diego gophersnake.

4.4.3.3 Birds

Bird species commonly observed in the Diegan coastal sage scrub and maritime succulent scrub include Anna's hummingbird, bushtit, wrentit, western scrub-jay, white-crowned sparrow, spotted towhee, coastal California gnatcatcher, blue-gray gnatcatcher, California towhee, Bewick's wren, and house finch.

Riparian vegetation communities provide habitat for many resident and migratory bird species. Species observed within the southern willow scrub include common yellowthroat, lesser goldfinch, and song sparrow.

Birds and raptors observed in non-native grassland and disturbed environments include mourning dove, northern mockingbird, house finch, American crow, common raven (*Corvus corax clarionensis*), western meadowlark, red-tailed hawk, and European starling (*Sturnus vulgaris*).

4.4.3.4 Mammals

Mammal species observed and detected within PMA 4 include cottontail rabbit, coyote, raccoon, southern pocket gopher, and southern mule deer. These are likely to be present in any of the vegetation communities and habitats found within PMA 4.

4.4.4 Sensitive Species

For purposes of this report, a species will be considered sensitive if it is: (1) listed by state or federal agencies as threatened or endangered or are candidates or proposed for such listing; (2) considered rare, endangered, or threatened by the state of California and listed in the NDDB (2003a, 2003b, 2003c, 2003d, 2003e); (3) a narrow endemic or covered species in the City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003); (4) on Lists 1B or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2001); or (5) considered sensitive by local conservation organizations or specialists. Noteworthy plant species are considered to be those that are on Lists 3 or 4 of the CNPS *Inventory*. Sensitive habitat types are those identified by the NDDB (State of California 2003e) and Holland (1986). Assessments for the potential occurrence of sensitive or noteworthy species are based upon known ranges and habitat preferences for the species and species occurrence records from the NDDB.

Attachment 5 lists the sensitive plant species known to occur or with potential to occur in the PMAs. Attachment 6 lists sensitivity status codes. Attachment 7 provides complete general descriptions of all sensitive plant species discussed in this document. Attachment 9 lists the sensitive animal species known to occur or with potential to occur in the PMAs. Attachment 10 provides complete general descriptions of all sensitive wildlife species discussed in this document. Descriptions include sensitivity status, life

history, and range. Figures 11a-11m map the locations of sensitive plants and wildlife detected during the current surveys.

4.4.4.1 Sensitive Plant Species

In PMA 4, 13 sensitive and noteworthy plant species were observed during the current surveys. Several sensitive plant species are historically known from the PMA or are known to occur in the vicinity of the site, but were not observed during surveys. Many of these species, such as shrubs, would have been easily observed on the site during plant surveys. Because they were not observed, they are considered to have a low potential for occurrence or are not expected to occur. In other cases, species that are perennial or annual herbs may not have been detected due to timing constraints. Every PMA subunit was surveyed at least once; PMA subunits with an expectation of supporting rare plants were resurveyed for a minimum of two times to account for seasonal differences. Because some PMA subunits were only surveyed once during the year this could have led to the smaller herbaceous species not being detected on these subunits even though they may be present in small numbers. These species are discussed below.

Plant counts are provided for most of the sensitive species and the highest priority for conducting plant counts was for state and federally listed and MSCP covered species, including narrow endemics. In some cases, counts were not made for species that are regionally considered sensitive by CNPS, such as San Diego County viguiera or small-flowered morning glory because the level of effort required to do so would have diminished our ability to accomplish higher priority counts for listed and covered species.

Observed

San Diego thornmint (*Acanthomintha ilicifolia*)—a narrow endemic species covered under the MSCP. Populations of this species are present in subunits 4-1cW (approximately 500 individuals) and 4-2b (approximately 75 individuals).

California adolphia (*Adolphia californica*). A few shrubs were observed in subunits 4-1dN, 4-1dS, 4-1e, 4-1f, and 4-2c in the Diegan coastal sage scrub.

Small-flowered morning glory (*Convolvulus similans*). This species is present along the drainages of subunits 4-1a (thousands of individuals), 4-1b, 4-1cW, 4-2a (thousands of individuals), and 4-2b.

Orcutt's bird's-beak (*Cordylanthus orcuttianus*)—an MSCP covered species. A few individuals of this species are present in subunit 4-1g.

Snake cholla (*Cylindropuntia californica* var. *californica* [= *Opuntia californica* var. *californica*])—a narrow endemic species covered under the MSCP. A few individual snake chollas occur in the Diegan coastal sage scrub in subunit 4-1cW.

Otay tarplant (*Deinandra conjugens* [=*Hemizonia conjugens*])—a narrow endemic species covered under the MSCP. This species is present in subunits 4-1a (30,000 individuals), 4-1cW (50 individuals), 4-2a, and 4-2b.

Variegated dudleya (*Dudleya variegata*)—a narrow endemic species covered under the MSCP. Approximately 50 variegated dudleya individuals are present in subunit 4-2a.

San Diego barrel cactus (*Ferocactus viridescens*)—an MSCP covered species. Small populations of San Diego barrel cactus are scattered throughout subunits 4-1a, 4-1cE, 4-1dS, 4-1e, 4-1f, and 4-1h (142 individuals).

Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*). This species is present in subunits 4-1a (150 individuals), 4-1b (100 individuals), 4-1cW (30 individuals), 4-2a (1,000 individuals), and a few individuals in subunit 4-2b.

Graceful tarplant (*Holocarpha virgata* ssp. *elongata*). One individual of this species was observed in subunit 4-1h.

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*). Several individuals of this species are present in PMA subunits 4-1f and 4-2c.

San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]). Small, scattered populations of San Diego sand aster occur in the Diegan coastal sage scrub of most PMA 4 subunits.

California box thorn (*Lycium californicum*). This species is present in maritime succulent scrub adjacent to subunit 4-1cW.

Munz's sage (*Salvia munzii*). Munz's sage shrubs are present in subunit 4-1f and 4-1h (approximately 35 individuals) in the Diegan coastal sage scrub vegetation.

San Diego County viguiera (*Viguiera laciniata*). San Diego County viguiera shrubs are widely scattered in the coastal sage scrub vegetation of most PMA 4 subunits.

Noteworthy Species

The following noteworthy species are usually associated with desert plant communities. None of these species have any sensitivity status. Their occurrences in coastal San Diego County represent disjunct populations that are likely genetically isolated. Their presence is owed to the calcareous Linne series soils found in PMA 4.

California fagonia (*Fagonia laevis*). A few individual California fagonias are present in subunit 4-1dS. While not considered sensitive, these occurrences are noteworthy due to their presence at or just beyond the western extent of this species' range.

Desert bedstraw (*Galium proliferum*). Populations of desert bedstraw are present in subunits 4-2b and 4-2c. While not considered sensitive, these occurrences are noteworthy due to their presence beyond this species' range.

Water jacket (*Lycium andersonii*). This species is present in subunits 4-1a, 4-1cW, 4-1dS, 4-2a, and 4-2b. While not considered sensitive, these occurrences are noteworthy due to their presence beyond this species' range.

Not Observed

San Diego bur-sage (*Ambrosia chenopodifolia*). This species has a low potential to occur within the Diegan coastal sage scrub in PMA 4. One individual San Diego bur-sage occurs in PMA 1, which is the northern extent of its range.

San Diego ambrosia (*Ambrosia pumila*). San Diego ambrosia has a low potential to occur in the drainages of PMA 4. This species prefers sandy alluvium in creek beds, seasonally dry drainages, and floodplains. Clay soils are present in these areas in PMA 4.

South coast saltbush (*Atriplex pacifica*). There is a high potential for this species to occur in PMA 3. Suitable habitat present includes the open coastal sage scrub on Linne clay substrate.

Golden-spined cereus (*Bergerocactus emoryi*). There is a moderate potential for golden-spined cereus to occur given suitable habitat present and proximity to a known occurrence in PMA 2.

Orcutt's brodiaea (*Brodiaea orcuttii*). There is a low potential for this species to occur. Suitable habitat, which consists of chaparral communities with vernal pool areas, is not present in PMA 4.

Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [=*Haplopappus palmeri* ssp. *palmeri*]). There is a low potential for Palmer's ericameria to occur in PMA 4. Suitable sandy loam soils do not occur in this PMA.

Cliff spurge (*Euphorbia misera*). No historical records of cliff spurge occur in PMA 4. There is a potential for occurrence in the maritime succulent scrub habitat.

San Diego marsh elder (*Iva hayesiana*). There is a potential for this species to occur in PMA 4, particularly adjacent to the on-site drainage.

Spiny rush (*Juncus acutus* ssp. *leopoldii*). There is a potential for this species to occur in the riparian habitats on PMA 4.

San Diego goldenstar (*Muilla clevelandii*). San Diego goldenstar typically grows in gravelly clay loam soils. There is a moderate potential for this species to occur, as the required substrate is present. However, these areas were surveyed extensively during sensitive plant surveys, general surveys, and focused surveys for coastal California gnatcatcher; if present, this species would have been detected. Nearby populations occur on Otay Mesa, Proctor Valley Road, and San Miguel Mountain.

Spreading navarretia (*Navarretia fossalis*). Suitable vernal pool habitat is not present on PMA 4. Spreading navarretia is not expected to occur.

Otay mesa mint (*Pogogyne nudiuscula*). Suitable vernal pool habitat is not present on PMA 4. Otay mesa mint is not expected to occur.

Nuttall's scrub oak (*Quercus dumosa*). There is a low potential for Nuttall's scrub oak to occur on the more densely vegetated north-facing slopes on PMA 4.

4.4.4.2 Sensitive Amphibians

No sensitive amphibians have been detected to date. One sensitive species with the potential to occur is the western spadefoot. This is discussed in more detail below.

Not Observed

Western spadefoot (*Spea hammondii*). The western spadefoot is a CDFG species of special concern. There is a low potential for this species to be present in the drainages of PMA 4.

4.4.4.3 Sensitive Reptiles

Three sensitive reptile species were detected in PMA 4. Several other species have a potential to occur. These species are discussed below.

Observed

Belding's orange-throated whiptail (*Aspidoscelis* [=*Cnemidophorus*] *hyperythrus beldingi*)—an MSCP covered species. Belding's orange-throated whiptail is a CDFG species of special concern. Belding's orange-throated whiptails were observed in subunits 4-1a and 4-2b, and are expected to occur in other scrub areas.

San Diego horned lizard (*Phrynosoma coronatum blainvillii*)—an MSCP covered species. This species is a CDFG species of special concern. A San Diego horned lizard was observed in subunit 4-2b. This species has a low potential to occur in the coastal sage scrub habitat throughout PMA 4, as its numbers are declining due to edge effects, likely including predation by domestic cats. Prior to urban development, this species would have been common on the mesa tops of PMA 4.

Red diamond rattlesnake (*Crotalus exsul*). The red diamond rattlesnake is a CDFG species of special concern. Red diamond rattlesnakes were observed in subunits 4-1a and 4-2b, and are expected to occur throughout PMA 4, particularly in south-facing Diegan coastal sage and maritime succulent scrub areas.

Not Observed

Coronado skink (*Eumeces skiltonianus interparietalis*). The Coronado skink is a CDFG species of special concern. There is a moderate potential for the Coronado skink to occur in the mesic areas near the drainage that traverses PMA 4.

Silvery legless lizard (*Anniella pulchra pulchra*). This species is a CDFG species of special concern. This species has a moderate potential to occur in scrub and riparian areas in PMA 4, particularly areas with loose soil or leaf litter.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*). This species has a moderate potential to occur in areas of sparse vegetation in PMA 4.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*). The coast patch-nosed snake is a CDFG species of special concern. This species has a moderate potential to occur sparsely vegetated habitats with loose or rocky soil in PMA 4.

Two-striped garter snake *(Thamnophis hammondii).* The two-striped garter snake is a CDFG species of special concern. This species has a moderate potential to occur in the riparian or adjacent upland areas of PMA 4.

4.4.4.4 Sensitive Birds

Eleven sensitive bird species were observed in PMA 4. Several other species have the potential to occur. These species are discussed below.

Observed

Double-crested cormorant (*Phalacrocorax auritus albociliatus*). The double-crested cormorant is a CDFG species of special concern. This species was observed flying over subunit 4-1b. This species is not expected to use any of the resources within any of the PMAs, as there is no appropriate habitat available.

White-tailed kite (*Elanus leucurus*). The white-tailed kite is a CDFG fully protected species. This species was observed in subunits 4-1g and 4-1h. Suitable nesting habitat occurs on-site.

Northern harrier (*Circus cyaneus hudsonius*)—an MSCP covered species. The northern harrier is a CDFG species of special concern. Northern harriers were observed in subunit 4-1g. Suitable nesting habitat occurs along the major drainage in PMA 4.

Cooper's hawk (*Accipiter cooperii*)—an MSCP covered species. The Cooper's hawk is a CDFG species of special concern. Cooper's hawks were observed in subunits 4-1a, 4-2a, and 4-2b. Suitable nesting habitat occurs in the mature riparian vegetation.

Swainson's hawk (*Buteo swainsoni*)—an MSCP covered species. The Swainson's hawk is state listed as threatened. A Swainson's hawk was observed flying over subunit 4-1e. This species is not expected to breed in PMA 4, as the local breeding population has been extirpated (Unitt 1984).

American peregrine falcon (*Falco peregrinus*)—an MSCP covered species. The American peregrine falcon is a state endangered species. This species was observed flying over subunit 4-1a. The American peregrine falcon is not expected to nest on-site.

Least Bell's vireo (*Vireo bellii pusillus*)—an MSCP covered species. The least Bell's vireo is a state and federally listed endangered species. This species was observed in subunit 4-2b during the focused surveys conducted in 2003. The least Bell's vireo is expected to breed in the southern willow scrub of this subunit.

Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*)—an MSCP covered species. The coastal cactus wren is a CDFG species of special concern. Coastal cactus wrens were observed in subunit 4-2a; nesting evidence was observed in subunits 4-1a and 4-2b. This species is expected to occur in large cactus patches within other subunits of PMA 4.

Coastal California gnatcatcher (*Polioptila californica californica*)—an MSCP covered species. The coastal California gnatcatcher is a federally listed threatened species, a CDFG species of special concern, and an MSCP covered species. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers and in general, represents a probable territory. A total of 26 locations of coastal California gnatcatcher was mapped in PMA 4. For the purposes of this report, a 'gnatcatcher location' may represent either an individual or pair of gnatcatchers. Coastal California gnatcatchers were observed in subunits 4-1a (3 locations), 4-1cE (2 locations), 4-1dS (1 locations), 4-1e (1 location), 4-1f (2 locations), 4-1h (2 locations), 4-2a (2 locations), 4-2b (10 locations), 4-2c (1 locations), and 4-3b (2 locations). Of these mapped locations, only one observation in subunit 4-3b showed evidence of nesting behavior (i.e., carrying nesting material). One active nest with a pair was also observed in the open space south of subunit 4-1e. Subunit 4-2b had the largest number of gnatcatcher locations, occurring approximately every 700 feet throughout the subunit.

Yellow warbler (*Dendroica petechia*). The yellow warbler is a CDFG species of special concern. The yellow warbler was observed in subunits 4-2b and 4-3c. This species is expected to breed in the southern willow scrub habitat.

Yellow-breasted chat (*Icteria virens*). The yellow-breasted chat is a CDFG species of special concern. This species was observed in subunit 4-2b during the focused riparian bird surveys conducted in 2003. Suitable breeding habitat is present in PMA 4 for the yellow-breasted chat.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)—an MSCP covered species. The southern California rufous-crowned sparrow is a CDFG species of special concern. Southern California rufous-crowned sparrows were observed in subunits 4-1h, 4-2b, and 4-2c, and are expected to occur in the coastal sage scrub throughout PMA 4.

Not Observed

Sharp-shinned hawk (*Accipiter striatus*). This species is a CDFG species of special concern. There is a moderate potential for this winter visitor to forage in the southern willow scrub and eucalyptus woodland in PMA 4.

Golden eagle (*Aquila chrysaetos*). The golden eagle is an MSCP covered species and a CDFG species of special concern. There is a high potential for golden eagles to forage in PMA 4, as a golden eagle was observed foraging over several of the PMA 2 subunits. This species has a low potential to nest on-site; the closest known breeding location is to the northeast, at San Miguel Mountain.

Western burrowing owl (*Athene cunicularia hypugaea*). The western burrowing owl is an MSCP covered species and a CDFG species of special concern. Potential habitat for this species is present in the coastal sage scrub and grassland areas of PMA 4 with existing burrows. This species is not expected to nest in the PMA.

Vaux's swift (*Chaetura vauxi vauxi*). The Vaux's swift is a CDFG species of special concern. Vaux's swift are expected to forage in PMA 4 during migration.

Southwestern willow flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is an MSCP covered species and a state and federally listed endangered species. This species was not observed during the focused surveys conducted in 2003 and is not expected to breed in PMA 4 due to a lack of suitable breeding habitat. The southern willow scrub present is too narrow and does not provide the proper canopy configuration. However, the southwestern willow flycatcher may use the riparian habitat as a migration stop-over area for foraging during spring and fall.

California horned lark (*Eremophila alpestris actia*). The California horned lark is a CDFG species of special concern. There is a moderate potential for this species to occur and breed in the grassland areas of PMA 4.

Loggerhead shrike (*Lanius ludovicianus*). The loggerhead shrike is a CDFG species of special concern. This species has the potential to forage in the sparse coastal sage scrub and grassland areas of PMA 4.

Bell's sage sparrow (*Amphispiza belli belli*). The Bell's sage sparrow is a CDFG species of special concern. This species was not observed during the focused surveys conducted for coastal California gnatcatcher; however, the habitat appears suitable and there is a low potential for this species to colonize areas of scrub or chaparral in PMA 4 in the future.

Grasshopper sparrow (*Ammodramus savannarum*). There is a moderate potential for this species to occur in the grassland habitat in subunits 4-1a, 4-2a, 4-2c, and 4-1g.

Tricolored blackbird (*Agelaius tricolor*). The tricolored blackbird is an MSCP covered species and a CDFG species of special concern. This species has a low potential to occur in PMA 4 due to the lack of freshwater marsh habitat.

Western bluebird (*Sialia mexicana*). The western bluebird is an MSCP covered species. There is a potential for western bluebirds to occur in most PMA 4 habitats during the winter.

4.4.4.5 Sensitive Mammals

One sensitive species, southern mule deer, was observed in PMA 4 and five sensitive species have the potential to occur. These are discussed below.

Observed

Southern mule deer (*Odocoileus hemionus fuliginata*)—an MSCP covered species. Southern mule deer were detected by scat in subunit 4-1g and by track in subunit 4-2b.

Not Observed

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The San Diego black-tailed jackrabbit is a CDFG species of special concern. San Diego black-tailed jackrabbits are expected to occur in the grassland and scrub areas of PMA 4.

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). The northwestern San Diego pocket mouse is a CDFG species of special concern. There is a moderate potential for this species to be present in open coastal sage scrub and grassland areas with loose soil.

Southern grasshopper mouse (*Onychomys torridus ramona*). The grasshopper mouse is a CDFG species of special concern. There is a moderate potential for this species to be present in scrub areas with clumps of cactuses.

San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego desert woodrat is a CDFG species of special concern. There is a moderate potential for this species to be present in the coastal sage scrub and maritime succulent scrub habitat available in PMA 4.

Mountain lion (*Felis concolor*). There is a low potential for mountain lions to occur in PMA 4, based on connectivity to large tracts of open space that connect to San Miguel Mountain (Scott Tremor, pers. comm. 2002). A large mammal scat with the remains of a house cat was detected on subunit 4-1h. A positive identification was not made, however, given the size, shape, and dietary remains, the scat could have been deposited by either a large bobcat or mountain lion. This subunit is located at the edge of the PMA adjacent to a larger expanse of open space near Proctor Valley Road. At the time of detection, this adjacent open space was not yet developed to the extent it is now and it was directly connected to open space large enough to support a mountain lion's home range.

4.4.5 Invasive Exotic Plant Species

The major invasive exotic threats to native plant species in the Center City Preserve Area are annual grasses, including bromes, wild oats, ryegrass, other non-native annual grasses, and black mustard. These species quickly establish populations in disturbed areas and the interface of disturbed areas and native habitat. Annual grasses and black mustard invade native habitats and replace the native herbaceous understory species. At the end of the growing season of these non-natives, they dry out and provide fuel for wildfires.

Other invasive plant species pose a threat to native plant species, habitat structure, and wildlife species populations. These species include pampas grass, star-thistle, sweet fennel, crystalline ice plant, tamarisk hollow-stem asphodel, and filaree.

Figures 11a-11c, 11e-11f, and 11h-11l illustrate the locations of invasive exotic species identified in PMA 4.

4.4.6 Other Survey Results

4.4.6.1 Roadkill

No roadkill was observed along any of the roadways adjacent to the subunits of PMA 4 during any of the surveys conducted.

4.4.6.2 Drainages, Channels, Culverts, and Detention Basins

Figures 11-11m indicate mapped culverts, gabions (structures consisting of rock caged by wire mesh), detention basins, and maintenance access roads in PMA 4. A culvert is at the eastern edge of subunit 4-2a and likely conveys runoff from the adjacent residential development. Culverts connect subunits 4-2a and 4-2b under Canyon Drive. Two gabions and a culvert are in the center of subunit 4-2b. Another gabion and two culverts are in the southeast corner of this subunit along the drainage. A detention basin is in subunit 4-2c at the south end in the southern willow scrub vegetation.

The culverts that connect subunits are constructed to convey minor water flow. They would be large enough for small mammals, amphibians, and reptiles to pass through when dry or nearly dry. Large mammals are not expected to use these culverts as movement corridors.

4.4.6.3 Wildlife Movement Corridor

For the most part, the subunits in PMA 4 are fairly close together, with residential roads separating them. This allows for relatively unimpeded bird species movement between subunits. However, in many instances, the roads that separate subunits likely decrease the number of terrestrially mobile animals that successfully travel from one subunit to another. Certain major roads, Otay Lakes Road, East H Street, Corral Canyon Road, and Telegraph Canyon Road, are not expected to provide significant pedestrian wildlife movement due to traffic volume and/or physical barriers such as cement lane dividers. Figures 11a-11f, 11h-11k, and 11m indicate potential wildlife movement corridors or pathways in PMA 4.

Subunit 4-1a is part of a larger open space area to the north. However, this entire area is surrounded by development that would force terrestrial wildlife species to cross Corral Canyon Road to connect to other open space areas such as San Miguel Mountain north of PMA 4. Subunit 4-1b is part of a canyon that snakes to the west and south where it connects to subunit 4-1cW. Subunits 4-1dN, 4-1dS, 4-1e, 4-1f, 4-1g, and 4-1h abut the open space of San Miguel Mountain. Wildlife can move freely between these areas. Subunits 4-2c and 4-2d are largely isolated by East H Street and Corral Canyon Road. There is an undeveloped utility easement that runs fairly north from subunit 4-2c and connects to the San Miguel Mountain area; however, terrestrial wildlife would have to cross two residential streets to successfully use this corridor. The open space of subunit 4-2a continues to the north for approximately 1,000 feet, where it terminates in developed areas. Open space continues from the southeastern end of this subunit to connect it with subunit 4-3c. A culvert connects the northeastern end of subunit 4-2a with the western end of subunit 4-2b. Small mammals, amphibians, and reptiles may use this culvert to move between these subunits; however, it is unlikely that large mammals would use the culvert.

4.4.6.4 Dumping, Trespassing, and Vagrant Encampments

No areas of dumping, trespassing, or vagrant encampments were mapped in PMA 4.

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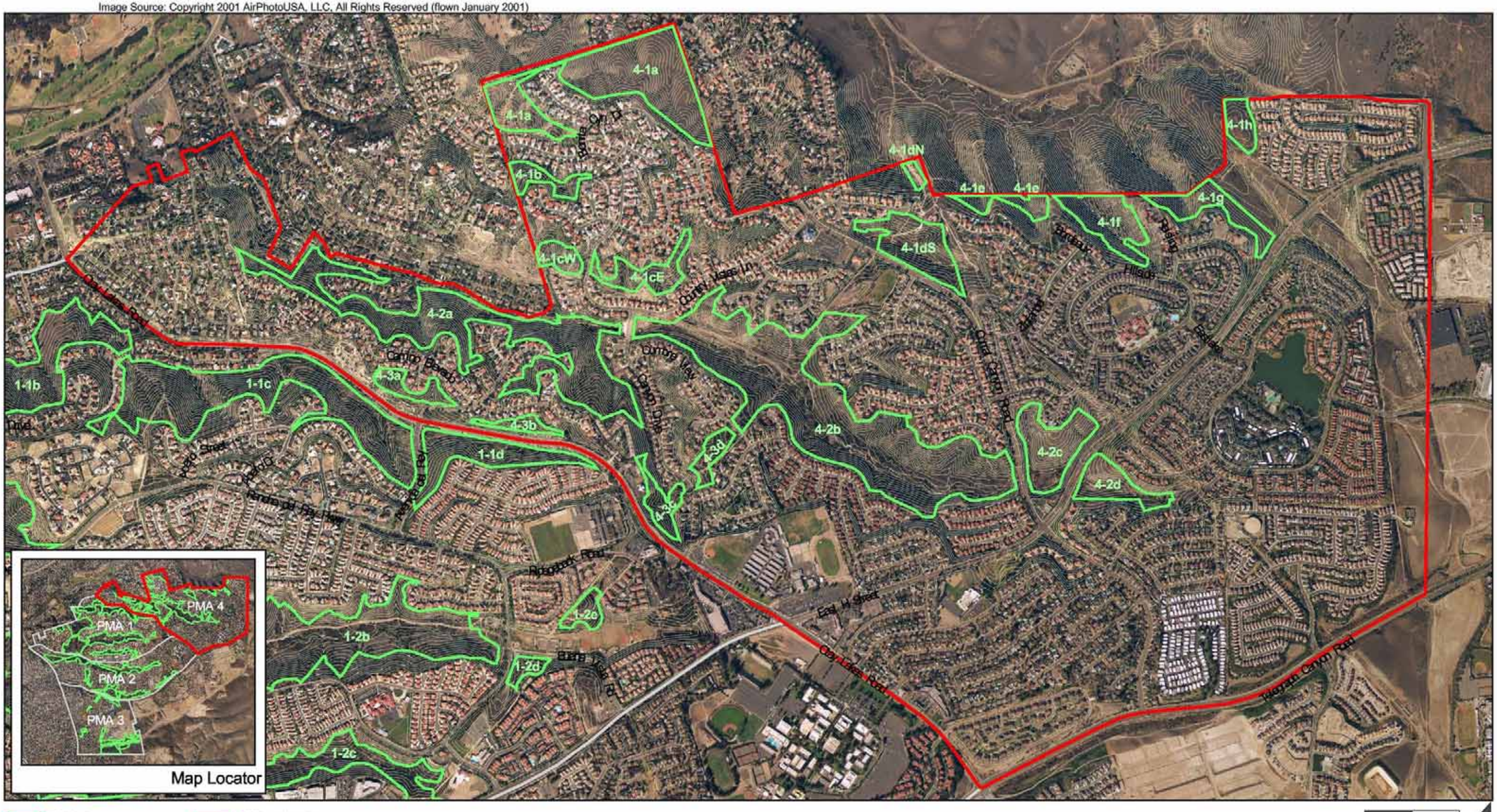

PMA 4
Other PMAs
10-foot topographic contour lines
PMA subunits

0 Feet 1250 N

RECON

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fig10 (pma4) 06/02/08

FIGURE 10
Preserve Management
Area 4 (PMA 4)

