

APPENDIX A

STUDY AREA PHOTOGRAPHS

INTRODUCTION

Attached are sample photographs of the two sites in the study area, as well as Los Coches Creek, which flows between the two sites. Photos are labeled with the figure number in the upper left corner of the caption; the last letter of the figure number indicates whether the photo was taken on the east (“e”) or west (“w”) site. In the upper right hand corner of the caption is the date and approximate compass direction of the photo. Below that are any explanatory comments on the contents of the photograph.

No photos are available for point count station 10 (photos were taken but were apparently lost due to a computer problem). The biologists assisting the observer and shown in the photographs are Maeve Hanley (County of San Diego, Department of Planning and Land Use), and Maureen Abare-Laudy and Cailín Ní Chrualaoich (County of San Diego, Department of Parks and Recreation).



Figure A-001e.
Pt. Count Station 01

28 Feb 2001; E



Figure A-002e.
Pt. Count Station 02

28 Feb 2001; SW



Figure A-003e.
Pt. Count Station 03

28 Feb 2001; W



Figure A-004e.
Pt. Count Station 04

28 Feb 2001; W



Figure A-005e.
Pt. Count Station 05

27 Feb 2001; N



Figure A-006e.
Pt. Count Station 06

28 February 2001; N



Figure A-007w.
Pt. Count Station 07

28 Feb 2001; E



Figure A-008w.
Pt. Count Station 08

28 Feb 2001; N



Figure A-009w.
Pt. Count Station 09

28 Feb 2001; N



Figure A-010e.
N end of E site in foreground; N end of W site in background.

28 Feb 2001; N



Figure A-011e.
View of west site, looking from east site.

15 Mar 2001; W



Figure A-012e.
View of southern portions of both sites.

15 Mar 2001; S



Figure A-013e.
General Example.

15 Mar 2001; S



Figure A-014e.
General Example

17 Apr 2001; NW



Figure A-015w.
General Example.

26 Apr 2001; S



Figure A-016w.
Spine-flower (*Chorizanthe* sp.)

01 May 2001; S



Figure A-017w.
General Example.

01 May 2001; N



Figure A-018w.
Western Banded Gecko (young individual; under rock)

01 May 2001; S



Figure A-019w

05 June
2001; W

Overview of west site.



Figure A-020e

05 June 2001; N

Overview of east site.



Figure A-021e.
Example of biological soil crust.

02 May 2001



Figure A-022w.
Example of biological soil crust.

02 May 2001



Figure A-023w.
Example of soil surface with crust and termite work.

23 May 2001



Figure A-024e.
Floral example: Orange Bush Monkey-flower in bloom.

17 April 2001

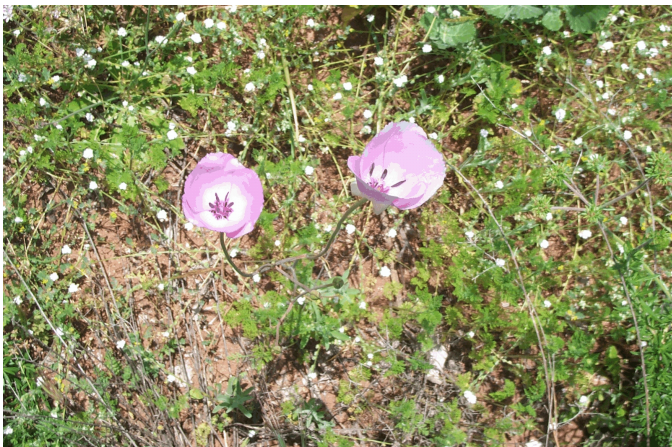


Figure A-025w.
Floral example: Lilac Mariposa in bloom.

26 April 2001



Figure A-026e.
Floral Example: Golden-bowl Mariposa in bloom.

31 May 2001



Figure A-027x. 13 June 2001; E
Los Coches Creek at Los Coches Road bridge, looking upstream.



Figure A-028x. 13 June 2001; W
Los Coches Creek about 75 m west of Los Coches Road, looking downstream.



Figure A-029x. 13 June 2001; NW
Los Coches Creek about 175 meters downstream from Los Coches Road, looking downstream. The close edge of the west site is near the top of the hill in the background.



Figure A-030x. 13 June 2001; N
Los Coches Creek about 1 km downstream (north) from the west site, looking upstream. The creek remains similarly channelized until it reaches the San Diego River.

APPENDIX B PRECIPITATION DATA FOR LAKEIDE, CALIFORNIA

INTRODUCTION

The attached data was purchased from the National Climatic Data Center, and was provided by the Lakeside 2 E, California Cooperative Station (Co-op ID 044710), at N32° 51', W116° 54' (see also the cited References List). Only precipitation data was available from this station. The data is provided in both centimeters and inches, for convenience.

Table B1. Monthly Precipitation at Lakeside, California in Centimeters

Month	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96-97	97/98	98/99	99/00	00/01	Mean*
July	0.00	0.00	0.00	0.00	0.00	2.21	0.08	0.00	----	0.00	0.13	0.00	0.00	0.08	0.00	0.18*
August	0.41	0.53	0.00	0.00	0.00	0.20	0.56	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.28	0.15
September	2.59	1.30	0.08	0.71	0.00	0.43	0.00	0.36	0.00	0.00	0.08	2.57	0.13	1.04	0.48	0.65
October	3.78	6.53	0.00	1.40	0.13	3.20	2.44	0.74	0.36	0.00	3.56	0.20	0.28	0.00	2.59	1.68
November	2.29	7.52	2.36	0.30	0.74	0.74	0.05	3.94	2.59	0.79	4.55	----	4.14	0.00	0.74	2.20*
December	4.19	8.86	5.56	0.15	6.12	6.12	10.26	2.62	3.28	1.60	4.67	----	----	1.32	0.00	4.21*
January	6.35	6.55	1.24	8.53	2.57	6.99	35.97	3.20	20.93	3.78	12.40	7.70	7.14	1.42	9.09	8.92
February	6.50	2.51	2.69	3.91	4.72	10.95	13.89	10.21	9.30	10.82	4.01	31.78	2.74	11.63	10.06	9.05
March	4.98	1.80	2.69	3.00	30.12	12.90	3.45	11.96	19.35	9.86	0.23	11.68	3.25	3.15	4.67	8.21
April	1.04	8.28	0.25	1.88	0.76	1.45	0.00	5.03	5.21	1.52	0.38	5.21	6.65	2.13	3.38	2.88
May	0.08	0.00	0.56	0.89	0.00	0.69	0.23	0.56	2.34	0.00	0.00	3.30	0.00	0.56	0.66	0.66
June	0.00	0.00	0.00	2.06	0.00	0.00	1.60	0.00	1.32	0.00	0.13	0.76	0.25	0.00	0.00	0.41
TOTAL	32.21	43.89	15.44	22.83	45.16	45.87	68.53	38.61		28.37	30.12			21.34	31.95	35.36*

Table B2. Monthly Precipitation at Lakeside, California in Inches

Month	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96-97	97/98	98/99	99/00	00/01	Mean*
July	0.00	0.00	0.00	0.00	0.00	0.87	0.03	0.00	----	0.00	0.05	0.00	0.00	0.03	0.00	0.07*
August	0.16	0.21	0.00	0.00	0.00	0.08	0.22	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.11	0.06
September	1.02	0.51	0.03	0.28	0.00	0.17	0.00	0.14	0.00	0.00	0.03	1.01	0.05	0.41	0.19	0.26
October	1.49	2.57	0.00	0.55	0.05	1.26	0.96	0.29	0.14	0.00	1.40	0.08	0.11	0.00	1.02	0.66
November	0.90	2.96	0.93	0.12	0.29	0.29	0.02	1.55	1.02	0.31	1.79	----	1.63	0.00	0.29	0.86*
December	1.65	3.49	2.19	0.06	2.41	2.41	4.04	1.03	1.29	0.63	1.84	----	----	0.52	0.00	1.66*
January	2.50	2.58	0.49	3.36	1.01	2.75	14.16	1.26	8.24	1.49	4.88	3.03	2.81	0.56	3.58	3.51
February	2.56	0.99	1.06	1.54	1.86	4.31	5.47	4.02	3.66	4.26	1.58	12.51	1.08	4.58	3.96	3.56
March	1.96	0.71	1.06	1.18	11.86	5.08	1.36	4.71	7.62	3.88	0.09	4.60	1.28	1.24	1.84	3.23
April	0.41	3.26	0.10	0.74	0.30	0.57	0.00	1.98	2.05	0.60	0.15	2.05	2.62	0.84	1.33	1.13
May	0.03	0.00	0.22	0.35	0.00	0.27	0.09	0.22	0.92	0.00	0.00	1.30	0.00	0.22	0.26	0.26
June	0.00	0.00	0.00	0.81	0.00	0.00	0.63	0.00	0.52	0.00	0.05	0.30	0.10	0.00	0.00	0.16
TOTAL	12.68	17.28	6.08	8.99	17.78	18.06	26.98	15.20		11.17	11.86			8.40	12.58	13.92*

* - Means for rows with missing data are based only on those cells with data.

APPENDIX C

STUDY AREA VISITS DATA

INTRODUCTION

Field work for the current study was conducted on the dates and times listed below, with conditions as given. Where both of the two sites were visited on the same day, data are generally combined here, though in most cases separate data were kept in notes for each site.

Sunrise

The time of local sunrise for Lakeside, California (W116° 55', N32° 50') followed The Astronomical Applications Department of the U. S. Naval Observatory, Washington, DC. Rounded to the nearest minute and adjusted for Daylight Savings Time as needed, but note that site-to-site sunrise time is dependent in part on local topography.

Time Span

Start and stop times of field work, each rounded to plus-or-minus 5 minutes. Time span is given in local time including the addition of one hour from Standard Time during Daylight Saving Time (currently from 0200 on the first Sunday in April to 0200 the last Sunday in October) as applicable and using a 24-hour (military) clock. Where a break or interruption in field work of more than 10 minutes occurred a second time span in parentheses is given, to allow calculation of total time on the site.

Sites

Gives the sites visited for the given day. The study area is composed of an east site and west site, lying on either side of Los Coches Road. See the report text for further information on each site.

E - East site
W - West site

Tasks

Work was divided into four tasks, although some general reconnaissance data was gathered during the other tasks. See the report methods 2.0 sections as indicated for further information.

GR - General Reconnaissance: Examination of sites for general conditions, miscellaneous special resources (e.g. hydrological values, raptor use), disturbance issues and vulnerabilities, habitat evaluation for all species, development of floral and faunal lists, siting of point counts and other logistics; see the report for methods and results.
CG - California Gnatcatcher spot mapping. See the report for methods and results, and Figures 3.3.1-1 and 3.3.1-2 for graphical data results.
PC - Avian Point Counts. See the report for methods and results, and Appendix H for data.
VM - Vegetation Mapping. See the report for methods and results, and Figures 3.2.3-1 and 3.2.3-1 for graphical data results.
SS - Soil Sampling: see the report for discussion.

Biologists

The work was conducted by five biologists; Kurt F. Campbell is the principal investigator, supported on most days by others listed below. All are on Campbell's recovery permit under the federal Endangered Species Act (see Appendix J).

cc - Cailín Ni Chruaíoch, County of San Diego, Department of Parks and Recreation
kfc - Kurt F. Campbell, Campbell BioConsulting, Inc.
ma - Maureen Abare-Laudy, County of San Diego, Department of Parks and Recreation
mh - Maeve Hanley, County of San Diego, Department of Planning and Land Use
mw - Mark Webb, County of San Diego, Department of Parks and Recreation

Conditions

The data described below was gathered during site visits, and is presented in the table in the order of the explanations provided below. Note that "haze", as used here for visibility criteria, includes any combination of visible water particles or precipitation, smog, blowing dust, and smoke. Some variables (e.g., wind) may have been measured more often than as indicated in the explanations below, when conditions warranted. Some data is missing, primarily before finalizing methods for the current scope of work.

$x^{\circ} \rightarrow x^{\circ}$ - Start time and stop time air temperature, in degrees Fahrenheit, measured in the field to the nearest 1 degree with a calibrated digital thermometer at approximately 1 to 2 meters above the ground and in full shade away from potential effects of sinks or sources of heat (water bodies, cars, boulders, the observer's

cc = x	-	Start time and (if substantially different) stop time Cloud Cover estimated in increments of 10 %; “t” in front of an amount indicates that it was thin cover (i.e., sky visible through clouds), and “trace” means less than about 5 percent. Additional data occasionally included in parentheses is the time of day when cloud cover breaks up (4 digits long) or the high and/or low estimate of cover (2-3 digits or including a dash) if substantially outside the range given by start and stop percentages.
v = x	-	Start time and (if substantially different) stop time Visibility, defined as: E (Excellent) - no visible haze on distant mountains V (Very Good) - slight haze on distant mountains G (Good) - distance hazy, but no or slight haze in the vicinity F (Fair) - significant haze visible in the vicinity (moon typically visible in absence of clouds) T (Tolerable) - hazy, but patterns on overhead raptors and/or nearby songbirds still easily seen P (Poor) - haze substantially affecting identification of overhead raptors and/or nearby songbirds H (Hazardous) - fog of substantial or greater density
ws =	-	Wind Speed at start time and (if substantially different) stop time in miles per hour. Generally estimated when (apart from rare gusts) under about 5 mph, and measured with a digital wind gauge when over about 5 mph. The recorded figure is the gauge-calculated mean of a 2 minute sample at about 2 meters above the ground, in a spot that is neither conspicuously sheltered or exposed. Source direction is normally included (i.e., blowing from the N, S, E, W, etc.) when speeds are over 5 mph, and may be given as a range using a slash (e.g., “E/NE”). Gust speeds are indicated in parentheses after the non-gusting speed or range. calm = wind speeds 0 to 3 mph, with no more than occasional, slight gusts
d/g =	-	Dew / upland Ground surface moisture, measured in non-irrigated areas at the start time. Dew as used refers to water condensation on the herb layer or lower shrubs in areas exposed to the sky but not on exposed ridges or other spots with high potential for extra wind-induced evaporation. Because there is often no clear distinction from water due to prior precipitation, this is included. Upland ground surface moisture reflects the combined effects of dew on the ground along with recent precipitation and evapotranspiration. A pocket knife is used at several points as needed to clarify the degree of saturation at the immediate surface and clarify its relationship with deeper soil saturation that may occur for other reasons. Surface moisture can greatly affect the activity of invertebrates and cold-blooded vertebrates, warm-blooded vertebrates such as rodents and raptors that depend on cold-blooded animals for food, the strength and timing of updrafts, plant responses such as flower opening, and many other variables. 0 = none 1 = slight 2 = moderate 3 = heavy
p =	-	Precipitation during the field work. The numbers (or “P”) below represent a cumulative total. The number is appended by a letter and as appropriate a plus or minus: 0 = none 1 = slight 2 = moderate 3 = heavy P = prior to fieldwork (the same day) + / - = generally increasing or decreasing during the field work b = brief i = intermittent s = steady e = early only (within the field work period) l = late only (within the field work period)
nr	-	Not Recorded. Used here where data was not taken or not recorded. However, California Gnatcatcher field work was never conducted without checking conditions if and when they were marginal, and were never conducted during weather conditions not permitted by the protocol.

Table C1. Fahrenheit to Centigrade Conversion Table

°F	°C	20	-6.7	41	5	62	16.7	83	28.3	104	40
0	-18	21	-6.1	42	5.56	63	17.2	84	28.9	105	40.6
1	-17	22	-5.6	43	6.11	64	17.8	85	29.4	106	41.1
2	-17	23	-5	44	6.67	65	18.3	86	30	107	41.7
3	-16	24	-4.4	45	7.22	66	18.9	87	30.6	108	42.2
4	-16	25	-3.9	46	7.78	67	19.4	88	31.1	109	42.8
5	-15	26	-3.3	47	8.33	68	20	89	31.7	110	43.3
6	-14	27	-2.8	48	8.89	69	20.6	90	32.2	111	43.9
7	-14	28	-2.2	49	9.44	70	21.1	91	32.8	112	44.4
8	-13	29	-1.7	50	10	71	21.7	92	33.3	113	45
9	-13	30	-1.1	51	10.6	72	22.2	93	33.9	114	45.6
10	-12	31	-0.6	52	11.1	73	22.8	94	34.4	115	46.1
11	-12	32	0	53	11.7	74	23.3	95	35	116	46.7
12	-11	33	0.56	54	12.2	75	23.9	96	35.6	117	47.2
13	-11	34	1.11	55	12.8	76	24.4	97	36.1	118	47.8
14	-10	35	1.67	56	13.3	77	25	98	36.7	119	48.3
15	-9.4	36	2.22	57	13.9	78	25.6	99	37.2	120	48.9
16	-8.9	37	2.78	58	14.4	79	26.1	100	37.8		
17	-8.3	38	3.33	59	15	80	26.7	101	38.3		
18	-7.8	39	3.89	60	15.6	81	27.2	102	38.9		
19	-7.2	40	4.44	61	16.1	82	27.8	103	39.4		

Table C2. Centigrade to Fahrenheit Conversion Table

°C	°F	-7	19.4	4.5	40.1	16	60.8	27.5	81.5	39	102
-18	-0.4	-6.5	20.3	5	41	16.5	61.7	28	82.4	39.5	103
-18	0.5	-6	21.2	5.5	41.9	17	62.6	28.5	83.3	40	104
-17	1.4	-5.5	22.1	6	42.8	17.5	63.5	29	84.2	40.5	105
-17	2.3	-5	23	6.5	43.7	18	64.4	29.5	85.1	41	106
-16	3.2	-4.5	23.9	7	44.6	18.5	65.3	30	86	41.5	107
-16	4.1	-4	24.8	7.5	45.5	19	66.2	30.5	86.9	42	108
-15	5	-3.5	25.7	8	46.4	19.5	67.1	31	87.8	42.5	109
-15	5.9	-3	26.6	8.5	47.3	20	68	31.5	88.7	43	109
-14	6.8	-2.5	27.5	9	48.2	20.5	68.9	32	89.6	43.5	110
-14	7.7	-2	28.4	9.5	49.1	21	69.8	32.5	90.5	44	111
-13	8.6	-1.5	29.3	10	50	21.5	70.7	33	91.4	44.5	112
-13	9.5	-1	30.2	10.5	50.9	22	71.6	33.5	92.3	45	113
-12	10.4	-0.5	31.1	11	51.8	22.5	72.5	34	93.2	45.5	114
-12	11.3	0	32	11.5	52.7	23	73.4	34.5	94.1	46	115
-11	12.2	0.5	32.9	12	53.6	23.5	74.3	35	95	46.5	116
-11	13.1	1	33.8	12.5	54.5	24	75.2	35.5	95.9	47	117
-10	14	1.5	34.7	13	55.4	24.5	76.1	36	96.8	47.5	118
-9.5	14.9	2	35.6	13.5	56.3	25	77	36.5	97.7	48	118
-9	15.8	2.5	36.5	14	57.2	25.5	77.9	37	98.6	48.5	119
-8.5	16.7	3	37.4	14.5	58.1	26	78.8	37.5	99.5	49	120
-8	17.6	3.5	38.3	15	59	26.5	79.7	38	100		
-7.5	18.5	4	39.2	15.5	59.9	27	80.6	38.5	101		

Table C3. Study Area Visits Data

Date	Sunrise	Time Span	Sites	Tasks	Biologists	Conditions
16 Feb	630	0630-1330	W, E	GR	kfc, cc, mh, mw	34°→65°; cc=0%; v=G; ws=calm; d/g=1/1; p=0
27 Feb	618	1020(1230-1320)1350	E	GR	kfc, mh	61°→50°; cc=50→100%; v=F→T; ws=calm; d/g=2/2; p=0→2i
28 Feb	616	0640-1215	W, E	GR	kfc, cc, mh, ma	44°→53°; cc=70→100%; v=G; ws=calm; d/g= 1/2; p=0
15 Mar	558	0550-1150	E	GR, CG	kfc, mh	51°→65°; cc=100→0%; v=G→F; ws=1-3E→3-8W; d/g=1/1; p=0
16 Mar	556	0540-1020	W, E	GR, PC	kfc, ma	51°→62°; cc=40→100%; v=G→F; ws=1-5W; d/g=0/1; p=0
04 Apr	631	0630-1300	W, E	GR, VM	kfc, ma	54°→59°; cc=100(60)100%; v=F→G; ws=1-3W→3-8(11)W; d/g=0/0; p=0
17 Apr	615	0615-1430	E	GR, VM	kfc, ma	45°→82°; cc=0%; v=F; ws=1-3W →5-9(17.6)W; d/g=1/0; p=0
“ ”	“	1845-2000	E	GR	kfc	73°→63°; cc=trace; v=G; ws=1-3W; d/g=0/0; p=0
18 Apr	614	0545-1130	W, E	GR, PC	kfc, cc	55°→ °70; cc=40; v=F; ws=calm; d/g=1/0; p=0
26 Apr	605	0620-1230	W	GR, CG	kfc	56°→82°; cc=100(0900)0%; v=F; ws=0-1→1-5; d/g=0/1; p=0
37011	600	0530-1500	W	GR, CG	kfc, ma	54°→80°; cc=100(0945)0%; v=P→F; ws=calm→1-5(11); d/g=2/0; p=0
37012	559	0700(0900-0930)1145	W	GR, CG	kfc	54°→68°; cc=100%; v=F→G; ws=calm→1-3W; d/g=1/0; p=0
37018	554	0525-1200	W, E	GR, PC, CG	kfc, ma	61°→84°*; cc=0%; v=F→G*; ws=1-3E→1-6W/SW*; d/g=1/0 ; p=0
37019	553	0640-1125	W	GR	kfc	57°→87°; cc=0%; v=G; ws=calm→1-5W; d/g=1/0; p=0
37020	552	0600-1230	E	GR, CG	kfc, cc	53°→82°; cc=100→0%; v=T→G; ws=calm→1-5(12)SW; d/g=1/0; p=0
37027	547	0515-1145	E	GR, CG	kfc, mh	58°→75°; cc=100(0930)0%; v=F→G; ws=0-3→3-8W; d/g=1/0; p=0
37033	544	0525-1125	W	GR	kfc, ma	60°→95°; cc=100(0800)0%; v=T→G; ws=0-1→0-5W; d/g=0/0; p=0
37041	541	0530-1215	E	GR, CG	kfc, ma	56°→89°; cc=0%; v=F; ws=0-3→1-5W; d/g=1/0; p=0
05 Jun	539	0515-1100	E	GR	kfc, cc	60°→68°; cc=100→trace; v=G→V; ws=1-3→1-6W; d/g=0/0; p=0
06 Jun	539	37123	W, E	GR, PC	kfc, ma	57°→78°; cc= 100% (thin); v= F→G; ws=1-5S ; d/g=0/0; p=0
19 Jun	540	0515-nr(c.1200)	E	GR, CG	kfc, mh	58°→78°; cc=0%; v=G; ws=0-3→1-8W; d/g=1/0; p=0
10 Jul	548	0530-1330	W	GR, CG, SS	kfc	62°→95°; cc=100(0800)0%; v=G; ws=1-3E→1-6W; d/g=0/0; p=0
11 Jul	548	0535-0745	W	GR	kfc	59°→66°; cc=100-90%; v=F; ws=calm→1-3N; d/g=0/0; p=0
18 Jul	552	37113	W, E	GR, PC	kfc, ma	65°→72°; cc=100-0%; v=F→G; ws=0-3S→1-5E; d/g=0/0 ; p=0
23 Jul	556	0525-1245	E	GR, SS	kfc, ma	62°→86°; cc=90(0830)0%; v=F; ws=3-6E→5-8E; d/g=0/0; p=0
24 Jul	556	0545-1100	E	GR, SS	kfc, cc	60°→75°; cc=100-0%; v=F →G; ws=1-5E→3-6; d/g=0/0; p=0
14 Aug	610	0620-1345	W	GR, SS	kfc	70°→°91; cc=0%; v=F; ws=0-3S; d/g=0/0; p=0
25 Aug	618	0620-1100	W, E	GR, SS	kfc	61°→82°; cc=100-0%; v=T→G; ws=1-3→1-5W; d/g=2/0; p=0

* - End weather data for this date is that taken at the end of the point counts (1003), as no data was recorded at the end of the field work.

APPENDIX D

VEGETATION MAPPING DATA

INTRODUCTION

Below is the data recorded for each polygon as shown in Figures 3.2.3-1 and 3.2.3-2. The first letter of the polygon designation indicates west or east site. Plant community designations follow Oberbauer (1996). Cover class is as follows:

- 1 = 0 to 10 %
- 2 = 10 to 25 %
- 3 = 25 to 50 %
- 4 = 50 to 80 %
- 5 = 80 to 100 %

Height is given in meters, but was originally measured using a yardstick, and rounded to the nearest foot. Dominant species are listed with 2-letter codes, explained at the end of the table. See Section 3.2.3 for further details.