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

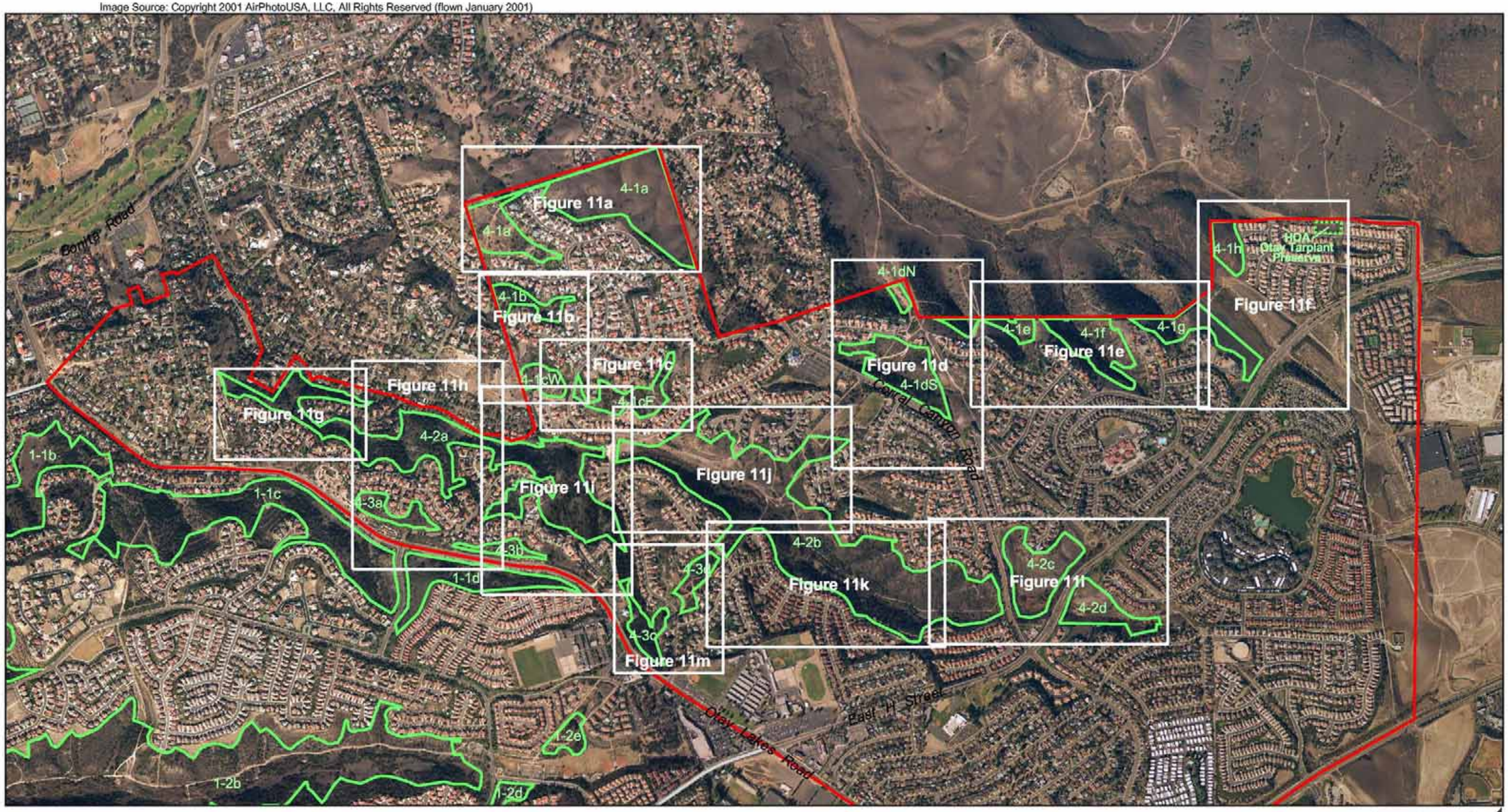

FIGURE 11
Existing Biological Resources
PMA 4 Locator Map

RECON

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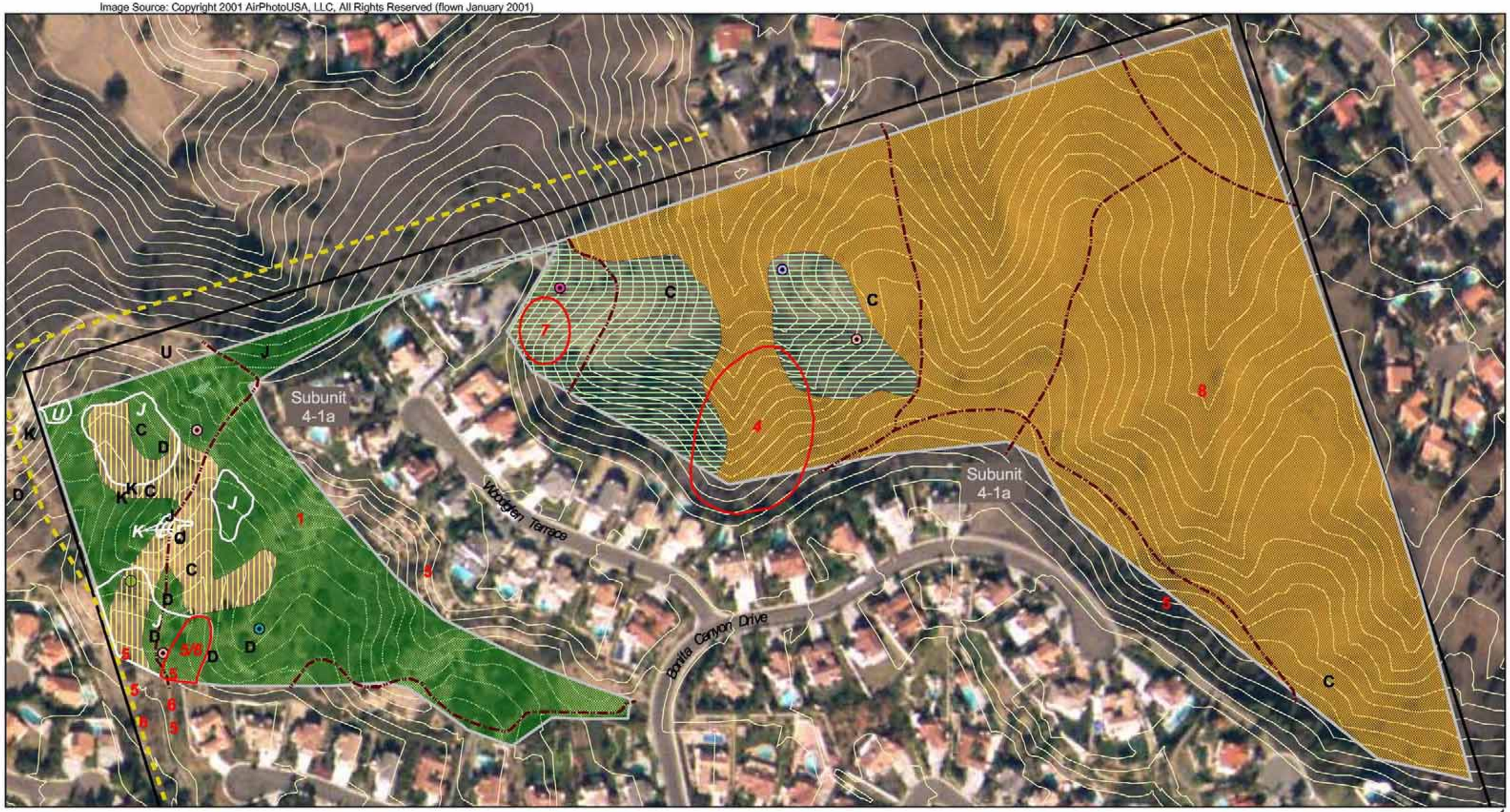
fig11 (bio4) 06/02/06



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Disturbed coastal sage scrub (32500)
- Native grassland/Clay lens (42100)
- Non-native grassland (42200)

Sensitive plant locations
- C Small-flowered morning glory
- D San Diego barrel cactus
- J Otay tarplant
- J Otay tarplant
- K Palmer's grappling hook
- K Palmer's grappling hook

Noteworthy plant locations
- U Waterjacket
- U Waterjacket

Invasive plant locations
- 1 Acacia
- 4 Marsh-rosemary
- 5 Pampas grass
- 5/6 Pampas grass/Pepper tree
- 6 Pepper tree
- 7 Sweet fennel
- 8 Tamarisk

Sensitive animal locations
- Blue-gray gnatcatcher
- Cactus wren (nesting)
- Coastal California gnatcatcher
- Rufous-crowned sparrow
- Woodrat

Potential wildlife crossing

0 Feet 200 N

RECON

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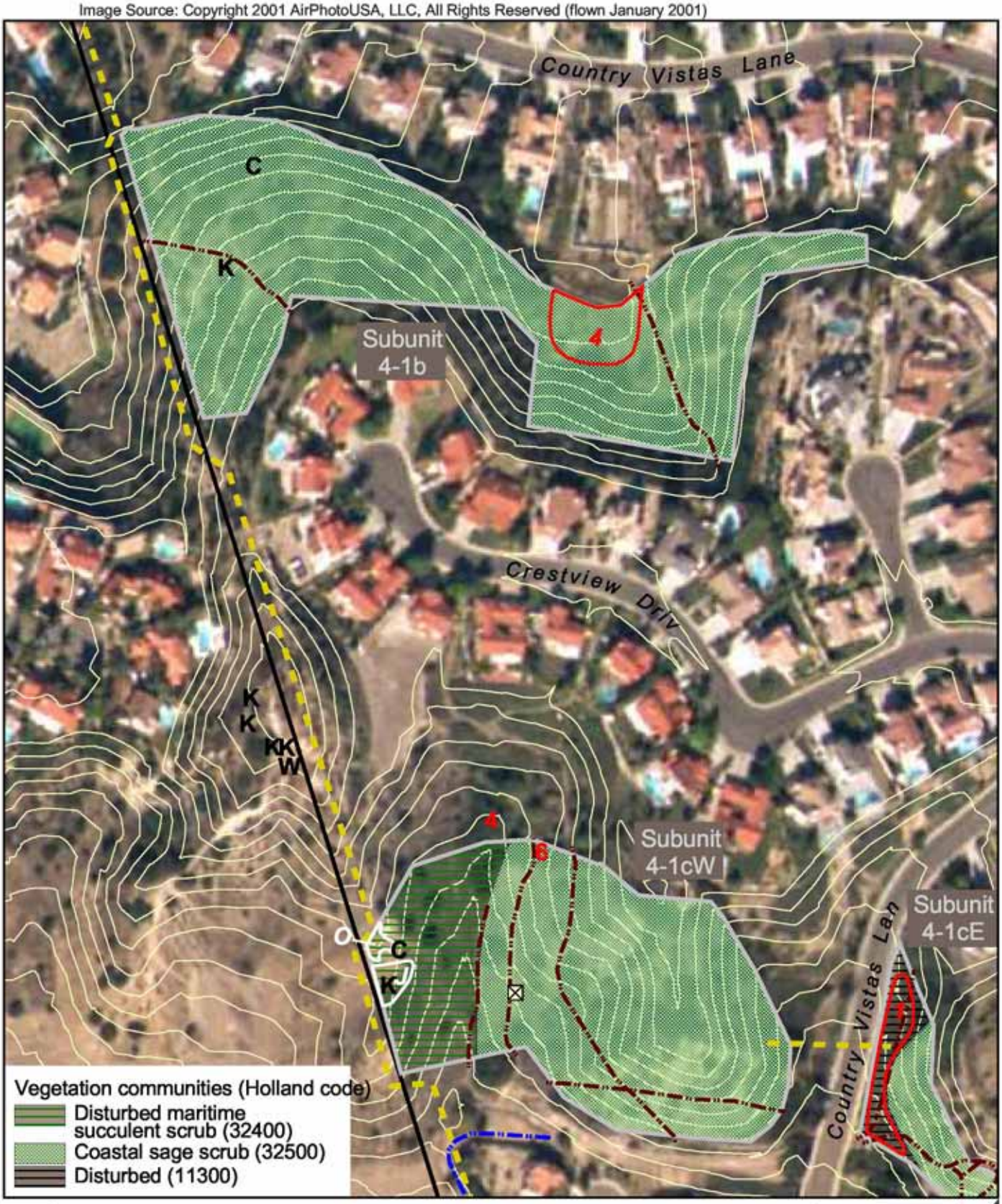
fig11a (bio4) 06/02/08

FIGURE 11a
Existing Biological Resources
PMA 4 Map A



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Sensitive plant locations
C Small-flowered morning glory
K Palmer's grappling hook
J Otay tarplant
O San Diego thornmint
W California box-thorn

Invasive plant locations
1 Acacia
4 Marsh-rosemary
4 Marsh-rosemary
6 Pepper tree

Predator locations
Coyote
Potential wildlife crossing

0 Feet 200 N

RECON

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fig11b (bio4) 06/02/08

FIGURE 11b
Existing Biological Resources
PMA 4 Map B

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Disturbed maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Disturbed coastal sage scrub (32500)
- Disturbed (11300)

Sensitive plant locations
D San Diego barrel cactus

Invasive plant locations
1 Acacia

Sensitive animal locations
Coastal California gnatcatcher

Potential wildlife crossing

0 Feet 200 N

RECON

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fig11c (bio4) 06/2/08

FIGURE 11c
Existing Biological Resources
PMA 4 Map C

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

Subunit 4-1dN

Subunit 4-1e

Subunit 4-1dS

Subunit 4-2b

Country Vistas Lane

Coral Canyon Road

Coltridge Lane

Trailridge Drive

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road
Maintenance area

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Disturbed coastal sage scrub (32500)
Non-native grassland (42200)
Tamarisk scrub (63810)
Disturbed (11300)

Sensitive plant locations
A California adolphia
A California adolphia
D San Diego barrel cactus

Sensitive animal locations
Coastal California gnatcatcher
Potential wildlife crossing

0 Feet 200 N

RECON

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fig11d (bio4) 06/02/08

FIGURE 11d
Existing Biological Resources
PMA 4 Map D

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Coastal sage scrub (32500)
Non-native grassland (42200)
Mule fat scrub (63310)

Sensitive plant locations
A California adolphia
A California adolphia
D San Diego barrel cactus
I Orcutt's bird's-beak
X Decumbent goldenbush

Invasive plant locations
5 Pampas grass

Sensitive animal locations
Coastal California gnatcatcher
Coastal California gnatcatcher nest

Potential wildlife crossing

0 Feet 200 N

RECON

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fig11e (bio4) 06/02/06

FIGURE 11e
Existing Biological Resources
PMA 4 Map E

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Silt basin

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Non-native grassland (42200)

Potential wildlife crossing

Sensitive plant locations
D San Diego barrel cactus
H Munz's sage

Invasive plant locations
5 Pampas grass

Sensitive animal locations
Blue-gray gnatcatcher
Coastal California gnatcatcher
Rufous-crowned sparrow
Yellow-breasted chat

Predator locations
Coyote
Large scat

Pitfall trap

0 Feet 200 N

FIGURE 11f
Existing Biological Resources
PMA 4 Map F

RECON

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fig11f (bio4) 06/02/08

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Native grassland (42100)
Disturbed (11300)

Predator locations
Coyote

0 Feet 200 N

RECON

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fig11g (bio4) 06/02/06

FIGURE 11g
Existing Biological Resources
PMA 4 Map G

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Disturbed coastal sage scrub (32500)
- Native grassland (42100)
- Native grassland/Clay lens (42100)
- Non-native grassland (42200)
- Eucalyptus (11100)
- Disturbed (11300)

Sensitive plant locations
- T Variegated dudleya
- J Otay tarplant

Invasive plant locations
- 5 Pampas grass
- 7 Sweet fennel

Potential wildlife crossing

0 Feet 200 N

RECON

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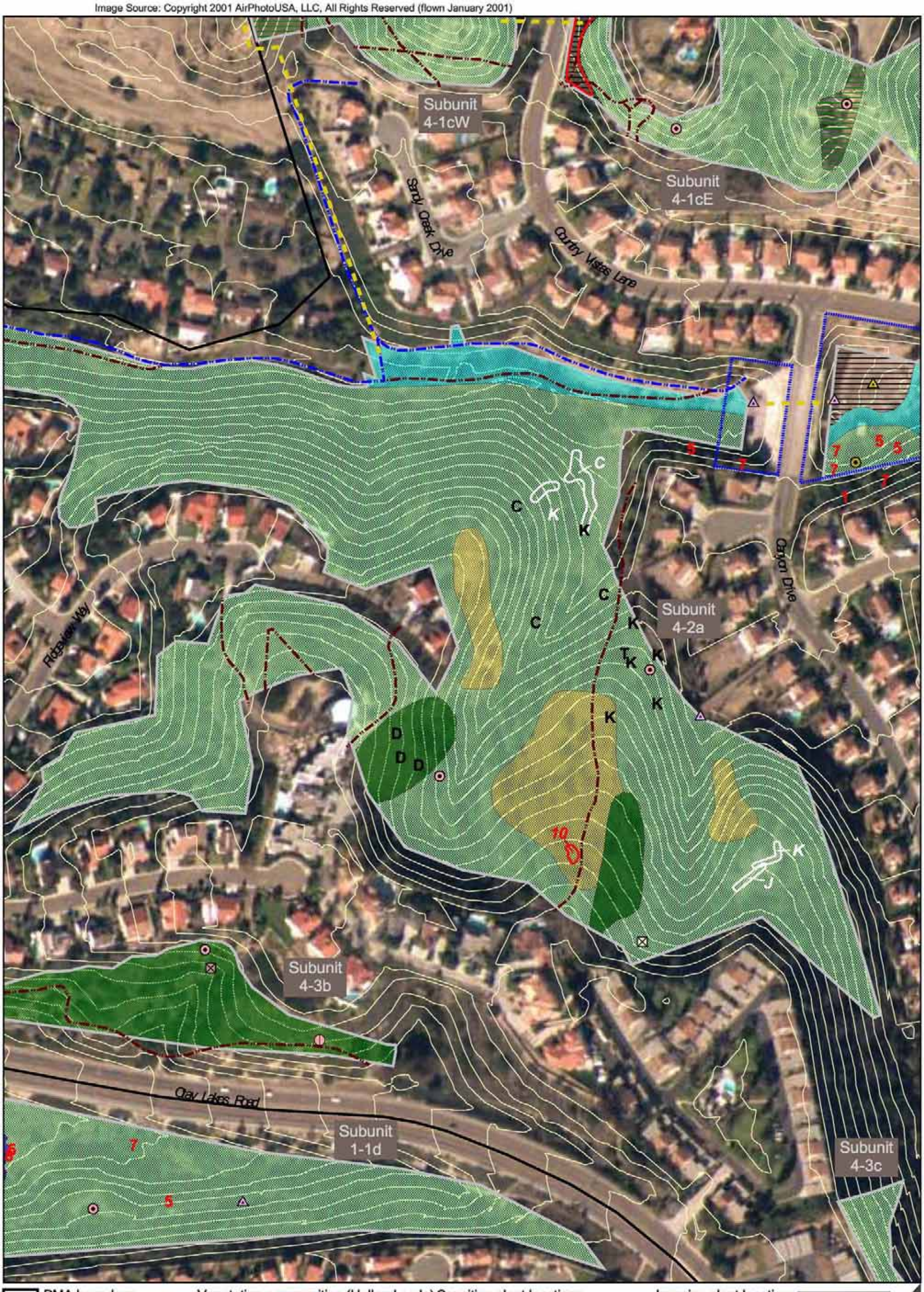
fig11h (bio4) 06/02/06

FIGURE 11h
Existing Biological Resources
PMA 4 Map H

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road
Maintenance area
Culvert
Detention basin

Vegetation communities (Holland code)
Maritime succulent scrub (32400)
Disturbed maritime succulent scrub (32400)
Coastal sage scrub (32500)
Native grassland (42100)
Freshwater marsh (52400)
Southern willow scrub (63320)
Disturbed (11300)

Sensitive plant locations
C Small-flowered morning glory
C Small-flowered morning glory
D San Diego barrel cactus
J Otay tarplant
K Palmer's grappling hook
K Palmer's grappling hook
T Variegated dudleya

Sensitive animal locations
Coastal California gnatcatcher
Coastal California gnatcatcher (nesting)
Yellow warbler

Predator locations
Coyote
Fox scat

Invasive plant locations
1 Acacia
1 Acacia
5 Pampas grass
7 Sweet fennel
8 Tamarisk
10 Hottentot fig

0 Feet 200 N

Potential wildlife crossing

RECON

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fig11i (bio4) 06/02/08

FIGURE 11i
Existing Biological Resources
PMA 4 Map I

Image Source: Copyright 2001 AirPhotoUSA, LLC, All Rights Reserved (flown January 2001)

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road
Maintenance area

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Disturbed maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Southern willow scrub (63320)
- Disturbed (11300)

Sensitive plant locations
- C Small-flowered morning glory
- C Small-flowered morning glory
- D San Diego barrel cactus
- J Otay tarplant
- J Otay tarplant
- K Palmer's grappling hook
- K Palmer's grappling hook
- O San Diego thornmint

Invasive plant locations
- 1 Acacia
- 5 Pampas grass
- 5 Pampas grass
- 7 Sweet fennel
- 8 Tamarisk
- 8 Tamarisk

Sensitive animal locations
- Blue-gray gnatcatcher
- Cactus wren
- Coastal California gnatcatcher
- Least Bell's vireo
- Yellow warbler
- Yellow-breasted chat

Potential wildlife crossing

- Culvert
- Detention basin
- Gabion

0 Feet 200 N

RECON

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fig11j (bio4) 06/02/08

FIGURE 11j
Existing Biological Resources
PMA 4 Map J

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Southern willow scrub (63320)
- Disturbed (11300)

Sensitive plant locations
- C Small-flowered morning glory
- C Small-flowered morning glory
- J Otay tarplant
- O San Diego thornmint

Noteworthy plant locations
- E Desert bedstraw
- U Waterjacket

Invasive plant locations
- 5 Pampas grass
- 7 Sweet fennel
- 8 Tamarisk

Sensitive animal locations
- Blue-gray gnatcatcher
- Cactus wren
- Coastal California gnatcatcher
- Cooper's hawk

Predator locations
- Raccoon track

Potential wildlife crossing

Culvert closed
Gabion

0 Feet 200 N

RECON

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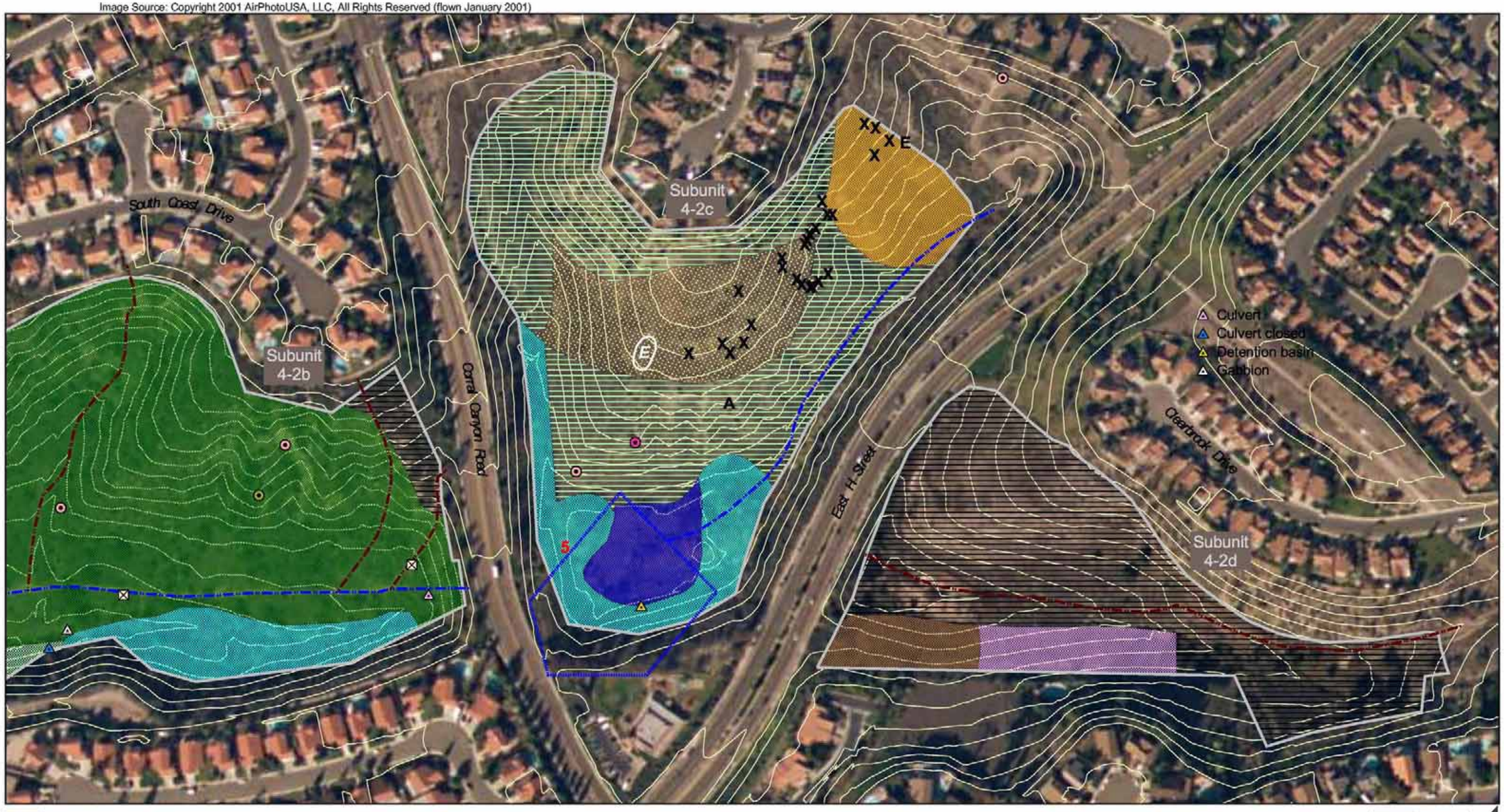
fig11k (bio4) 06/02/08

FIGURE 11k
Existing Biological Resources
PMA 4 Map K



PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road
Maintenance area

Vegetation communities (Holland code)
- Maritime succulent scrub (32400)
- Coastal sage scrub (32500)
- Disturbed coastal sage scrub (32500)
- Disturbed native grassland (42100)
- Non-native grassland (42200)
- Freshwater marsh (52400)
- Mule fat scrub (63310)
- Southern willow scrub (63320)
- Tamarisk scrub (63810)
- Disturbed (11300)

Sensitive plant locations
- X Decumbent goldenbush

Noteworthy plant locations
- E Desert bedstraw
- E Desert bedstraw

Invasive plant locations
- 5 Pampas grass

Sensitive animal locations
- Cactus wren
- Coastal California gnatcatcher
- Rufous-crowned sparrow

Predator locations
- Coyote

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig11l (bio4) 06/02/08

FIGURE 11l
Existing Biological Resources
PMA 4 Map L

PMA boundary
PMA subunit
10-foot topographic contour lines
Existing trail
Maintenance access road

Vegetation communities (Holland code)
Coastal sage scrub (32500)
Disturbed (11300)

Potential wildlife crossing

0 Feet 200 N

RECON

M:\jobs2\3693\bio\gis\pma_figs.apr\
fig11m (bio4) 06/02/08

FIGURE 11m
Existing Biological Resources
PMA 4 Map M

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ATTACHMENTS

ATTACHMENT 1

ATTACHMENT 1
PERSONNEL AND QUALIFICATIONS

Name	Title	Years of Experience	Tasks
Darin Busby	Biologist	4 years	Vegetation mapping. General survey. Fall bird survey. Wildlife survey. Culvert mapping. Winter bird survey. Rare plant survey. Least Bell's vireo surveys #1 through #8. Coastal California gnatcatcher surveys #2 and 3. USFWS Permit #TE-797665
Amy Clark	Biologist	4 years	Coastal California gnatcatcher surveys #1, 2, and 3. Document preparation. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit # 801139
Mark Dodero	Senior Biologist	26 years	Rare plant survey. Vegetation Mapping. Document preparation. USFWS Permit #TE-797665
Angelique Hamel	Biologist	2 years	Plant survey. Rare plant survey. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit #006241
Cindy Jones	Principal Biologist	12 years	Wildlife survey. Fall bird survey. Coastal California gnatcatcher surveys #1, 2, and 3. Least Bell's vireo surveys #3 and #7. Southwestern willow flycatcher surveys #1, 2, and 3. USFWS Permit #TE-811615; CDFG Scientific Collecting Permit #001345
Cheri Kim	Biologist	6 years	Vegetation mapping. General survey. Fall bird survey. Wildlife survey. Winter bird survey. Coastal California gnatcatcher surveys #1, 2, and 3. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit #006137

ATTACHMENT 1
PERSONNEL AND QUALIFICATIONS
(continued)

Wendy Loeffler	Senior Biologist	13 years	Vegetation mapping. General survey. Fall bird survey. Wildlife survey. Coastal California gnatcatcher survey #3. Document preparation and project management. USFWS Permit #TE-839084; CDFG Scientific Collecting Permit #006264
Jennifer MacAller	Biologist	9 years	Vegetation mapping. General survey. Fall bird survey. Wildlife survey. Coastal California gnatcatcher surveys #1, 2, and 3. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit #003854
Harry Price	Archaeologist	21 years	Rare plant survey.
Brant Primrose	Biologist	3 years	Vegetation mapping. General survey. Plant survey. Culvert mapping. Rare plant survey. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit #006242
Diana Saucedo-Ortiz	Biologist	4 years	Coastal California gnatcatcher surveys #1 and 2. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit #006138
Jill Seed	Biologist	6 years	Vegetation mapping. General survey. Wildlife survey. Fall bird survey. Winter bird survey. USFWS Permit #TE-797665; CDFG Scientific Collecting Permit #006277
Brian Woodward	Biologist	5 years	Fall bird survey. Wildlife survey. Coastal California gnatcatcher survey #1. USFWS Permit #TE-797665
Stacey Higgins	Production Specialist	17 years	Report editing and assembling.
Linda Evans	Production Specialist	15 years	Report assembling.
Christina Liang	GIS Analyst	7 years	GIS graphics.

ATTACHMENT 2

Attachment 2
Literature Review

A review of existing literature relevant to the biological resources with the potential to occur in the Central City Preserve Management Areas was conducted. Literature reviewed included, but was not limited to the documents listed below.

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ATTACHMENT 3

Attachment 3
General Vegetation Community Descriptions

Diegan Coastal Sage Scrub (Holland Code 32500)

Diegan coastal sage scrub is a plant community comprised of low-growing, aromatic, drought-deciduous soft-woody shrubs that have an average height of approximately three to four feet. The community typically is found on low moisture-availability sites with steep, xeric slopes or clay rich soils that are slow to release stored water. These sites often include drier south- and west-facing slopes and occasionally north-facing slopes, where the community can act as a successional phase of chaparral development. Diegan coastal sage scrub intergrades at higher elevations with several types of chaparrals. Diegan coastal sage scrub is found in coastal areas from Los Angeles County south into Baja California (Holland 1986).

Maritime Succulent Scrub (Holland Code 32400)

Maritime succulent scrub is a low (two to three feet high), open (25-75 percent cover) vegetation community dominated by drought deciduous, subligneous (somewhat woody), malacophyllous (soft-leaved) shrubs with a rich mixture of stem and leaf succulents. The proportion of cacti is typically highest in inland areas. Ground cover is more or less devoid of vegetation between shrubs. Growth and flowering are concentrated in the spring. Maritime succulent scrub occurs on thin rocky or sandy soils, often on steep slopes of coastal headlands and bluffs. This type of succulent scrub intergrades with southern coastal bluff scrub on more exposed headlands and bluffs and with coastal sage scrub on better developed, moister soils away from the immediate coast (Holland 1986).

Maritime succulent scrub occurs from central San Diego County southward into northern Baja California (Holland 1986). This community type has been greatly reduced by development of coastal sites in the San Diego area.

Southern Willow Scrub (Holland Code 63320)

Southern willow scrub is considered a sensitive wetland habitat by California Department of Fish and Game (CDFG) and U.S. Army Corps of Engineers (USACE). This plant community is typically found along major drainages but also occurs in smaller drainages. The density of the willows (*Salix* spp.) typically prevents a dense understory of smaller plants from growing. The representative species typically grows in loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. This community requires repeated flooding to prevent succession to community dominated by sycamores and cottonwoods (Holland 1986).

Attachment 3
General Vegetation Community Descriptions
(continued)

Mule Fat Scrub (Holland Code 63310)

Mule fat scrub is a tall, herbaceous riparian scrub strongly dominated by mule fat (*Baccharis salicifolia*). This is an early successional plant community that occurs along drainages with a fairly coarse substrate and a moderate depth to the water table. Mule fat scrub is developed and maintained from flooding or other disturbance but may develop in the absence of disturbance into willow-cottonwood or sycamore-dominated riparian forest/woodland. Mule fat scrub typically occurs at elevations below 2,000 feet (Holland 1986).

Coastal and Valley Freshwater Marsh (Holland Code 52410)

Coastal and valley freshwater marsh is a plant community considered sensitive by Holland (1986) and the State of California (2003e), and is regulated as a wetland/riparian community by USACE and CDFG. Coastal and valley freshwater marsh is a community that consists of perennial emergent monocots such as cattails and bulrush. Freshwater marsh vegetation occurs in open bodies of freshwater with little current flow, such as ponds, and to a lesser extent around seeps and springs. The vegetation typically forms a closed canopy. Freshwater marshes occur in areas of permanent inundation by freshwater without active streamflow. Freshwater marsh communities, as with all wetland habitats, have been greatly reduced throughout their entire range and continue to decline as a result of urbanization and are considered sensitive by state and federal resource agencies.

Native Grassland (Holland Code 42100)

Native grassland is a vegetation community comprised of native perennial bunch grasses such as needlegrasses (*Nassella* spp.). Native and introduced annuals occur between the perennials, often actually exceeding the bunch grasses in cover. Native grasslands often have a large component of non-native grasses but are distinguished as native grasslands if the percent cover by native grass species is 10 percent or greater. This community usually occurs on fine-textured (often clay) soils, that are moist or even waterlogged during winter, but very dry in summer. In most regions, this vegetation community has been mainly converted to non-native annual grasslands due to the invasion of exotic annual grasses (Holland 1986).