Table D1. Vegetation Mapping Data

Polygon Designation	Area (hectares)	Plant Community Type	Cover Class	Height (meters)	Dominant Species
West Site					
W01	0.2763558	Diegan Coastal Sage Scrub	5	1.22	AC, EF, TD
W02	1.9344906	Diegan Coastal Sage Scrub	4	0.91	AC, EF, HI
W03	0.3377682	Diegan Coastal Sage Scrub	3	0.91	AC, EF, HI
W04	0.2149434	Diegan Coastal Sage Scrub	2	0.91	AC, EF
W05	0.3172974	Diegan Coastal Sage Scrub	3	0.91	AC, EF
W06	0.3889452	Disturbed Habitat	1	0.91	HI
W07	2.0266092	Diegan Coastal Sage Scrub	5	1.52	EF, AC, BS
W08	0.255885	Diegan Coastal Sage Scrub	4	1.22	EF, AC, BS
W09	0.307062	Diegan Coastal Sage Scrub	3	0.91	EF, AC, HI
W10	0.1228248	Diegan Coastal Sage Scrub	4	1.22	EF, AC
W11	1.0951878	Diegan Coastal Sage Scrub	5	1.22	EF, AC
W12	0.2968266	Diegan Coastal Sage Scrub	2	1.22	EF, BS
W13	1.6683702	Diegan Coastal Sage Scrub	4	0.91	EF, AC
W14	0.3889452	Diegan Coastal Sage Scrub	3	0.91	EF, AC
W15	0.020471	Disturbed Habitat	2	0.91	NNG
W16	0.6960072	Diegan Coastal Sage Scrub	4	1.22	EF, AC, BS
W17	2.712381	Diegan Coastal Sage Scrub	4	1.22	EF, AC, ML
W18	0.092119	Disturbed Habitat	1	0	-
W19	0.4401222	Disturbed Habitat	3	0.91	HI, NNG, CM
W20	1.177071	Diegan Coastal Sage Scrub	4	1.22	EF, AC
W21	0.4708284	Disturbed Habitat	2	0.91	HI, CM
W22	0.7574196	Diegan Coastal Sage Scrub	3	0.91	EF, AC, HI
W23	0.6038886	Diegan Coastal Sage Scrub	3	0.91	EF, AC
W24	0.1432956	Valley Needlegrass Grassland	1	0.91	NS
W25	0.020471	Disturbed Habitat	3	0.91	RU, AD
W26	1.995903	Diegan Coastal Sage Scrub	5	1.22	EF, AC
W27	0.5322408	Disturbed Habitat	2	-	RU, BS
W28	0.030706	Diegan Coastal Sage Scrub	4	0.91	EF, AC

East Site					
E01	0.1228248	Disturbed Habitat	3	0.91	HI, NNG
E02	0.4401222	Diegan Coastal Sage Scrub	4	1.22	EF, AC
E03	0.2661204	Disturbed Habitat	1	-	RU, BS
E04	0.4503576	Disturbed Habitat	2	0.91	RU, NNG
E05	0.2149434	Diegan Coastal Sage Scrub	4	0.91	EF, NNG
E06	3.2650926	Diegan Coastal Sage Scrub	5	1.22	EF, AC
E07	0.010235	Disturbed Habitat	1	0.91	HI, NNG
E08	0.2968266	Diegan Coastal Sage Scrub	3	1.22	EF, AC, ML
E09	0.7471842	Diegan Coastal Sage Scrub	4	1.22	EF, AC
E10	0.7881258	Diegan Coastal Sage Scrub	4	1.22	EF, AC
E11	0.051177	Disturbed Habitat	1	0.91	RU, NNG
E12	0.1432956	Diegan Coastal Sage Scrub	2	1.22	EF, AC, ML, OL
E13	0.2763558	Diegan Coastal Sage Scrub	5	1.52	EF, AC, ML
E14	0.153531	Diegan Coastal Sage Scrub	3	1.22	EF, AC
E15	1.4124852	Disturbed Habitat	1	-	RU
E16	0.6550656	Diegan Coastal Sage Scrub	4	1.22	EF, AC
E17	1.02354	Diegan Coastal Sage Scrub	4	1.22	EF, AC
E18	0.020471	Disturbed Habitat	1	-	NNG
E19	0.010235	Disturbed Habitat	1	-	NNG
E20	1.8014304	Diegan Coastal Sage Scrub	3	0.91	EF, AC
E21	0.562947	Diegan Coastal Sage Scrub	2	0.91	EF, AC, HI
E22	0.2661204	Diegan Coastal Sage Scrub	2	0.91	EF, AC, HI
E23	1.9754322	Diegan Coastal Sage Scrub	4	0.91	EF, AC
E24	0.204708	Diegan Coastal Sage Scrub	5	1.22	EF, AC
E25	0.020471	Disturbed Habitat	1	-	NNG
E26	2.1801402	Diegan Coastal Sage Scrub	4	0.91	EF, AC
E27	0.2763558	Diegan Coastal Sage Scrub	2	0.91	EF, AC, HI
E28	0.102354	Diegan Coastal Sage Scrub	3	0.91	EF, AC, HI
E29	0.9007152	Diegan Coastal Sage Scrub	2	0.91	EF, AC, HI
E30	0.2763558	Diegan Coastal Sage Scrub	3	0.91	EF, AC, HI
E31	0.102354	Diegan Coastal Sage Scrub	2	0.91	EF, AC, HI
E32	0.9416568	Diegan Coastal Sage Scrub	3	1.22	EF, BS
E33	0.030706	Diegan Coastal Sage Scrub	2	0.91	EF, HI
E34	1.381779	Diegan Coastal Sage Scrub	4	1.22	EF, AC, BS
E35	1.4227206	Disturbed Habitat	1	-	NNG
E36	0.2354142	Diegan Coastal Sage Scrub	4	0.91	EF
E37	0.7881258	Disturbed Habitat	2	1.52	HI, BS, CM
E38	0.4708284	Diegan Coastal Sage Scrub	3	1.22	EF, BS
E39	0.7062426	Diegan Coastal Sage Scrub	3	0.91	EF, AC, HI
E40	1.2384834	Diegan Coastal Sage Scrub	4	1.22	EF, AC
E41	0.255885	Diegan Coastal Sage Scrub	4	1.22	EF, AC, BS
E42	0.2865912	Disturbed Habitat	1	-	HI, RU

HI= *Hirschfeldia incana* (Short-pod Mustard)
CM = *Centaurea melitensis* (Tocalote)
NNG = various ruderal grasses
NP = *Nassella (pulchra)* (Purple Needlegrass)
RU = various ruderal forbs
AD = *Artemisia dracunculus* (Tarragon)

AC = *Artemisia californica* (California Sagebrush)
OL = *Opuntia littoralis* (Coast Prickly-Pear)
EF = *Eriogonum fasciculatum* (Calif. Buckwheat)
BS = *Baccharis sarothroides* (Broom Baccharis)
ML = *Malosma laurina* (Laurel Sumac)
TD = *Toxicodendron diversilobum* (Poison-Oak)

APPENDIX E

FLORAL LISTS

INTRODUCTION

All flora encountered and identified on the study area during the field work for the current study are listed below. Note that in general discussion in this report, "flora" is used to mean all living things other than Animalia. However, under the current scope of work, only plants were identified and no attempt was made to identify the many algae, lichens, fungi, and other members of the less derived kingdoms noted on the study area during the current work. Where identification was uncertain, either a specimen was retained for identification by an expert, or the taxa was listed at the level at which identity was certain (e.g., *Cryptantha* / *Plagiobothrys* sp.). Where voucher specimens were retained at herbaria, the institution and voucher numbers are given. In general, plants were identified to full species only, unless the relevant characters are easily evaluated by a non-specialist. Any exceptions to this are for certain subspecies and varieties with special status, or where an authority provided such identification based on specimen examination. Where the specific epithet (the second part of a scientific name) is given in parentheses, identity is certain at the genus level but only probable at the specific level.

Many sources were used for information on identification, distribution, and habitat requirements of plants. Publications and personal communications specifically used for these issues during the course of this work included: Abrams (1923, 1944), Abrams and Ferris (1951, 1960), Beauchamp (1986), Bossard et al. (2000), Brenzel (2001), Dole and Rose (1996), Hickman (1993), McAuley (1996), Munz (1974), T. Oberbauer (pers. comm., 2001), Sanders (pers. comm. 2000, 2001), Simpson et al. (1996), Stuart and Sawyer (2001), S. White (pers. comm., 2001), and Whitson et al. (2000).

Taxonomy and Nomenclature

Taxonomy and scientific nomenclature follow Hickman (1993) except for more recent taxonomic changes that are reflected in Skinner and Pavlik (2001). English names generally follow those of the CalFlora Database project (<http://galaxy.cs.berkeley.edu/calflora/>). Alternate scientific and/or English names are sometimes given parenthetically where those names are established and/or controversy exists. In a few cases where the same English name was given to multiple species or a name is taxonomically misleading, minimal changes are made to retain clarity and uniformity. Adopted English names are also capitalized for all species. This is done primarily to clarify reference (e.g., "several California Bromes" rather than "several California bromes"), but also to recognize that species names, once formalized to a standard, fit the distinction of "proper nouns", which in English are, ". . . arbitrarily used to denote a particular person, place, or thing without regard to any descriptive meaning the word or phrase may have" (Flexner 1987).

Status

Given separately for the west site and east site. Because the study area is relatively small and cover consists of only one natural community with a small remainder of nonnative communities (ruderal and nonnative grassland), an effort to separate status of each species by community was not judged to be worth the effort that would be required; essentially a scale issue. The categorization used below is simply a gross indication of relative numbers based on professional judgement and observation during the current work, as supplemented by the vegetation mapping described in the report, but with no quantitative sampling. Categorization of abundance reflects overall numbers within the indicated land category in the study area. Conceptually, each category varies several-fold in total numbers of individuals from adjacent categories and thus this is a non-linear scale to allow for a tremendous range in potential abundance. Prediction of species occurrence on individual sites is much less reliable for plants than for vertebrates for a variety of reasons. Such speculation is therefore avoided, and only species recorded during the current work are listed.

- | | | |
|---|---|--|
| a | - | abundant -- a dominant species; ubiquitous in high numbers and/or in large, pure stands |
| c | - | common -- either very widespread in intermediate numbers and/or forms a high percent cover on significant portions of the site |
| f | - | frequent -- occurs in moderate numbers and/or widely, but not a dominant element |
| o | - | occasional -- distributed sporadically in limited numbers; often not conspicuous |
| s | - | scarce -- occurs rarely; only a very few individuals or a small area; easily overlooked |

Origin

Whether a species is native (i.e., naturally established currently or at some time during recorded history) within the vicinity of a particular study area generally can be well established for terrestrial vertebrates, but sometimes is poorly known for plant species and subspecies. Status of origin given follows that in the taxonomic standards mentioned above. Note however that many species may be native to a large area covered by a standard reference but nonnative to a local study area. For

example, Smooth Tarplant, *Hemizonia pungens laevis*, is a native subspecies with special management status in southern California, while another subspecies is an invasive nonnative in this region. In such cases available, published convention is generally followed – primarily that given in Hickman (1993). Finally, a species is considered native if it has expanded its range in response to anthropogenic environmental changes. This is because there is often no means to distinguish among the various non-anthropogenic and indirect anthropogenic causes. Such issues are more visible at this point among the more mobile animals, but undoubtedly are occurring among plants.

- * - Nonnative but well-established
- @ - Adventive; nonnative and known to reproduce in the wild, but not yet established
- = - Escapee; nonnative, not likely to become established in the wild; typically, near ornamental plantings
- ? - Origin uncertain (used both where published sources disagree and where they agree that it is uncertain)

Table E1. Special Status Codes for Flora

Status code	Explanation
Multiple Species Conservation Program (MSCP)	
M	Covered Species
Federal	
FE	federally Endangered
FT	federally Threatened
FPE	federally proposed Endangered
FPT	federally proposed Threatened
California	
SE	state Endangered
ST	state Threatened
SR	state Rare (used for plants only)
SCE	state Candidate for Endangered listing
SCT	state Candidate for Threatened listing
SSC	state Species of Special Concern
CFP	California Fully Protected species
California Native Plant Society	
1A	California Native Plant Society (CNPS) List 1A (“Plants presumed extinct in California”)
1B	CNPS List 1B (“Plants rare, threatened or endangered in California and elsewhere”)
2	CNPS List 2 (“Plants rare, threatened or endangered in California, but more common elsewhere”)
3	CNPS List 3 (“Plants about which we need more information – a review list”)
4	CNPS List 4 (“Plants of limited distribution – a watch list”)
California Exotic Pest Plant Council	
A1	Most Invasive Wildland Pest Plants: Widespread
A2	Most Invasive Wildland Pest Plants: Regional
B	Wildland Pest Plants of Lesser Invasiveness
RA	Red Alert: Species with potential to spread explosively; infestations currently restricted
NMI	Need More Information
AG	Annual Grasses
Miscellaneous or General	
pt, pd	codes appended by lowercase “pt” or “pd”: the taxon has been formally proposed to be downlisted from Endangered to Threatened (“pt”), or delisted completely (“pd”)

Likelihood of Occurrence on the Site

This categorization is used only on Table E2, below, for special status plant species. Specific factors substantially affect likelihood of occurrence for individual species on any particular site. These factors are relevant at multiple scales, including regionally, locally, and within the site. These factors include the presence or absence of many other particular species (e.g., predators, prey, parasites), climate, ongoing disturbances, historical land use and other past disturbances such as fire history, surface and subsurface hydrology, soil texture and chemistry, site and habitat size and topology (i.e., shape and fragmentation), past population fluctuations of the species in response to random and nonrandom events, and many other factors, including many not readily visible. Finally, note that likelihood of occurrence refers to a time scale of a few years up to perhaps ten years, and given current or expected conditions without implementation of any project on the site, relevant to species that may make sporadic use of the site.

VL (VERY LOW): Although remotely possible, the probability of occurrence on the site is almost none, and the likelihood of meaningful use is less than reasonable. The species may include the site within its general range, however, no appropriate or adequately extensive habitat is found (either on or immediately adjacent to the site). Neither the species nor any indication of its presence was detected. In some cases this likelihood may indicate that based on the best available information, the site has a very high probability of being outside of the species' current range. In all of these cases, the species cannot be definitively ruled out, but is strongly expected to be absent based on the best available evidence. In some cases, the species may occur on rare occasions and in very low numbers, but such stray individuals are unlikely to make more than very brief, incidental use of the site. Certainly there are no substantial populations utilizing the site at any time of year. Further evaluation should not normally be required.

LO (LOW): The species is unlikely because of some combination of facts: (1) it was the subject of unsuccessful searches conducted under reasonable circumstances, (2) only marginal or minimal habitat is present, (3) the best available information suggests the species is absent from the site, and/or (4) available information sheds no clear light on the species likelihood on the site, but it is known to be rare at best in the vicinity. No individuals were detected, nor is there any direct indication of them. Although individuals may have been missed, it is unlikely that substantial populations are present. Further evaluation should usually not be required for individual species except, in most cases, for threatened or endangered species. Note however, that where several non-listed species hold this status, a much higher likelihood of occurrence for "one or more" will generally hold. This is due both to the increased number of species, and the fact that an array of possibilities often correlates with greater alpha diversity and lower actual disturbance levels.

MO (MODERATE): The site is within the range of the species, and appears to contain appropriate habitat. No individuals or diagnostic sign were detected, it is nevertheless reasonable that some individuals have been overlooked. The best available information on the species with regard to the site is either very uncertain, or is about equally weighted for and against occurrence. Depending upon local and special legal status, extent of habitat, and the nature and sensitivity of the project, focused surveys for the species may be warranted or presence may be assumed.

HI (HIGH): The site is known to be within the range of the species, and appears to contain habitat with substantial potential for occupancy. Although no individuals or diagnostic sign were detected, it is judged likely that it is present to some degree, given the best available information. Depending upon regulatory status, local rarity, public interest, extent of habitat on the site, and the nature of potential project impacts, a substantial basis may exist for either conducting focused surveys for the species or for assuming presence.

VH (VERY HIGH): Based on the best available information, the site is within the current range of the species and sufficient very appropriate or characteristic habitat is present on or contiguous with the site for occupancy. Although individuals and/or diagnostic sign were not definitely detected at the current time, it is judged to be very highly likely to occur. In some cases the species may be known to have occurred on the site historically or in the recent past, with no clear basis to assume extirpation since then. In rare cases, changes off of the site (e.g., fire or other disturbance) may provide a basis to assume current presence as a result. Although focused surveys for this species would be required to absolutely confirm presence or absence, such surveys are judged to have a very high probability of confirming presence. Without such surveys presence should generally be assumed.

AA (ASSUMED ABSENT): Based on available information, it is judged that there is less than a reasonable likelihood that the species occurs. This determination is based on some combination of these facts: (1) the site is clearly outside the current range based on available information, and/or (2) the site does not contain suitable or extensive-enough habitat (including any adjacent off-site habitat) to hold the species. Further evaluation should not be required at this time.

CA (CONFIRMED ABSENT): Confirmed to be absent within reasonable likelihood based on negative results sufficient to document this absence. This may be a focused survey by a qualified biologist at the appropriate time of year, or a lesser but sufficient effort where the species is reliably found under the methods used (e.g., a small, open site, a large

perennial plant species, and an experienced biologist). The survey was also conducted within a time frame sufficiently recent to conclude that the species remains absent, based on site conditions and the species' known biology.

IN (INDETERMINATE): There is insufficient basis for any sound judgement regarding the species' likelihood of occurrence on the site. This may be the result of taxonomic uncertainty or taxonomic conflict, a lack of available information on the species distribution and/or habitat requirements (at least in the general area of the site), a lack of information on the relevant resources present at the site, or a result of conflicting information, such as a combination of historical occupancy prior to substantial changes in the species' distribution or site conditions, along with a lack or relevant shortage of current data from the site. In some cases, site evaluation at other times of year, other times of day, or under other conditions may be needed, or a highly specialized survey method may be necessary.

Table E2. Potential for MSCP-Covered Plants on the Study Area

Taxa	Special Status	Likelihood of Occurrence*	
		West Site	East Site
San Diego Thorn-Mint (<i>Acanthomintha ilicifolia</i>)	M, FT, SE, 1B	LO	LO
Shaw's Agave (<i>Agave shawii</i>)	M, 2	AA	AA
San Diego Ambrosia (<i>Ambrosia pumila</i>)	M, FPE, 1B	VL	VL
Aphanisma (<i>Aphanisma blitoides</i>)	M, 1B	AA	AA
Del Mar Manzanita (<i>Arctostaphylos glandulosa crassifolia</i>)	M, FE, 1B	CA	CA
Otay Manzanita (<i>Arctostaphylos otayensis</i>)	M, 1B	CA	CA
Coastal Dunes Milk-Vetch (<i>Astragalus tener</i> var. <i>titi</i>)	M, FE, SE, 1B	AA	AA
Encinitas Baccharis (<i>Baccharis vanessae</i>)	M, FE, SE, 1B	VL	VL
Nevin's Barberry (<i>Berberis nevinii</i>)	M, FE, SE, 1B	CA	CA
Thread-leaved Brodiaea (<i>Brodiaea filifolia</i>)	M, FT, SE, 1B	CA	CA
Orcutt's Brodiaea (<i>Brodiaea orcuttii</i>)	M, 1B	CA	CA
Dense Reed Grass (<i>Calamagrostis densa</i>) ¹	M	LO	LO
Dunn's Mariposa Lily (<i>Calochortus dunnii</i>)	M, SR, 1B	VL	VL
Slender-pod Jewel-Flower (<i>Caulanthus stenocarpus</i>) ²	M, SR	LO	LO
Lakeside Ceanothus (<i>Ceanothus cyaneus</i>)	M, 1B	CA	CA
Wart-stemmed Ceanothus (<i>Ceanothus verrucosus</i>)	M, 2	CA	CA
Salt Marsh Bird's-Beak (<i>Cordylanthus maritimus maritimus</i>)	M, FE, SE, 1B	CA	CA
Orcutt's Bird's-Beak (<i>Cordylanthus orcuttianus</i>)	M, 2	CA	CA
Del Mar Mesa Sand Aster (<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>)	M, 1B	AA	AA
Tecate Cypress (<i>Cupressus forbesii</i>)	M, 1B	CA	CA
Otay Tarplant (<i>Deinandra conjugens</i>)	M, FT, SE, 1B	VL	VL
Short-leaved Dudleya (<i>Dudleya brevifolia</i>)	M, SE, 1B	AA	AA
Variegated Dudleya (<i>Dudleya variegata</i>)	M, 1B	CA	CA
Sticky Dudleya (<i>Dudleya viscida</i>)	M, 1B	CA	CA
Palmer's Goldenbush (<i>Ericameria palmeri palmeri</i>) [=Palmer's Ericameria]	M, 2	CA	IN ⁴
San Diego Button-Celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	M, FE, SE, 1B	AA	AA
Coast Wallflower (<i>Erysimum ammophilum</i>)	M, 1B	AA	AA
San Diego Barrel Cactus (<i>Ferocactus viridescens</i>)	M, 2	CA	CA
Heart-leaved Pitcher Sage (<i>Lepechinia cardiophylla</i>)	M, 1B	CA	CA
Gander's Pitcher Sage (<i>Lepechinia ganderi</i>)	M, 1B	CA	CA
Nuttall's Lotus (<i>Lotus nuttallianus</i>)	M, 1B	AA	AA
Felt-leaved Monardella (<i>Monardella hypoleuca lanata</i>)	M, 1B	VL	VL
Willow Monardella (<i>Monardella linoides viminea</i>)	M, FE, SE, 1B	VL	VL

Taxa	Special Status	Likelihood of Occurrence*	
		West Site	East Site
San Diego Goldenstar (<i>Muilla clevelandii</i>)	M, 1B	CA	CA
Prostrate Navarretia (<i>Navarretia prostrata</i>)	M, 1B	CA	CA
Dehesa Nolina (<i>Nolina interrata</i>) [=Dehesa Beargrass]	M, SE, 1B	CA	CA
Snake Cholla (<i>Opuntia californica</i> var. <i>californica</i>)	M, 1B	CA	CA
California Orcutt Grass (<i>Orcuttia californica</i>)	M, FE, SE, 1B	CA	CA
Torrey Pine (<i>Pinus torreyana</i>)	M, 1B	CA	CA
San Diego Mesa Mint (<i>Pogogyne abramsii</i>)	M, FE, SE, 1B	AA	AA
Otay Mesa Mint (<i>Pogogyne nudiuscula</i>)	M, FE, SE, 1B	AA	AA
Small-leaved Rose (<i>Rosa minutifolia</i>)	M, SE, 2	CA	CA
San Miguel Savory (<i>Satureja chandleri</i>)	M, 1B	VL	VL
Gander's Ragwort (<i>Senecio ganderi</i>) [=Gander's Butterweed]	M, 1B	VL	VL
Narrow-leaved Nightshade (<i>Solanum tenuilobatum</i>) ³	M	VL	VL
Parry's Tetracoccus (<i>Tetracoccus dioicus</i>)	M, 1B	LO	LO
¹ - Considered a non-taxonomically distinct population or form of <i>Calamagrostis koelerioides</i> by Hickman (1993), Simpson et al. (1996), and Skinner and Pavlik (2001).			
² - Considered a non-taxonomically distinct population or form of <i>Caulanthus heterophyllus heterophyllus</i> by Hickman (1993), Simpson et al. (1996), and Skinner and Pavlik (2001).			
³ - Considered a non-taxonomically distinct population or form of <i>Solanum xanti</i> by Hickman (1993), Simpson et al. (1996), and Skinner and Pavlik (2001).			
⁴ - An unidentified <i>Ericameria</i> sp. was present on the east site. A fragment (not a voucher specimen) was collected and will be brought to a qualified botanist for identification, and the results will be provided in the final report.			

Table E3. Flora Detected on the Study Area

Study Area Status		Origin	SPECIES	
West	East			
FERNS AND FERN-ALLIES				
			<u>Pteridaceae - Brake Family</u>	
o	o		<i>Cheilanthes newberryi</i>	California Cottonfern
s	s		<i>Pellaea andromedifolia</i>	Coffee Fern
o	o		<i>Pentagramma triangularis</i>	Goldenback Fern
			<u>Selaginellaceae - Spike-moss Family</u>	
f	f		<i>Selaginella bigelovii</i>	Bigelow's Spike-Moss
o	s		<i>Selaginella cinerascens</i>	Mesa Spike-Moss
GYMNOSPERMS				
			<u>Pinaceae - Pine Family</u>	
s		*	<i>Pinus radiata</i>	Monterey Pine
ANGIOSPERMS: DICOTS				
			<u>Aizoaceae - Fig-Marigold Family</u>	
s		*	<i>Carpobrotus chilensis</i>	Sea-Fig
o	s	*	<i>Carpobrotus edulis</i>	Hottentot-Fig
			<u>Amaranthaceae - Amaranth Family</u>	
o	f	*	<i>Amaranthus albus</i>	Tumbleweed
			<u>Anacardiaceae - Sumac Family</u>	
c	c		<i>Malosma laurina</i>	Laurel Sumac
o	s	*	<i>Schinus molle</i>	Peruvian Pepper-Tree
s		*	<i>Schinus terebinthifolius</i>	Brazilian Pepper-Tree
o	s		<i>Toxicodendron diversilobum</i>	Western Poison-Oak
			<u>Apiaceae - Carrot Family</u>	
c	c		<i>Apiastrum angustifolium</i>	Wild Celery
o	o		<i>Bowlesia incana</i>	American Bowlesia
f	f		<i>Daucus pusillus</i>	Rattlesnake Plant
	s		<i>Lomatium utriculatum</i>	Common Lomatium (= Hog Fennel)
			<u>Apocynaceae - Dogbane Family</u>	
s		*	<i>Nerium oleander</i>	Oleander
			<u>Asclepiadaceae - Milkweed Family</u>	
s	o		<i>Sarcostemma cynanchoides</i>	Hartweg's Milkvine
			<u>Asteraceae - Sunflower Family</u>	
o	s		<i>Acourtia microcephala</i>	Sacapellote
o	o		<i>Ambrosia acanthicarpa</i>	Annual Bur-Sage
f	f		<i>Ambrosia psilostachya</i>	Western Ragweed
a	a		<i>Artemisia californica</i>	California Sagebrush
s			<i>Artemisia dracunculus</i>	Tarragon
s	o		<i>Baccharis salicifolia</i> [= <i>B. glutinosa</i> , <i>B. viminea</i>]	Mule Fat
a	a		<i>Baccharis sarothroides</i>	Broom Baccharis
o	f		<i>Bebbia juncea</i>	Sweetbush
f	f		<i>Brickellia californica</i>	California Brickellbush
o	s	*	<i>Carduus tenuiflorus</i>	Slender-flowered Plumeless Thistle
a	a	*	<i>Centaurea melitensis</i>	Tocalote
o	o		<i>Chaenactis artemisiifolia</i>	Artemisia-leaved Pincushion
	s	*	<i>Chamomilla suaveolens</i>	Common Pineapple-Plant
f	f		<i>Conyza canadensis</i>	Common Horseweed