Non-native Grassland (Holland Code 42200)

Non-native grassland is a vegetation community characterized by a dense to sparse cover of annual grasses reaching to three feet high, which may include numerous native wildflowers, particularly in years of high rainfall. Typically, non-native grassland

includes at least 50 percent cover of the entire herbaceous layer attributable to annual non-native grass species, although other plant species (native and non-native) may be intermixed. These annuals germinate with the onset of the rainy season and set seeds in the late winter or spring. With a few exceptions, the plants are dead through the summer-fall dry season, persisting as seeds. Non-native grasslands are usually found on fine-textured, usually clay soils, that range from being moist or waterlogged in the winter to being very dry during the summer and fall. Typically, the plant community is found in valleys and foothills throughout most of California (except for the north coastal and desert regions) at elevations below 3,000 to 4,000 feet (Holland 1986).

Tamarisk Scrub (Holland Code 63810)

Tamarisk scrub is dominated by the non-native and highly invasive tamarisk (*Tamarix* spp.). This weedy plant community is usually a monoculture of tamarisk that has supplanted native wetland plant species. Tamarisk usually invades following disturbance. This plant community typically occurs in sandy or gravelly braided washes or intermittent streams, often in areas where high evaporation creates high salinity in the stream (Holland 1986).

Eucalyptus Woodland (Holland Code 11100)

Eucalyptus woodland is dominated by a variety of eucalyptus species. Some species of eucalyptus excrete toxic substances from the roots in order to create conditions that are unfavorable for most other plant species to grow. Because of this allelopathic property of eucalyptus trees, there is a very sparse understory, if any at all, in this type of woodland.

Disturbed (Holland Code 12000)

Disturbed land includes areas that are graded, used recreationally by dirt bike riders, dominated by non-native plants, and contain debris such as cement and trash, and bare soil or patches.

ATTACHMENT 4

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
Acacia longifolia (Andrews) Willd.	Sydney golden	3	I
***Acanthomintha ilicifolia* (A. Gray) A. Gray**	**San Diego thornmint**	**2,3**	**N**
Achnatherum diegoensis (Swall.) Barkworth	San Diego Needlegrass	3	N
Agrostis pallens Trin.	Rough ticklegrass	3	N
Allium haematochiton S. Watson	Red skin onion	3	N
Allium peninsulare Lemmon	Red-flower onion	3	N
Ambrosia acanthicarpa Hook.	Annual bur-sage	3	N
Ambrosia chenopodiifolia (Benth.) Payne	San Diego bur-sage	3	N
Ambrosia confertiflora DC.	Weak-leaf bur-sage	3	N
***Ambrosia pumila* (Nutt.) A. Gray**	**San Diego ambrosia**	**2,3**	**N**
Anagallis arvensis L.	Scarlet pimpernel	3	I
Apiastrum angustifolium Nutt.	Wild celery	3	N
Apium graveolens L.	Celery	1	I
Artemisia californica Less.	California sagebrush	1,2,3,4	N
Artemisia dracunculus L.	Tarragon	3	N
Artemisia ludoviciana ssp. *albula* (Woot.) Keck.		3	N
Artemisia palmeri A. Gray	San Diego sagewort, Palmer sagewort	1	N
Arundo donax L.	Giant reed	1,3	I
Astragalus trichopodus ssp. *leucopsis* (T. & G.) Thorne	Locoweed	3	N
Atriplex canescens (Parsh) Nutt.	Fourwing saltbush, shad-scale	3	N
Atriplex pacifica Nelson	South Coast saltbush	1	N
Atriplex semibaccata R.Br.	Australian saltbush	3	I
Avena sp.	Wild oats	3	N
Avena barbata Link	Slender wild oat	1,3	I
Avena fatua L.	Wild oat	1	I
Baccharis salicifolia (Ruiz Lopez & Pavón) Pers.	Mule fat, seep-willow	1,3	N
Baccharis sarothroides A. Gray	Broom baccharis	1,2,3	N
Bergocactus emoryi (Engelm.) Britt. & Rose	Golden-spined cereus	1,2	N
Bloomeria crocea (Torrey) Cov.	Common goldenstar	3	N
Brassica geniculata (Desf.) J. Ball	Short pod mustard	3	I

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)
(continued)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
Brassica nigra (L.) Koch.	Black mustard	1,3	I
Brassica rapa L.	Field mustard	3	I
Brickellia californica (Torrey & A. Gray) A. Gray	California bricklebush	3	N
***Brodiaea orcuttii* (E. Greene) Baker**	**Orcutt's brodiaea**	**2,3**	**N**
Bromus diandrus Roth.	Ripgut grass	3	I
Bromus hordeaceus L.	Soft chess	3	I
Bromus madritensis L. ssp. *rubens* (L.) Husnot	Foxtail chess	1	I
Calochortus splendens Dougl.	Lilac mariposa	3	N
Callitriche marginata Torrey	Water-starwort	1,2	N
Calycadenia tenella (Nutt.)	Rosin weed	3	N
Camissonia strigulosa (F. & M) Raven	Evening primrose	3	N
Castilleja affinis Hook. & Arn. ssp. *affinis*	Indian paint brush	1,4	N
Centaurea melitensis L.	Tocalote, star-thistle	1,3	I
Chamaesyce polycarpa (Benth.) Millsp.	Spurge	3	N
Chorizanthe fimbriata Nutt.	Fringed Turkish rugging	3	N
Chorizanthe polygonoides T. & G. var. *longispina* (Goodman) Munz	Knotweed spineflower	3	N
Chrysanthemum coronarium L.	Garland, crown daisy	1,3	I
Cirsium vulgare (Savi) Ten.	Bull thistle	3	N
Cistus ladanifer L.	Gum cistus	3	I
Conyza canadensis (L.) Cronq.	Horseweed	3	N
Conyza coulteri A. Gray	Fleabane	1,3	N
***Cordylanthus orcuttianus* A. Gray**	**Orcutt's bird's-beak**	**1,2,3**	**N**
Cordylanthus rigidus (Benth.) Jepson ssp. *setigerus* Chuang & Heckard.	Dark-tip bird's beak	3	N
Corethrogyne filaginifolia var. *virgata* (Benth.) Gray	Sand-aster	3	I
Cortaderia jubata (Lemoine) Stapf	Pampas grass	1	I
Crassula aquatica (L.) Schoen.	Stone-crop	1,2,3	N
Crassula connata (Ruiz Lopez & Pavon) A. Berger	Pygmy-weed	3	N
Cryptantha intermedia (Gary) Greene	Nievita	3	N

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)
(continued)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
***Cylindropuntia californica* (Torrey & A. Gray) F.M.Knuth var. *californica* (=*Opuntia californica* var. *californica* Engelm.)**	**Snake cholla**	**1,2,3**	**N**
Cynodon dactylon (L.) Pers.	Bermuda grass	3	I
Datura wrightii Regel	Jimson weed	3	N
***Deinandra conjugens* (Keck) B.G. Baldwin (=*Hemizonia conjugens* Keck)**	**Otay tarplant**	**2,3**	**N**
Deinandra fasciculata (DC.) E. Greene (=*Hemizonia fasciculata* (DC.) Torrey & A. Gray	Golden tarplant	1	N
Deschampsia danthonioides (Trin.) Munro ex Benth.	Annual hairgrass	4	N
Dichelostemma capitatum Alph. Wood	Blue dicks	1,2	N
Dichondra occidentalis House	Western dichondra	2,3	N
Distichlis spicata (L.) E. Greene	Saltgrass	3	N
Dodecatheon clevelandii E. Greene ssp. *clevelandii*	Shooting star	1,2	N
Dudleya edulis (Nutt.) Moran	Lady fingers	3	N
Dudleya lanceolata (Nutt.) Britt. & Rose	Live-for-ever	1,3	N
Dudleya pulverulenta (Nutt.) Britt. & Rose ssp. *pulverulenta*	Chalk lettuce	1,3	N
***Dudleya variegata* (Wats.) Moran**	**Variegated dudleya**	**2,3,4**	**N**
Encelia californica Nutt.	Common encelia	1,2,3	N
Encelia farinosa Torrey & A. Gray	Brittlebush, incienso	3	N
Eremocarpus setigerus (Hook.) Benth.	Dove weed	1	N
Ericameria palmeri* (A. Gray) H.M. Hall var. *palmeri	**Palmer's goldenbush**	**1,2,3**	**N**
Eriogonum fasciculatum Benth. var. *fasciculatum*	California buckwheat	1,2,3,4	N
Eriophyllum confertiflorum (DC.) A. Gray var. *confertiflorum*	Golden-yarrow	1	N
Erodium botrys (Cav.) Bertol.	Pin-clover	3	I
Erodium cicutarium (L.) L'Her.	White-stemmed filaree	3	I
Erodium macrophyllum Hook. & Arn.	Large-leaved filaree	2,3	I
Eschscholzia californica Cham.	California poppy	1	N
Eucalyptus spp.	Eucalyptus	1	I
Euphorbia misera Benth.	Cliff spurge	3	N

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)
(continued)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
***Ferocactus viridescens* (Torrey & A. Gray) Britt. & Rose**	**San Diego barrel cactus**	**1,2,3,4**	**N**
Foeniculum vulgare Mill.	Fennel	3	I
Fritillaria biflora Lindley	Chocolate lily, mission bells	2,3	N
Galium angustifolium Nutt. ssp. *angustifolium*	Narrow-leaf bedstraw	3	N
Galium aparine L.	Goose grass	4	I
Gastridium ventricosum (Gouan) Schinz & Thell	Nitgrass	3	I
Gnaphalium bicolor Bioletti	Bicolored cudweed	3	N
Gnaphalium californicum DC.	California everlast	3	N
Gnaphalium palustre Nutt.	Lowland cudweed	3	N
Grindelia camporum E. Greene var. *bracteosum* (J. Howell) M.A. Lane	Gumplant	1,2	N
Gutierrezia sarothrae (Pursh) Britt. & Rusby.	Broom snakeweed, matchweed	1	N
Harpagonella palmeri A. Gray	Palmer's grappling hook	2,3	N
Hazardia squarrosa (Hook. & Arn.) E. Greene	Sawtoothed goldenbush	3	N
Helianthemum scoparium Nutt.	Peak rush-rose	3	I
Heliotropium curassavicum L.	Chinese pusley	3	N
Heteromeles arbutifolia (Lindley) Roemer	Toyon, Christmas berry	1,2,3	N
Heterotheca grandiflora Nutt.	Telegraph weed	3	N
Hirschfeldia incana (L.) Lagr.-Fossat	Short-pod mustard	3	I
Hordeum jubatum L.	Foxtail barley	3	N
Hordeum murinum L. ssp. *leporinum* (Link) Arcang.	Hare barley	3	I
Hulsea californica Torrey & A. Gray	San Diego sunflower	3	N
Hypochaeris glabra L.	Smooth cat's-ear	3	I
Isocoma menziesii (Hook. & Arn.) G. Nesom var. *vernonioides* (Nutt.) G. Nesom	Coast goldenbush	3	N
Isomeris arborea Nutt.	Bladderpod	1,2	N
Juncus bufonius L.	Toad rush	1,2	N
Juncus mexicanus Willd.	Mexican rush	3	N
Koeleria macrantha (Ledeb.) J. A. Shultes	Junegrass	3	N
Lamarkia aurea (L.) Moench	Golden-top	3	I

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)
(continued)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
Lilaea scilloides (Poir.) Haum.	Flowering-quillwort	1,2	N
Linanthus dianthifolrus (Benth.) E. Greene	Ground pink	3	N
Lolium perenne L.	Perennial ryegrass	3	I
Lotus scoparius ssp. brevialatus (Ottley) Munz.	Deerweed	3	N
Lotus scoparius (Nutt. in Torrey & A. Gray) Ottley var. *scoparius*	California broom	1	N
Lycium andersonii A. Gray	Water jacket	1,2	N
Lythrum hyssopifolium L.	Grass poly	3,4	N
Malacothamnus fasciculatus (Torrey & A. Gray) E. Greene	Chaparral mallow	1	N
Malosma laurina (Nutt.) Abrams	Laurel sumac	1,2,3,4	N
Mammillaria dioica K. Bdg.	Fish-hook cactus	1,2,3	N
Marah macrocarpus (E. Greene) E. Greene	Wild cucumber	3	N
Marrubium vulgare L.	Horehound	1,3	I
Melica imperfecta Trin.	California melic	3	N
Melilotus indica (L.) All.	Sourclover	3	I
Mimulus aurantiacus Curtis	Bush monkeyflower	4	N
Mirabilis californica A. Gray	Wishbone bush	3	N
***Muilla clevelandii* (Wats.) Hoover**	**San Diego goldenstar**	**2,3**	**N**
Myosurus minimus L.	Little mouse-tail	2,3	N
Nassella sp.	Needlegrass	2,3	N
Nassella lepida (A. Hitchc.) Barkworth	Foothill needlegrass	1,2,3	N
Nassella pulchra (A. Hitchc.) Barkworth	Purple Needlegrass	3	N
***Navarretia fossalis* Moran**	**Spreading navarretia**	**2,3**	**N**
Navarretia hamata E. Greene	Hooked navarretia	3	N
Nicotiana glauca Grah.	Tree tobacco	1	I
Ophioglossum californicum Prantl.	California adder's-tongue	2,3	N
Opuntia littoralis (Engelm.) Cockerell.	Shore cactus	1,2,3	N
Opuntia prolifera Engelm.	Cholla	1,2,3	N
***Orcuttia californica* Vasey**	**California Orcutt grass**	**2,3**	**N**
Osmadenia tenella Nutt.	Osmadenia	3	N

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)
(continued)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
Physalis crassifolia Benth.	Ground cherry	2,3	I
Pityrogramma triangularis (Kaulf.) Maxon var. *triangularis*	Goldenback fern	3	N
Plagiobothrys acanthocarpus (Piper) I.M. Johnston	Adobe allocarya	1,2	N
Plantago elongata Pursh	Plantain	1	N
Plantago erecta E. Morris	Plantain	3	N
Plantago virginica L.	Dwarf plantain	3	I
Platanus racemosa Nutt.	Western sycamore	1	N
***Pogogyne nudiuscula* A. Gray**	**Otay mesa mint**	**2,3**	**N**
Polypogon monspeliensis (L.) Desf.	Annual beard grass	4,3	I
Psilocarphus brevissimus Nutt. var. *brevissimus*	Dwarf woolly-heads	1,2,3,4	N
Pteridium aquiinum (L.) Kuhn var. *pubescens* L. Underw.	Western bracken	3	N
Quercus dumosa Nutt.	Scrub oak	3	N
Raphanus sativus L.	Radish	3	I
Rhus integrifolia (Nutt.) Brewer & Watson	Lemonadeberry	1,2,3	N
Ricinus communis L.	Castor bean	1	I
Rumex crispus L.	Curly dock	3	I
Salix gooddingii C. Ball.	Goodding's black willow	1,2,3	N
Salix lasiolepis Benth.	Arroyo willow	1,2,3	N
Salsola tragus L.	Russian thistle, tumbleweed	1	I
Salvia apiana Jepson	White sage	1,2,3,4	N
Salvia clevelandii (A. Gray) E. Greene	Cleveland sage or fragrant sage	2,3	N
Salvia columbariae Benth.	Chia	1	N
Salvia mellifera E. Greene	Black sage	1,2	N
Sambucus mexicana C. Presl	Blue elderberry	1,2,3	N
Sanicula arguta Coult. & Rose	Little-jim sanicle	1,2	N
Schinus molle L.	Peruvian pepper tree	1,2,3	I
Scirpus sp.	Bulrush	1	N
Scirpus californicus (C.A. Mey.) Steudel.	California bulrush	3	N
Selaginella cinerascens Maxon	Ashy spike-moss	1,2,3,4	N

ATTACHMENT 4
HISTORIC OCCURRENCE OF PLANT SPECIES ON THE CENTRAL CITY PRESERVE MANAGEMENT AREAS (PMAs 1-4)
(continued)

Scientific Name	Common Name	Historic Occurrence (PMA)*	Origin
Sidalcea malvaeflora (DC.) Benth. ssp. *sparsifolia* C.L. Hitchc.	Checker mallow	1,2	N
Simmondsia chinensis (Link.) C.K. Schneid.	Jojoba	1,2,3	N
Sisyrinchium bellum Wats.	Blue-eyed-grass	1,2,3	N
Solanum xanti A. Gray	Purple nightshade	2,3	N
Sonchus asper (L.) Hill ssp. *Asper*	Prickly sow thistle	3	I
Stellaria media (L.) Villars	Common chickweed	3	I
Stephanomeria diegensis Gottlieb	San Diego wreath-plant	3	N
Stephanomeria virgata (Benth.) ssp. *virgata*	Slender stephanomeria	3	N
Stipa diegoensis Swall.	San Diego Stipa	3	N
Tamarix sp.	Tamarisk	1	I
Toxicodendron diversilobum (Torrey & A. Gray) E. Greene	Western poison-oak	3	N
Typha latifolia L.	Broad-leaved cattail	3	N
Verbena lasiostachys Link.	Western vervain	3	N
Viguiera laciniata A. Gray	San Diego County viguiera	1,2,3,4	N
Vulpia myuros (L.) C. Gremlin var. *hirsuta* (Hackel.) Asch. & Graebner	Rattail fescue	1,3	I
Xanthium spinosum L.	Spiny cocklebur	3	N
Xanthium strumarium L.	Cocklebur	3	N
Yucca schidigera K.E. Ortgies	Mohave yucca	1	N

Note: Species in **bold** are City of Chula Vista MSCP covered species.
*These are historical occurrences based on a review of published data for Chula Vista and may not represent current extant populations.

ORIGIN

N = Native to locality
I = Introduced species from outside locality

ATTACHMENT 5

ATTACHMENT 5
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE ON PMAs 1-4

Species	State/Federal Status	CNPS List/Code	City of Chula Vista	Typical Habitat/Comments
Acanthomintha ilicifolia† San Diego thornmint	CE/FT	1B/2-3-2	NE,MSCP	Chaparral, coastal sage scrub, valley and foothill grassland/ clay soils. Observed in PMAs 1 and 4. Moderate potential to occur PMA 3.
Achnatherum diegoensis (=*Stipa diegoensis*) San Diego County needle grass	–/–	4/1-2-1		Rocky soils; chaparral, coastal sage scrub; often near streams. Not observed. Moderate potential to occur in PMA 4.
Adolphia californica† California adolphia	–/–	2/1-3-1		Chaparral. Observed in PMA 4.
Ambrosia chenopodiifolia San Diego bur-sage	–/–	2/3-3-1		Coastal sage scrub. Moderate potential to occur in PMAs 1 and 3. Low potential in PMAs 2 and 4.
Ambrosia pumila San Diego ambrosia	–/FE	1B/3-3-2	NE,MSCP	Coastal sage scrub, valley and foothill grassland. Not observed. Low potential to occur in PMAs 1 and 2.
Artemisia palmeri† San Diego sagewort	–/–	4/1-2-1		Coastal sage scrub, chaparral, riparian. Observed in PMA 2. Moderate potential to occur in PMA 1.
Atriplex pacifica† South Coast saltbush	–/	1B/3-2-2		Coastal bluff scrub, coastal sage scrub. Present in PMAs 1and 2. Moderate potential to occur in PMA 3. Low potential in PMA 4.
Bergerocactus emoryi† Golden-spined cereus	–/–	2/2-2-1		Coastal sage scrub. Observed in PMAs 2 and 3. Low potential to occur in PMA 1.
Brodiaea orcuttii Orcutt's brodiaea	–/–	1B/1-3-2	MSCP	Valley and foothill grassland, vernal pools. Not observed. Low potential to occur in PMAs 2 and 3.

ATTACHMENT 5
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE ON PMAs 1-4
(continued)

Species	State/Federal Status	CNPS List/Code	City of Chula Vista	Typical Habitat/Comments
Calandrinia maritima Seaside calandrinia	–/–	4/1-2-1		Coastal bluff scrub, valley and foothill grassland. Not observed. Low potential to occur in PMA 2.
Chorizanthe polygonoides var. *longispina* Long-spined spineflower	–/–	1B/2-2-2		Annual herb; chaparral, coastal sage scrub, meadows and seeps, valley and foothill grassland, often clay; blooms April–July; elevation less than 4,800 feet. Present in PMAs 1 and 2; potential to occur in PMAs 3 and 4.
Convolvulus simulans Small-flowered morning glory	–/–	4/1-2-2		Annual herb; openings in chaparral, coastal sage scrub, valley and foothill grassland, clay substrate; blooms March–July; elevation less than 2,300 feet. Present in PMAs 1, 3, and, 4. Potential to occur in PMA 2.
Cordylanthus orcuttianus† Orcutt's bird's-beak	–/–	2/3-3-1	MSCP	Coastal sage scrub. Not observed. Present in PMAs 3 and 4. Moderate potential to occur in PMAs 1 and 2.
Cylindropuntia californica (=*Opuntia californica* var. *californica*)† Snake cholla	–/–	1B/3-3-2	NE,MSCP	Chaparral, coastal sage scrub. Observed in all PMAs.
Deinandra conjugens (=*Hemizonia conjugens*)† Otay tarplant	CE/FT	1B/3-3-2	NE,MSCP	Coastal sage scrub. Observed in all PMAs.
Dichondra occidentalis Western dichondra	–/–	4/1-2-1		Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Not observed. Moderate potential to occur in all PMAs.

ATTACHMENT 5
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE ON PMAs 1-4
(continued)

Species	State/Federal Status	CNPS List/Code	City of Chula Vista	Typical Habitat/Comments
Dudleya variegata† Variegated dudleya	–/–	1B/2-2-2	NE,MSCP	Chaparral, coastal sage scrub. Present in PMAs 1 and 4. Moderate potential to occur in PMAs 2 and 3.
Ericameria palmeri var. *palmeri* (=*Haplopappus palmeri* ssp. *palmeri*) Palmer's ericameria	–/–	2/3-2-1	MSCP	Coastal sage scrub. Not observed. Historic record in PMA 1, but may be extirpated. Moderate potential to occur in PMA 1.
Euphorbia misera† Cliff spurge	–/–	2/2-2-1		Coastal sage scrub. Observed in PMA 2.
Ferocactus viridescens† San Diego barrel cactus	–/–	2/1-3-1	MSCP	Chaparral, coastal sage scrub, valley and foothill grassland. Present in PMAs 1, 2, and 3. High potential in PMA 4.
Harpagonella palmeri var. *palmeri*† Palmer's grappling hook	–/–	4/1-2-1		Chaparral, coastal sage scrub, valley and foothill grassland with clay soils. Present in PMAs 2 and 4. Moderate potential to occur in PMAs 1 and 3.
Iva hayesiana† San Diego marsh elder	–/–	2/2-2-1		Riparian, playas. Observed in PMA 3.
Juncus acutus ssp. *leopoldii* (=*Juncus acutus* ssp. *sphaerocarpus)*† Spiny rush	–/–	4/1-2-1		Coastal dunes (mesic), meadows (alkaline), coastal salt marsh. Observed in PMA 3.
Lessingia filaginifolia var. *filaginifolia* (=*Corethrogyne filaginifolia* var. *incana*)† San Diego sand aster	–/–	1B/3-3-2		Coastal sage scrub, chaparral. Present in PMAs 1, 2, and 4. High potential in PMA 3.
Muilla clevelandii San Diego goldenstar	–/–	1B/2-3-2	MSCP	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Not observed. Moderate potential to occur in all PMAs.

ATTACHMENT 5
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE ON PMAs 1-4
(continued)

Species	State/Federal Status	CNPS List/Code	City of Chula Vista	Typical Habitat/Comments
Myosurus minimus ssp. *apus* Little mousetail	–/–	3/2-3-2		Vernal pools. Not observed. Low potential to occur in PMA 2.
Navarretia fossalis Prostrate navarretia	–/FT	1B/2-3-2	NE,MSCP	Vernal pools. Not observed. Low potential to occur in PMA 2.
Ophioglossum californicum (=*Ophioglossum lusitanicum* ssp. *californicum*) California adder's-tongue fern	–/–	4/1-2-2		Clay mesa soils. Not observed. Low potential to occur in PMA 2.
Pogogyne nudiuscula Otay mesa mint	CE/FE	1B/3-3-2	NE,MSCP	Vernal pools. Not observed. Not expected to occur.
Quercus dumosa Nuttall's scrub oak	–/–	1B/2-3-2		Coastal chaparral. Not observed. Low potential to occur in all PMAs.
Salvia munzii† Munz's sage	–/–	2/2-2-1		Coastal sage scrub. Observed in PMA 4. Low potential to occur in other PMAs.
Viguiera laciniata† San Diego County viguiera	–/–	4/1-2-1		Chaparral, coastal sage scrub. Observed in all PMAs.

NOTE: See Attachment 6 for explanation of sensitivity codes.

ATTACHMENT 6

ATTACHMENT 6
SENSITIVITY CODES

FEDERAL CANDIDATES AND LISTED PLANTS

FE = Federally listed, endangered
FT = Federally listed, threatened
FPE = Federally proposed endangered
FPT = Federally proposed threatened

STATE LISTED PLANTS

CE = State listed, endangered
CR = State listed, rare
CT = State listed, threatened

CITY OF CHULA VISTA

NE = Narrow endemic
MSCP = MSCP covered species

CALIFORNIA NATIVE PLANT SOCIETY

LISTS

1A = Species presumed extinct.

1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.

2 = Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.

3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.

4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.

R-E-D CODES

R (Rarity)

1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.

2 = Occurrence confined to several populations or to one extended population.

3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E (Endangerment)

1 = Not endangered
2 = Endangered in a portion of its range
3 = Endangered throughout its range

D (Distribution)

1 = More or less widespread outside California
2 = Rare outside California
3 = Endemic to California

ATTACHMENT 7

Attachment 7
Descriptions of Sensitive Plant Species Observed in the Central City Preserve Management Area

NOTE: Species are listed in alphabetical order according to their scientific name.

San Diego thornmint (*Acanthomintha ilicifolia*). San Diego thornmint was state listed as an endangered species in 1982 (State of California 2000), and federally listed as threatened in 1998 (USFWS 1998). It is a narrow endemic species covered under the MSCP, and a CNPS List 1B species. This aromatic annual in the mint family (Lamiaceae) grows to about six inches tall and bares white- and rose-colored flowers in April and May (Munz 1974). San Diego thornmint ranges from San Marcos and Alpine to Otay Mesa in San Diego County, and southward to San Quentin in Baja California (USFWS 1998). It usually occurs in openings in chaparral, coastal sage scrub, and native grassland communities, in or near vernal pools (CNPS 2001). It is restricted to heavy clay soils, either of gabbroic parent material or derived from calcareous marine sediments (USFWS 1998), particularly Las Posas or San Miguel-Exchequer soils (Reiser 2001). It is often found at sites with native spring annuals, bulbiferous perennials, and herbs such as blue dicks (*Sisyrinchium bellum*) (Reiser 2001).

Approximately 30 populations of San Diego thornmint remain in San Diego County and the species is considered to be declining (State of California 2000). More than 15 populations have been extirpated due to urban development along the coastal plain of San Diego County. The remaining 30 natural populations are threatened by urban development, off-highway-vehicle activity, and invasion of non-native species (State of California 2000).

California adolphia (*Adolphia californica*). California adolphia is a CNPS List 2 species (CNPS 2001). This small shrub in the buckthorn family (Rhamnaceae) flowers from December to April and loses its leaves in late summer and fall, making it difficult to find, though its spiny stems are identifiable at close range year-round. This species generally occurs in Diegan coastal sage scrub, near the edge of chaparral, particularly in dry canyons or washes. It is associated with San Miguel and Friant soils (Reiser 2001). Its range is limited to San Diego County and northern Baja California, Mexico at elevations below 1,000 feet. In San Diego County, it is found from the Carlsbad area south into the Proctor Valley and the Otay area (Beauchamp 1986).

San Diego bur-sage (*Ambrosia chenopodifolia*). San Diego bur-sage is a CNPS List 2 species (CNPS 2001). This perennial shrub in the sunflower family (Asteraceae) has hairy grayish leaves and flowers from April to June. Its range is restricted to extreme southern San Diego County, near Otay Mesa, and northern Baja California, Mexico. It is generally found in dry, fairly open, Diegan coastal sage scrub below 600 feet elevation,

Attachment 7
Descriptions of Sensitive Plant Species Observed in the Central City Preserve Management Area (continued)

where it often grows in association with low-growing California sagebrush and black sage (*Salvia mellifera*). It has been found on Olivenhain cobbly loam soil (Reiser 2001).

San Diego ambrosia (*Ambrosia pumila*). San Diego ambrosia is federally listed as endangered (USFWS 2002), a narrow endemic species under the draft Chula Vista MSCP, and a CNPS List 1B species (CNPS 2001). This perennial herb in the sunflower family (Asteraceae) emerges from rhizomes in spring and flowers from June to September. It is found at elevations below 500 feet in western Riverside and San Diego Counties, and in northern Baja California. It may occur in disturbed areas in chaparral, coastal scrub, grassland, or vernal pool communities (CNPS 2001). Potential habitat in San Diego County is along creek beds, seasonally dry drainages, and floodplains along the edge of willow woodland, in riverwash or sandy alluvial soils (Reiser 2001), from the San Luis Rey River south to the Sweetwater River (Beauchamp 1986).

San Diego sagewort (*Artemisia palmeri*). San Diego sagewort is a CNPS List 4 species. This perennial in the sunflower family (Asteraceae) grows as a series of long wandlike stems from the base and blooms from July to September (Munz 1974). It is found in San Diego County and northern Baja California, Mexico (CNPS 2001). In San Diego County, its distribution ranges from La Jolla south to Otay and east to Alpine (Beauchamp 1986). In coastal areas it occurs mostly near creeks and drainages, where it can occur in low numbers in dense riparian vegetation and may be difficult to detect. Further inland it may occur in mesic chaparral vegetation, such as that found on the north-facing slopes (Reiser 2001).

South coast saltbush (*Atriplex pacifica*). South coast saltbush is a CNPS List 1B species. It is a prostrate annual herb in the goosefoot family (Chenopodiaceae) that forms tangled masses up to three feet in diameter and produces inconspicuous flowers between March and October. This species is distributed coastally from Los Angeles south to Baja California and on the Channel Islands, with disjunct populations in Arizona and Sonora, Mexico (CNPS 2001). It is found below 300 feet elevation, in coastal bluff scrub, coastal dunes, and coastal scrub; it can also occur in alkaline playas in the desert (CNPS 2001). In San Diego County it typically grows in dry, often mildly disturbed sites in open Diegan coastal sage scrub; host soils include Linne clay loam and Huerhuero-urban land (Reiser 2001).

Golden-spined cereus (*Bergerocactus emoryi*). Golden-spined cereus is a CNPS List 2 species (CNPS 2001). This low-growing cactus has cylindrical stems and flowers in May and June. Its distribution extends from San Clemente and Santa Catalina Islands

Attachment 7
Descriptions of Sensitive Plant Species Observed in the Central City Preserve Management Area (continued)

into San Diego County and south to approximately El Rosario, Baja California, Mexico (Bensen 1969). In San Diego County it is limited to coastal sage and maritime succulent scrub habitats near the coast from Torrey Pines State Park south to the Mexican border (Beauchamp 1986).

Orcutt's brodiaea (*Brodiaea orcuttii*). Orcutt's brodiaea is a CNPS List 1B species and is a Chula Vista MSCP narrow endemic species. This bulbiferous perennial is in the lily family (Liliaceae) and flowers from April through July. Its range is limited to San Diego, Riverside, and Orange Counties and Baja California, Mexico at elevations up to 5,500 feet (Munz 1974). Typically it is found in chaparral and lower montane coniferous forest communities, particularly areas with vernally moist grasslands, mima mounds, or at the edge of vernal pools or streams (Reiser 2001). It is known to occur in clay, and sometimes serpentine, soils including Stockpen gravelly loam on Otay Mesa and Redding gravelly loam on Mira Mesa (Reiser 2001).

Orcutt's bird's-beak (*Cordylanthus orcuttianus*). Orcutt's bird's beak is a CNPS List 2 species and is a species covered under the draft Chula Vista MSCP. This annual is in the snapdragon family (Scrophulariaceae) and flowers from March to July. Its range extends from southern San Diego County into Baja California. Its habitat is coastal scrub below 1,000 feet elevation (Hickman 1993, CNPS 2001), although Reiser (2001) considers seasonally dry drainages and upland adjacent to riparian habitat as its preferred habitat. The largest U.S. population is located in the Otay River drainage.

Otay tarplant (*Deinandra conjugens* [=*Hemizonia conjugens*]). Otay tarplant is listed as a California endangered species (State of California 2000b) and a federal threatened species (USFWS 1998). It is on CNPS List 1B and is a narrow endemic species under the draft Chula Vista MCSP. This small, aromatic annual herb in the sunflower family (Asteraceae) produces mostly solitary yellow flowerheads in May and June (Munz 1974; State of California 2000). It ranges from southwestern San Diego County into Baja California, in open coastal sage scrub and grassland habitats below 1,000 feet (CNPS 2001). It typically occurs in herbaceous plant communities on slopes and mesas with expansive clay soils, and may occur in non-native grasslands and fallow agricultural fields where clay soils are present (Reiser 2001). Residential and commercial development and highway construction have led to the decline of this species (State of California 2000b).

Variegated dudleya (*Dudleya variegata*). Variegated dudleya is a CNPS List 1B species and is a draft Chula Vista MSCP narrow endemic species. This small, drought-

deciduous succulent perennial blooms from May to June and ranges from north-central San Diego County southward into northern Baja California to the vicinity of Ensenada. The species can be found in a number of plant community types including coastal sage scrub, maritime succulent scrub, valley grasslands, chaparral, and even in and around vernal pools. The species is typically associated with clay soils. The plants do not require clay soils in order to grow as determined by studies in cultivation, but the expansion and contraction properties of the clay soils they inhabit restrict the growth of shrubby perennials which would easily outcompete a small geophytic plant like variegated dudleya (Dodero 1995). Variegated dudleya was historically more common around the margins of San Diego Bay, but historic localities at Chula Vista and National City have been extirpated. The species is in decline throughout its range due to development and grazing.

Palmer's ericameria (*Ericameria palmeri* var. *palmeri* [=*Haplopappus palmeri* ssp. *palmeri*]). Palmer's ericameria is a CNPS List 2 species and is a Chula Vista MSCP narrow endemic species. This shrub in the sunflower family (Asteraceae) may grow to five feet tall and flowers from September to November. Its range extends from San Diego County south into Baja California; the northernmost occurrence is reported from Carmel Valley with most reports from near Jamul and Jamacha (Reiser 2001). It prefers seasonally moist sites, such as coastal drainages or mesic chaparral, but may occur in coastal sage scrub. It is associated with sandy loam soils (Reiser 2001).

Cliff spurge (*Euphorbia misera*). Cliff spurge is a CNPS List 2 species. Cliff spurge is a shrub in the spurge family (Euphorbiaceae) that grows to about three feet tall and may flower from December to August. It is found coastally from Orange County south to Baja California and in the Channel Islands, with a disjunct population in the Sonoran Desert near Whitewater, Riverside County. It typically occurs in coastal bluff scrub or maritime succulent scrub below 1,700 feet (CNPS 2001). The largest populations in San Diego County are found on Point Loma and Otay Mesa, with occurrences as far north as Carlsbad (Reiser 2001). Soil series associated with this species include Olivenhain cobbly loam and Gaviota fine sandy loam (Reiser 2001). This spiny, low-growing shrub with brittle branches is readily recognizable year-round.

San Diego barrel cactus (*Ferocactus viridescens*). The coast barrel cactus is a CNPS List 2 species. This perennial stem succulent ranges from San Diego County southward into northern Baja California. It is typically found growing around rock outcrops or in cobbles on warm dry slopes or flats with a southerly exposure. It inhabits maritime succulent scrub, coastal sage scrub, valley grassland, chaparral, and is found

around the edges of vernal pools. The coast barrel cactus flowers from April through June. Throughout its range, coast barrel cactus is threatened by urbanization, vehicles, and horticultural collecting.

Palmer's grappling hook (*Harpagonella palmeri* var. *palmeri*). Palmer's grappling hook is a CNPS List 4 species. This small herbaceous annual in the borage family (Boraginaceae) flowers from March to May, then produces spiny nutlets that look like tiny grappling hooks. Palmer's grappling hook is found in Los Angeles, Orange, Riverside, and San Diego Counties, Arizona, Baja California, and Sonora, Mexico (CNPS 2001). It may be found in grasslands, coastal sage scrub, and chaparral habitats below 2,700 feet (CNPS 2001), but in San Diego it is typically found in open grassy slopes or open coastal sage scrub habitat on clay soils. The largest population in San Diego County is on Table Mountain near Jacumba, with smaller populations scattered nearer the coast (Reiser 2001). This inconspicuous plant can most reliably be identified in late spring or early summer when its distinctive fruit can be observed.

Graceful tarplant (*Holocarpha virgata* ssp. *elongata*). Graceful tarplant is a CNPS List 4 species. This strongly aromatic, sticky, annual herb in the sunflower family (Asteraceae) has a slender stem that may grow to four feet tall and flowers from July to November. It occurs in Orange, Riverside and San Diego Counties. Graceful tarplant may occur in coastal sage scrub and cismontane woodland (CNPS 2001), but is most commonly found in grasslands below 2500 feet (Hickman 1993). Usually there is little shrub cover where graceful tarplant is found, but non-native grasses and herbs may dominate the area (Reiser 2001).

Decumbent goldenbush (*Isocoma menziesii* [=*Isocoma menziesii* var. *decumbens*]). Decumbent goldenbush is a CNPS List 1B species. This is a low, spreading shrub in the sunflower family (Asteraceae) that blooms between April and November (Munz 1974). This variety is found in the Channel Islands, Orange and San Diego Counties, and in Baja California (CNPS 2001). Decumbent goldenbush grows in dry sandy mesas in coastal sage scrub (Munz 1974) intermixed with grassland. In San Diego County, this variety is concentrated in the vicinity of Bonita northward to the Marine Corps Air Station Miramar, but has been reported as far south as Otay Mesa and as far north as Carlsbad (Reiser 2001).

Decumbent goldenbush can be distinguished by being a relatively short shrub, with grayish leaves with cobwebby hairs that typically have a few (but variable in number) shallow teeth on the tip (Nesom 1991, cited in Reiser 2001). Munz (1974) differentiates

decumbent goldenbush as having few flower heads, with almost simple, compact, and rounded flower clusters (rather than open panicles), and with leaves mostly 0.4 to 1.2 inches long (rather than 1.2 to 2 inches long).

San Diego marsh elder (*Iva hayesiana*). San Diego marsh elder is a CNPS List 2 species. This plant is a subshrub with multiple stems and relatively fleshy leaves that grows to three feet tall and produces nodding clusters of inconspicuous flowers between April and September (Munz 1974). This species is distributed in San Diego County and northern Baja California below 1,700 feet. Its habitat is identified as marshes, swamps, and playas (CNPS 2001), alkaline sinks and flats (Munz 1974; Hickman 1993) and creeks of intermittent streambeds (Reiser 2001). In San Diego County, it has been reported from the Tijuana Estuary to near Lake Hodges, with populations becoming smaller and more localized in the northern part of its range. San Diego marsh elder is found on sandy alluvial embankments with cobbles on San Miguel-Exchequer, Huerhuero loam, or riverwash soils (Reiser 2001).

Spiny rush (*Juncus acutus* ssp. *leopoldii*). Southwestern spiny rush is a CNPS List 4 species. It ranges from central California to northern Baja California. This large rhizomatous perennial herb is typically found around mesic coastal dunes, alkaline seeps, and coastal salt marshes. Spiny rush flowers from May to June (Munz 1974). Threats to this species include urbanization and flood control projects.

San Diego sand aster (*Lessingia filaginifolia* var. *filaginifolia* [= *Corethrogyne filaginifolia* var. *incana*]). San Diego sand aster is a CNPS List 1B species. This perennial herbaceous subshrub in the sunflower family (Asteraceae) grows from 20 to 32 inches tall and flowers from June to August (Munz 1974). The range of San Diego sand aster is limited to San Diego County and Baja California; in San Diego has been reported near the coast between Carmel Mountain and the Tijuana Estuary (State of California 2003e). This variety commonly occurs on sandy slopes facing the sea (Munz 1974) but may occur in chaparral, coastal bluff scrub, and coastal sage scrub below 400 feet elevation (CNPS 2001). The largest population, on Point Loma, occurs in sandy openings between chamise in coastal chaparral on Carlsbad gravelly loamy sand and Gaviota fine sandy loam soils (Reiser 2001).

San Diego sand aster has been taxonomically included within California aster (*Lessingia filiginifolia* var. *filaginifolia*) along with what used to be considered separate varieties in the genus *Corethrogyne* (Hickman 1993). The ranges of two of these varieties, Del Mar sand aster (*C. f.* var. *linifolia*) and virgate cudweed aster (*C. f.* var. *virgata*), overlap that

of San Diego sand aster (Beauchamp 1986). These varieties may be distinguished by growth form: San Diego sand aster has stout stems from 20 to 32 inches tall; Del Mar sand aster grows to only 16 inches; virgate cudweed aster is slender and may grow from 16 inches to four feet tall. Floral characters are more definitive in distinguishing these varieties: San Diego sand aster has bracts below the flowers (involucres) that are over 0.4 inch long that are hemispherical, with long-stalked glands; the involucres of virgate cudweed-aster are less than one-third inch long and have short glands; the involucres of Del Mar sand aster are covered with short, white woolly hairs (Munz 1974).

San Diego goldenstar (*Muilla clevelandii*). San Diego goldenstar is a CNPS List 1B species and a draft Chula Vista MSCP covered species. This herbaceous perennial in the lily family (Liliaceae) grows to one foot tall and has bright yellow flowers in May (Munz 1974). San Diego goldenstar is found below 1,500 feet in southwestern San Diego County and northern Baja California, Mexico. It grows in grasslands and vernal pool habitats and on the edges of coastal sage scrub and chaparral. While typically found in clay soils, it may also occur in fine sandy loam on mounds between vernal pools (State of California 2002a).

Spreading navarretia (*Navarretia fossalis*). Spreading navarretia is listed as threatened by the USFWS (1998), is a CNPS List 1B species, and is a covered species under the draft Chula Vista MSCP. This low-growing annual herb in the phlox family (Polemonicaeae) grows to about five inches tall and flowers from April to June. Its range includes northwestern Los Angeles County, western Riverside County, coastal San Diego County, and northwestern Baja California (USFWS 1998); it is presumed extirpated from San Luis Obispo County (CNPS 2001). This species occurs in vernal pools and ditches below 4,300 feet above mean sea level (Hickman 1993).

Small-flowered morning glory (*Convolvulus simulans*). Small-flowered morning glory is a CNPS (2001) List 4 species. This small annual in the morning-glory family (Convolvulaceae) grows from four inches to two feet tall and has small pinkish or bluish bell-shaped flowers from March to May (Munz 1974). Its range is cismontane, extending south from Contra Costa and Stanislaus Counties to Baja California, Mexico. Small-flowered morning glory is found in openings in chaparral, coastal sage scrub and grasslands habitats. It is associated with friable or wet clay, serpentine, or ultramafic soils and occurs on ridges or in seeps below 2300 feet (Munz 1974, Hickman 1993, CNPS 2001). This plant, the only species of morning-glory native to California, does not climb but is diffusely branched.

Attachment 7
Descriptions of Sensitive Plant Species Observed in the Central City Preserve Management Area (continued)

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*). Long-spined spineflower is a CNPS (2001) List 1B species. This low-growing, reddish annual herb in the buckwheat family (Polygonaceae) blooms from April to July (Munz 1974). Long-spined spineflower is known from Santa Barbara, western Riverside, and western San Diego Counties and Baja California (CNPS 2001). In San Diego County, long-spined spineflower ranges from Cuyamaca Lake west to the coast, with a substantial population on Kearny Mesa. It is typically found in open clay lenses in chaparral and coastal sage scrub habitats and near vernally moist habitats, particularly vernal pools and seeps. It has been noted growing on Boomer stony loam and Redding gravelly loam soils (Reiser 2001). In order to distinguish this plant from other spineflowers, it is necessary to examine the flower parts, so surveys for this species must be conducted in late spring or summer.

Snake cholla (*Cylindropuntia californica var. californica* [= *Opuntia californica* var. *californica*]). Snake cholla is a CNPS List 1B species and a narrow endemic species under the MSCP. It is a generally prostrate cactus (Cactaceae family) that may grow up to nine feet and blooms with yellow or green-yellow flowers in April and May. This variety grows only in southern San Diego County and Baja California, with the northernmost known location in Florida Canyon in Balboa Park (Reiser 2001). Snake cholla occurs in coastal sage scrub and chaparral habitats between 100 and 500 feet elevation (CNPS 2001), most often on dry hillsides. It is associated with Huerhuero loam, Gaviota fine sandy loam, and Redding cobbly loam soils (Reiser 2001). This variety can be distinguished from *O. parryi* var. *parryi* by its range, prostrate growth habit, shorter tubercle, and absence of a longer central spine (Reiser 2001).

Otay mesa mint (*Pogogyne nudiuscula*). Otay mesa mint is state listed (State of California 2000) and federally listed as an endangered species (USFWS 1993). It is a CNPS List 1B species and is a MSCP covered species. This aromatic annual herb in the mint family (Lamiaceae) may grow to one foot tall and produces bright purple flowers in May and June (Munz 1974). This species' range is now limited to Otay Mesa in southern San Diego County; populations reported in Balboa Park, University Heights, and Mission Valley were lost to urbanization (State of California 2000), and those reported in the Del Mar, La Jolla, and Point Loma topographic USGS 7.5-minute quadrangles and in northern Baja California have been extirpated (CNPS 2001). Otay mesa mint occurs in vernal pools in grassland and chamise chaparral habitat with mima mound topography, usually on Stockpen gravelly clay loam soil. Otay mesa mint can be distinguished from the related San Diego mesa mint (*P. abramsii*) by its straighter, stouter stems, lack of hairs (generally), and wider (four to eight inches) inflorescence (Hickman 1993).

Attachment 7
Descriptions of Sensitive Plant Species Observed in the Central City Preserve Management Area (continued)

Otay mesa mint is considered to be declining. Urbanization, livestock grazing, agricultural conversion, and activities associated with the border crossing with Mexico threaten the species (State of California 2000).

Nuttall's scrub oak (*Quercus dumosa*). Nuttall's scrub oak is a CNPS List 1B species. This evergreen shrub in the oak family (Fagaceae) grows to less than 10 feet tall and blooms from February to April. This species is found near the coast in Santa Barbara, Orange, and San Diego Counties and in Baja California, Mexico at elevations below 1,300 feet. It grows in chaparral, coastal sage scrub, and closed-cone coniferous forest habitats (CNPS 2001), preferring coastal chaparral with a relatively open canopy in flat areas, but growing in dense stands on north-facing slopes (Reiser 2001). In San Diego County it is known to grow as far inland as Camp Elliott and Otay Mesa (Reiser 2001), being replaced by the similar scrub oak, *Q. berberidifolia*, in higher, drier locations (Hickman 1993). Nuttall's scrub oaks can be distinguished from the scrub oak, with which it may hybridize, by its acorn, which is less than 0.4 inch wide, moderately tuberculed, with a thin cup (Hickman 1993), and by its leaves, which tend to be smaller, spinier, and more undulated (Reiser 2001) and have densely matted gray hairs (Roberts 1995).

Munz's sage (*Salvia munzii*). Munz's sage is a CNPS List 2 species. This aromatic shrub in the mint family (Lamiaceae) grows up to eight feet tall and produces dark blue flowers from February to April. The range of this species is restricted to southwestern San Diego County and adjacent Baja California, Mexico. It is found in coastal sage scrub and lower chaparral habitats below 2,500 feet. It is dominant or common in sage scrub near Lower Otay Lake, San Miguel Mountain, and Jamul Mountain and is relatively common in northern Baja California (Reiser 2001). Munz's sage is similar to black sage, but has darker flowers in smaller clusters (about one-half-inch wide) and a different aroma (Reiser 2001).

San Diego County viguiera (*Viguiera laciniata*). San Diego County viguiera is a CNPS (2001) List 4 species. This shrub in the sunflower family (Asteracae) has shiny, resinous leaves and showy yellow flowers that bloom from February to June (Hickman 1993, Munz 1974). Its range extends from Sonora and Baja California, Mexico northward into San Diego and Orange County (CNPS 2001), although the population in Orange County may not be native (Reiser 2001). In San Diego County it is rare north of Highway 78. becoming increasingly common to the south, until it is the dominant coastal sage shrub in non-coastal southern San Diego County (Reiser 2001). San Diego County viguiera

occurs on dry, shrubby slopes in Diegan coastal sage scrub and chaparral habitats between 200 and 2,500 feet.

ATTACHMENT 8

ATTACHMENT 8
HISTORIC WILDLIFE SPECIES OCCURRENCE ON PMAS 1-4

Common Name	Scientific Name	Status	Historical Occurrence (PMA)
Amphibians (Nomenclature from Crother 2001)			
Pacific slender salamander	*Batrachoseps pacificus*		3
Pacific treefrog	*Hyla regilla*		3
Reptiles (Nomenclature from Crother 2001 and Crother et al. 2003)			
San Diego horned lizard	*Phrynosoma coronatum blainvillii*	CSC,*,MSCP	1,2,3,4
Western fence lizard	*Sceloporus occidentalis*		1,3
Side-blotched lizard	*Uta stansburiana*		1,3
Southern alligator lizard	*Gerrhonotus multicarinatus*		3
Belding's orangethroat whiptail	*Aspidoscelis (=Cnemidophorus) hyperythrus beldingi*	CSC,MSCP	1,2,3
San Diego gopher snake	*Pituophis catenifer annectens*		1
Coastal western whiptail	*Cnemidophorus tigris multiscutatus*		3
Striped racer	*Masticophis lateralis*		3
Gopher snake	*Pituophis melanoleucus*		3
Common kingsnake	*Lampropeltis getulus*		3
Red diamond rattlesnake	*Crotalus exsul*	CSC	3
Western rattlesnake	*Crotalus viridis*		3
Southern pacific rattlesnake	*Crotalus viridis helleri*		1
Birds (Nomenclature from American Ornithologists' Union 1998 and Unitt 1984)			
Turkey vulture	*Cathartes aura*		3
White-tailed kite	*Elanus leucurus*	CFP,*	2,3
Northern harrier	*Circus cyaneus hudsonius*	CSC,MSCP	2,3,4
Cooper's hawk	*Accipiter cooperii*	CSC,MSCP	1,2,3
Red-tailed hawk	*Buteo jamaicensis*		1
American kestrel	*Falco sparverius*		3
Golden eagle	*Aquila chrysaetos canadensis*	CFP,BEPA,CSC,MSCP	2,3

ATTACHMENT 8
HISTORIC WILDLIFE SPECIES OCCURRENCE ON PMAS 1-4
(continued)

Common Name	Scientific Name	Status	Historical Occurrence (PMA)
California quail	*Callipepla californica californica*		3
Killdeer	*Charadrius vociferus vociferus*		3
Mourning dove	*Zenaida macroura marginella*		4
Greater roadrunner	*Geococcyx californianus*		3
Common barn owl	*Tyto alba pratincola*		3
Western burrowing owl	*Speotyto cunicularia hypugaea*	CSC,MSCP	2,3
Costa's hummingbird	*Calypte costae*		3
Anna's hummingbird	*Calypte anna*		4
Rufous hummingbird	*Selasphorus rufus*		3
Dusky flycatcher	*Empidonax oberholseri*		3
Black phoebe	*Sayornis nigricans semiatra*		3
Say's phoebe	*Sayornis saya*		3
Ash-throated flycatcher	*Myiarchus cinerascens cinerascens*		3
Cassin's kingbird	*Tyrannus vociferans vociferans*		4
Western kingbird	*Tyrannus verticalis*		1,4
Horned lark	*Eremophila alpestris*		4
Cliff swallow	*Petrochelidon pyrrhonota tachina*		3
Western scrub-jay	*Aphelocoma californica*		3
Common raven	*Corvus corax clarionensis*		3
Bushtit	*Psaltriparus minimus minimus*		4
San Diego cactus wren	*Campylorhynchus brunneicapillus couesi*	CSC,MSCP	1,2,3,4
Bewick's wren	*Thyromanes bewickii*		3,4
Northern mockingbird	*Mimus polyglottos polyglottos*		3
California thrasher	*Toxostoma redivivum redivivum*		3
Wrentit	*Chamaea fasciata henshawi*		3
Ruby-crowned kinglet	*Regulus calendula*		3
Blue-gray gnatcatcher	*Polioptila caerulea*		3
Coastal California gnatcatcher	*Polioptila californica californica*	FT,CSC,MSCP	1,2,3,4
American goldfinch	*Carduelis tristis*		3
Lesser goldfinch	*Carduelis psaltria hesperophilus*		1

ATTACHMENT 8
HISTORIC WILDLIFE SPECIES OCCURRENCE ON PMAS 1-4
(continued)

Common Name	Scientific Name	Status	Historical Occurrence (PMA)
House finch	*Carpodacus mexicanus frontalis*		1,4
Orange-crowned warbler	*Vermivora celata*		3
Yellow-rumped warbler	*Dendroica coronata*		3
Blue grosbeak	*Passerina caerulea salicaria*		3
Spotted towhee	*Pipilo maculatus*		3
California towhee	*Pipilo crissalis*		1,3,4
Song sparrow	*Melospiza melodia*		3
Sage sparrow	*Amphispiza belli nevadensis*		2,3
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	CSC,MSCP	2,3,4
Lark sparrow	*Chondestes grammacus strigatus*		4
Grasshopper sparrow	*Ammodramus savannarum perpallidus*	MSCP	2,3
Western meadowlark	*Sturnella neglecta*		4
Red-winged blackbird	*Agelaius phoeniceus*		3
Brewer's blackbird	*Euphagus cyanocephalus*		3
Baltimore oriole	*Icterus galbula*		3
European starling	*Sturnus vulgaris*		4
Brown headed cowbird	*Molothrus ater*		3
Mammals (Nomenclature from Jones et al. 1997 and Hall 1981)			
Desert gray shrew	*Notiosorex crawfordi crawfordi*		3
California ground squirrel	*Spermophilus beecheyi*		3
Southern pocket gopher	*Thomomys umbrinus* (= *bottae*)		3
Pocket mouse	*Perognathus* spp.		3
Pacific (= agile) kangaroo rat	*Dipodomys agilis*		3
Mouse	*Peromyscus* sp.		3
Woodrat	*Neotoma* spp.		3
Dusky-footed woodrat	*Neotoma fuscipes*		3
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	CSC	3
Cottontail rabbit	*Sylvilagus audubonii*		3

ATTACHMENT 8
HISTORIC WILDLIFE SPECIES OCCURRENCE ON PMAS 1-4
(continued)

Common Name	Scientific Name	Status	Historical Occurrence (PMA)
Striped skunk	*Mephitis mephitis*		3
Coyote	*Canis latrans*		3
Gray fox	*Urocyon cinereoargenteus*		3
Mule deer	*Odocoileus hemionus*	MSCP	3

Status

BEPA = Bald and Golden Eagle Protection Act
CFP = California fully protected species
CSC = California Department of Fish and Game species of special concern
FE = Listed as endangered by the federal government
FT = Listed as threatened by the federal government
MSCP = Multiple Species Conservation Program target species list
ST = Listed as threatened by the state of California
* = Taxa listed with an asterisk fall into one or more of the following categories:

- Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
- Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands)

ATTACHMENT 9

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) OR POTENTIALLY OCCURRING ON PMAs 1-4

Species	Status	Habitat	Occurrence PMA/Comments
Invertebrates (Nomenclature from Mattoni 1990 and Opler and Wright 1999)			
Quino checkerspot butterfly *Euphydryas editha quino*	FE	Open, dry areas in foothills, mesas, lake margins. Larval host plant *Plantago erecta.*	Adult emergence mid-January through April. Not observed. No historical observations. Low potential to occur in PMAs 3 and 4, which are partially within the QCB recovery area (2000) and QCB survey area (2002).
Amphibians (Nomenclature from Crother 2001)			
Western spadefoot *Spea hammondii*	CSC	Vernal pools, floodplains, and alkali flats within areas of open vegetation.	Not observed. Not expected to occur, low potential in PMA 2, given historical presence of vernal pool habitat.
Reptiles (Nomenclature from Crother 2001 and Crother et al. 2003)			
Coronado skink *Eumeces skiltonianus interparietalis*	CSC	Grasslands, open woodlands and forest, broken chaparral. Rocky habitats near streams.	Not observed. Moderate potential in all PMAs.
Belding's orangethroated whiptail† *Aspidoscelis* (=*Cnemidophorus*) *hyperythrus beldingi*	CSC, MSCP	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	Observed in all PMAs.
San Diego horned lizard† *Phrynosoma coronatum blainvillii*	CSC, MSCP, *	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	Observed in PMAs 1, 2, and 4. Moderate potential in PMA 3.
Coastal western whiptail *Cnemidophorus tigris multiscutatus*	*	Chaparral, coastal sage scrub, woodlands and near streams.	Not observed. Historical presence in PMA 3. Moderate potential in all PMAs.

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) (OR POTENTIALLY OCCURRING) ON PMAs 1-4
(continued)

Species	Status	Habitat	Occurrence PMA/Comments
Silvery legless lizard *Anniella pulchra pulchra*	CSC	Herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil.	Not observed. Moderate potential in all PMAs.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	CSC	Grasslands, chaparral, sagebrush, desert scrub. Found in sandy and rocky areas.	Not observed. Moderate potential in all PMAs.
Two-striped garter snake *Thamnophis hammondii*	CSC, *	Permanent freshwater streams with rocky bottoms. Mesic areas.	Not observed. Moderate potential in all PMAs.
Red diamond rattlesnake† *Crotalus exsul*	CSC	Desert scrub and riparian, coastal sage scrub, open chaparral, grassland, and agricultural fields.	Observed in PMAs 1 and 4. Moderate potential in PMAs 2 and 3.
Birds (Nomenclature from American Ornithologists' Union 1988 and Unitt 1984)			
Double-crested cormorant (rookery site)† *Phalacrocorax auritus albociliatus*	CSC	Bays, lagoons, estuaries. Not a southern Californa coastal breeder (Garrett and Dunn 1981). Non-breeding individuals can be present year-round.	Observed flying over PMA 4. No suitable habitat exists for this species to nest or breed here.
Great blue heron (rookery site)† *Ardea herodias*	*	Bays, lagoons, ponds, lakes. Some localized breeding. Non-breeding individuals can be present year-round.	Observed in PMAs 1 and 2. No rookeries observed. Roosting habitat potentially present in tall riparian and eucalyptus trees.
Great egret (rookery site)† *Ardea alba*	*	Lagoons, bays, estuaries. Ponds and lakes in the coastal lowland. Winter visitor, uncommon in summer.	Observed in PMA 3 No rookeries observed. Roosting habitat potentially present in tall riparian and eucalyptus trees.

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) (OR POTENTIALLY OCCURRING) ON PMAs 1-4
(continued)

Species	Status	Habitat	Occurrence PMA/Comments
Black-crowned night heron (rookery site)† *Nycticorax nycticorax*	*	Lagoons, estuaries, bayshores, ponds, and lakes. Often roost in trees. Non-breeding individuals can be present year-round. Localized breeding.	Observed in PMA 1. No rookeries observed. Roosting habitat potentially present.
White-tailed kite (nesting)† *Elanus leucurus*	CFP, *	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.	Observed in PMA 2. Potential foraging and nesting habitat in all PMAs, especially in Long Canyon and Rice Canyon.
Northern harrier (nesting)† *Circus cyaneus*	CSC, MSCP	Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident.	Observed in PMAs 2. Foraging habitat in all PMAs. Nesting habitat is potentially present in some of the larger drainages in PMAs 1, 3, and 4.
Sharp-shinned hawk (nesting)† *Accipiter striatus*	CSC	Open deciduous woodlands, forests, edges, parks, residential areas. Migrant and winter visitor.	Observed in PMAs 1 and 2. Foraging habitat on all PMAs. Not expected to nest in the area.
Cooper's hawk (nesting)† *Accipiter cooperi*	CSC, MSCP	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas. Migrant and winter visitor.	Observed in PMAs 1, 2, and 4. Foraging habitat on all PMAs. Potential breeding habitat in all PMAs.
Swainson's hawk (nesting)† *Buteo swainsoni*	ST, MSCP	Plains, range, open hills, sparse trees. Uncommon spring migrant.	Local breeding population now extirpated. Observed in PMAs 1 and 4. Foraging habitat in all PMAs.
Golden eagle (nesting and wintering)† *Aquila chrysaetos*	CSC, CFP, BEPA, MSCP	Require vast foraging areas in grassland, broken chaparral, or sage scrub. Nest primarily in cliffs and boulders. Uncommon resident.	Observed in PMA 2. Foraging habitat in all PMAs. San Miguel Mountain is the closest known breeding location. Potential foraging habitat in all PMAs.

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) (OR POTENTIALLY OCCURRING) ON PMAs 1-4
(continued)

Species	Status	Habitat	Occurrence PMA/Comments
American peregrine falcon *Falco peregrinus*	SE, CFP, MSCP, *	Open coastal areas, mud flats. Rare inland. Rare fall and winter visitor, rare and localized breeding resident.	Observed in PMA 4. Moderate potential to occur in all PMAs.
Western burrowing owl (burrow sites) *Speotyto cunicularia hypugaea*	CSC, MSCP	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident.	Low potential to occur in open space scrub and grassland areas with existing burrows.
Vaux's swift† *Chaetura vauxi*	CSC	All habitat types of San Diego County during migration.	Observed in PMA 1. Fall migrant, expected to occur in all PMAs during migration only.
Willow flycatcher *Empidonax traillii*	SE	Nesting restricted to willow thickets. Also occupies other woodlands. Rare spring and fall migrant, rare summer resident. Extremely localized breeding.	One individual observed in PMA 1, likely a migrant using site as a stop-over to forage. Not expected to nest.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE, SE, MSCP	Nesting restricted to willow thickets. Also occupies other woodlands. Rare spring and fall migrant, rare summer resident. Extremely localized breeding.	Not observed. No suitable breeding habitat.
California horned lark *Eremophila alpestris actia*	CSC	Sandy shores, mesas, disturbed areas, grasslands, agricultural lands, sparse creosote bush scrub.	Not observed. Moderate potential to occur in all PMAs. Potential breeding habitat in grasslands on all PMAs.
Loggerhead shrike *Lanius ludovicianus*	CSC	Open foraging areas near scattered bushes and low trees.	Not observed, but expected to occur. Suitable foraging and breeding habitat occurs in all PMAs.