Study Area Status		Origin	SPECIES
West	East		
	s		<i>Coreopsis californica</i> California Coreopsis
	s	@	<i>Dimorphotheca sinuata</i> Cape-Marigold (= African Daisy)
o		=	<i>Encelia californica</i> California Bush Sunflower
	o		<i>Ericameria sp.</i> goldenbush
f	f		<i>Eriophyllum confertiflorum</i> Golden-Yarrow
o	o		<i>Filago californica</i> California Filago
c	c	*	<i>Filago gallica</i> Narrow-leaved Filago
	s	*	<i>Gazania linearis</i> Treasureflower
o	o		<i>Gnaphalium bicolor</i> Bicolored Cudweed
o	s		<i>Gnaphalium californicum</i> California Everlasting
f	f		<i>Gnaphalium canescens</i> Fragrant Everlasting
o	o	*	<i>Gnaphalium luteo-album</i> White Cudweed
f	f		<i>Gutierrezia californica</i> California Matchweed
c	c		<i>Hazardia squarrosa</i> Saw-toothed Goldenbush
	o		<i>Helianthus annuus</i> Common Sunflower
s	s		<i>Helianthus gracilentus</i> Slender Sunflower
c	c		<i>Hemizonia fasciculata</i> Fascicled Tarplant
f	f		<i>Heterotheca grandiflora</i> Telegraph Plant
o	o	*	<i>Hypochaeris glabra</i> Smooth Cat's-Ear
s		*	<i>Hypochaeris radicata</i> Rough Cat's-Ear
f	f	*	<i>Lactuca serriola</i> Prickly Lettuce
c	c		<i>Lasthenia californica</i> Coast Goldfields
o	s		<i>Layia platyglossa</i> Common Tidy-Tips
f	f		<i>Lessingia filaginifolia</i> Cudweed Aster
o	o		<i>Malacothrix saxatilis</i> Cliff Malacothrix
f	f		<i>Rafinesquia californica</i> California Chicory
o	o	*	<i>Senecio vulgaris</i> Common Groundsel
s		*	<i>Silybum marianum</i> Milk Thistle
o	o	*	<i>Sonchus asper</i> Prickly Sow Thistle
s	o	*	<i>Sonchus oleraceus</i> Common Sow Thistle
f	f		<i>Stephanomeria sp.</i> wreathplant
s	s	*	<i>Taraxacum officinale</i> Common Dandelion
o			<i>Uropappus lindleyi</i> Silver Puffs
f	f		<i>Viguiera laciniata</i> San Diego Viguiera
	s	*	<i>Xanthium strumarium</i> Rough Cocklebur (= Cocklebur)
			<u>Bignoniaceae - Bignonia Family</u>
s		=	<i>Tecoma capensis</i> Cape Honeysuckle
			<u>Boraginaceae - Borage Family</u>
c	c		<i>Amsinckia menziesii</i> Menzies' Fiddleneck
c	c		<i>Cryptantha (intermedia)</i> Clearwater Cat's-Eye
f	f		<i>Pectocarya sp.</i> comb-seed
f	f		<i>Cryptantha / Plagiobothrys sp.</i> popcorn flower
			<u>Brassicaceae - Mustard Family</u>
a	a	*	<i>Hirschfeldia incana</i> [= <i>Brassica geniculata</i>] Short-pod Mustard
f	f		<i>Lepidium nitidum</i> Shining Peppergrass
o	o	*	<i>Raphanus sativus</i> Wild Radish
	s	*	<i>Sisymbrium altissimum</i> Tumble Mustard
f	f	*	<i>Sisymbrium irio</i> London Rocket

Study Area Status		Origin	SPECIES	
West	East			
f	f	*	<i>Sisymbrium orientale</i>	Indian Hedge Mustard
			<u>Cactaceae - Cactus Family</u>	
o	f	*	<i>Opuntia ficus-indica</i>	Indian-Fig
o	o		<i>Opuntia littoralis</i>	Coastal Prickly-pear
			<u>Caprifoliaceae - Honeysuckle Family</u>	
f	f		<i>Sambucus mexicana</i>	Blue Elderberry
			<u>Caryophyllaceae - Pink Family</u>	
f	s	*	<i>Cerastium glomeratum</i>	Mouse-eared Chickweed
s	o	*	<i>Silene gallica</i>	Common Catchfly
s			<i>Silene laciniata</i>	Indian Pink
			<u>Chenopodiaceae - Goosefoot Family</u>	
o			<i>Chenopodium californicum</i>	California Goosefoot
f	f	*	<i>Chenopodium murale</i>	Nettle-leaved Goosefoot
o	f	*	<i>Salsola tragus</i>	Russian-thistle
			<u>Convolvulaceae - Morning-Glory Family</u>	
o	o		<i>Calystegia macrostegia</i>	Western Bindweed
			<u>Crassulaceae - Stonecrop Family</u>	
c	c		<i>Crassula connata</i>	Sandy Pygmy-weed (=Dwarf Stonecrop)
f	f		<i>Dudleya pulverulenta</i>	Chalk Dudleya
			<u>Cucurbitaceae - Gourd Family</u>	
o	o		<i>Marah macrocarpus</i>	Wild Cucumber
			<u>Cuscutaceae - Dodder Family</u>	
f	f		<i>Cuscuta californica</i>	California Dodder
			<u>Euphorbiaceae - Spurge Family</u>	
f	f		<i>Chamaesyce polycarpa</i>	Golondrina
o	f		<i>Eremocarpus setigerus</i>	Doveweed
o		*	<i>Ricinus communis</i>	Castor-bean
f			<i>Stillingia linearifolia</i>	Linear-leaved Stillingia
			<u>Fabaceae - Pea Family</u>	
o		@	<i>Acacia</i> sp.	acacia
s			<i>Lotus purshianus</i>	Spanish Clover
f	f		<i>Lotus scoparius</i>	Deerweed (=California Broom)
f	f		<i>Lupinus bicolor</i>	Miniature Lupine
o	f		<i>Lupinus hirsutissimus</i>	Stinging Lupine
s			<i>Lupinus succulentus</i>	Arroyo Lupine
	o		<i>Lupinus truncatus</i>	Collar Lupine
s	s		<i>Lupinus</i> sp.	lupine
o		*	<i>Medicago</i> sp.	medick
o		*	<i>Melilotus indica</i>	Sourclover
s	o		<i>Pickeringia montana</i>	Chaparral Pea
	o	?	<i>Trifolium</i> sp.	clover
			<u>Fagaceae - Beech Family</u>	
s	s		<i>Quercus agrifolia</i>	Coast Live Oak
			<u>Gentianaceae - Gentian Family</u>	
f	f		<i>Centaurium venustum</i>	Canchalagua
			<u>Geraniaceae - Geranium Family</u>	
f	f	*	<i>Erodium botrys</i>	Broad-lobed Filaree
f	f	*	<i>Erodium cicutarium</i>	Red-stemmed Filaree

Study Area Status		Origin	SPECIES	
West	East			
o	o	*	<i>Erodium moschatum</i>	White-stem Filaree
s		=	<i>Pelargonium ×hortorum</i>	Garden Pelargonium
			<u>Hydrophyllaceae - Waterleaf Family</u>	
o	s		<i>Emmenanthe penduliflora</i>	Whispering Bells
o	o		<i>Eucrypta chrysanthemifolia</i>	Common Eucrypta
o	o		<i>Nemophila menziesii</i>	Baby Blue-Eyes
f	f		<i>Phacelia cicutaria</i>	Caterpillar Phacelia
s			<i>Phacelia distans</i>	Wild Heliotrope
c	c		<i>Phacelia minor</i>	Wild Canterbury-Bell
			<u>Lamiaceae - Mint Family</u>	
s		*	<i>Lamium amplexicaule</i>	Henbit
o	f	*	<i>Marrubium vulgare</i>	White Horehound
f	f		<i>Salvia apiana</i>	White Sage
o	s		<i>Salvia columbariae</i>	Chia
			<u>Malvaceae - Mallow Family</u>	
s			<i>Malacothamnus densiflorus</i>	Many-flowered Mallow
o	o		<i>Malacothamnus fasciculatus</i>	Mesa Bushmallow
s	f	*	<i>Malva parviflora</i>	Cheeseweed
	s		<i>Sidalcea malvaeflora</i>	Checker Bloom
			<u>Myoporaceae - Myoporum Family</u>	
s		*	<i>Myoporum laetum</i>	Myoporum
			<u>Myrtaceae - Myrtle Family</u>	
	s	*	<i>Eucalyptus (camaldulensis)</i>	River Red Gum
s	s	*	<i>Eucalyptus (globulus)</i>	Tasmanian Blue Gum
s		*	<i>Eucalyptus</i> sp.	gumtree
			<u>Nyctaginaceae - Four-O'clock Family</u>	
f	f		<i>Mirabilis californica</i>	California Wishbone Bush
			<u>Oleaceae - Olive Family</u>	
	s		<i>Fraxinus velutina</i>	Velvet Ash
s		*	<i>Olea europaea</i>	European Olive
			<u>Onagraceae - Evening-Primrose Family</u>	
			<i>Camissonia bistorta</i>	Southern Sun-cup
f	f		<i>Camissonia californica</i>	California (=Mustard) Evening-Primrose
f	f		<i>Camissonia</i> sp.	sun-cup
	s		<i>Clarkia bottae</i> (= <i>C. deflexa</i>)	Punchbowl Godetia
o			<i>Clarkia purpurea</i>	Winecup Clarkia
o	o		<i>Clarkia epilobioides</i>	Willow-herb Clarkia
o	o		<i>Epilobium canum</i>	California Fuchsia
			<u>Paeoniaceae - Peony Family</u>	
	s		<i>Paeonia californica</i>	California Peony
			<u>Papaveraceae - Poppy Family</u>	
f	f		<i>Eschscholzia californica</i>	California Poppy
o	o		<i>Platystemon californicus</i>	Cream Cups
			<u>Plantaginaceae - Plantain Family</u>	
o	o		<i>Plantago erecta</i>	Dwarf (=California) Plantain
	s	*	<i>Plantago lanceolata</i>	English Plantain
			<u>Platanaceae - Sycamore Family</u>	
	s	*	<i>Platanus occidentalis</i>	American Sycamore

Study Area Status		Origin	SPECIES
West	East		
			<u>Polemoniaceae - Phlox Family</u>
o	o		<i>Linanthus dianthiflorus</i> Ground-Pink
s			<i>Linanthus liniflorus</i> Flax-flowered Linanthus
f	o		<i>Navarretia atractyloides</i> Holly-leaved Navarretia
s			<i>Navarretia hamata</i> Hooked Navarretia
			<u>Polygonaceae - Buckwheat Family</u>
f	f		<i>Chorizanthe</i> sp. spine-flower
a	a		<i>Eriogonum fasciculatum</i> California (=Flat-topped) Buckwheat
s	s		<i>Rumex</i> sp. dock
			<u>Portulacaceae - Purslane Family</u>
o	o		<i>Calandrinia ciliata</i> Redmaids
o	o		<i>Calyptridium monandrum</i> Common Calyptridium (= Sand-Cress)
f	o		<i>Claytonia perfoliata</i> Miner's-Lettuce
s		*	<i>Portulaca oleracea</i> Common Purslane
			<u>Primulaceae - Primrose Family</u>
o	o		* <i>Anagallis arvensis</i> Scarlet Pimpernel
o	s		<i>Dodecatheon clevelandii</i> Padres' Shooting star
			<u>Proteaceae - Proteus Family</u>
s		=	<i>Grevillea robusta</i> Silk-oak
			<u>Ranunculaceae - Crowfoot Family</u>
f	f		<i>Clematis pauciflora</i> Small-leaved Clematis (=Ropevine)
o			<i>Delphinium parryi</i> Parry's Larkspur
			<u>Rhamnaceae - Buckthorn Family</u>
f	o		<i>Rhamnus crocea</i> Spiny Redberry
			<u>Rosaceae - Rose Family</u>
s			<i>Heteromeles arbutifolia</i> Toyon
			<u>Rubiaceae - Madder Family</u>
o	o		<i>Galium angustifolium</i> Linear-leaved Bedstraw
o	o	?	<i>Galium aparine</i> Goose-grass
f	f		<i>Galium nuttallii</i> San Diego Bedstraw
			<u>Salicaceae - Willow Family</u>
s			<i>Salix gooddingii</i> Goodding's Black Willow
s			<i>Salix lasiolepis</i> Arroyo Willow
			<u>Saxifragaceae - Saxifrage Family</u>
s			<i>Lithophragma affine</i> Woodland-Star
			<u>Scrophulariaceae - Figwort Family</u>
o	s		<i>Antirrhinum nuttallianum</i> Nuttall's Snapdragon
o	o		<i>Castilleja</i> sp. paintbrush
o	o		<i>Castilleja exserta</i> Purple Owl's-Clover
	s		<i>Collinsia heterophylla</i> Purple Chinese Houses
s			<i>Keckiella antirrhinoides</i> Chaparral Beard's-Tongue
	s		<i>Linaria canadensis</i> Large Blue Toadflax
f	f		<i>Mimulus aurantiacus</i> Orange Bush Monkey-Flower
s	s		<i>Penstemon spectabilis</i> Royal Penstemon
	f		<i>Scrophularia californica</i> Coast Figwort
			<u>Simaroubaceae - Quassia Family</u>
o		*	<i>Ailanthus altissima</i> Tree-of-Heaven