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) (OR POTENTIALLY OCCURRING) ON PMAs 1-4
(continued)

Species	Status	Habitat	Occurrence PMA/Comments
Least Bell's vireo† *Vireo bellii pusillus*	FE, SE, MSCP	Willow riparian woodlands. Summer resident.	Present in PMA 4. Low to moderate potential breeding habitat in PMAs 1, 2, and 3, within major drainages.
Coastal cactus wren† *Campylorhynchus brunneicapillus couesi*	CSC, MSCP, *	Maritime succulent scrub, coastal sage scrub with *Opuntia* thickets. Rare localized resident.	Observed in PMAs 1, 2, and 4. Potential to occur in areas with cactus thickets.
Coastal California gnatcatcher† *Polioptila californica californica*	FT, CSC, MSCP	Coastal sage scrub, maritime succulent scrub. Resident.	Observed in all PMAs. Suitable nesting habitat in all PMAs.
Lawrence's goldfinch *Carduelis lawrencei*	*	Common migrant, rare summer resident.	Observed in PMA 1. Potential to use all PMAs as foraging stop-overs during migration.
Yellow warbler (nesting)† *Dendroica petechia brewsteri*	CSC	Breeding restricted to riparian woodland. Spring and fall migrant, localized summer resident, rare winter visitor.	Present and expected to breed in all PMAs.
Yellow-breasted chat (nesting)† *Icteria virens*	CSC	Nests in riparian scrub/woodland. Localized summer resident.	Present and expected to breed in PMAs 2 and 4. Potential breeding/nesting habitat in all PMAs.
Southern California rufous-crowned sparrow† *Aimophila ruficeps canescens*	CSC, MSCP	Coastal sage scrub, chaparral, grassland. Resident.	Observed in all PMAs. Potential breeding/nesting habitat in all PMAs.
Bell's sage sparrow *Amphispiza belli belli*	CSC	Chaparral, coastal sage scrub. Localized resident.	Not observed. Moderate potential to occur in all PMAs.
Grasshopper sparrow (nesting) *Ammodramus savannarum*		Tall grass areas. Localized summer resident, rare in winter.	Not observed. Historically observed in PMAs 2 and 3. Moderate potential to occur in grasslands on all PMAs.

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) (OR POTENTIALLY OCCURRING) ON PMAs 1-4
(continued)

Species	Status	Habitat	Occurrence PMA/Comments
Tricolored blackbird *Agelaius tricolor*	CSC, MSCP	Freshwater marshes, agricultural areas, lakeshores, parks. Localized resident.	Not observed. Foraging habitat in all PMAs. Low potential to breed in PMAs 1-4.
Western bluebird *Sialia mexicana*	MSCP	Open woodlands, farmlands, orchards.	Not observed. Possible winter migrant in all PMAs.
Mammals (Nomenclature from Jones et al. 1997 and Hall 1981)			
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CSC	Open areas of scrub, grasslands, agricultural fields.	Not observed, but expected to occur. Suitable habitat occurs in all PMAs.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	CSC	San Diego County west of mountains in sandy herbaceous areas, usually in association with rocks or coarse gravel. Can be found in coastal sage scrub, chaparral, or grasslands.	Not observed.
Southern grasshopper mouse *Onychomys torridus Ramona*	CSC	Alkali desert scrub & desert scrub preferred. Can also occur in succulent shrub, wash, & riparian areas; coastal sage scrub, mixed chaparral, sagebrush, low sage, and bitterbrush. Low to moderate shrub cover preferred.	Not observed. Low potential to occur in all PMAs.
San Diego desert woodrat *Neotoma lepida intermedia*	CSC	Coastal sage scrub and chaparral.	Not observed. Moderate potential to occur in all PMAs.
Mountain lion *Felis concolor*	CFP, MSCP	Many habitats.	Not observed. Low potential to occur in PMA 4.

ATTACHMENT 9
SENSITIVE WILDLIFE SPECIES KNOWN (†) (OR POTENTIALLY OCCURRING) ON PMAs 1-4
(continued)

Species	Status	Habitat	Occurrence PMA/Comments
Southern mule deer† *Odocoileus hemionus fuliginata*	MSCP	Many habitats.	Observed in PMAs 1, 2, and 4. Moderate to High potential to occur in PMA 3.

STATUS CODES

Listed/Proposed
FE = Listed as endangered by the federal government
FT = Listed as threatened by the federal government
SE = Listed as endangered by the state of California
ST = Listed as threatened by the state of California

Other
BEPA = Bald and Golden Eagle Protection Act
CFP = California fully protected species
CSC = California Department of Fish and Game species of special concern
MSCP = City of Chula Vista draft MSCP Subarea Plan covered species
* = Taxa listed with an asterisk fall into one or more of the following categories:
- Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
- Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands)

ATTACHMENT 10

Attachment 10
Sensitive Wildlife Species Descriptions

Species are listed in alphabetical order according to their scientific name within each major class listed below. Classes include amphibians, reptiles, birds and mammals.

Sensitive Amphibians

Western spadefoot (*Spea hammondii*). The western spadefoot toad is a CDFG species of special concern. This species ranges from central northern California, through the Coast Ranges from San Francisco, and south into Baja California, Mexico at elevations from sea level to 4,500 feet (Stebbins 1985; Zeiner et. al 1988). Habitat for the western spadefoot includes lowlands; washes, floodplains of rivers, alluvial fans, alkali flats, temporary ponds, and vernal pools. Although this species is generally found in areas of open vegetation with sandy or gravelly soil (Stebbins 1985), it has been observed in vernal pools containing clay soils on Otay Mesa. Surface activity can occur from October through April depending on rainfall and oviposition occurs between February and May (Jennings and Hayes 1994). The western spadefoot diet consists of crickets, butterflies, ants, flies, and earthworms (Jennings and Hayes 1994). Decline in western spadefoot populations is primarily due to habitat loss and fragmentation and possibly pesticide use.

Sensitive Reptiles

Silvery legless lizard (*Anniella pulchra pulchra*). The silvery legless lizard is a CDFG species of special concern. This species ranges from Contra Costa County south along the Coast-Transverse and Peninsular ranges into Baja California, Mexico. The silvery legless lizard occupies leaf litter and loose soil in coastal scrub, chaparral, and open riparian habitats. Sandy washes and beach dunes are used for burrowing, and logs and leaf litter for cover and feeding. The silvery legless lizard is insectivorous and their diet consists of larval insects, adult beetles, termites, and spiders. This nocturnal lizard is susceptible to drying and must be in or near moist soil. Breeding occurs between early spring and July. The use of pesticides on agricultural fields has decimated some populations of this lizard.

Belding's orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*). Belding's orange-throated whiptail is a CDFG species of special concern and an MSCP covered species. This lizard occurs from southwestern San Bernardino County south into Baja California. It inhabits washes and other sandy areas where there are rocks and patches of brush. Belding's orange-throated whiptail frequents areas of open coastal sage scrub, chaparral, and streamside growth with loose sandy soils (Stebbins 1985). Belding's orange-throated whiptails feed primarily on insects such as termites (*Reticulitermes* sp.).

The decline of this species is attributed to the loss of coastal sage scrub in southern California coupled with the species' limited range.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*). The coastal subspecies of the western whiptail has no official state or federal status but was formerly a federal candidate for listing and is still considered locally sensitive. The coastal western whiptail ranges from Santa Barbara County south into western Baja California, Mexico, predominantly on the coastal slope. Habitat consists of coastal sage scrub and chaparral communities, woodlands, and stream sides where plants are sparsely distributed (Stebbins 1985). Its diet consists of insects, spiders, scorpions, and other lizards. The decline of populations of coastal western whiptail is also attributed to habitat loss and fragmentation.

Red diamond rattlesnake (*Crotalus exsul*). The red diamond rattlesnake is a CDFG species of special concern. This species occurs on both sides of the Peninsular Ranges of southwestern California from San Bernardino County south to Baja California, Mexico. Red diamond rattlesnakes inhabit coastal sage scrub, desert scrub, open chaparral, woodland, and grassland habitats, with a preference for rock outcrops as well as agricultural fields from sea level to 4,000 feet (Stebbins 1985). Red diamond rattlesnakes are active year-round with peak activity occurring in April and May (Jennings and Hayes 1994). Breeding occurs from February through September. Their diet consists principally of small mammals, lizards, birds, and other snakes. Population declines of the red diamond rattlesnake are generally attributable to a reduction of habitat in the snakes restricted range due to urbanization and agriculture.

Coronado skink (*Eumeces skiltonianus interparietalis*). The Coronado skink is a CDFG species of special concern. The Coronado skink ranges from central Riverside County south to Baja California, Mexico (Jennings and Hayes 1994). In San Diego County, the Coronado skink is found in a variety of plant communities including grassland, open woodland, forest, and broken chaparral habitats, and is often associated with mesic areas. The Coronado skink is diurnal and most active during from early spring until fall; breeding occurs in June or July (Zweifel 1952, Jennings and Hayes 1994). The diet of the Coronado skink consists of moths, beetles, crickets, grasshoppers, and leaf hoppers. This species is threatened by habitat loss and fragmentation resulting from urbanization and agriculture.

Attachment 10
Sensitive Wildlife Species Descriptions
(continued)

San Diego horned lizard (*Phrynosoma coronatum blainvillii*). The San Diego horned lizard is a CDFG species of special concern and an MSCP covered species. This lizard ranges from coastal southern California to the desert foothills and into Baja California. In San Diego County, it has a wide range but spotty distribution. It is often associated with coastal sage scrub, especially areas of level to gently sloping ground, with well-drained loose or sandy soil (Mills 1991). This animal usually avoids dense vegetation, preferring 20 to 40 percent bare ground in its habitat. Populations along the coast and inland have been severely reduced by loss of habitat. Where it can be found, the San Diego horned lizard can be locally abundant, with densities near 20 adults per acre. They are largely dependent upon native harvester ants for food. Adults are active from late March to late August; young are active from August to November or December.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*). The coast patch-nosed snake is a CDFG species of special concern. This species occurs in coastal California from San Luis Obispo County south into northwestern Baja California, Mexico from sea level to 7,000 feet (Jennings and Hayes 1994). The coast patch-nosed snake inhabits sandy and rocky areas on the lower slopes of mountains within grassland, chaparral, sage scrub, and desert scrub habitats. This snake is diurnal and active from March to October (Klauber 1939), although juveniles can be active on warm winter days (Jennings and Hayes 1994). The major prey items of the coast patch-nosed snake are whiptail lizards (*Cnemidophorus* spp.). Habitat loss and fragmentation from urbanization and conversion to agriculture are the main threats to this species.

Two-striped garter snake *(Thamnophis hammondii).* The two-striped garter snake is a CDFG species of special concern. The two-striped garter snake ranges from San Luis Obispo County south to El Rosario in Baja California, Mexico from sea level to 8,000 feet (Jennings and Hayes 1994). They are normally found in or near permanent fresh water, inhabiting streams, ponds, and lakes throughout their range (Stebbins 1985) and can even be found in temporary bodies of water such as vernal pools. The two-striped garter snake inhabits riparian areas during summer months and occupies adjacent coastal sage scrub and grasslands during the winter (Jennings and Hayes 1994). The two-striped garter begins breeding in April and continues throughout the summer months. Adults feed on tadpoles, toads, insect larvae, fish, fish eggs, and earthworms. Population declines in the two-striped garter snake are generally attributable to impacts related to the loss of natural wetlands and increased development near and in suitable habitat.

Attachment 10
Sensitive Wildlife Species Descriptions
(continued)

Sensitive Birds

Cooper's hawk (*Accipiter cooperii*). The Cooper's hawk is a CDFG species of special concern and is an MSCP covered species. The Cooper's hawk is a medium-sized raptor that ranges throughout most of the United States. It is considered an uncommon resident during the breeding season in southern California, with numbers increasing in winter (Garrett and Dunn 1981). This hawk mainly breeds in oak and willow riparian woodlands but will also use eucalyptus trees (Unitt 1984). This hawk forages primarily on songbirds but is also known to eat small mammals. Urbanization and loss of habitat have caused the decline of this species.

Sharp-shinned hawk (*Accipiter striatus*). The sharp-shinned hawk is a California species of special concern. Sharp-shinned hawks range throughout North America and are common migrants and rare summer residents in San Diego County (Unitt 1984). Sharp-shinned hawks are found in forested areas and breed in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats, with a preference for riparian areas. Breeding occurs April through August. Foraging often occurs where migrating birds are found, such as in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines. The sharp-shinned hawk diet consists mostly of small birds, small mammals, insects, reptiles, and amphibians. Threats to the sharp-shinned hawk include falconry and logging.

Tricolored blackbird (*Agelaius tricolor*). The tricolored blackbird is a CDFG species of special concern and an MSCP covered species. The tricolored blackbird ranges throughout lowland regions of California, west of the Sierra-Nevada Mountains. These blackbirds are typically found in large flocks in freshwater marsh habitat dominated by cattails, willows, mule fat, or tamarisk. They forage in agricultural and disturbed areas, along lake shores, and in wet meadows. Populations of this species are declining as a result of the elimination of wetlands and freshwater marsh habitat in California.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). The southern California rufous-crowned sparrow is a CDFG species of special concern and an MSCP covered species. This subspecies of rufous-crowned sparrow is a resident and ranges throughout southern California from Los Angeles County to Baja California, Mexico along the Transverse and Peninsular Ranges (Collins 1999). Southern California rufous-crowned sparrows are found in chaparral and coastal sage scrub habitats and occasionally in grasslands adjacent to these habitats. The species exhibits a strong preference for moderate to steep, dry, rocky slopes interspersed with grasses and rock

outcrops (Unitt 1984, Collins 1999). Breeding occurs from March through June and pair bonds are formed that may last year-round (Collins 1999). Their diet consists primarily of seeds, stems, and shoots and extends to insects during spring and summer months (Wolf 1977). Urbanization, range restrictions, and the loss of habitat have decreased the amount of suitable habitat for southern California rufous-crowned sparrows.

Grasshopper sparrow (*Ammodramus savannarum*). The grasshopper sparrow has no official resource agency status but is considered locally sensitive. Grasshopper sparrows are a localized summer resident in San Diego County and very rare in winter (Unitt 1984). This species has a patchy distribution within grasslands along coastal California and the foothills of the Sierra Nevada.

Bell's sage sparrow (*Amphispiza belli belli*). Bell's sage sparrow is a CDFG species of special concern. Its breeding range is along the coastal slopes from Trinity County south into northwestern Baja California, Mexico. The Bell's sage sparrow is a rare resident along the coast of California in dry chaparral and coastal sage scrub along coastal lowlands and mountain foothills (Garrett and Dunn 1981). Locally, it can be found in the interior chaparral and coastal sage scrub habitats, especially in dense stands of chamise chaparral (Small 1994). Bell's sage sparrows exhibit high site tenacity to breeding territory and may be present up to a year after its habitat has been altered dramatically (Martin and Carlson 1998). This species feeds primarily on seeds during the winter and expands its diet to include spiders, insects, small fruit, and succulent vegetation during the breeding season (Martin and Carlson 1998). Threats to this species include loss and degradation of habitat, expansion of exotic grasses, introduced animals, and predation from feral cats.

Golden eagle (*Aquila chrysaetos*). The golden eagle is a federally protected species under the Bald and Golden Eagle Protection Act, is a CDFG species of special concern, is fully protected by the state of California, and is an MSCP covered species. This eagle occurs throughout the United States, and is an uncommon resident in San Diego County. Golden eagles forage over large areas of grassland and open chaparral or sage scrub, where they primarily prey upon rabbits and ground squirrels. The nesting population in San Diego County is concentrated in the foothill zone and coastal lowlands. Golden eagles nest on cliffs or in large trees. Several golden eagle territories in the coastal lowland have been eliminated by urbanization, agricultural development, and other human disturbances (Unitt 1984).

Attachment 10
Sensitive Wildlife Species Descriptions
(continued)

Swainson's hawk (*Buteo swainsoni*). Swainson's hawk is a state-listed threatened species and is an MSCP covered species. This raptor formerly nested throughout most of the state and was once described as the most common breeding hawk in the coastal lowlands. Its breeding range in the state is currently limited to the Central Valley, the Modoc Plateau, and small isolated patches of the high desert. Swainson's hawk nests in sycamores and cottonwoods in riparian areas. Swainson's hawk is a rare migrant in San Diego County in the spring and fall (Unitt 1984). Food items include spring emergent caterpillars. The main threat to Swainson's hawk populations is pesticide use in agricultural fields.

Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*). The coastal cactus wren is a CDFG species of concern and is an MSCP covered species. The coastal cactus wren ranges from southern Orange County to Valle de las Palmas in Baja California, just south of the U.S.-Mexico border. Year-round residents in San Diego, coastal cactus wrens inhabit coastal lowlands containing thickets of cholla and prickly pear cactus in coastal sage and maritime succulent scrub (Unitt 1984). They nest in the cactus and can have multiple nests at any given time of year. The primary cause for the decline of this species is habitat loss due to urbanization.

Vaux's swift (*Chaetura vauxi vauxi*). Vaux's swift is a CDFG species of special concern. This swift is a fairly common spring and fall migrant in San Diego County (Garrett and Dunn 1981). This species migrates in flocks and on a cloudy spring day, flocks reaching 500 individuals can be seen in coastal areas (Unitt 1984). This is a fast-flying, grayish bird with long, pointed wings and a stubby tail (Peterson 1990). While in flight, the Vaux's swift looks like a cigar with wings. This species breeds in coniferous forests such as the coast redwoods and Douglas firs of the sequoia region.

Northern harrier (*Circus cyaneus hudsonius*). The northern harrier is a CDFG species of special concern and is an MSCP covered species. Northern harrier nesting sites are considered sensitive. This species ranges throughout most of the United States (National Geographic Society 1999). In San Diego County, the northern harrier is a fairly common migrant in the winter and a rare summer breeder (Unitt 1984). The northern harrier hovers close to the ground while foraging in grasslands, agricultural fields, and coastal marshes. The northern harrier most commonly nests on the ground at the edge of marshes, but will also nest on grasslands, fields, or in areas of sparse shrubs (Zeiner et al. 1990). The range of this species has been reduced due to urbanization and agricultural development.

Attachment 10
Sensitive Wildlife Species Descriptions
(continued)

Yellow warbler (*Dendroica petechia*). The yellow warbler is a CDFG species of special concern. This migratory warbler is found during the summer breeding season throughout California, migrating to Central and South America for the winter, where it spends nine months out of the year. Yellow warblers are common breeders on the Santa Margarita River in northern San Diego County. The yellow warbler is restricted to riparian woodland habitat for breeding (Unitt 1984). This species is declining due to the loss of riparian habitat and as a result of nest parasitism by brown-headed cowbirds.

White-tailed kite (*Elanus leucurus*). The white-tailed kite is a California fully protected species that occurs in coastal lowland areas from Oregon to northern Baja California, Mexico (National Geographic Society 1983). This resident bird nests in riparian woodlands, live oaks, or sycamore groves which border grassland or open fields (Unitt 1984). The white-tailed kite forages over open areas and grasslands feeding primarily on small rodents and insects (National Geographic Society 1983). This species is known to roost in large communal groups (Unitt 1984). White-tailed kite populations in southern California have declined due to the loss of nesting and foraging habitat.

Southwestern willow flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is federally and state listed as endangered and is an MSCP covered species. This migratory bird breeds in southern California, Arizona, New Mexico, extreme southern portions of Nevada and Utah, western Texas, and extreme northwestern Baja California, Mexico (USFWS 1995). The southwestern willow flycatcher is present in San Diego County in late spring and summer, where it is known to breed in only a few locations (Unitt 1984). This flycatcher requires mature willow thickets in riparian woodland habitat for breeding and nesting activities.

California horned lark (*Eremophila alpestris actia*). The California horned lark is a CDFG species of special concern. The horned lark (*E. alpestris*) ranges throughout North America. However, the range of the California horned lark subspecies is limited to the coastal slopes of California from Sonoma County to San Diego County and includes most of the San Joaquin Valley (Grinnell and Miller 1944). California horned larks occur in coastal San Diego County during the breeding season. In San Diego County, the California horned lark typically inhabits areas with sparse vegetation, including sandy shores, grasslands, mesas, and agricultural lands. Decline of this species is generally attributed to urbanization and human disturbance.

Attachment 10
Sensitive Wildlife Species Descriptions
(continued)

Yellow-breasted chat (*Icteria virens*). The yellow-breasted chat is a CDFG species of special concern. This bird can be found throughout most of the continental United States. It is present in San Diego County during the spring and summer months (National Geographic Society 1983). The yellow-breasted chat breeds in dense brush or scrub, usually along streams or marshy areas with dense riparian woodlands. It feeds mainly on insects and berries. Destruction of riparian woodlands by development and other human activities has caused population declines and it is possible that brown-headed cowbird parasitism may also have contributed to the decline of the species.

Loggerhead shrike (*Lanius ludovicianus*). The loggerhead shrike is a CDFG species of special concern. This species inhabits most of the continental U.S. and Mexico and is a year-round resident of southern California. The loggerhead shrike prefers open habitat with perches for hunting and fairly dense shrubs for nesting (Small 1994). In southern California, this bird inhabits grasslands, agricultural fields, chaparral, and desert scrub (Unitt 1984). Loggerhead shrikes feed on small reptiles and insects that they often impale on sticks or thorns before eating. Loggerhead shrike populations are declining, likely due to urbanization and loss of habitat.

Coastal California gnatcatcher (*Polioptila californica californica*). The coastal California gnatcatcher is federally-listed as threatened, a CDFG species of special concern, and an MSCP covered species. The coastal California gnatcatcher is a resident species restricted to the coastal slopes of southern California, from Ventura County southward through Los Angeles, Orange, Riverside, and San Diego Counties into Baja California, Mexico (Atwood 1980; Jones and Ramirez 1995). The coastal California gnatcatcher typically occurs in coastal sage scrub, although this bird also uses chaparral, grassland, and riparian woodland habitats where they occur adjacent to coastal sage scrub. Populations of this species have declined as a result of urban and agricultural development (Unitt 1984; Atwood 1990).

Western bluebird (*Sialia mexicana*). The western bluebird is an MSCP covered species. This species is generally a common year-round resident throughout much of California, excluding the higher mountains and eastern deserts. During the spring, this bird breeds in open woodlands of oaks, riparian deciduous trees, or conifers with herbaceous understory and in winter, uses more open habitats as well. In the non-breeding season, western bluebirds will supplement their diet with berries of mistletoe, poison oak, and elderberry, among other species, and the presence of mistletoe berries may govern local occurrence in winter (Grinnell and Miller 1944). Western bluebirds generally require trees and

shrubs for cover and will nest and roost in cavities of trees or snags. Competition from European starlings and house sparrows has reduced eastern bluebird populations in parts of the eastern U.S., and threatens western bluebirds (Zeiner et al. 1990). Western bluebirds occur throughout the year in foothills and mountains of San Diego County and are also residents of the more inland parts of the coastal lowland (Unitt 1984).

Western burrowing owl (*Speotyto cunicularia hypugaea*). The western burrowing owl is a CDFG species of special concern and is an MSCP covered species. This species is primarily restricted to the western United States and Mexico (National Geographic Society 1983). A year-round resident in San Diego County, the burrowing owl ranges throughout the coastal lowlands in grasslands, agricultural areas, and coastal dunes (Unitt 1984). Additionally, burrowing owls winter throughout the county. The burrowing owl is nocturnal and perches during daylight at the entrance to its burrow or on low posts. Nesting occurs from March through August. Burrowing owls form pair-bonds for more than one year and exhibit high site fidelity, reusing the same burrow year after year (Ehrlich et al. 1988; Rich 1984; Feeney 1992). The female remains inside the burrow during most of the egg laying and incubation period and is fed by the male throughout brooding. When disturbed within their burrows, burrowing owls mimic the sound of a rattlesnake rattling (Ehrlich et al. 1988). Urbanization has greatly reduced the amount of suitable habitat for this species. Other contributions to the decline of this species include the poisoning of squirrels and prairie dogs and collisions with automobiles.

Least Bell's vireo (*Vireo bellii pusillus*). The least Bell's vireo is federally and state listed as endangered and is an MSCP covered species. Its historical breeding range once extended from northwestern Baja California, Mexico, to interior northern California, as far north as Red Bluff in Tehama County, California (Franzreb 1989). This bird is found in riparian habitats, generally dominated by willows and mule fat. It is a migratory species, wintering in Mexico and breeding in southern California and northern Baja California, Mexico. Least Bell's vireo arrives at the breeding grounds in mid-March and remains until September or October. Populations of least Bell's vireo have declined drastically due to extensive loss of riparian habitat to agricultural and urban development, including channelization and mining of streams and nest parasitism by brown-headed cowbirds (*Molothrus ater*). Extensive brown-headed cowbird trapping programs implemented in southern California have increased populations of this species (Griffith Wildlife Biology [GWB] 2001).

Attachment 10
Sensitive Wildlife Species Descriptions
(continued)

Sensitive mammals

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). The northwestern San Diego pocket mouse is a California species of special concern. It ranges from Los Angeles County and extreme southern San Bernardino County southward into west-central Baja California, Mexico (Hall 1981). In San Diego County, the northwestern San Diego pocket mouse is known from Del Mar, Dulzura, Jacumba, Lake Hodges, Pala, San Diego, and San Marcos (Bond 1977). Habitat for this species is most often sparse or disturbed coastal sage scrub or grasslands with sandy soils. Threats to this species include degradation of habitat and loss of habitat from development.

Mountain lion (*Felis concolor*). The mountain lion is a CDFG species of special concern and is an MSCP covered species. Mountain lions are widespread but uncommon in California, ranging from sea level to alpine meadows. Mountain lions are most abundant in riparian and bushy habitats, as long as mule deer (their primary food source) are present. Home ranges for adult animals range from 8 to 40 square kilometers, which is larger for males and smaller for females. Mountain lions have shown dramatic declines in southern California and their main threat is human development, which leads to fragmentation of the habitat. As the habitat is fragmented, the movement of the lions is restricted which increases the associations with humans (Zeiner et al. 1988).

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The San Diego black-tailed jackrabbit is a federal species of concern and a CDFG species of special concern. It ranges from near Mt. Pinos (at the Kern-Ventura County line) southward and west of the Peninsular Range into Baja California (Hall 1981). This species can be found throughout southern California, with the exception of the high-altitude mountains. The black-tailed jackrabbit is strictly herbivorous, preferring habitat with ample forage such as grasses and forbs. It occupies open or semi-open habitats (such as coastal sage scrub and open chaparral areas). Forested and thick chaparral regions are not suitable (Bond 1977). The San Diego black-tailed jackrabbit breeds throughout the year, with the greatest number of births occurring from April to May.

San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego desert woodrat is a CDFG species of special concern. Its range extends through coastal areas from San Luis Obispo well into Baja California, inland to the San Bernardino Mountains and Julian (Hall 1981). The San Diego desert woodrat occurs west of the mountains in San Diego County within chaparral areas with a preference for rock outcrops (Bond 1977). The middens (nests) of this species can be occupied by multiple generations and have been

documented as old as 200 to 400 years of age. Threats to this species include habitat degradation and loss of habitat.

Southern mule deer (*Odocoileus hemionus fuliginata*). The southern mule deer is an MSCP covered species. Mule deer inhabit a variety of plant communities, including coastal sage scrub, chaparral, grassland, woodland, and riparian systems. The distribution of this species includes southern California west of the Peninsular range and south into Baja California Norte, Mexico. Adults' antlers may reach a four-foot spread. Mule deer primarily forage upon herbaceous plants, but will also eat various shrubs and trees (National Audubon Society 1991).

Southern Grasshopper Mouse (*Onychomys torridus ramona*). The southern grasshopper mouse is a CDFG species of special concern. This subspecies of the grasshopper mouse ranges from the coastal slopes of northern Los Angeles County south into extreme northwestern Baja California, Mexico. The southern grasshopper mouse occurs in a wide variety of arid habitats, including various types of brush lands, such as alkali desert scrub, coastal sage scrub, sage brush and bitterbrush. There is some evidence that the southern grasshopper mouse is at least sometimes associated with clumps of cacti or *Yucca* species. As they feed primarily on arthropods such as grasshoppers, beetles, and scorpions, these mice are not frequently caught in small mammal trapping studies which use vegetable or grass material as bait. As a result, little is currently known about the status of the southern grasshopper mouse in San Diego County.