Study Area Status		Origin	SPECIES	
West	East			
			<u>Solanaceae - Nightshade Family</u>	
o	o		<i>Datura wrightii</i>	Perennial Jimsonweed
o	o	*	<i>Nicotiana glauca</i>	Tree Tobacco
o	s		<i>Solanum douglasii</i>	Douglas' Nightshade
			<u>Tropaeolaceae - Nasturtium Family</u>	
	s	*	<i>Tropaeolum majus</i>	Garden Nasturtium
			<u>Urticaceae - Nettle Family</u>	
s	o	*	<i>Urtica urens</i>	Dwarf Nettle
			<u>Violaceae - Violet Family</u>	
o	o		<i>Viola pedunculata</i>	Johnny Jump-Up
			<u>Viscaceae - Mistletoe Family</u>	
	s		<i>Phoradendron tomentosum</i>	Big-leaved Mistletoe
			<u>Zygophyllaceae - Caltrop Family</u>	
	s	*	<i>Tribulus terrestris</i>	Puncture Vine
ANGIOSPERMS: MONOCOTS				
			<u>Iridaceae - Iris Family</u>	
f	o		<i>Sisyrinchium bellum</i>	California Blue-eyed-Grass
			<u>Liliaceae - Lily Family</u>	
s		*	<i>Agave americana</i>	Century Plant
s	o		<i>Calochortus concolor</i>	Golden-bowl Mariposa
f	f		<i>Calochortus splendens</i>	Lilac Mariposa
f	f		<i>Chlorogalum parviflorum</i>	Small-flowered Amole
o	o		<i>Dichelostemma capitatum</i>	Blue Dicks
o	o		<i>Yucca whipplei</i>	Chaparral Yucca
			<u>Poaceae - Grass Family</u>	
o		*	<i>Arundo donax</i>	Giant Reed
o	o	*	<i>Avena barbata</i>	Slender Oat
c	c	*	<i>Avena fatua</i>	Wild Oat
f	c	*	<i>Bromus diandrus</i>	Ripgut Brome
o	o	*	<i>Bromus hordeaceus</i> (= <i>B. mollis</i>)	Soft Chess
c	c	*	<i>Bromus madritensis</i>	Spanish Brome
o	o		<i>Distichlis spicata</i>	Salt Grass
s	o	*	<i>Hordeum murinum</i>	Glaucous Foxtail Barley
	s	*	<i>Hordeum vulgare</i>	Common Barley
o	o	*	<i>Lamarckia aurea</i>	Goldentop
s			<i>Melica (imperfecta)</i>	Coast Range Melic
f	o		<i>Nassella (pulchra)</i>	Purple Needlegrass
o	s	*	<i>Pennisetum setaceum</i>	Fountain Grass
	s	?	<i>Phalaris</i> sp.	canary grass (= Timothy grass)
f	f	*	<i>Schismus barbatus</i>	Mediterranean Schismus (= Abu Mashi)
f	f	*	<i>Vulpia myuros</i>	Rat-tail Fescue

APPENDIX F

INVERTEBRATE FAUNAL LIST

INTRODUCTION

All invertebrate fauna encountered and identified to the level of order or lower during the field work for the current study are listed below. Because the data are based on anecdotal work by a non-specialist with no focused sampling, collecting, or keying, and includes only macroinvertebrates (those greater than about 1 - 2 millimeters in length), the list is limited to three functions. First, the list serves as additional indicators of site conditions complementing other information presented elsewhere in this report. Second, it documents the observed presence during the current work of taxa that may later prove to be useful indicators of general or specific conditions, for example conspicuous nonnative invertebrates that may affect site resources. Finally, it provides an example format for reporting invertebrate taxa by a non-specialist, spanning a broad array of taxonomic levels and varied levels of identification, and for multiple sites.

Identification under the current scope of work was generally based on comparison to gross features known to the observer or presented in non-technical information sources, along with information on documented status. Thus the list below provides identifications of the various taxa only to the level at which reliable identification was performed. In no case was identification asserted below the level of full species. No voucher specimens or other forms of documentation were collected for invertebrates. Where the scientific name is given in parentheses, the identity is considered probable only.

Identification was based on information drawn primarily from these sources: Arnett (2000), Borror and White (1970), Emmel and Emmel (1973), Garth and Tilden (1986), Glassberg (2001), Hogue (1993), Levi and Levi (1996), Mattoni (1990), Opler and Wright (1999), Powell and Hogue (1979), and Stewart (1997).

Taxonomy and Nomenclature

No single, widely accepted standard exists for either taxonomy or nomenclature (including English names) across the animal kingdom. Unlike that for vertebrates, the California Wildlife Habitat Relationships System (CWHHR) at this time provides no listing of or information on invertebrates. For butterflies and skippers, Glassberg (1995) is used except as updated in Opler and Wright (1999), and for other insects, Arnett (2000) is followed. For other invertebrate taxa and for English names not provided by those sources, general guidance in Hogue (1993) and/or Powell and Hogue (1979) is used. Alternate scientific and/or English names are sometimes given parenthetically in the list below, where those names are also established and/or controversy exists. As with flora and vertebrate fauna, adopted English names of all species are capitalized. This is done primarily to clarify reference (e.g., "a Brown Garden Snail" rather than "a brown garden snail"), but also to recognize that species names, once formalized to a standard, fit the distinction of "proper nouns", which in English are, "... arbitrarily used to denote a particular person, place, or thing without regard to any descriptive meaning the word or phrase may have" (Flexner 1987).

Study Area Morphospecies

Totals are given separately for the west site and east site, and represent conservative counts without reference collecting, and based on macro-characters given in the sources listed above. The term, "Morphospecies" is used as defined in Oliver and Beattie (1996): "taxa readily separable by morphological differences that are obvious to individuals without extensive taxonomic training." We list taxa as identified to various levels. However, morphospecies that could not be identified at least to order were ignored.

Some morphospecies were noted on a single site, while others were noted on both sites in the study area. This is handled in the columns for the two sites as follows. For each taxon, order through species, the number of morphospecies identified to that level on the west site is given in the row for that taxon and in the first (left-hand) column. Where the number is zero, it is left blank. The second column may contain either one number or two numbers separated by a "+". First is the number of morphospecies identified to the given level "shared" by both east and west sites, and second is the number of morphospecies found only on the east site. For example, a "4" in the first column directly across from an order name means that 4 morphospecies were noted on the west site that were identified only to the level of that order. A "2+1" in the second column across from the order name means that 3 morphospecies were identified as present on the east site, of which 2 were believed the same as morphospecies on the west site, and 1 was apparently different. Thus, the total for morphospecies identified on the study area to the level of the given order in this case would be 4 plus 1, or 5. Additional taxa within that order may have been identified at lower taxonomic levels and if so, are shown at those levels.

Thus, for the list below the total number of morphospecies in the order Araneae (True Spiders) is 8 for the west site, 11 for the east site, and 14 for the study area as a whole. The number of morphospecies shared by the two sites is 5.

Origin

Whether a species is native (i.e., naturally established currently or at some time during recorded history) within the vicinity of a particular study area generally can be established with reasonable certainty for terrestrial vertebrates, but is frequently uncertain for invertebrate species. The sources used for taxonomic standards are also followed for the status of origin, when indicated. Arnett (2000) in particular appears to provide casual attention to this issue. An additional problem is that many species may be native to a large area covered by a standard reference but nonnative to a smaller study area within that (e.g., Black Bear and Red Fox are nonnative in southern California but native to the state). In these cases standard convention is used from a variety of published sources, taking into consideration the location of the study area. Finally, a species is considered native if it has expanded its range in response to anthropogenic environmental changes (e.g., Brown-headed Cowbird in coastal California). This is because there is often no means to distinguish among the various non-anthropogenic and indirect anthropogenic causes. In point of fact, most range changes may be the result of combinations of many causes.

* - Nonnative
? - Origin unknown

Special Status

No invertebrate animals with special regulatory or management status were detected on the study area during the current work. Thus, there is no column provided to show this status. See Appendix F for special status categories evaluated.

Unlike plants, there is currently no published effort to catalog, classify, or prioritize nonnative animals regarding potential impacts to natural resources in our area, with respect to perceived or potential levels of impacts on natural resources. Because such assessment would be very complex and would require published and unpublished information far beyond the scope of the current work, no such system is attempted here.

Table F1. Invertebrate Fauna Detected on the Study Area

Study Area Morphospecies		Origin	TAXON
West	East		
PHYLUM MOLLUSCA - MOLLUSKS			
CLASS GASTROPODA - GASTROPODS			
			Order STYLOMMATOPHORA - SNAILS
			<u>Helicidae - Helix Snail Family</u>
1	1	*	<i>Helix aspersa</i> Brown Garden Snail
PHYLUM ARTHROPODA - ARTHROPODS			
CLASS ARACHNIDA - ARACHNIDS			
1	1+2	?	Order ARANEAE - TRUE SPIDERS
			<u>Superfamily Mygalomorphae</u>
	1		<u>Ctenizidae - Trapdoor Spider Family</u>
1	1		<u>Mecicobothriidae - Funnelweb Spider Family</u>
			<u>Theraphosidae - Tarantula Family</u>
	1		<i>Aphonopelma (eutylenum)</i> tarantula
			<u>Superfamily Araneomorphae</u>
1	1		<u>Agelenidae - Funnel Weaver Family</u>
2	1		<u>Araneidae - Orb-weaver Family</u>
1			<i>Cyclosa</i> sp. trash-web weaver
2	1		<u>Salticidae - Jumping Spider Family</u>
	1		<i>Phidippus (johnsoni)</i> jumping spider
			<u>Theridiidae - Comb-footed Spiders</u>

Study Area Morphospecies		Origin	TAXON	
West	East			
	1		<i>Lactrodectus hesperus</i>	Western Black Widow
CLASS CRUSTACEA - CRUSTACEANS				
			Order ISOPODA - WOODLICE	
			<u>Armadillidiidae - Pillbug Family</u>	
1	1	*	<i>Armadillidium vulgare</i>	Common Pillbug
			<u>Porcellionidae - Sowbug Family</u>	
	1	*	<i>Porcellio laevis</i>	Dooryard Sowbug
CLASS CHILOPODA - CENTIPEDES				
			Order Scolopendromorpha - Wolf Centipedes	
			<u>Scolopendridae - True Wolf Centipede Family</u>	
1	1		<i>Scolopendra polymorpha</i>	Multicolored Centipede
CLASS INSECTA - INSECTS				
1	1	?	Order ZYGENTOMA - SILVERFISH AND ALLIES	
1	1		Order EPHEMEROPTERA - MAYFLIES	
			Order ODONATA - DRAGONFLIES AND DAMSELFLIES	
3	2		<u>Suborder Anisoptera - Dragonflies</u>	
1	1		<u>Suborder Zygoptera - Damselflies</u>	
			Order ORTHOPTERA - GRASSHOPPERS, CRICKETS, AND ALLIES	
			<u>Acrididae - Grasshopper Family</u>	
1	1		<i>Trimerotropis pallidipennis</i>	Pallid Band-wing
1	1	?	<u>Gryllidae - True Cricket Family</u>	
			<u>Stenopelmatidae - Jerusalem Cricket Family</u>	
1	1		<i>Stenopelmatus</i> sp.	Jerusalem cricket
			Order DERMAPTERA - EARWIGS	
			<u>Forficulidae - Family</u>	
1	1	*	<i>Forficula auriculara</i>	European Earwig
			<u>Carcinophoridae - Family</u>	
1	1	*	<i>Euborellia annulipes</i>	Ring-legged Earwig
1	1		Order ISOPTERA - TERMITES	
2	3	?	Order HEMIPTERA - TRUE BUGS	
			Order HOMOPTERA - CICADAS, APHIDS, AND ALLIES	
			<u>Cercopidae - Spittlebug Family</u>	
1	1		<u>Cicadidae - Cicada Family</u>	
2	1		<u>Cicadellidae - Leafhopper Family</u>	
1	1	?	<u>Aphididae - Aphid Family</u>	
			<u>Dactylopiidae - Cochineal Scale Family</u>	
1	1		<i>Dactylopius</i> sp.	cochineal scale insect
			<u>Psyllidae - Jumping Plant Lice Family</u>	
1	1	*	<i>Glycaspis brimblecombei</i>	Red Gum Lerp Psyllid
			Order NEUROPTERA - LACEWINGS, ANTLIONS, AND ALLIES	
1			<u>Raphidiidae - Snakefly Family</u>	
1	1		<u>Myrmeleontidae - Ant Lion Family</u>	
4	2+1	?	Order COLEOPTERA - BEETLES AND WEEVILS	
1	1		<u>Carabidae - Ground Beetle Family</u>	