ATTACHMENT 11

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
***Ambrosia chenopodiifolia* (Benth.) Payne** **San Diego bur-sage**	X									N
Acacia longifolia (Andrews) Willd. Sydney golden	X	X	X	X	X	X	X			I
Acacia redolens Maslin. Acacia			X	X	X	X				I
***Acanthomintha ilicifolia* (A.Gray) A. Gray** **San Diego thornmint** **MSCP COVERED SPECIES/NARROW ENDEMIC**						X=1430				N
Achillea millefolium L. Yarrow						X				N
Adiantum jordanii C. Mueller California Maidenhair						X				N
Agave americana L. Century plant	X									I
Allium sp. Onion	X									N
Allium praecox S. Watson Early onion	X					X				N
Amaranthus sp. Pigweed	X									I
Amblyopappus pusillus Hook. & Arn. Pineapple weed					X					N
Ambrosia confertiflora DC. Weak-leaf bur-sage					X	X				N
Ambrosia psilostachya DC. Western ragweed		X	X	X	X	X				N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Amsinckia eastwoodiae J.F. Macbr. Large-flower fiddleneck	X									N
Anagalis arvensis L. Scarlet pimpernel	X	X	X			X				I
Anthirrhinum nutallianum Benth. *ssp. nuttallianum* Nuttall's snapdragon	X		X		X				X	N
Apiastrum angustifolium Nutt. Mock-Parsley			X			X				N
Apium graveolens L. Celery					X	X				I
Artemisia californica Less. California sagebrush	X	X	X	X	X	X	X	X	X	N
Artemisia dracunculus L. Tarragon					X	X	X			N
Asparagus asparagoides (L.) Druce Smilax		X								I
Asphodelus fistulosus L. Hollow-stem asphodel	X					X				I
Astragalus trichopodus (Nutt.) A. Gray Ocean locoweed	X		X		X	X			X	N
Atriplex canescens (Pursh) Nutt. ssp. *canescens* Four-wing saltbush		X			X	X				N
***Atriplex pacifica* Nelson** **South coast saltbush**	X				X=4	X				N
Atriplex semibaccata R. Br. Australian saltbush		X	X		X	X				I
Avena sp. Wild oats		X	X		X					I

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Baccharis pilularis DC. Coyote bush		X		X		X	X	X	X	N
Baccharis salicifolia (Ruiz Lopez & Pavon) Pers. Mule fat, seep-willow	X	X	X	X	X	X	X	X	X	N
Baccharis sarothroides A. Gray Broom baccharis	X	X	X	X	X	X	X	X	X	N
Bloomeria crocea (Torrey) Cov. ssp. *crocea* Common Goldenstar	X	X	X	X		X				N
Brassica nigra (L.) Koch. Black mustard	X	X	X	X	X	X	X	X	X	I
Brodiaea jolonensis Eastw. Mesa brodiaea						X				N
Bromus diandrus Roth Ripgut grass							X			I
Bromus carinatus Hook. & Arn. var. *carinatus* California brome		X	X							N
Bromus madritensis L. ssp. *rubens* Foxtail chess	X		X		X	X				I
Carpobrotus edulis (L.) N. Hottentot fig	X		X							I
Calandrinia ciliata (Ruiz Lopez & Pavon) DC. Red maids						X				N
Callistemon citrinus (Curtis) Bottlebrush		X								I
Calochortus splendens Benth. Splendid mariposa lily		X	X			X				N
Calystegia macrostegia (E. Greene) Brummitt Morning glory	X	X	X	X		X		X		N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Camissonia bisorta (Torrey & A. Gray) Raven California sun cup									X	N
Cardionema ramosissimum (J.A. Weinm.) Nelson & J.F.Macbr. Tread lightly	X				X					N
Cassia sp. Cassia					X					I
Castilleja exserta (A.A.Heller) Chuang & Heckard ssp. *exserta* Purple owl's clover	X		X			X				N
Centaurea melitensis L. Tocolote, star-thistle	X	X	X	X	X	X	X	X	X	I
Centaurium venustum (A. Gray) Robinson Canchalagua	X									N
Chaenactis glabriuscula DC. var. *glabriuscula* Yellow pincushion	X									N
Chamaesyce sp. Spurge	X		X				X		X	N
Chenopodium sp. Goosefoot		X				X				I
Chlorogalum parviflorum S. Watson Soap plant	X	X	X		X					N
***Chorizanthe polygonoides* Torrey & A. Gray var. *longispina* (Goodman) Munz** **Long-spined spineflower**		X=15			X=2					N
Chorizanthe procumbens Nutt. Prostrate spinefower									X	N
Chorizanthe sp. Spineflower	X									N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Chyrysanthemum coronarium L. Crown daisy			X							I
Cistus creticus L. Purple rock-rose	X	X		X		X				I
Claytonia perfoliata Willd. Miner's lettuce						X				N
Conium maculatum L. Poison hemlock					X	X				I
***Convovulus similans* Perry** **Small-flowered morning glory**			X=1000'S	X=1000'S		X=1000s				N
Conyza canadensis (L.) Cronq. Horseweed	X	X	X	X		X	X	X		N
Cortaderia selloana (Schultes) Asch. & Graebner Pampas grass	X	X	X	X	X	X	X	X	X	I
Cotula australis (Sieber) Hook. f. Australian brass-buttons					X	X				I
Cotula coronopifolia L. African brass buttons						X				I
Crassula connata (Ruiz Lopez & Pavon) A. Berger Pygmy weed	X				X	X				N
Cryptantha intermedia (A. Gray) E. Greene Nievitas cryptantha	X								X	N
Cucurbita foetidissima H.B.K. Calabazilla	X									N
Cuscuta sp. Dodder	X		X			X				N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
***Cylindropuntia californica* (Torrey & A. Gray) F. M. Knuth var. *californica* (=*Opuntia parryi* Engelm.)** **Snake cholla** **MSCP COVERED SPECIES/NARROW ENDEMIC**	X	X			X=34	X				N
Cylindropuntia prolifera (Engelm.) F. M. Knuth (=*Opuntia prolifera* Engelm.) Coastal cholla	X	X	X		X	X	X		X	N
Cynara cardunculus L. Artichoke thistle	X			X						I
Cynodon dactylon (L.) Pers. Bermuda grass		X	X							I
Datura wrightii Regel Jimson weed					X					N
Daucus pusillus Michaux Rattlsnake weed	X	X	X			X				N
***Deinandra conjugens* (Keck) B. G. Baldwin (=*Hemizonia conjugens* Keck)** **Otay tarplant** **MSCP COVERED SPECIES/NARROW ENDEMIC**	X=60,000	X=50	X=30,000	X=1000		X=100,000				N
Deinandra fasciculata (DC.) E. Greene (=*Hemizonia fasciculate* [DC.] Torrey & A. Gray) Fascicled tarplant	X	X			X	X				N
Delphinium parryi A. Gray ssp. *parryi* Parry's larkspur			X							N
Dichelostemma capitatum Alph. Blue dicks	X		X	X	X	X				N
Dodecatheon clevelandii E. Greene ssp. *clevelandii* Padre's shooting star	X									N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Draba cuneifolia Torrey & A.Gray Desert whitlow			X							N
Dudleya edulis (Nutt.) Moran Ladies' fingers	X				X					N
Dudleya lanceolata (Nutt.) Britton & Rose Live-for-ever	X					X				N
Dudleya pulverulenta ssp. *pulverulenta* (Nutt.) Chalk lettuce	X	X			X	X				N
***Dudleya variegata* (S. Watson) Moran** **Variegated dudleya** **MSCP COVERED SPECIES/NARROW ENDEMIC**			X=30			X=220				N
Echium plantagineum L. Pride of Madeira	X									I
Emmenanthe penduliflora Benth. Whispering bells						X				N
Encelia californica Nutt. Common encelia	X	X	X	X	X	X			X	N
Encelia farinosa Torrey & A. Gray Brittlebush									X	N
Epilobium ciliatum Raf. Willow herb								X		N
Eriastrum sp. Eriastrum						X				N
Eriogonum fasciculatum var. *fasciculatum* Benth. California buckwheat	X	X	X	X	X	X	X	X	X	N
Eriophyllum confertiflorum var. *confertiflorum* (DC.) A. Gray Golden-yarrow			X			X			X	N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Eucalyptus spp. Eucalyptus	X	X	X				X			I
Euphorbia peplus L. Petty spurge		X	X		X					I
Ferocactus viridescens* (Torrey & A. Gray) Britton & Rose var. *viridescens **San Diego barrel cactus** **MSCP COVERED SPECIES**	X				X=15				X=60	N
Ficus carica L. Edible fig					X					I
Filago gallica L. Narrow-leaf herba impia	X	X	X		X	X				N
Foeniculum vulgare Miller Sweet fennel	X	X	X	X	X	X	X	X		I
Frankenia salina (Molina) I.M. Johnston Alkali-heath						X				N
Fraxinus sp. Ash		X								I
Fritillaria biflora Lindley var. *biflora* Chocolate lily						X				N
Galium aparine L. Goose grass			X	X		X				I
Galium nuttallii A. Gray ssp. *nuttallii* San Diego bedstraw	X		X							N
Gnaphalium bicolor Bioletti Cudweed					X			X		N
Gnaphalium californicum DC. California everlasting	X									N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Gnaphalium canescens DC. Everlasting			X			X				N
Gnaphalium luteo-album L. Lowland cudweed							X			I
Grindelia camporum var. *bracteosum* (J.Howell) M. A. Lane Gumplant	X		X			X		X		N
Gutierrezia sarothrae (Pursh) Britton & Rusby Matchweed	X		X		X	X	X	X	X	N
***Harpagonella palmeri* A. Gray** **Palmer's grappling hook**	X	X=10	X			X=200				N
Hazardia squarrosa (DC.) W. Clark Sawtooth goldenbush	X	X	X			X				N
Heliotropium curassavicum L. Salt heliotrope					X	X				N
Hesperevax sparsiflora (A. Gray) E. Greene var. *sparsiflora* Erect evax						X				N
Heteromeles arbutifolia (Lindley) Roemer Toyon, Christmas berry	X	X	X		X	X	X			N
Heterotheca grandiflora Nutt. Telegraph weed	X		X		X	X	X	X		N
Hirschfeldia incana (L.) Lagr.-Fossat Short-pod mustard					X					I
Hyopchaeris glabra L. Smooth cat's-ear	X	X	X			X				I
Isocoma menziesii (Hook. & Arn.) G. Nesom (Nutt.) G. Nesom Goldenbush	X		X		X	X	X	X	X	N
Isomeris arborea Nutt. Bladderpod	X	X	X	X		X		X		N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Jepsonia parryi (Torrey) Small Mesa saxifrage	X					X				N
Lactuca serriola L. Prickly lettuce	X	X		X	X	X				I
Lamarkia aurea L. Goldentop	X				X					I
Lantana montevidensis (K. Spreng.) Briq. Spreading lantana	X				X					I
Lasthenia californica Lindley Common goldfields			X			X				N
Lepidium nitidum Torrey & A. Gray var. *nitidum* *Peppergrass*			X		X					N
Lessingia filaginfolia* (Hook. & Arn.) M.A. Lane var. *filaginifolia **San Diego sand aster**	X	X	X	X	X		X	X		N
Linanthus dianthiflorus (Benth.) E. Greene Ground pink			X							N
Lolium sp. Ryegrass		X	X			X				I
Lotus scoparius var. *scoparius* (Nutt.) Ottley California broom	X		X		X			X	X	N
Lupinus bicolor Lindley Miniature lupine										N
Lupinus succulentus Koch Arroyo lupine	X					X				N
Malacothamnus fasciculatus (Torrey & A. Gray) E. Greene Chaparral mallow	X				X	X				N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Malephora crocea (Jacq.) Schwantes Croceum iceplant					X	X				I
Malosma laurina (Nutt.) Abrams Laurel sumac	X				X					N
Malva parviflora L. Cheeseweed		X								I
Mammillaria dioica M.K. Brandegee Fish-hook cactus	X				X	X			X	N
Marah macrocarpus (E. Greene) E. Greene var. *macrocarpus* Wild cucumber			X	X	X	X				N
Marrubium vulgare L. Horehound	X	X	X	X	X	X	X			I
Melilotus alba L. White sweetclover		X		X		X				I
Melilotus indica L. Indian sweetclover	X		X		X	X	X	X		I
Mesembryanthemum crystallinum L. Crystalline ice plant					X					I
Melica imperfecta Trin. Coast range melic				X						
Mimulus aurantiacus Curtis Bush monkeyflower	X		X	X	X	X				N
Mirabilis laevis (Benth.) Curran var. *crassifolia* (Choisy) Spellenb. Wishbone bush	X		X		X				X	N
Muhlenbergia microsperma (DC.) Kunth Small-seeded grass	X				X				X	N
Muhlenbergia rigens (Benth.) A. Hitchc. Deergrass		X								N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Myoporum laetum Forster f. Myoporum		X		X		X	X			I
Nassella sp. Needlegrass	X	X	X	X	X	X	X		X	N
Navarretia hamata E.Greene ssp. *hamata* Hooked skunkweed	X		X		X	X			X	N
Nerium oleander L. Oleander			X							I
Nicotiana glauca L. Tree tobacco	X		X	X	X	X	X			I
Olea europaea L. Olive				X				X		I
Opuntia littoralis (Engelm.) Cockerell Shore cactus	X	X	X	X	X	X	X	X	X	N
Osmadenia tenella Nutt. Osmadenia	X	X	X			X				N
Parietaria hespera B.D. Hinton var. *hespera* Western pellitory			X			X				N
Pentagramma triangularis (Kaulf.) G. Yatskievych, M.D. Windham & E. Silverback fern	X									N
Phacelia sp. Phacelia	X					X				N
Phalaris sp.		X								N
Phoenix canariensis Chaubaud Canary Island date palm		X	X		X	X				I
Picris echioides L. Bristly ox-tongue	X	X	X	X	X	X				I

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Pinus canariensis L. Canary Island pine					X	X				I
Piptatherum miliaceum (L.) Cosson Smilo grass		X	X	X	X	X				I
Plagiobothrys acathocarpus (Piper) I.M. Johnston Adobe popcornflower	X	X			X	X				N
Plantago erecta E. Morris Plantain	X	X							X	N
Plantago lanceolata L. English plantain			X	X		X				I
Platanus racemosa Nutt. Western sycamore					X	X	X			N
Pluchea odorata (L.) Cass Salt Marsh fleabane				X	X	X				N
Polypogon monspeliensis (L.) Desf. Annual beard grass	X		X			X				I
Populus fremontii S. Watson ssp. *fremontii* Western cottonwood					X	X				N
Quercus agrifolia Nee var. *agrifolia* Coast live oak	X		X			X				N
Raphanus sativus L. Wild radish		X								I
Rhamnus crocea Nutt. Spiny redberry	X					X				N
Rhus integrifolia (Nutt.) Abrams Lemonadeberry	X	X	X	X	X	X	X	X	X	N
Rhus ovata S. Watson Sugar bush					X	X	X			N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Rorippa nasturtium-aquaticum (L.) Hayek Water-cress					X	X				N
Rosa californica Cham. & Schldl. California rose						X				N
Rubus ursinus Cham. & Schldl. California blackberry					X	X				N
Rumex crispus L. Curly dock			X							I
Salix gooddingii C. Ball Goodding's black willow	X				X	X		X		N
Salix lasiolepis Benth. Arroyo willow	X				X	X				N
Salix laevigata Bebb Red willow		X			X	X	X			N
Salsola tragus L. Russian thistle	X	X	X	X	X	X	X	X	X	I
Salvia apiana Jepson White sage	X		X		X		X	X	X	N
Salvia columbariae Benth. Chia	X				X				X	N
Salvia mellifera E. Greene Black sage			X			X			X	N
Sambucus mexicana C. Presl Blue elderberry	X	X		X		X				N
Sanicula arguta J. Coulter & Rose Sharp toothed sanicle						X				N
Schinus molle L. Peruvian pepper tree	X		X		X	X	X			I

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Schinus terebinthifolius Raddi Brazilian pepper tree		X		X						I
Schismus barbatus (L.) Thell Mediterranean schismus	X				X					I
Scirpus californicus (C. Meyer) Steudel California bulrush						X				N
Selaginella cinerascens Maxon Ashy spike-moss	X				X					N
Sidalcea malvaeflora (DC.) Benth. Checker-bloom			X	X		X				N
Silene gallica L. Common catchfly	X		X							I
Simmondsia chinensis (Link.) C. Schneider Jojoba	X	X		X	X	X	X			N
Sinapis arvensis L. Charlock					X					I
Sisyrinchium bellum S. Watson Blue-eyed-grass	X	X	X	X		X		X		N
Solanum xanti A. Gray Purple nightshade						X				N
Sonchus oleraceus L. Sow thistle		X	X			X				I
Spergularia sp. Sand spurry						X				I
Stellaria sp. Chickweed	X					X				N
Stephanomeria sp. Wreath-plant	X				X	X				N

ATTACHMENT 11
PLANT SPECIES OBSERVED/DETECTED ON PMA 1
(continued)

	Subunit									
Scientific and Common Names	1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e	Origin
Stylocline gnaphaloides Nutt. Everlasting nest-straw	X		X		X					N
Tamarix sp. Tamarisk		X		X	X	X	X	X	X	I
Typha latifolia L. Broad-leaved cattail				X	X	X				N
Urtica dioica L ssp. *holosericea* (Nutt.) Thorne Hoary nettle						X				N
Verbena menthifolia Benth. Mint-leaf vervain						X	X			N
***Viguiera laciniata* A. Gray** **San Diego County viguiera**	X		X	X	X	X	X	X	X	N
Washingtonia robusta H. Wendl. Washington palm	X		X			X				I
Xanthium strumarium L. Cocklebur	X		X		X	X				I
Xylococcus bicolor Nutt. Mission manzanita			X					X		N
Yucca schidigera K. E. Ortgies Mohave yucca	X				X	X	X			N
Zigadenus fremontii (Torrey) S. Watson Star lily	X	X				X				N
OTHER										
***Senecio* sp.** (Undescribed species; identification in process)					X	X				N

Species in **bold type** have sensitive status; please see Attachment 6 for further details.

ATTACHMENT 12

ATTACHMENT 12
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 1

Common Name	Scientific Name	Relative Abundance	Subunit								
			1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e
Invertebrates (Nomenclature from Mattoni 1990 and Opler and Wright 1999)											
Western tiger swallowtail	*Papilio rutulus rutulus*	U					O				
Cabbage white	*Pieris rapae*	C					O	O	O		
Common or checkered white	*Pieris protodice*	C				O	O	O	O		O
Sara orangetip	*Anthocaris sara*	C	O		O						
Gulf fritillary	*Agraulis vanillae incarnata*	U					O				
Red admiral	*Vanessa atalanta rubria*	U						O			
Painted lady	*Vanessa cardui*	C			O			O			
West coast lady	*Vanessa annabella*	C					O	O	O		O
Mourning cloak	*Nymphalis antiopa antiopa*	C	O			O	O	O			
Buckeye	*Precis coenia*	F	O				O				
Pigmy blue	*Brephidium exilis*	F	O				O				
Marine blue	*Leptotes marina*	F	O				O				
Acmon blue	*Plebejus acmon acmon*	F	O					O			
Southern blue	*Glaucopsyche lygdamus australis*	F						O			
Fiery skipper	*Hylephila phyleus*	F			O				O	O	
Reptiles (Nomenclature from Crother 2001 and Crother et al. 2003)											
Belding's orange-throated whiptail MSCP COVERED SPECIES	***Aspidoscelis* (=*Cnemidophorus*) *hyperythrus beldingi***	U						O			
San Diego horned lizard MSCP COVERED SPECIES	***Phrynosoma coronatum blainvillii***	U					S		O		
Western fence lizard	*Sceloporus occidentalis*	C	O					O	O		O
Common side-blotched lizard	*Uta stansburiana*	F					O	O	O		
Red diamond rattlesnake	***Crotalus exsul***	U					O				
San Diego gophersnake	*Pituophis catenifer annectens*	U						O			

ATTACHMENT 12
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 1
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e
Birds (Nomenclature from American Ornithologists' Union 1998 and Unitt 1984)											
Great blue heron	***Ardea herodias herodias***	U	O				O				
Black-crowned night heron	***Nycticorax nycticorax hoactli***	U				O					O
Sharp-shinned hawk MSCP COVERED SPECIES	***Accipiter striatus velox***	U	O					O			
Cooper's hawk MSCP COVERED SPECIES	***Accipiter cooperii***	F	O		O	O	O(N)	O		O	
Red-shouldered hawk	*Buteo lineatus elegans*	F	O/V	O/V	O/V			O/V			
Swainson's hawk MSCP COVERED SPECIES	***Buteo swainsoni***	F	O								
Red-tailed hawk	*Buteo jamaicensis*	F			O/V	O/V	O/V	O/V	O/V	O/V	
California quail	*Callipepla californica californica*	C	V	V		V	O/V	V	O/V		
Killdeer	*Charadrius vociferus vociferus*	U							O/V		
Gull	*Larus* sp.	F	V				V	V			
Western gull	*Larus occidentalis*	U					V				
Caspian tern	***Sterna caspia***	U						V			
Mourning dove	*Zenaida macroura marginella*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Greater roadrunner	*Geococcyx californianus*	F	V					V			
Lesser nighthawk	*Chordeiles acutipennis texensis*	U	O/V				O/V				
Vaux's swift	***Chaetura vauxi***	U	O/V					O/V			
White-throated swift	*Aeronautes saxatalis*	U					O/V				

ATTACHMENT 12
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 1
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e
Costa's hummingbird	*Calypte costae*	F	V								
Anna's hummingbird	*Calypte anna*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Rufous or Allen's hummingbird	*Selasphorus* sp.	U						O/V			
Acorn woodpecker	*Melanerpes formicivorus bairdi*	U	O/V								
Nuttall's woodpecker	*Picoides nuttallii*	F	O/V	O/V	O/V		O/V	O/V			
Willow flycatcher	***Empidonax traillii***	U						O/V			
Dusky flycatcher	*Empidonax oberholseri*	U						O/V			
Pacific slope flycatcher	*Empidonax difficilis*	F	O/V	O/V	O/V	O/V	O/V	O/V			
Black phoebe	*Sayornis nigricans semiatra*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V		
Say's phoebe	*Sayornis saya*	F	O/V				O/V				
Ash-throated flycatcher	*Myiarchus cinerascens cinerascens*	F	O/V		O/V			O/V			
Cassin's kingbird	*Tyrannus vociferans vociferans*	F		O/V				O/V	O/V		
Northern rough-winged swallow	*Stelgidopteryx serripennis*	C	O/V		O/V	O/V	O/V	O/V	O/V		
Barn swallow	*Hirundo rustica erythrogaster*	U	V								
Cliff swallow	*Petrochelidon pyrrhonota*	C	O/V		O/V	O/V		O/V	O/V		O/V
Western scrub-jay	*Aphelocoma californica*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
American crow	*Corvus brachyrhynchos hesperis*	C	O/V	O/V			O/V	O	O/V		O
Common raven	*Corvus corax clarionensis*	C	O/V	O/V	O	O/V	O/V	O/V	O/V	O	O/V
Hutton's vireo	*Vireo huttoni huttoni*	U					O/V (N)				
Warbling vireo	*Vireo gilvus swainsonii*	U					O		O/V		
Bushtit	*Psaltriparus minimus minimus*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V

ATTACHMENT 12
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 1
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e
Coastal cactus wren MSCP COVERED SPECIES	***Campylorhynchus brunneicapillus couesi***	F	V				O/V (N)	O/V			
Bewick's wren	*Thyromanes bewickii*	C	O/V	O/V	O/V	O/V	V	O/V	O/V	O/V	O/V
House wren	*Troglodytes aedon parkmanii*	U			V		V				
Northern mockingbird	*Mimus polyglottos*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V		O/V
California thrasher	*Toxostoma redivivum redivivum*	C	O/V		O/V	O/V	O/V	O/V	O/V	O/V	
European starling†	*Sturnus vulgaris*	C	O	O/V	O		O	O	O/V	O/V	O
Wrentit	*Chamaea fasciata henshawi*	C	V	V	O/V	V	V	V	O/V	V	V
Blue-gray gnatcatcher	*Polioptila caerulea*	U					O/V	O/V			
Coastal California gnatcatcher MSCP COVERED SPECIES	***Polioptila californica californica***	F	O/V			O/V	O/V (N)	O/V (N)	O/V	O/V	
Lesser goldfinch	*Carduelis psaltria*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Lawrence's goldfinch	***Carduelis lawrencei***	U							O/V		
House finch	*Carpodacus mexicanus frontalis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Orange-crowned warbler	*Vermivora celata*	F			V	V		V			
Yellow warbler	***Dendroica petechia***	U					V				
Yellow-rumped warbler	*Dendroica coronata*	C	O/V	O/V	O/V		O/V	O/V			
Common yellowthroat	*Geothlypis trichas*	F	V		V	V	O/V	V			
Wilson's warbler	*Wilsonia pusilla*	U	O				O				
Black-headed grosbeak	*Pheucticus melanocephalus maculatus*	F			O/V		O/V	O/V			
Lazuli bunting	*Passerina amoena*	U						O			
Spotted towhee	*Pipilo maculatus*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
California towhee	*Pipilo crissalis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V

ATTACHMENT 12
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 1
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			1-1a	1-1b	1-1c	1-1d	1-2a	1-2b	1-2c	1-2d	1-2e
Southern California rufous-crowned sparrow MSCP COVERED SPECIES	***Aimophila ruficeps canescens***	F					O/V		O/V		
Fox sparrow	*Passerella iliaca*	U						O			
Song sparrow	*Melospiza melodia*	C	O/V		O/V	O/V	O/V	O/V	O/V		
White-crowned sparrow	*Zonotrichia leucophrys*	C	O/V								
Golden-crowned sparrow	*Zonotrichia atricapilla*	U							O		
House sparrow†	*Passer domesticus*	F	O								
Red-winged blackbird	*Agelaius phoeniceus*	U						O/V			
Brown-headed cowbird	*Molothrus ater*	U	O/V								
Hooded oriole	*Icterus cucullatus*	U			O/V	O/V					
Bullock's oriole	*Icterus bullockii*	U	O/V								
Mammals (Nomenclature from Jones et al. 1997 and Hall 1981)											
Desert cottontail	*Sylvilagus audubonii*	F	S	O			O	O	O	O	
California ground squirrel	*Spermophilus beecheyi*	F	O	O	O				O	O	O
Woodrat	*Neotoma* spp.	U			M						
Coyote	*Canis latrans*	F	S	S	D		S	T/D	S		
Gray fox	*Urocyon cinereoargenteus*	U						S			
Common raccoon	*Procyon lotor*	U					T				
Bobcat	*Lynx rufus*	U					T				
Southern mule deer MSCP COVERED SPECIES	***Odocoileus hemionus fulginata***	U					T				

†Introduced species
Note: Species in **bold type** have sensitive status; see Attachment 10 for further details.

ATTACHMENT 12
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 1
(continued)

Relative Abundance (based on Garrett and Dunn 1981)

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

Evidence of Occurrence

D = Den
M = Midden
N = Nesting/Breeding
O = Observed
S = Scat
T = Track
V = Vocalization

ATTACHMENT 13

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Acacia baileyana F. Muell Wattle	X					X				I
Acacia longifolia (Andrews) Willd. Sydney golden	X			X	X	X	X	X	X	I
Acacia redolens Maslin. Acacia		X		X		X		X		I
Achillea millefolium L. Yarrow		X								N
Adiantum jordanii C. Mueller California maidenhair		X								N
Agave americana L. Century plant		X		X						I
Agave attenuata Salm-Dyck.		X								I
Agrostis stolonifera L. Creeping bent		X		X	X					I
Allium sp. Onion		X								N
Ambrosia confertiflora DC. Weak-leaf bur-sage	X			X			X			N
Ambrosia psilostachya DC. Western ragweed		X				X			X	N
Amblyopappus pusillus Hook. & Arn. Pineapple weed							X			N
Anagalis arvensis L. Scarlet pimpernel	X						X			I
Anthirrhinum nutallianum Benth. Nuttall's snapdragon	X	X					X			N

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Apiastrum angustifolium Nutt. Mock-parsley							X			N
Apium graveolens L. Celery		X					X			I
Aptenia cordifolia (L.f.) N. E. Br. Red apple				X						I
Artemisia californica Less. California sagebrush	X	X	X	X	X	X	X	X	X	N
Artemisia dracunculus L. Tarragon		X								N
***Artemesia palmeri* A. Gray** **Palmer sagewort**		X								N
Arundo donax L. Giant reed			X							I
Asphodelus fistulosus L. Hollow-stem asphodel				X						I
Astragalus trichopodus (Nutt.) A. Gray Locoweed	X	X	X	X		X	X			N
Atriplex canescens (Pursh) Nutt. ssp. *canescens* Four-wing saltbush	X						X			N
***Atriplex pacifica* Nelson** **South coast saltbush**		X					X=9			N
Atriplex semibaccata R. Br. Australian saltbush	X	X		X		X	X	X	X	I
Atriplex sp. Saltbush						X	X			I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Avena sp. Wild oats		X		X			X			I
Baccharis pilularis DC. Coyote bush		X								N
Baccharis salicifolia (Ruiz Lopez & Pavon) Pers. Mule fat, seep-willow		X				X	X		X	N
Baccharis sarothroides A. Gray Broom baccharis	X	X	X	X	X	X	X		X	N
Bassia hyssopifolia (Pall.) Kuntze Bassia							X			I
***Bergocactus emoryi* (Engelm.) Britt. & Rose** **Golden-spined cereus**		X								N
Brassica nigra (L.) Koch. Black mustard	X	X			X	X	X		X	I
Bromus madritensis L. ssp. *rubens* Foxtail chess	X	X		X	X	X	X		X	I
Calochortus sp. Mariposa lily		X								N
Calystegia macrostegia (E. Greene) Brummitt Morning glory		X								N
Carpobrotus edulis (L.) N. E. Br. Ice plant		X								I
Centaurea melitensis L. Tocalote, star-thistle	X	X	X	X	X	X	X	X	X	I
Centaurium venustum (A. Gray) Rob Canchalagua	X						X			N

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Chamaesysce sp. Spurge	X	X		X	X		X			N
Chenopodium sp. Goosefoot				X			X			I
Chlorogalum parviflorum S. Watson Soap-plant		X		X			X			N
Chorizanthe fimbriata Nutt. var. *fimbriata* Fringed spineflower		X					X			N
Chorizanthe polygonoides* Torrey & A. Gray var. *longispina **Long-spined spineflower**							X=5			N
Chrysanthemum coronarium L. Crown daisy	X									I
Cistus creticus L. Rockrose								X		I
Conyza canadensis (L.) Cronq. Horseweed	X	X		X	X		X	X	X	N
Cortaderia jubata Stapf. Pampas grass	X	X		X	X	X	X		X	I
Crassula argentea Thunb. Jade plant				X						N
Crassula connata (Ruiz Lopez & Pavon) A. Berger Pygmy weed	X	X								N
Cryptantha sp. Cryptantha	X	X								N
Cupaniopsis anacardioide Carrot woods				X						I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
***Cylindropuntia californica* (Torrey & A. Gray) F.M. Knuth var. *californica* (=*Opuntia parryi* Engelm.)** **Snake cholla** **MSCP COVERED SPECIES/NARROW ENDEMIC**	X	X=8		X=2		X	X		X	N
Cylindropuntia prolifera (Engelm.) F.M. Knuth (=*Opuntia prolifera* Engelm.) Coastal cholla	X	X	X	X	X		X			N
Cynodon dactylon L. Bermuda grass					X					I
Datura wrightii Regel Jimson weed								X		N
Daucus pusillus Michaux Rattlesnake weed	X	X		X			X			N
***Deinandra conjugens* (Keck) B.G. Baldwin (=*Hemizonia conjugens* Keck)** **Otay tarplant** **MSCP COVERED SPECIES/NARROW ENDEMIC**							X=2500			N
Deinandra fasciculata (DC.) E. Greene (=*Hemizonia fasciculata* [DC.] Torrey & A. Gray) Fascicled tarplant	X	X		X			X			N
Dichelostemma capitatum Alph. Wood ssp. *capitatum* Blue dicks		X								N
Dietes vegeta L. African iris				X						I
Distichlis spicata (L.) E. Greene Saltgrass	X	X		X						N
Dudleya pulverulenta (Nutt.) Britton & Rose Chalk lettuce	X	X					X			N

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Encelia californica Nutt. Common encelia	X	X	X	X	X	X	X		X	N
Eremocarpus setigerus (Hook.) Benth. Dove weed		X		X					X	N
Eriogonum fasciculatum var. *fasciculatum* Benth. California buckwheat	X	X	X	X	X	X	X		X	N
Erodium sp. Filaree	X	X	X	X	X	X	X	X	X	I
Eucalyptus spp. Eucalyptus	X	X	X	X	X	X	X	X		I
***Euphorbia misera* Benth.** **Cliff spurge**	X=15									N
Euryops pectinatus L. Daisy						X				I
Fagonia laevis Standley California fagonia							X			N
***Ferocactus viredescens* (Torrey & A. Gray) Britton & Rose** **San Diego barrel cactus** **MSCP COVERED SPECIES**		X=35								N
Ficus benjamina L. Weeping banyan						X				I
Ficus lyrata L. Fiddleleaf fig						X				I
Ficus microcarpa L. Indian laurel fig						X				I
Filago gallica L. Narrow leaf herba impia	X	X		X			X			I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Foeniculum vulgare Mill. Sweet fennel	X	X		X	X	X	X		X	I
Galium angustifolium Nutt. Narrow leaf bedstraw	X	X		X						N
Galium nuttallii A. Gray ssp. *Nuttallii* San Diego bedstraw	X	X					X			N
Gnaphalium californicum DC. California everlasting		X					X			N
Gutierrezia sarothrae (Pursh) Britton & Rose Matchweed	X	X		X	X		X			N
***Harpagonella palmeri* A. Gray** **Palmer's grappling-hook**							X			N
Hazardia squarrosa (Hook. & Arn.) E. Greene Sawtooth goldenbush		X								N
Helianthus gracilentus A. Gray Slender sunflower							X			N
Heliotropium curassavicum L. Salt heliotrope		X		X			X			N
Heteromeles arbutifolia (Lindley) Roemer Toyon, Christmas berry	X	X	X			X				N
Heterotheca grandiflora Nutt. Telegraph weed		X				X				N
Hordeum jubatum L. Foxtail barley									X	I
Hypochaeris glabra L. Smooth cat's-ear	X	X		X			X			I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Isocoma menziesii (Nutt.) G. Nesom Goldenbush	X	X	X		X	X	X			N
Isomeris arborea Nutt. Bladderpod	X			X		X	X			N
Jepsonia parryi (Torrey) Small Mesa saxifrage	X	X								N
Lactuca serriola L. Prickly lettuce				X						I
Lantana montevidensis (Sprengel) Briq. Lantana		X					X			I
Laurus nobilis L. Sweet bay				X						I
Lepidium sp. Peppergrass				X			X			I
Lessingia filaginfolia* (Hook & Arn.) M. A. Lane var. *filaginifolia **San Diego sand aster**	X	X								N
Limonium perezii (Stapf) Hubb. Perez rosemary							X			I
Lolium sp. Ryegrass				X			X			I
Lonicera spicata Rehd. Honeysuckle		X								N
Lotus scoparius (Nutt. in Torrey & A. Gray) Ottley var. *scoparious* California broom	X	X	X							N
Lupinus succulentus Koch Arroyo lupine		X								N

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Lythrum hyssopifolium L. Grass poly								X		I
Malacothamnus fasciculatus (Torrey & A. Gray) E. Greene Chaparral mallow	X	X		X	X		X			N
Malosma laurina (Nutt.) Abrams. Laurel sumac	X	X	X	X						N
Mammillaria dioica K. Bdg. Fish-hook cactus		X					X			N
Marah macrocarpus (E. Greene) E. Greene Wild cucumber	X	X								N
Marrubium vulgare L. Horehound	X	X		X	X	X	X			I
Melica imperfecta Trin. Coast range melic	X									N
Melilotus alba Medikus White sweet clover		X				X	X			I
Mesembryanthemum crystallinum L. Crystalline ice plant				X		X	X			I
Mimulus aurantiacus Curtis Bush monkey flower	X									N
Mirabilis laevis (Benth.) Curran var. *crasslfolia* (Choisy) Spellenb. Wishbone plant	X						X			N
Muhlenbergia rigens (Benth.) A. Hitchc. Deergrass		X								N
Myoporum laetum Forst. Myoporum		X								I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Myoporum parvifolium R. Br. Myoporum				X						I
Nassella sp. Needlegrass	X	X		X			X			N
Navarretia hamata E. Greene Hooked skunkweed	X	X					X			N
Nemophila menziesii Hook. & Arn. Var. *intergrifolia* Parish Baby blue-eyes		X								N
Nerium oleander L. Oleander						X				I
Nicotiana glauca Grah. Tree tobacco	X	X				X			X	I
Olea europaea L. Olive tree			X	X	X			X		I
Opuntia ficus-indica (L.) Miller Indian fig								X		I
Opuntia littoralis (Engelm.) Cockerell. Shore cactus	X	X		X			X			N
Osmadenia tenella Nutt. Osmadenia		X								N
Parietaria hespera B.D. Hinton var. *hespera* Western pellitory	X									N
Pelargonium hortorum L. Bailey Geranium				X						I
Pentagramma trangularis (Kaulf.) Silverback fern	X	X								N

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Phacelia sp. Phacelia				X						N
Phalaris sp.	X									I
Phoenix canariensis Chabaud. Canary Island date palm				X						I
Phormium tenax L. New Zealand flax				X						I
Picris echioides L. Bristly oX=tongue	X	X								I
Pinus sp. Pine				X			X	X	X	I
Piptatherum miliaceum (L.) Smilo grass		X		X	X					I
Plantago erecta L. Dot-seed plantain	X	X					X			N
Platanus racemosa Nutt. Western sycamore			X	X	X	X	X			N
Pluchea odorata (L.) Cass. Salt Marsh fleabane		X	X			X			X	N
Plumbago auriculata Lam. Cape leadwort								X		I
Polypogon monspeliensis (L.) Desf Annual beard grass		X				X	X			I
Populus fremontii Wats. ssp. *fremontii* Western cottonwood							X			N
Pyracantha coccinea L. Firethorn				X						I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Quercus agrifolia Nee Coast live oak							X			N
Rhamnus crocea Nutt Spiny redberry		X								N
Rhus integrifolia (Nutt.) Brewer & Watson Lemonadeberry	X	X	X	X	X	X	X		X	N
Ricinus communis L. Castor bean						X	X		X	I
Salix gooddingii C. Ball Goodding's black willow						X	X		X	N
Salix lasiolepis Benth. Arroyo willow		X	X			X	X		X	N
Salix laevigata Bebb. Red willow			X	X						N
Salsola tragus L. Russian thistle	X	X	X	X	X	X	X	X	X	I
Salvia apiana Jepson White sage	X	X	X				X			N
Salvia columbariae Benth. Chia		X								N
Salvia mellifera E. Greene Black sage	X									N
Sambucus mexicana C. Presl Blue elderberry	X	X			X					N
Schinus molle L. Peruvian pepper tree	X			X	X	X	X	X	X	I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Schinus terebinthifolius Raddi Brazilian pepper tree				X	X					I
Schismus barbatus (L.) Thell. Mediterranean schismus		X								I
Scrophularia californica ssp. *floriunda* California figwort	X									N
Selaginella cinerascens Maxon Ashy spike-moss	X	X		X			X			N
Silene gallica L. Common catchfly	X									I
Simmondsia chinensis (Link.) C. K. Schneid. Jojoba	X	X		X	X	X	X		X	N
Sisymbrium irio L. London rocket	X									I
Sisyrinchium bellum Wats. Blue-eyed-grass	X	X					X			N
Spergularia sp. Spurrey							X			I
Sonchus oleraceus L. Common sowthistle				X						I
Stephanomeria sp. Stephanomeria	X	X		X			X			N
Tamarix sp. Tamarisk	X	X	X	X		X	X	X	X	I
Tecomaria capensis Thunb. Cape honeysuckle		X								I

ATTACHMENT 13
PLANT SPECIES OBSERVED/DETECTED ON PMA 2
(continued)

	Subunit									
Scientific and Common Names	2-1a	2-1b	2-1c	2-2aN	2-2aS	2-2b	2-2c	2-2dE	2-2dW	Origin
Toxicodendron diversilobum (Torrey & A. Gray) E. Greene Western poison oak		X								N
Typha latifolia L. Narrow-leaved cattail		X	X			X	X		X	N
Verbena lasiostachys Link. Vervain		X								N
***Viguiera laciniata* A. Gray** **San Diego County viguiera**	X	X	X	X	X		X		X	N
Washingtonia robusta Wendl. Washington palm				X		X			X	I
Xanthium strumarium L. Cocklebur		X				X	X		X	I
Yucca gloriosa L. Spanish dagger				X						I
Yucca schidigera K. E. Ortgies Mohave yucca	X	X		X	X	X	X		X	N

Species in **bold type** have sensitive status; please see Attachment 6 for further details.

ATTACHMENT 14

ATTACHMENT 14
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 2

Common Name	Scientific Name	Relative Abundance	Subunit								
			2-1a	2-1b	2-1c	2-2aS	2-2aN	2-2b	2-2c	2-2dW	2-2dE
Invertebrates (Nomenclature from Mattoni 1990 and Opler and Wright 1999)											
Anise swallowtail	*Papilio zelicaon zelicaon*	U						O			
Western tiger swallowtail	*Papilio rutulus rutulus*	U	O							O	
Cabbage white	*Pieris rapae*	C	O	O	O		O				
Common or checkered white	*Pieris protodice*	C	O	O	O		O	O			
Sara orangetip	*Anthocaris sara*	C	O		O						
Queen	*Danaus gilippus*	U								O	O
Painted lady	*Vanessa cardui*	C		O							
West coast lady	*Vanessa annabella*	C		O	O		O				
Mourning cloak	*Nymphalis antiopa antiopa*	F	O				O			O	
Buckeye	*Precis coenia*	U			O						
Behr's metalmark	*Apodemia mormo virgulti*	U									O
Common hairstreak	*Strymon melinus pudica*	U		O							
Pigmy blue	*Brephidium exilis*	U			O			O			O
Marine blue	*Leptotes marina*	F					O	O			
Acmon blue	*Plebejus acmon acmon*	U		O							
Southern blue	*Glaucopsyche lygdamus australis*	F		O	O						
Fiery skipper	*Hylephila phyleus*	C		O	O	O	O	O		O	
Reptiles (Nomenclature from Crother 2001)											
Belding's orangethroat whiptail	***Aspidoscelis (=Cnemidophorus) hyperythrus beldingi***	U					O				
San Diego horned lizard	***Phrynosoma coronatum blainvillii***	U					S				
Western fence lizard	*Sceloporus occidentalis*	F						O			O
San Diego gophersnake	*Pituophis catenifer annectens*	U	C								

ATTACHMENT 14
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 2
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			2-1a	2-1b	2-1c	2-2aS	2-2aN	2-2b	2-2c	2-2dW	2-2dE
Birds (Nomenclature from American Ornithologists' Union 1998 and Unitt 1984)											
Great blue heron	***Ardea herodias herodias***	U		O				O			
Snowy egret	*Egretta thula thula*	U						O	O		
White-tailed kite	***Elanus leucurus***	U	O					O			
Northern harrier	***Circus cyaneus hudsonius***	U		O							
Sharp-shinned hawk	***Accipiter striatus velox***	U		O							
Cooper's hawk	***Accipiter cooperii***	F		O(N)	O		O	O			
Red-shouldered hawk	*Buteo lineatus elegans*	F						O	O/V		O
Red-tailed hawk	*Buteo jamaicensis*	O	O	O/V		O/V		O/V	O/V		
American kestrel	*Falco sparverius*	U					O				
Golden eagle	***Aquila chrysaetos canadensis***	U			O	O	O	O	O	O	O
Mallard	*Anas platyrhynchos platyrhynchos*	U						O/V	O/V		
California quail	*Callipepla californica californica*	O	V	V				O/V			
Western gull	*Larus occidentalis*	F		O	O						
Rock dove+	*Columba livia*	F		O			O	O			
Mourning dove	*Zenaida macroura marginella*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Greater roadrunner	*Geococcyx californianus*	F		O(N)							
Anna's hummingbird	*Calypte anna*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Nuttall's woodpecker	*Picoides nuttallii*	F		O/V			V	O/V			
Downy woodpecker	*Picoides pubescens turati*	U			O/V						
Western wood pewee	*Contopus sordidulus*	U		V							
Pacific slope flycatcher	*Empidonax difficilis*	F		O/V	V		O/V		O/V		
Black phoebe	*Sayornis nigricans semiatra*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Ash-throated flycatcher	*Myiarchus cinerascens cinerascens*	F		V							O/V

ATTACHMENT 14
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 2
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			2-1a	2-1b	2-1c	2-2aS	2-2aN	2-2b	2-2c	2-2dW	2-2dE
Cassin's kingbird	*Tyrannus vociferans vociferans*	U		O/V							
Western kingbird	*Tyrannus verticalis*	U			O/V				O/V		
Northern rough-winged swallow	*Stelgidopteryx serripennis*	F	O/V						O/V		
Cliff swallow	*Petrochelidon pyrrhonota*	C	O/V	O/V	O/V				O/V		
Western scrub-jay	*Aphelocoma californica*	C	O/V	O/V (N)	O/V	O/V	O/V	O/V	O/V	O/V	O/V
American crow	*Corvus brachyrhynchos hesperis*	C	O/V	O/V	O/V		O/V	O/V			
Common raven	*Corvus corax clarionensis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Bushtit	*Psaltriparus minimus minimus*	C	O/V	O/V (N)	O/V	O/V	O/V	O/V	O/V		
Coastal cactus wren	***Campylorhynchus brunneicapillus couesi***	U		O/V							
Bewick's wren	*Thyromanes bewickii*	C	O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V
House wren	*Troglodytes aedon parkmanii*	U		V							
Northern mockingbird	*Mimus polyglottos*	C	O/V	O/V	O/V	O/V	O/V (N)	O/V	O/V	O/V	O/V
California thrasher	*Toxostoma redivivum redivivum*	C	O/V	O/V (N)	O/V	O/V		O/V	O/V	V	O/V
European starling+	*Sturnus vulgaris*	C	O/V	O	O	O/V	O	O		O	O/V
Swainson's thrush	*Catharus ustulata*	U			O						
Wrentit	*Chamaea fasciata henshawi*	C	V	O/V	V	O/V	O/V	V	O/V	V	V
Ruby-crowned kinglet	*Regulus calendula*	U							O/V		
Blue-gray gnatcatcher	*Polioptila caerulea*	U		O/V							
Coastal California gnatcatcher	***Polioptila californica californica***	F	O/V (N)	O/V (N)	O/V		O/V (N)	O/V	O/V	O/V	
American goldfinch	*Carduelis tristis salicamans*	U		O/V							
Lesser goldfinch	*Carduelis psaltria*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V

ATTACHMENT 14
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 2
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			2-1a	2-1b	2-1c	2-2aS	2-2aN	2-2b	2-2c	2-2dW	2-2dE
House finch	*Carpodacus mexicanus frontalis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Orange-crowned warbler	*Vermivora celata*	U			V			V			
Yellow warbler	***Dendroica petechia***	F	V		V			V	V		V
Yellow-rumped warbler	*Dendroica coronata*	F			O/V						
Common yellowthroat	*Geothlypis trichas*	F		O/V (N)	O/V			O/V	O/V	O/V	
Wilson's warbler	*Wilsonia pusilla*	U		O	O						
Yellow-breasted chat	***Icteria virens auricollis***	U		V				V			
Western tanager	*Piranga ludoviciana*	U					O	O			
Black-headed grosbeak	*Pheucticus melanocephalus maculatus*	U	O/V	O/V			O/V	O/V			
Blue grosbeak	*Guiraca caerulea salicaria*	U				O/V					
Green-tailed towhee	*Pipilo chlorurus*	U							V		
Spotted towhee	*Pipilo maculatus*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
California towhee	*Pipilo crissalis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Southern California rufous-crowned sparrow	***Aimophila ruficeps canescens***	F						O/V			
Song sparrow	*Melospiza melodia*	C	O/V	O/V	O/V (N)	O/V	O/V	O/V	O/V	O/V	O/V
White-crowned sparrow	*Zonotrichia leucophrys*	C	O/V	O/V			O/V	O/V		O/V	
Golden-crowned sparrow	*Zonotrichia atricapilla*	U		O							
House sparrow+	*Passer domesticus*	F	O		O						
Hooded oriole	*Icterus cucullatus*	F	O/V		O/V			O/V			
Bullock's oriole	*Icterus bullockii*	F		O/V					O/V		
Mammals (Nomenclature from Jones et al. 1997 and Hall 1981)											
Desert cottontail	*Sylvilagus audubonii*	F	O	O	O		O	O			
California ground squirrel	*Spermophilus beecheyi*	F			O		O				

ATTACHMENT 14
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 2
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit								
			2-1a	2-1b	2-1c	2-2aS	2-2aN	2-2b	2-2c	2-2dW	2-2dE
Southern pocket gopher	*Thomomys umbrinus*	U					B				
Woodrat	*Neotoma* spp.	F		M	M						
Coyote	*Canis latrans*	F	S	S	T/S	S	S	S	T/S	S	
Common raccoon	*Procyon lotor*	U		T							
Southern mule deer	***Odocoileus hemionus fulginata***	U			O						

+ Introduced species
Note: Species in **bold type** have sensitive status; see Attachment 10 for further details.

Relative Abundance (based on Garrett and Dunn 1981)

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

Evidence of Occurrence

B = Burrow
C = Carcass/remains
M = Midden
N = Nesting/Breeding
O = Observed
S = Scat
T = Track
V = Vocalization

ATTACHMENT 15

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Acacia longifolia (Andrews) Willd. Sydney golden	X	X						X			I
Acacia redolens Maslin. Acacia		X									I
Achillea millefolium L. Yarrow								X			N
Amaranthus sp. Pigweed						X					I
Ambrosia confertiflora DC. Weak-leaf bur-sage						X		X	X		N
Ambrosia psilostachya DC. Ragweed						X		X	X	X	N
Amorpha fruticosa L. False indigo								X	X	X	N
Anagallis arvensis L. Scarlet pimpernel						X		X	X	X	I
Anemopsis californica (Nutt.) Hook. & Arn. Yerba mansa								X	X	X	N
Antirrhinum nuttallianum Benth. ssp. *nuttallianum* Nuttall's snapdragon						X					N
Apiastrum angustifolium Nutt. Mock parsley						X		X	X		N
Apium graveolens L. Celery		X									I
Artemisia californica Less. California sagebrush	X	X		X	X	X	X	X	X	X	N
Artemisia douglasiana Besser Mugwort								X	X	X	N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Arundo donax L. Giant reed		X									I
Aster subulatus Michaux Slim aster								X			N
Astragalus trichopodus (M. E. Jones) Barneby Locoweed		X			X			X			N
Atriplex canescens (Parsh) Nutt. Four-wing saltbush					X				X		N
Atriplex lentiformis (Torrey) S. Watson Big saltbush					X						N
Atriplex semibaccata R. Br. Australian saltbush	X	X	X		X						I
Avena sp. Wild oats	X	X	X			X		X	X	X	I
Baccharis pilularis DC. Coyote bush		X							X		N
Baccharis salicifolia (Ruiz Lopez & Pavon) Pers. Mule fat, seep-willow	X	X				X		X	X	X	N
Baccharis sarothroides A. Gray Broom baccharis	X	X			X	X		X	X	X	N
***Bergerocactus emoryi* (Engelm.) Britton & Rose** **Golden-spined cereus**						X					N
Bloomeria crocea (Torrey) Cov. ssp. *crocea* Common goldenstar	X							X	X		N
Brassica nigra (L.) Koch. Black mustard	X	X	X	X	X	X	X	X	X	X	I
Bromus diandrus Roth. Ripgut grass	X	X	X	X	X						I

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Bromus carinatus Hook. & Arn. var. *carinatus* *California brome*								X	X		N
Bromus hordeaceus L. Soft chess								X	X		I
Bromus madritensis L. ssp. *rubens* Foxtail chess	X	X	X	X	X	X	X	X	X	X	I
Calochortus splendens Benth. Splendid mariposa lily								X			N
Carex sp. Sedge	X				X						I
Calystegia macrostegia (Abrams) Brum Chaparral morning-glory								X			N
Carpobrotus edulis (L.) Bolus Hottentot fig	X			X	X						I
Castilleja exserta (A.A. Heller) Chuang & Heckard ssp. *exserta* Purple owl's clover								X			N
Centaurea melitensis L. Tocalote, star-thistle	X	X	X		X	X		X	X	X	I
Chamaesyce sp. Spurge						X	X	X	X		I
Chenopodium sp. Goosefoot					X	X					I
Chlorogalum parviflorum S. Watson Soap plant								X	X		N
Chrysanthemum coronarium L. Garland, crown daisy	X										I
***Convovulus similans* Perry** **Small-flowered morning glory**								X=1000s		X=1000s	N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Conyza canadensis (L.) Cronq. Horseweed						X		X			N
Conyza coulteri A. Gray Fleabane								X			N
***Cordylanthus orcuttianus* A.Gray** **Orcutt's bird's-beak** **MSCP COVERED SPECIES**									X=275		N
Cortaderia jubata Stapf. Pampas grass		X									I
Cryptantha sp. Cryptantha						X					N
Cupaniopsis anacardiopsis (A. Rich.) Radlk. Carrot wood		X									I
Cuscuta sp. Dodder								X			N
***Cylindropuntia californica* (Torrey & A. Gray) F. M. Knuth var. *californica* (=*Opuntia parryi* Engelm.)** **Snake cholla** **MSCP COVERED SPECIES/NARROW ENDEMIC**							X				N
Cylindropuntia prolifera (Engelm.) F.M. Knuth (=*Opuntia prolifera* Engelm.) Cholla						X	X		X		N
Cynodon dactylon L. Bermuda grass	X										I
Cyperus sp. Sedge								X			I
Daucus pusillus Michaux Rattlesnake weed								X	X		N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
***Deinandra conjugens* (Keck) B.G.Baldwin (=*Hemizonia conjugens*)** **Otay tarplant** **MSCP COVERED SPECIES/NARROW ENDEMIC**								X=40,000	X=10,000	X=3	N
Deinandra fasciculata (DC.) E. Greene (=*Hemizonia fasciculata* [DC.] Torrey & A. Gray) Fascicled tarplant			X			X	X	X	X	X	N
Dichelostemma capitatum Alph. Wood Blue dicks								X			N
Distichlis spicata (L.) E. Greene Saltgrass	X										N
Dudleya pulverulenta (Nutt.) Britton & Rose Chalk lettuce						X	X				N
Encelia californica Nutt. Common encelia		X			X	X	X	X	X	X	N
Eremocarpus setigerus (Hook.) Benth Dove weed		X				X		X	X	X	N
Eriogonum fasciculatum var. *fasciculatum* Benth. California buckwheat	X	X				X	X	X	X	X	N
Eriophyllum confertiflorum (DC.) A. Gray var. *confertiflorum* Golden yarrow						X					N
Erodium botrys (Cav.) Bertol. Long-beak filaree	X		X			X		X			I
Eschscholzia californica Cham. California poppy		X				X					N
Eucalyptus spp. Eucalyptus				X	X	X					I
Euthamia occidentalis Nutt. Western goldenrod							X	X			N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
***Ferocactus viridescens* (Torrey & A. Gray) Britt. & Rose** **San Diego barrel cactus** **MSCP COVERED SPECIES**						X	X			X	N
Filago gallica L. Narrow-leaf filago								X			I
Foeniculum vulgare Mill. Fennel			X			X		X	X	X	I
Gnaphalium canescens DC. Everlasting						X					N
Gnaphalium luteo-album L Everlasting.								X		X	I
Grindelia camporum E. Greene var. *bracteosum* Gum plant								X	X		N
Gutierrezia sarothrae (Pursh) Britt. & Rusby. Matchweed	X					X	X				N
Hazardia squarrosa (Hook. & Arn.) E. Greene Sawtooth goldenbush								X	X		N
Heliotropium curassavicum L. Salt heliotrope		X							X		N
Heterotheca grandiflora Nutt. Telegraph weed	X				X						N
Hypochaeris glabra L. Smooth cat's ear								X	X		I
Isocoma menziesii (Nutt.) G. Nesom Goldenbush								X	X	X	N
Isomeris arborea Nutt. Bladderpod						X	X	X	X		N
***Iva hayesiana* A. Gray** **San Diego marsh-elder**									X	X	N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Jepsonia parryi (Torrey) Small Mesa saxifrage								X			N
***Juncus acutus* L. ssp. *leopoldii* (Parl.) Snog** **Spiny rush**								X	X	X	N
Juncus bufonius L. Toad rush								X			N
Lactuca serriola L. Prickly lettuce										X	I
Lepidium sp. Peppergrass								X			I
Lessingia filaginifolia* (Hook. & Arn.) M. A. Lane var. *filaginifolia **San Diego sand aster**								X		X	N
Leymus condensatus (C. Presl) A. Love Giant wild rye						X	X		X	X	N
Lolium perenne L. Perennial ryegrass								X	X	X	I
Lotus scoparius var. *scoparius* Ottley California broom	X					X		X	X	X	N
Lycium andersonii A. Gray Water jacket									X		N
Malacothamnus fasciculatus (Torrey & A. Gray) E. Greene Chaparral mallow						X		X	X		N
Malosma laurina (Nutt.) Abrams Laurel sumac		X				X		X	X		N
Malva parviflora L. Cheeseweed								X			I
Mammillaria dioica M. K. Brandegee Fish-hook cactus						X					N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Marah macrocarpus (E.Greene) E.Greene Wild cucumber								X			N
Marrubium vulgare L. Horehound	X	X	X		X	X		X			I
Melilotus alba Medikus White sweetclover					X						I
Melilotus indica (L.) All. Sourclover						X		X			I
Mesembryanthemum crystallinum L. Crystalline iceplant						X					I
Mirabilis laevis (Benth.) Curran var. *crassifolia* Wishbone bush						X			X		N
Nassella sp. Needlegrass								X	X		N
Nicotiana glauca Grah. Tree tobacco			X		X	X		X	X	X	I
Nicotiana obtusifolia Martens & Galeotii Desert tobacco						X					N
Olea europaea L. Olive tree	X			X						X	I
Oligomeris linifolia (M.Vahl) J.F.Macbr. Narrow leaf oligomeris						X			X		N
Opuntia littoralis (Engelm.) Shore cactus					X	X	X				N
Osmadenia tenella (Nutt.) Keck. Osmadenia								X			N
Plagiobothrys acanthocarpus (Piper) I.M. Johnston Adobe popcornflower						X					N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Plantago erecta Morris Dot-seed plantain								X			N
Plantago lanceolata L. English plantain								X			I
Platanus racemosa Nutt. Western sycamore						X		X			N
Pluchea odorata (L.) Cass. Salt marsh fleabane					X			X	X		N
Plumbago auriculata Lam. Cape leadwort		X									I
Polypogon monspeliensis (L.) Desf. Annual beard grass					X	X		X	X	X	I
Populus balsamifera L. ssp. *trichocarpa* (Torrey & A. Gray) Brayshaw Black cottonwood								X			N
Populus fremontii Wats. ssp. *fremontii* Western cottonwood		X						X	X	X	N
Quercus agrifolia Nee var. *agrifolia* Coast live oak						X	X				N
Raphanus sativus L. Radish					X						I
Rhus integrifolia (Nutt.) Brewer & Watson Lemonadeberry		X		X	X	X		X	X	X	N
Ricinus communis L. Castor bean						X	X	X			I
Rosa californica C. & S. California rose								X		X	N
Rubus ursinus C. & S. California blackberry						X			X	X	N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Rumex crispus L. Curly dock					X				X	X	N
Salix exigua Nutt. Narrow leaf-willow								X	X		N
Salix gooddingii C. Ball. Goodding's black willow					X			X	X	X	N
*Salix lasiolepi*s Benth. Arroyo willow								X	X	X	N
Salix laevigata Bebb Red willow								X			N
Salsola tragus L. Russian thistle	X			X	X	X	X	X	X	X	I
Salvia apiana Jepson White sage		X				X					N
Salvia mellifera E. Greene Black sage						X		X			N
Sambucus mexicana C. Presl Blue elderberry	X								X		N
Schinus molle L. Peruvian pepper tree		X						X	X		I
Scirpus californicus (C.A. Mey.) Steudel. California bulrush								X	X	X	N
Senecio vulgaris L. Common groundsel						X					I
Simmondsia chinensis (Link.) C.K. Schneid Jojoba						X	X				N
Sisyrinchium bellum Wats. Blue-eyed grass								X	X	X	N

ATTACHMENT 15
PLANT SPECIES OBSERVED/DETECTED ON PMA 3
(continued)

Scientific and Common Names	Subunit										Origin
	3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c	
Solanum douglasii Dunal Douglas's nightshade						X					N
Sonchus oleraceus L. Common sowthistle						X		X	X	X	I
Tamarix sp. Tamarisk		X			X			X	X	X	I
Tropaeolum majus L. Nasturtium					X						N
Typha latifolia L. Broad-leaved cattail					X			X	X	X	N
***Viguiera laciniata* A. Gray** **San Diego County viguiera**						X		X	X	X	N
Washingtonia robusta Wendl. Washington palm		X									I
Xanthium strumarium L. Cocklebur					X		X	X	X	X	I
Yucca gloriosa L. Spanish dagger					X						I
Yucca schidigera K.E. Ortgies Mohave yucca			X		X	X	X	X	X		N

Species in **bold type** have sensitive status; please see Attachment 6 for further details.

ATTACHMENT 16

ATTACHMENT 16
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 3

Common Name	Scientific Name	Relative Abundance	Subunit									
			3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c
Invertebrates (Nomenclature from Mattoni 1990 and Opler and Wright 1999)												
Anise swallowtail	*Papilio zelicaon zelicaon*	U		O			O			O		
Cabbage white	*Pieris rapae*	C		O			O			O	O	O
Common or checkered white	*Pieris protodice*	C						O		O		
Sara orangetip	*Anthocaris sara*	F								O		
Monarch	*Danaus plexippus*	U						O				
California ringlet	*Coenonympha california California*	U								O		
West coast lady	*Vanessa annabella*	U								O		
Mourning cloak	*Nymphalis antiopa antiopa*	U					O					
Buckeye	*Precis coenia*	U								O		
Common hairstreak	*Strymon melinus pudica*	U									O	
Edwards blue	*Hemiargus ceraunus gyas*	U	O									
Reptiles (Nomenclature from Crother 2001 and Crother et. al 2003)												
Belding's orange-throated whiptail MSCP COVERED SPECIES	***Aspidoscelis* (=*Cnemidophorus*) *hyperythrus beldingi***	U									O	
Granite spiny lizard	*Sceloporus orcutti*	U									O	
Birds (Nomenclature from American Ornithologists' Union 1998 and Unitt 1984)												
Great egret	***Ardea alba egretta***	U									O	
Red-shouldered hawk	*Buteo lineatus elegans*	U								O		
Red-tailed hawk	*Buteo jamaicensis*	F		O/V					O/V		O	

ATTACHMENT 16
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 3
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit									
			3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c
Killdeer	*Charadrius vociferus vociferus*	U								V		
Rock dove†	*Columba livia*	U	O	O								
Mourning dove	*Zenaida macroura marginella*	C	O/V	O/V		O/V	O/V	O/V	O/V	O/V	O/V	O/V
Greater roadrunner	*Geococcyx californianus*	U						O				
Anna's hummingbird	*Calypte anna*	C		O/V			O/V	O/V	O/V	O/V	O/V	O/V
Black phoebe	*Sayornis nigricans semiatra*	C						O/V		O/V	O/V	O/V
Say's phoebe	*Sayornis saya*	F									O/V	
Cassin's kingbird	*Tyrannus vociferans vociferans*	U								O/V		
Western kingbird	*Tyrannus verticalis*	U		O/V								
Northern rough-winged swallow	*Stelgidopteryx serripennis*	F							O/V		O/V	O/V
Cliff swallow	*Petrochelidon pyrrhonota*	F								O/V	O/V	O/V
Western scrub-jay	*Aphelocoma californica*	F		O/V			O/V	O/V		O/V		
American crow	*Corvus brachyrhynchos hesperis*	F						O/V				
Common raven	*Corvus corax clarionensis*	C						O/V		O/V	O/V	
Bushtit	*Psaltriparus minimus minimus*	C	O/V	O/V				O/V	O/V	O/V	O/V	O/V
Bewick's wren	*Thyromanes bewickii*	C		O/V				O/V		O/V		
Northern mockingbird	*Mimus polyglottos*	C	O/V	O/V		O/V			O/V	O/V		O/V
California thrasher	*Toxostoma redivivum redivivum*	F		V				O/V	O/V			
European starling†	*Sturnus vulgaris*	F		O/V								
Wrentit	*Chamaea fasciata henshawi*	F		V				V	V	V		

ATTACHMENT 16
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 3
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit									
			3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c
Coastal California gnatcatcher MSCP COVERED SPECIES	***Polioptila californica californica***	U		O/V				O/V	O/V	O/V		
American goldfinch	*Carduelis tristis salicamans*	U						O		O	O	O
Lesser goldfinch	*Carduelis psaltria*	C	O/V	O/V				O/V	O/V	O/V	O/V	O/V
House finch	*Carpodacus mexicanus frontalis*	C	O/V	O/V				O/V	O/V	O/V	O/V	O/V
Orange-crowned warbler	*Vermivora celata*	F									V	V
Yellow warbler	***Dendroica petechia***	U									V	
Common yellowthroat	*Geothlypis trichas*	O					O/V	V	O/V	V	V	V
Wilson's warbler	*Wilsonia pusilla*	U								O	O	
Blue grosbeak	*Guiraca caerulea salicaria*	U								O/V	O/V	
Lazuli bunting	*Passerina amoena*	U								O		
Spotted towhee	*Pipilo maculatus*	F	O/V	O/V				O/V	O/V	O/V		O/V
California towhee	*Pipilo crissalis*	C	O/V	O/V				O/V	O/V	O/V	O/V	O/V
Southern California rufous-crownedsparrow MSCP COVERED SPECIES	***Aimophila ruficeps canescens***	U							O/V			
Song sparrow	*Melospiza melodia*	C	O/V					O/V	O/V	O/V	O/V	O/V
White-crowned sparrow	*Zonotrichia leucophrys*	U	O/V									
Western meadowlark	*Sturnella neglecta*	F						V	V			
Red-winged blackbird	*Agelaius phoeniceus*	F								O/V	O/V	O/V
Mammals (Nomenclature from Jones et al. 1997 and Hall 1981)												
Desert cottontail	*Sylvilagus audubonii*	C							S	O		O

ATTACHMENT 16
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 3
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit									
			3-1a	3-1b	3-1c	3-2aE	3-2aW	3-2b	3-2c	3-3a	3-3b	3-3c
California ground squirrel	*Spermophilus beecheyi*	F						O		O		
Coyote	*Canis latrans*	F		S					S	S	S/T	
Bobcat	*Lynx rufus*	U								S		

†Introduced species
Note: Species in **bold type** have sensitive status; see Attachment 10 for further details.