Study Area Morphospecies		Origin	TAXON	
West	East			
			<u>Cerambycidae - Long-horned Beetle Family</u>	
1	1	*	<i>Phoracantha semipunctata</i>	Eucalyptus Long-horn Borer
2	1		<u>Coccinellidae - Ladybird Beetle Family</u>	
			<u>Scarabaeidae - Scarab Beetle Family</u>	
1	1	*	<i>Cotinus mutabilis</i>	Green Fruit Beetle
	1		<i>Polyphylla</i> sp.	ten-lined June beetle
			<u>Tenebrionidae - Darkling Beetle Family</u>	
	1		<i>Cratidus osculans</i>	Wooly Darkling
1	1		<i>Eleodes</i> sp.	stink beetle
1	1		<u>Zopheridae - Ironclad Beetle Family</u>	
			Order HYMENOPTERA - BEES, ANTS, AND ALLIES	
			<u>Vespidae - Paper Wasp Family</u>	
1	1	*	<i>Vespula pensylvanica</i>	Yellow Jacket
			<u>Sphecidae - Sphecid Wasp Family</u>	
	1		<i>Bembix</i> sp.	sand wasp (=digger wasp)
			<u>Pompilidae - Spider Wasp Family</u>	
1	1		<i>Pepsis</i> sp.	tarantula hawk
			<u>Mutillidae - Velvet Ant Family</u>	
1	1		<i>Dasymutilla</i> sp.	velvet ant
5	4+2		<u>Formicidae - Ant Family</u>	
1	1	*	<i>Linepithema humile</i>	Argentine Ant
			<u>Apidae - True Bee Family</u>	
1	1	*	<i>Apis mellifera</i>	Honey Bee
1	1		<i>Bombus</i> sp.	bumblebee
2	1+2		Order LEPIDOPTERA - MOTHS, SKIPPERS, AND BUTTERFLIES	
			<u>Superfamily Papilionoidea - Skippers and Butterflies</u>	
			<u>Hesperiidae - Skipper Family</u>	
1	1		<i>Erynnis funeralis</i>	Funereal Duskywing
	1		<i>Pyrgus communis</i>	Common Checkered Skipper
	1		<i>(Hylephila phyleus)</i>	skipper (probable Fiery Skipper)
			<u>Papilionidae - Swallowtail Family</u>	
	1		<i>Papilio zelicaon</i>	Anise Swallowtail
1	1		<i>Papilio rutulus</i>	Western Tiger Swallowtail
	1		<i>Papilio eurymedon</i>	Pale Swallowtail
			<u>Pieridae - Whites and Sulphurs Family</u>	
1	1		<i>Pontia protodice</i>	Checkered White
1	1	*	<i>Pieris rapae</i>	Cabbage White
1	1		<i>Anthocharis sara</i>	Sara Orangetip
1			<i>Colias eurytheme</i>	Orange Sulphur (=Alfalfa Butterfly)
			<u>Lycaenidae - Gossamer-wing Butterfly Family</u>	
1			<i>Lycaena hermes</i>	Hermes Copper
1	1		<i>Callophrys affinis</i> ¹	Western Green Hairstreak ¹
1	1		<i>Strymon melinus</i>	Common Hairstreak (=Gray Hairstreak)
1	1		<i>Brephidium exile</i>	Western Pygmy-Blue

Study Area Morphospecies		Origin	TAXON	
West	East			
1	1		<i>Leptotes marina</i>	Marine Blue
1			<i>Everes amyntula</i>	Western Tailed-Blue
			<i>Celastrina ladon</i>	Spring Azure
1	1		<i>Euphilotes (bernardino)</i> ²	Bernardino Dotted-Blue ²
	1		<i>Glaucopsyche lygdamus</i>	Silvery Blue
1	1		<i>Plebejus acmon</i>	Acmon Blue
			<u>Riodinidae - Metalmark Family</u>	
1	1		<i>Apodemia virgulti</i> ³	Behr's Metalmark ³
			<u>Nymphalidae - Brush-footed Butterfly Family</u>	
	1		<i>Euptoieta claudia</i>	Variegated Fritillary
	1		<i>Chlosyne gabbii</i>	Gabb's Checkerspot
	1		<i>Nymphalis antiopa</i>	Mourning Cloak
1	1		<i>Vanessa cardui</i>	Painted Lady
1			<i>Vanessa annabella</i>	West Coast Lady
1	1		<i>Vanessa atalanta</i>	Red Admiral
	1		<i>Junonia coenia</i>	Common Buckeye
1			<i>Coenonympha tullia</i>	Common Ringlet
1	1		<i>Danaus gilippus</i>	Queen
			<u>Superfamily Sphingoidea</u>	
			<u>Sphingidae - Hawk Moth Family</u>	
1	1		<i>Hyles lineata</i>	White-lined Sphinx
2	1		Order DIPTERA - FLIES AND KEDS	
1	1		<u>Tipulidae - Crane Fly Family</u>	
1	1		<u>Chironomidae - Midge Family</u>	
	1		<u>Tabanidae - Horse Fly and Deer Fly Family</u>	
	1		<u>Bombyliidae - Bee Fly Family</u>	
2	1		<u>Syrphidae - Flower Fly Family</u>	
1	1		<u>Muscidae - Muscid Fly Family</u>	
1	1		<u>Calliphoridae - Blow Fly Family</u>	
	1		<i>Phaenicia</i> sp.	green bottle fly
1	1		<u>Sarcophagidae - Flesh Fly Family</u>	

¹- Several taxonomic treatments for this form are published. Listed as Immaculate Bramble Hairstreak (*Callophrys dumetorum affinis*) in the San Diego Natural History Museum's (SDNHM) online Checklist of the Butterflies of San Diego County (<http://www.sdnhm.org/research/entomology/sdbutterflies.html>).

²- Listed as Bernardino Square-spotted Blue (*Euphilotes battoides bernardino*) in the SDNHM Checklist.

³- Listed as *Apodemia mormo virgulti* in the SDNHM Checklist.

APPENDIX F

INVERTEBRATE FAUNAL LIST

INTRODUCTION

All invertebrate fauna encountered and identified to the level of order or lower during the field work for the current study are listed below. Because the data are based on anecdotal work by a non-specialist with no focused sampling, collecting, or keying, and includes only macroinvertebrates (those greater than about 1 - 2 millimeters in length), the list is limited to three functions. First, the list serves as additional indicators of site conditions complementing other information presented elsewhere in this report. Second, it documents the observed presence during the current work of taxa that may later prove to be useful indicators of general or specific conditions, for example conspicuous nonnative invertebrates that may affect site resources. Finally, it provides an example format for reporting invertebrate taxa by a non-specialist, spanning a broad array of taxonomic levels and varied levels of identification, and for multiple sites.

Identification under the current scope of work was generally based on comparison to gross features known to the observer or presented in non-technical information sources, along with information on documented status. Thus the list below provides identifications of the various taxa only to the level at which reliable identification was performed. In no case was identification asserted below the level of full species. No voucher specimens or other forms of documentation were collected for invertebrates. Where the scientific name is given in parentheses, the identity is considered probable only.

Identification was based on information drawn primarily from these sources: Arnett (2000), Borror and White (1970), Emmel and Emmel (1973), Garth and Tilden (1986), Glassberg (2001), Hogue (1993), Levi and Levi (1996), Mattoni (1990), Opler and Wright (1999), Powell and Hogue (1979), and Stewart (1997).

Taxonomy and Nomenclature

No single, widely accepted standard exists for either taxonomy or nomenclature (including English names) across the animal kingdom. Unlike that for vertebrates, the California Wildlife Habitat Relationships System (CWHR) at this time provides no listing of or information on invertebrates. For butterflies and skippers, Glassberg (1995) is used except as updated in Opler and Wright (1999), and for other insects, Arnett (2000) is followed. For other invertebrate taxa and for English names not provided by those sources, general guidance in Hogue (1993) and/or Powell and Hogue (1979) is used. Alternate scientific and/or English names are sometimes given parenthetically in the list below, where those names are also established and/or controversy exists. As with flora and vertebrate fauna, adopted English names of all species are capitalized. This is done primarily to clarify reference (e.g., "a Brown Garden Snail" rather than "a brown garden snail"), but also to recognize that species names, once formalized to a standard, fit the distinction of "proper nouns", which in English are, "... arbitrarily used to denote a particular person, place, or thing without regard to any descriptive meaning the word or phrase may have" (Flexner 1987).

Study Area Morphospecies

Totals are given separately for the west site and east site, and represent conservative counts without reference collecting, and based on macro-characters given in the sources listed above. The term, "Morphospecies" is used as defined in Oliver and Beattie (1996): "taxa readily separable by morphological differences that are obvious to individuals without extensive taxonomic training." We list taxa as identified to various levels. However, morphospecies that could not be identified at least to order were ignored.

Some morphospecies were noted on a single site, while others were noted on both sites in the study area. This is handled in the columns for the two sites as follows. For each taxon, order through species, the number of morphospecies identified to that level on the west site is given in the row for that taxon and in the first (left-hand) column. Where the number is zero, it is left blank. The second column may contain either one number or two numbers separated by a "+". First is the number of morphospecies identified to the given level "shared" by both east and west sites, and second is the number of morphospecies found only on the east site. For example, a "4" in the first column directly across from an order name means that 4 morphospecies were noted on the west site that were identified only to the level of that order. A "2+1" in the second column across from the order name means that 3 morphospecies were identified as present on the east site, of which 2 were believed the same as morphospecies on the west site, and 1 was apparently different. Thus, the total for morphospecies identified on the study area to the level of the given order in this case would be 4 plus 1, or 5. Additional taxa within that order may have been identified at lower taxonomic levels and if so, are shown at those levels.

Thus, for the list below the total number of morphospecies in the order Araneae (True Spiders) is 8 for the west site, 11 for the east site, and 14 for the study area as a whole. The number of morphospecies shared by the two sites is 5.

Origin

Whether a species is native (i.e., naturally established currently or at some time during recorded history) within the vicinity of a particular study area generally can be established with reasonable certainty for terrestrial vertebrates, but is frequently uncertain for invertebrate species. The sources used for taxonomic standards are also followed for the status of origin, when indicated. Arnett (2000) in particular appears to provide casual attention to this issue. An additional problem is that many species may be native to a large area covered by a standard reference but nonnative to a smaller study area within that (e.g., Black Bear and Red Fox are nonnative in southern California but native to the state). In these cases standard convention is used from a variety of published sources, taking into consideration the location of the study area. Finally, a species is considered native if it has expanded its range in response to anthropogenic environmental changes (e.g., Brown-headed Cowbird in coastal California). This is because there is often no means to distinguish among the various non-anthropogenic and indirect anthropogenic causes. In point of fact, most range changes may be the result of combinations of many causes.

* - Nonnative
? - Origin unknown

Special Status

No invertebrate animals with special regulatory or management status were detected on the study area during the current work. Thus, there is no column provided to show this status. See Appendix F for special status categories evaluated.

Unlike plants, there is currently no published effort to catalog, classify, or prioritize nonnative animals regarding potential impacts to natural resources in our area, with respect to perceived or potential levels of impacts on natural resources. Because such assessment would be very complex and would require published and unpublished information far beyond the scope of the current work, no such system is attempted here.

Table F1. Invertebrate Fauna Detected on the Study Area

Study Area Morphospecies		Origin	TAXON
West	East		
PHYLUM MOLLUSCA - MOLLUSKS			
CLASS GASTROPODA - GASTROPODS			
			Order STYLOMMATOPHORA - SNAILS
			Helicidae - Helix Snail Family
1	1	*	Helix aspersa Brown Garden Snail
PHYLUM ARTHROPODA - ARTHROPODS			
CLASS ARACHNIDA - ARACHNIDS			
1	1+2	?	Order ARANEAE - TRUE SPIDERS
			Superfamily Mygalomorphae
	1		Ctenizidae - Trapdoor Spider Family
1	1		Mecicobothriidae - Funnelweb Spider Family
			Theraphosidae - Tarantula Family
	1		Aphonopelma (eutylenum) tarantula
			Superfamily Araneomorphae
1	1		Agelenidae - Funnel Weaver Family
2	1		Araneidae - Orb-weaver Family
1			Cyclosa sp. trash-web weaver
2	1		Salticidae - Jumping Spider Family
	1		Phidippus (johnsoni) jumping spider
			Theridiidae - Comb-footed Spiders