Relative Abundance (based on Garrett and Dunn 1981)

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

Evidence of Occurrence

O = Observed
S = Scat
T = Track
V = Vocalization

ATTACHMENT 17

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Acacia longifolia (Andrews) Willd. Sydney golden	X	X	X			X					X			X			X	X	I
Acacia redolens Maslin. Acacia	X	X	X	X		X					X	X	X	X	X		X	X	I
***Acanthomintha ilicifolia* (A. Gray) A. Gray** **San Diego thornmint** **MSCP COVERED SPECIES/NARROW ENDEMIC**				X= 500								X= 75							N
Achillea millefolium L. Yarrow		X						X			X								N
***Adolphia californica* Wats.** **California adolphia**					X	X	X	X					X=7						N
Allium praecox Brandegee Early onion	X						X				X								N
Amblyopappus pusillus Hook & Arn. Pineapple weed	X						X	X											N
Ambrosia confertiflora DC. Weak-leaf bursage												X							N
Anagalis arvensis L. Scarlet pimpernel	X					X	X				X	X	X	X			X	X	I
Anthirrhinum kelloggii E. Greene Climbing snapdragon											X								N
Anthirrhinum nuttalliianum Benth. ssp. *nuttallianum* Nuttall's snapdragon																	X		N
Apiastrum angustifolium Nutt. Mock-parsley	X			X			X		X		X	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Apium graveolens L. Celery						X				X	X	X							I
Artemisia californica Less. California sagebrush	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	N
Astragalus trichopodus (M.E. Jones) Barneby Locoweed	X			X			X			X	X	X	X	X	X		X		N
Asphodelus fistulosus Vell. Conc. Hollow-stem asphodel								X											I
Atriplex canescens (Parsh) Nutt. Four-wing saltbush	X					X					X								N
Atriplex semibaccata R.Br. Australian saltbush	X										X	X	X	X					I
Atriplex sp. Saltbush	X	X		X															N
Aster subulatus Michaux var. *ligulatus* Slim aster	X																		N
Avena sp. Wild oat	X								X	X	X	X	X	X			X	X	I
Baccharis pilularis DC. Coyote bush	X			X		X						X					X		N
Baccharis salicifolia Pers. Mule fat, seep-willow		X		X		X	X		X		X	X	X	X	X				N
Baccharis sarothroides A. Gray Broom baccharis	X	X	X	X			X	X	X	X	X	X	X	X			X	X	N
Bloomeria crocea (Torrey) Cov. ssp. *crocea* Common goldenstar	X								X		X	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Brassica nigra (L.) Koch. Black mustard	X	X	X	X	X	X	X	X	X	X		X		X			X	X	I
Bromus carinatus Hook. & Arn. var. *carinatus* California brome	X																		N
Bromus hordeaceus L. Soft chess											X			X			X		I
Bromus madritensis L. ssp. *rubens* Foxtail chess	X	X					X			X	X	X							I
Calandrinia ciliata DC. Red maids	X			X													X		N
Calochortus splendens Benth. Splendid mariposa lily	X																X		N
Calystegia macrostegia Brum. Morning glory	X					X	X		X	X	X	X		X			X	X	N
Cammissonia sp. Sun cup				X													X		N
Carex sp. Sedge											X								N
Carpobrotus edulis (L.) N.E.Br. Hottentot fig											X							X	I
Castilleja exserta (A.A.Heller)Chuang & Heckard ssp. *exserta* Purple owl's-clover											X		X				X		N
Castilleja affinis Hook. & Arn. ssp. *affinis* Coast paintbrush											X								N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Centaurea melitensis L. Tocolote, star-thistle	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	I
Chamaesyce micromera (Engelm.) Wooton & Standley Sonora sand mat	X			X			X	X	X			X							N
Chamaesyce polycarpa Millsp. Spurge										X									I
Chenopodium sp. Goosefoot	X					X													I
Chlorogalum parviflorum S. Watson Soap plant	X							X	X		X						X		N
Chorizanthe fimbriata Nutt. var. *fimbriata* Fringed spineflower				X															N
Chrysanthemum coronarium L. Crown daisy					X		X				X	X					X		I
Cistus creticus L. Purple rock rose	X	X																	N
Claytonia perfoliata Willd. Miner's lettuce											X								N
Conyza canadensis (L.) Cronq. Horseweed	X	X									X							X	N
***Convovulus simulans* Perry** **Small-flowered morning glory**	X= 1,000	X		X							X= 1,000s	X							N
***Cordylanthus orcuttianus* A. Gray** **Orcutt's bird's-beak** **MSCP COVERED SPECIES**									X										N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Cortaderia jubata Stapf. Pampas grass	X					X	X		X		X	X	X	X			X	X	I
Crassula connata (Ruiz Lopez & Pavon) A. Berger Pygmy weed	X							X			X	X					X		N
Cryptanta maritima (E.Greene) E. Greene White chair cryptantha				X															N
Cryptantha sp. Cryptantha											X						X		N
Cuscuta sp. Dodder	X								X		X		X	X					N
***Cylindropuntia californica* (Torrey & A. Gray) F.M. Knuth var. *californica* (=*Opuntia parryi* Engelm.) Snake cholla MSCP COVERED SPECIES/NARROW ENDEMIC**				X															N
Cylindropuntia prolifera (Engelm.) F.M. Knuth (=*Opuntia prolifera* Engelm) Coast cholla	X	X	X	X	X	X		X		X	X	X			X	X	X	X	N
Cynara cardunculus L. Artichoke thistle	X								X		X	X		X					I
Cynodon dactylon (L.) Pers. Bermuda grass	X																		N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Daucus pusillus Michaux Rattlesnake weed	X								X	X	X	X	X	X			X		N
***Deinandra conjugens* (Keck) B.G. Baldwin (=*Hemizonia conjugens* Keck)** **Otay tarplant** **MSCP COVERED SPECIES/NARROW ENDEMIC**	X= 30,000			X= 10,000							X	X							N
Deinandra fasciculata (DC.) E. Greene (=*Hemizonia fasciculata* [DC.] Torrey & A. Gray) Fascicled tarplant									X	X									N
Deinandra sp. Tarplant	X									X		X							N
Dichelostemma capitatum Alph. Wood Blue dicks	X				X		X	X	X		X	X							N
Dodecatheon clevelandii E. Greene ssp. *clevelandii* Shooting star											X								N
Dudleya edulis (Nutt.) Moran Ladies' fingers				X															N
Dudleya pulverulenta ssp. *pulverulenta* Britt. & Rose Chalk lettuce	X			X							X				X				N
***Dudleya variegata* (S. Watson) Moran** **Variegated dudleya** **MSCP COVERED SPECIES/NARROW ENDEMIC**											X= 50								N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																	Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Encelia californica Nutt. Common encelia		X	X	X	X	X	X		X	X	X	X	X	X			X	X	N
Encelia farinosa Torrey & A. Gray Brittlebush			X	X						X			X						I
Eriastrum sp. Eriastrum											X						X		N
Eriogonum fasciculatum var. *fasciculatum* Benth. California buckwheat	X			X	X	X	X			X	X	X		X			X	X	N
Eriophyllum confertiflorum var. *confertiflorum* (DC.) A. Gray Golden-yarrow						X					X						X		N
Erodium sp. Filaree	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
Erythrina caffra L. Coral tree	X																		I
Eschschozia californica Cham. California poppy											X								N
Eucalyptus spp. Eucalyptus	X					X					X		X	X	X		X		I
Euphorbia tirucalli L. Pencil tree																X			I
Euphorbia peplus L. Petty spurge	X			X							X			X					I
Fagonia laevis Standley[1] California fagonia						X													N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																	Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
***Ferocactus viridescens* (Torrey & A. Gray) Britton & Rose** **San Diego barrel cactus** **MSCP COVERED SPECIES**	X		X			X	X	X		X= 142									N
Ficus carica L. Edible fig										X									I
Filago gallica Narrow-leaf filago	X									X	X	X					X	X	I
Foeniculum vulgare Mill. Fennel	X					X	X	X	X		X	X		X			X	X	I
Galium aparine L. Goose grass	X						X				X	X							I
Galium nuttallii A. Gray ssp. *nuttallii* San Diego bedstraw	X	X							X		X						X	X	N
Galium proliferum A. Gray[1] Desert bedstraw												X= 10	X= 150						N
Gaura sp. Gaura						X							X						I
Grindelia camporum E. Greene var. *bracteosum* Rayless gumplant	X								X		X	X							N
Gutierrezia sarothrae (Pursh) Britt. & Rusby Matchweed	X	X				X			X		X		X					X	N
***Harpagonella palmeri* A.Gray** **Palmer's grappling hook**	X= 150	X= 100		X= 30							X= 1,000	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Hazardia squarrosa (Hook. & Arn.) E. Greene Sawtoothed goldenbush	X					X			X		X	X							N
Heliotropium curassavicum L. Salt heliotrope						X					X	X							N
Hesperevax sparsiflora (A. Gray) E. Greene Erect evax	X						X	X	X		X	X					X		N
Heteromeles arbutifolia (Lindley) Roemer Toyon, Christmas berry	X	X	X	X		X	X		X		X						X	X	N
Heterotheca grandiflora Nutt. Telegraph weed	X									X			X						N
Hirschfeldia incana (L.) Lagr.-Fossat Short-pod mustard	X																		I
***Holocarpha virgata* (A. Gray) Keck** **Graceful tarplant**										X									N
Hypochaeris glabra L. Smooth cat's-ear	X								X		X								I
Isocoma menziesii G. Nesom Goldenbush	X	X		X	X	X		X	X	X	X	X	X	X					N
***Isocoma menziesii* (H.&A.)G. Nesom var. *decumbens* (Greene) G. Nesom** **Decumbent goldenbush**								X= 25					X=75						N
Isomeris arborea Nutt. Bladderpod	X			X	X						X	X							N
Jepsonia parryii (Torrey) Small Mesa saxifrage	X						X				X	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Lactuca serriola L. Prickly lettuce	X			X						X	X	X		X					I
Lasthenia californica Lindley Common goldfields											X	X							N
Lepidium nitidum Torrey & A. Gray var. *nitidum* Peppergrass	X						X			X	X								I
Lessingia filaginifolia* (Hook. & Arn.) M. A. Lane var. *filaginifolia **San Diego sand aster**	X	X		X		X	X	X	X	X	X	X	X	X	X			X	N
Limonium perezii (Staphf) Hubb. Perez rosemary	X	X		X															I
Linanthus dianthiflorus (Benth.) E. Greene Ground pink																	X		N
Lotus salsuginosus E. Greene var. *salsuginosus* Alkali lotus													X						N
Lotus scoparius var. *scoparius* Ottley California broom										X	X						X	X	N
Lupinus microcarpus Sims var. *densiflorus* (Benth.) Jepson Chick weed													X						N
Lupinus succulentus Koch Arroyo lupine	X			X							X								N
Lycium andersonii A. Gray[1] Water jacket	X			X		X					X	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
***Lycium californicum* Nutt.** **Californica box thorn**				X[2]															N
Malacothamnus fasciculatus (Torrey & A. Gray) E. Greene Chaparral mallow													X	X				X	N
Malosma laurina (Nutt.) Abrams Laurel sumac				X						X							X		N
Malva parviflora L. Cheeseweed, little mallow				X							X	X							I
Mammillaria dioica K. Bdg. Fish-hook cactus	X		X	X				X			X	X							N
Marah macrocarpus (E. Greene) E. Greene Wild cucumber	X			X	X		X	X			X	X			X		X	X	N
Marrubium vulgare L. Horehound	X			X	X	X			X	X	X	X		X			X	X	I
Medicago polymorpha L. California bur clover	X			X							X	X		X					I
Melica imperfecta Trin. Coast range melic											X								N
Melilotus sp. Sweet clover	X			X	X	X	X			X	X			X			X	X	I
Mesembryanthemum nodiflorum L. Slender-leaf iceplant	X																		I
Microseris sp. Microseris											X						X		N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Mimulus aurantiacus Curtis Coast monkeyflower																	X	X	N
Mirabilis laevis (Benth.) Curran var. *crassifolia* (Choisy) Spellenb. (=*Mirablis californica* A. Gray) Coastal wishbone plant	X						X	X	X	X	X	X					X	X	N
Muhlenbergia microsperma (DC.) Kunth Littleseed muhly				X															N
Myoporum laetum Forst. Myoporum				X							X			X			X		I
Myoporum parvifolium L. Myoporum	X		X																I
Nassella sp. Needlegrass	X	X	X			X	X			X	X	X					X		N
Navarretia hamata E. Greene ssp. *hamata* Hooked skunkweed											X						X	X	N
Nerium oleander L. Oleander				X															I
Nicotiana glauca Grah. Tree tobacco			X	X		X	X				X	X	X	X				X	I
Nicotiana obtusifolia Martens & Galeotti Desert tobacco				X					X										N
Olea europaea L. Olive	X																		I
Oputia ficus-indica (L.) Miller Indian fig															X				I

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Opuntia littoralis (Engelm.) Shore cactus	X		X	X	X			X		X	X	X			X	X	X	X	N
Parietaria hespera B.D. Hinton var. *hespera* Western pellitory				X			X		X		X	X							N
Paspalum dilatatum Poiret Dallis grass														X					I
Pectocarya linearis (Ruiz Lopez & Pavon) DC. ssp. *ferocula* Slender pectocarya											X								N
Pennisetum setaceum Forsskal African fountain grass	X												X	X					I
Pentagramma triangularis (Kaulf.) Silverback fern																	X		N
Phacelia sp. Phacelia								X		X									N
Pholistoma sp. Pholistoma												X							N
Picris echioides L. Bristly ox-tongue	X	X		X							X	X		X			X	X	I
Piptatherum miliaceum L. Smilo grass	X	X					X					X		X			X	X	I
Plagiobothrys acanthocarpus (Piper) I.M. Johnston Adobe popcornflower	X									X	X	X					X		N
Plantago erecta E. Morris Dot-seed plantain										X	X	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Plantago insularis Eastw. Woolly plantain	X						X												N
Plantago lanceolata L. English plantain											X								I
Plantago major L. Common plantain	X	X																	I
Platanus racemosa Nutt. Western sycamore											X								N
Pluchea odorata (L.) Cass. Salt marsh fleabane						X				X		X					X	X	N
Polypogon monspeliensis L. Annual beard grass				X							X	X	X						I
Populus fremontii S. Watson ssp. *fremontii* Western cottonwood											X								N
Porophyllum gracile Benth. Odora				X				X	X				X						N
Psilocarphus tenellus Nutt. var. *tenellus* Slender woolly-heads												X							N
Pterostegia drymariodes Fischer & C. Meyer Granny's hairnet											X						X		N
Quercus agrifolia Nee Coast live oak						X					X								N
Rhamnus crocea Nutt. Spiny redberry						X	X	X	X		X	X					X	X	N
Rhus integrifolia (Nutt.) Brewer & Watson Lemonadeberry	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X	X	N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Rhus ovata S. Watson Sugar bush												X							N
Ricinus communis L. Castor bean											X			X					I
Rorippa nasturtium-aquaticum (L.) Hayek Water-cress											X	X							N
Rumex crispus L. Curly dock	X	X									X	X							I
Salix exiqua Nutt. Narrow-leaf willow				X									X						N
Salix gooddingii C. Ball Goodding's black willow				X		X	X					X	X	X					N
Salix lasiolepis Benth. Arroyo willow				X			X				X	X	X	X					N
Salsola tragus L. Russian thistle				X	X	X				X	X	X		X	X			X	I
Salvia apiana Jepson White sage									X		X	X					X	X	N
Salvia clevelandii (A. Gray) E. Greene Cleveland sage						X	X	X					X				X		N
Salvia columbariae Benth. Chia	X						X												N
Salvia mellifera E. Greene Black sage							X			X	X								N
***Salvia munzii* Epling** **Munz's sage**								X		X= 35									N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Sambucus mexicana C. Presl Blue elderberry										X		X					X		N
Sanicula arguta J.Coulter & Rose Sharp-tooth sanicle											X								N
Sanicula bipinnatifida Hook. Purple sanicle	X										X	X							N
Schinus molle L. Peruvian pepper tree			X								X	X	X	X					I
Schinus terebinthifolius Raddi Brazilian pepper tree				X										X					I
Schismus barbatus (L.) Thell. Mediterranean schismus	X			X			X		X		X		X	X				X	I
Selaginella bigelovii L. Underw. Bigelow clubmoss										X	X	X					X	X	N
Selaginella cinerascens Maxon Ashy spike-moss										X									N
Sidalcea malvaeflora (DC.) Benth. ssp. *sarsifolia* Checker bloom	X								X		X	X							N
Silene gallica L. Common catchfly												X							I
Simmondsia chinensis (Link.) C. K. Schneid Jojoba	X			X	X	X	X	X	X			X	X		X		X	X	N
Sisymbrium sp. Rocket		X									X		X	X					I

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Sisyrinchium bellum Wats. Blue-eyed-grass	X					X			X		X	X	X				X	X	N
Solanum douglasii Dunal Douglas's nightshade											X								N
Sonchus oleraceus L. Common sowthistle		X				X					X		X	X			X		I
Spergularia rubra L. Sand spurry											X								I
Stachys ajugoides Benth.var. *rigida* Jepson & Hoover Hedge-nettle	X								X		X								N
Stylocline gnaphaloides Nutt. Everlasting nest straw										X							X	X	N
Tamarix sp. Tamarisk	X	X		X		X	X				X	X	X	X	X		X	X	I
Toxicodendron diversilobum (Torrey & A. Gray) E. Greene Western poison oak												X							N
Trifolium hirtum All. Rose clover												X							I
Typha latifolia L. Broad-leaved cattail										X	X	X	X						N
Urtica dioica L. ssp. *holosericea* (Nutt.) Thorme Hoary nettle											X	X							N

ATTACHMENT 17
PLANT SPECIES OBSERVED/DETECTED ON PMA 4
(continued)

Scientific and Common Names	Subunit																		Origin
	4-1a	4-1b	4-1cE	4-1cW	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d	
Verbena sp. Verbena												X							N
***Viguiera laciniata* A. Gray** **San Diego County viguiera**	X	X	X	X	X		X	X			X	X	X				X	X	N
Washingtonia robusta Wendl. Washington palm											X	X							I
Xanthium strumarium L. Cocklebur						X						X							I
Yucca schidigera K. E. Ortgies Mohave yucca	X				X	X	X	X	X	X		X	X	X	X		X	X	N
Zigadenus fremontii (Torrey) S. Watson Star-lily	X										X	X							N

1 While not considered sensitive, these species are noteworthy due to their presence beyond the species' range.

2 This species is present adjacent to this subunit.

Species in **bold type** have sensitive status; please see Attachment 6 for further details.

ATTACHMENT 18

ATTACHMENT 18
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 4

Common Name	Scientific Name	Relative Abundance	Subunit																	
			4-1a	4-1b	4-1cW	4-1cE	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d
Invertebrates (Nomenclature from Mattoni 1990 and Opler and Wright 1999)																				
Anise swallowtail	*Papilio zelicaon zelicaon*	U						O												
Western tiger swallowtail	*Papilio rutulus rutulus*	U																		O
Cabbage white	*Pieris rapae*	U													O					
Common or checkered white	*Pieris protodice*	C			O								O	O	O		O	O		
Sara orangetip	*Anthocaris sara*	F								O			O							
Queen	*Danaus gilippus*	U											O							
West coast lady	*Vanessa annabella*	U							O											
Mourning cloak	*Nymphalis antiopa antiopa*	U			O															
Buckeye	*Precis coenia*	U												O						
Behr's metalmark	*Apodemia mormo virgulti*	F	O					O					O							
Common hairstreak	*Strymon melinus pudica*	U	O					O												
Pigmy blue	*Brephidium exilis*	U						O												
Western tailed blue	*Everes amyntula*	U							O			O								
Southern blue	*Glaucopsyche lygdamus australis*	U												O						
Funereal duskywing	*Erynnis funeralis*	U												O						
Fiery skipper	*Hylephila phyleus*	U	O					O		O										
Reptiles (Nomenclature from Crother 2001 and Crother et al. 2003)																				
Belding's orange-throated whiptail MSCP COVERED SPECIES	***Aspidoscelis* (=*Cnemidophorus*) *hyperythrus beldingi***	U	O											O						
San Diego horned lizard MSCP COVERED SPECIES	***Phrynosoma coronatum blainvillii***	U												O						
Western fence lizard	*Sceloporus occidentalis*	U															O			
Common side-blotched lizard	*Uta stansburiana*	U						O												
Red diamond rattlesnake	***Crotalus exsul***	U	O											O						
California striped racer	*Masticophis lateralis lateralis*	U										O								
San Diego gopher snake	*Pituophis catenifer annectens*	U						O												
Birds (Nomenclature from American Ornithologists' Union 1998 and Unitt 1984)																				
Double-crested cormorant	***Phalacrocorax auritus albociliatus***	U		O																
White-tailed kite	***Elanus leucurus***	U									O	O								
Northern harrier MSCP COVERED SPECIES	***Circus cyaneus hudsonius***	U									O									
Cooper's hawk MSCP COVERED SPECIES	***Accipiter cooperii***	U	O										O	O						
Red-shouldered hawk	*Buteo lineatus elegans*	F		O									O						O	
Swainson's hawk MSCP COVERED SPECIES	***Buteo swainsoni***	U							O											
Red-tailed hawk	*Buteo jamaicensis*	F	O/V						O/V	O/V			O	O	O/V	O/V (N)		O		
American peregrine falcon MSCP COVERED SPECIES	***Falco peregrinus***	U	O																	
California quail	*Callipepla californica californica*	C											O/V	O/V						
Killdeer	*Charadrius vociferus vociferus*	U				V						O/V								
Gull	*Larus* sp.	U												O						

ATTACHMENT 18
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 4
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit																
			4-1a	4-1b	4-1cW	4-1cE	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d
Rock dove†	*Columba livia*	U	O						O				O							
Mourning dove	*Zenaida macroura marginella*	C	O	O/V	O	O		O/V	O	O		O	O	O/V	O	O	O/V	O	O	O
Greater roadrunner	*Geococcyx californianus*	U			O	O								O (N)						
Common barn owl		U						O												
Costa's hummingbird	*Calypte costae*	U		V	V															
Anna's hummingbird	*Calypte anna*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Nuttall's woodpecker	*Picoides nuttallii*	U						V						V	O/V					
Downy woodpecker	*Picoides pubescens turati*	U																	O	
Pacific slope flycatcher	*Empidonax difficilis*	F	V					O/V		V			V	V	O/V					
Black phoebe	*Sayornis nigricans semiatra*	F	O/V			O/V		O/V			O/V		O/V	O/V	O/V	O/V				
Say's phoebe	*Sayornis saya*	U	O				O/V	O/V					O/V	O/V (N)						
Ash-throated flycatcher	*Myiarchus cinerascens cinerascens*	U	O/V							O/V				O/V	V				O/V	
Cassin's kingbird	*Tyrannus vociferans vociferans*	U	O					O/V						O/V						
Western kingbird	*Tyrannus verticalis*	U														O/V			O/V	
Violet-green swallow	*Tachycineta thalassina lepida*	U	O																	
Northern rough-winged swallow	*Stelgidopteryx serripennis*	F			O	O/V		O	O/V			O/V			O/V					
Cliff swallow	*Petrochelidon pyrrhonota*	C	O/V		O/V	O		O/V	O/V		O	O/V	O/V	O/V (N)	O			O/V		
Western scrub-jay	*Aphelocoma californica*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
American crow	*Corvus brachyrhynchos hesperis*	C	O/V	O/V		O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V	O/V				O/V	
Common raven	*Corvus corax clarionensis*	C	O/V		O/V		O/V	O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V
Least Bell's vireo MSCP COVERED SPECIES	***Vireo bellii pusillus***	U												O						
Warbling vireo	*Vireo gilvus swainsonii*	U												O						
Bushtit	*Psaltriparus minimus minimus*	C	O/V		O/V	O/V		O/V (N)	O/V			O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V
Coastal cactus wren MSCP COVERED SPECIES	***Campylorhynchus brunneicapillus couesi***	U	O (N)										O	O (N)						
Bewick's wren	*Thyromanes bewickii*	C	O/V		O/V	O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V		O/V		O/V	O/V	
House wren	*Troglodytes aedon parkmanii*	F			V							V	V	O/V						
Northern mockingbird	*Mimus polyglottos*	C	O	O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V
California thrasher	*Toxostoma redivivum redivivum*	F	O		O/V	O/V	O/V		O/V	O/V		O/V	O/V	O/V				O/V		O/V
European starling†	*Sturnus vulgaris*	F		O/V			O/V	O/V					O/V	O/V		O/V				O/V
Hermit thrush	*Catharus guttatus*	U											O							
Wrentit	*Chamaea fasciata henshawi*	C	V	O	V	V	V	V	V	V	V	V	V	V	O/V	V	V	V	V	V
Blue-gray gnatcatcher	*Polioptila caerulea*	U									O	O/V								
Coastal California gnatcatcher MSCP COVERED SPECIES	***Polioptila californica californica***	F	O/V			O/V	O/V	O/V	O/V (N)			O/V	O/V	O/V (N)	O/V	O/V		O/V (N)		
American goldfinch	*Carduelis tristis salicamans*	U											O	O		O				
Lesser goldfinch	*Carduelis psaltria*	C	O/V	O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V				
House finch	*Carpodacus mexicanus frontalis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V
Orange-crowned warbler	*Vermivora celata*	U												V	V					
Yellow warbler	***Dendroica petechia***	U												V					O/V	
Black-throated gray warbler	*Dendroica nigrescens*	U													O					
Yellow-rumped warbler	*Dendroica coronata*	U												O/V						O/V

ATTACHMENT 18
WILDLIFE SPECIES OBSERVED OR DETECTED ON PMA 4
(continued)

Common Name	Scientific Name	Relative Abundance	Subunit																	
			4-1a	4-1b	4-1cW	4-1cE	4-1dN	4-1dS	4-1e	4-1f	4-1g	4-1h	4-2a	4-2b	4-2c	4-2d	4-3a	4-3b	4-3c	4-3d
Common yellowthroat	*Geothlypis trichas*	F						O/V				O/V	O/V	O/V	O/V	O/V		O/V	O/V	
Macgillivray's warbler	*Oporornis tolmiei*	U												O						
Wilson's warbler	*Wilsonia pusilla*	U	O		O		O	O	O	O/V	O			O						
Yellow-breasted chat	***Icteria virens auricollis***	U												O/V						
Western tanager	*Piranga ludoviciana*	U												O	O					
Black-headed grosbeak	*Pheucticus melanocephalus maculatus*	U						O/V					O/V	O/V						
Blue grosbeak	*Guiraca caerulea salicaria*	U					O/V			O/V		O/V		O/V						
Spotted towhee	*Pipilo maculatus*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V		O/V	O/V	O/V	O/V	O/V	O/V		O/V	O/V
California towhee	*Pipilo crissalis*	C	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
Southern California rufous-crowned sparrow MSCP COVERED SPECIES	***Aimophila ruficeps canescens***	U										O/V		O/V	O/V					
Song sparrow	*Melospiza melodia*	F			O/V	O/V		O/V				O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V	O/V
White-crowned sparrow	*Zonotrichia leucophrys*	F			O/V			O/V	O/V	O/V		O/V								
Red-winged blackbird	*Agelaius phoeniceus*	U												O/V						
Brown-headed cowbird	*Molothrus ater*	F												O/V						
Hooded oriole	*Icterus cucullatus*	U	O/V			O/V		O/V					O/V	O				O/V		
Mammals (Nomenclature from Jones et al. 1997 and Hall 1981)																				
Virginia opossum†	*Didelphis virginiana*	U												O						
Desert cottontail	*Sylvilagus audubonii*	F	O	O						O		O	O	O				O	O	O
California ground squirrel	*Spermophilus beecheyi*	U	O					O						O						
Southern pocket gopher	*Thomomys umbrinus*	U									B									
Woodrat	*Neotoma* spp.	U	M																	
Coyote	*Canis latrans*	F						S	S			S		S						
Common raccoon	*Procyon lotor*	U						T						T						
Southern mule deer MSCP COVERED SPECIES	***Odocoileus hemionus fulginata***	F									S			T						

†Introduced species
Note: Species in **bold type** have sensitive status; see Attachment 10 for further details.

Relative Abundance (based on Garrett and Dunn 1981)

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

Evidence of Occurrence

B = Burrow
M = Midden
N = Nesting/Breeding
O = Observed
S = Scat
T = Track
V = Vocalization