Study Area Morphospecies		Origin	TAXON	
West	East			
	1		<i>Lactrodectus hesperus</i>	Western Black Widow
CLASS CRUSTACEA - CRUSTACEANS				
			Order ISOPODA - WOODLICE	
			<u>Armadillidiidae - Pillbug Family</u>	
1	1	*	<i>Armadillidium vulgare</i>	Common Pillbug
			<u>Porcellionidae - Sowbug Family</u>	
	1	*	<i>Porcellio laevis</i>	Dooryard Sowbug
CLASS CHILOPODA - CENTIPEDES				
			Order Scolopendromorpha - Wolf Centipedes	
			<u>Scolopendridae - True Wolf Centipede Family</u>	
1	1		<i>Scolopendra polymorpha</i>	Multicolored Centipede
CLASS INSECTA - INSECTS				
1	1	?	Order ZYGENTOMA - SILVERFISH AND ALLIES	
1	1		Order EPHEMEROPTERA - MAYFLIES	
			Order ODONATA - DRAGONFLIES AND DAMSELFLIES	
3	2		<u>Suborder Anisoptera - Dragonflies</u>	
1	1		<u>Suborder Zygoptera - Damselflies</u>	
			Order ORTHOPTERA - GRASSHOPPERS, CRICKETS, AND ALLIES	
			<u>Acrididae - Grasshopper Family</u>	
1	1		<i>Trimerotropis pallidipennis</i>	Pallid Band-wing
1	1	?	<u>Gryllidae - True Cricket Family</u>	
			<u>Stenopelmatidae - Jerusalem Cricket Family</u>	
1	1		<i>Stenopelmatus</i> sp.	Jerusalem cricket
			Order DERMAPTERA - EARWIGS	
			<u>Forficulidae - Family</u>	
1	1	*	<i>Forficula auriculara</i>	European Earwig
			<u>Carcinophoridae - Family</u>	
1	1	*	<i>Euborellia annulipes</i>	Ring-legged Earwig
1	1		Order ISOPTERA - TERMITES	
2	3	?	Order HEMIPTERA - TRUE BUGS	
			Order HOMOPTERA - CICADAS, APHIDS, AND ALLIES	
1	2		<u>Cercopidae - Spittlebug Family</u>	
1	1		<u>Cicadidae - Cicada Family</u>	
2	1		<u>Cicadellidae - Leafhopper Family</u>	
1	1	?	<u>Aphididae - Aphid Family</u>	
			<u>Dactylopiidae - Cochineal Scale Family</u>	
1	1		<i>Dactylopius</i> sp.	cochineal scale insect
			<u>Psyllidae - Jumping Plant Lice Family</u>	
1	1	*	<i>Glycaspis brimblecombei</i>	Red Gum Lerp Psyllid
			Order NEUROPTERA - LACEWINGS, ANTLIONS, AND ALLIES	
1			<u>Raphidiidae - Snakefly Family</u>	
1	1		<u>Myrmeleontidae - Ant Lion Family</u>	
4	2+1	?	Order COLEOPTERA - BEETLES AND WEEVILS	
1	1		<u>Carabidae - Ground Beetle Family</u>	

Study Area Morphospecies		Origin	TAXON	
West	East			
			<u>Cerambycidae - Long-horned Beetle Family</u>	
1	1	*	<i>Phoracantha semipunctata</i>	Eucalyptus Long-horn Borer
2	1		<u>Coccinellidae - Ladybird Beetle Family</u>	
			<u>Scarabaeidae - Scarab Beetle Family</u>	
1	1	*	<i>Cotinus mutabilis</i>	Green Fruit Beetle
	1		<i>Polyphylla</i> sp.	ten-lined June beetle
			<u>Tenebrionidae - Darkling Beetle Family</u>	
	1		<i>Cratidus osculans</i>	Wooly Darkling
1	1		<i>Eleodes</i> sp.	stink beetle
1	1		<u>Zopheridae - Ironclad Beetle Family</u>	
			Order HYMENOPTERA - BEES, ANTS, AND ALLIES	
			<u>Vespidae - Paper Wasp Family</u>	
1	1	*	<i>Vespula pensylvanica</i>	Yellow Jacket
			<u>Sphecidae - Sphecid Wasp Family</u>	
	1		<i>Bembix</i> sp.	sand wasp (=digger wasp)
			<u>Pompilidae - Spider Wasp Family</u>	
1	1		<i>Pepsis</i> sp.	tarantula hawk
			<u>Mutillidae - Velvet Ant Family</u>	
1	1		<i>Dasymutilla</i> sp.	velvet ant
5	4+2		<u>Formicidae - Ant Family</u>	
1	1	*	<i>Linepithema humile</i>	Argentine Ant
			<u>Apidae - True Bee Family</u>	
1	1	*	<i>Apis mellifera</i>	Honey Bee
1	1		<i>Bombus</i> sp.	bumblebee
2	1+2		Order LEPIDOPTERA - MOTHS, SKIPPERS, AND BUTTERFLIES	
			<u>Superfamily Papilionoidea - Skippers and Butterflies</u>	
			<u>Hesperiidae - Skipper Family</u>	
1	1		<i>Erynnis funeralis</i>	Funereal Duskywing
	1		<i>Pyrgus communis</i>	Common Checkered Skipper
	1		<i>(Hylephila phyleus)</i>	skipper (probable Fiery Skipper)
			<u>Papilionidae - Swallowtail Family</u>	
	1		<i>Papilio zelicaon</i>	Anise Swallowtail
1	1		<i>Papilio rutulus</i>	Western Tiger Swallowtail
	1		<i>Papilio eurymedon</i>	Pale Swallowtail
			<u>Pieridae - Whites and Sulphurs Family</u>	
1	1		<i>Pontia protodice</i>	Checkered White
1	1	*	<i>Pieris rapae</i>	Cabbage White
1	1		<i>Anthocharis sara</i>	Sara Orangetip
1			<i>Colias eurytheme</i>	Orange Sulphur (= Alfalfa Butterfly)
			<u>Lycaenidae - Gossamer-wing Butterfly Family</u>	
1			<i>Lycaena hermes</i>	Hermes Copper
1	1		<i>Callophrys affinis</i> ¹	Western Green Hairstreak ¹
1	1		<i>Strymon melinus</i>	Common Hairstreak (= Gray Hairstreak)
1	1		<i>Brephidium exile</i>	Western Pygmy-Blue

Study Area Morphospecies		Origin	TAXON	
West	East			
1	1		<i>Leptotes marina</i>	Marine Blue
1			<i>Everes amyntula</i>	Western Tailed-Blue
			<i>Celastrina ladon</i>	Spring Azure
1	1		<i>Euphilotes (bernardino)</i> ²	Bernardino Dotted-Blue ²
	1		<i>Glaucopsyche lygdamus</i>	Silvery Blue
1	1		<i>Plebejus acmon</i>	Acmon Blue
			<u>Riodinidae - Metalmark Family</u>	
1	1		<i>Apodemia virgulti</i> ³	Behr's Metalmark ³
			<u>Nymphalidae - Brush-footed Butterfly Family</u>	
	1		<i>Euptoieta claudia</i>	Variegated Fritillary
	1		<i>Chlosyne gabbii</i>	Gabb's Checkerspot
	1		<i>Nymphalis antiopa</i>	Mourning Cloak
1	1		<i>Vanessa cardui</i>	Painted Lady
1			<i>Vanessa annabella</i>	West Coast Lady
1	1		<i>Vanessa atalanta</i>	Red Admiral
	1		<i>Junonia coenia</i>	Common Buckeye
1			<i>Coenonympha tullia</i>	Common Ringlet
1	1		<i>Danaus gilippus</i>	Queen
			<u>Superfamily Sphingoidea</u>	
			<u>Sphingidae - Hawk Moth Family</u>	
1	1		<i>Hyles lineata</i>	White-lined Sphinx
2	1		Order DIPTERA - FLIES AND KEDS	
1	1		<u>Tipulidae - Crane Fly Family</u>	
1	1		<u>Chironomidae - Midge Family</u>	
	1		<u>Tabanidae - Horse Fly and Deer Fly Family</u>	
	1		<u>Bombyliidae - Bee Fly Family</u>	
2	1		<u>Syrphidae - Flower Fly Family</u>	
1	1		<u>Muscidae - Muscid Fly Family</u>	
1	1		<u>Calliphoridae - Blow Fly Family</u>	
	1		<i>Phaenicia</i> sp.	green bottle fly
1	1		<u>Sarcophagidae - Flesh Fly Family</u>	

¹- Several taxonomic treatments for this form are published. Listed as Immaculate Bramble Hairstreak (*Callophrys dumetorum affinis*) in the San Diego Natural History Museum's (SDNHM) online Checklist of the Butterflies of San Diego County (<http://www.sdnhm.org/research/entomology/sdbutterflies.html>).

²- Listed as Bernardino Square-spotted Blue (*Euphilotes battoides bernardino*) in the SDNHM Checklist.

³- Listed as *Apodemia mormo virgulti* in the SDNHM Checklist.

APPENDIX G

VERTEBRATE FAUNAL LIST

INTRODUCTION

All vertebrate fauna detected and identified on the study area during the current field work are listed below. No attempt is made to assert identifications below the level of full species for the current work (but see comments under "Special Status", below). No voucher specimens or other forms of documentation were collected for vertebrates.

Taxonomy and Nomenclature

At this time, no single, widely accepted standard exists for taxonomy and nomenclature across the animal kingdom, though several efforts are currently underway. For utility in addressing terrestrial vertebrates here, the current version of the California Wildlife Habitat Relationships System ("CWHR"; CDFG 1999) is followed. The taxonomy and nomenclature therein are an updating from Laudenslayer et al. (1991) and follow several more recently published standards for various groups. The only additional source followed for vertebrates is del Hoyo et al. (1992 - 1999), for treatment for birds not established in North America (e.g., Cockatiel). Alternate scientific and/or English names are sometimes given parenthetically in the list below, where those names are also established and/or controversy exists. Note that taxonomic levels given below exclude that of order; this would provide additional complexity to the table without aiding its purpose.

In a few cases, an English name in the CWHR is not unique to one species, classifies all members of a species with a status that need not apply (e.g., "Feral Goat"), or is not in the singular form (e.g., "Domestic Cattle" rather than "Domestic Cow"). In those cases, minimal changes are made to retain clarity and uniformity. In some such cases the changes follow that in Jones et al. (1997). Adopted English names of all species are capitalized. This is done primarily to clarify reference (e.g., "a Yellow Warbler" rather than "a yellow warbler"), but also to recognize that species names, once formalized to a standard, fit the distinction of "proper nouns", which in English are, "... arbitrarily used to denote a particular person, place, or thing without regard to any descriptive meaning the word or phrase may have" (Flexner 1987).

Categories of Status Information

Status information presented in the list below without brackets or other enclosing symbols is that on the given site based on current data. As an aid to sorting visually through the data, species detected on one or both sites have the relevant "Status" cell shown in light gray. Only the species with codes lacking enclosing symbols are considered to be recorded as present during the current work. Information in the categories below is provided to clarify the biological context of the sites.

- () - Status information in parentheses refers to observations near to, but not on, the site. Such information is anecdotal and based on limited sampling. Thus, for example, abundance information is quite tentative.
- < > - Status information in carats refers to observations of birds overhead and not interacting with the site (i.e., not foraging for aerial prey, not using updrafts, and not examining the site for potential resources). Examples for this category are waterbirds commuting over an upland site from one lake to another, and birds seen migrating high overhead.
- [] - Expected status information is given in brackets. This refers to the expected actual status, based on a combination of the current data, the site resources and conditions, and published information on the species' regional and/or local status and habitats. Expected status is given only where it differs considerably from the observed status, for example, a species expected to occur uncommonly but currently unrecorded. For unrecorded species, the expected status begins with a likelihood of occurrence code (defined below), which like status, is a judgement based on site resources and conditions present and the regional habitat use and status for the species. Likelihood of occurrence and expected status (should it in fact occur) are evaluated separately.

Site Status Information

Status is given separately for the west site and east site. Within each, the observed status is given and then in brackets the expected status. Expected abundance is for average numbers or, for transients, the expected average during peak periods. Codes defined below for abundance, seasonality, and breeding (birds only) are given in the left columns under each site.

Abundance – This is a general indication of relative numbers based on general observation during the current work, supplemented with data from the current avian point counts. For expected status, abundance is also based on published local and regional information. For all species, this categorization reflects typical numbers expected. Conceptually, each category varies several-fold from those adjacent and thus this is a non-linear scale to allow for a tremendous range in potential abundance. Because sample size is limited, no attempt is made to include all species which could conceivably be recorded on rare occasions under sufficient effort.

- a - abundant – observed or expected to occur throughout in very high numbers (e.g., large flocks)
- c - common--observed or expected to occur throughout in relatively high numbers
- f - fairly common--observed or expected to occur in moderate numbers
- u - uncommon--observed or expected to occur in low numbers
- o - occasional--observed or expected to occur infrequently and in low numbers
- x - extirpated -- specific documentation (e.g., record in literature, old nest or other sign) of presence in the past on the site, but believed to no longer be present. May or may not reoccur in the future.

Seasonality – Where seasonality codes are absent, seasonality is uncertain (birds) or the species occurs year round (non-birds). Presence for this purpose is considered to include hibernating and/or estivating individuals. Where no indication is given, this typically reflects a lack of knowledge regarding relevant seasonal movements in that species. Movement timing varies from species to species and within species from year to year. The categorization used here is intended as general and functional rather than calendar-specific. Thus, arrival for “winter” (the non-breeding season) may start in August for one species and in January for another. Finally, note that many birds may occur in multiple roles, such as both an uncommon migrant and common winter populations; where status for only one season is given, expected status at any other seasons is less than that at the given season, and occasional at most.

- Y - present year round (includes species with non-migratory populations as well as hibernating and estivating individuals and species with multiple roles, for example, both non-migratory and winter-only populations, or separate winter, summer, and migratory populations)
- S - present in summer
- W - present in winter
- V - visitor from nearby habitats (i.e., non-seasonal transient)
- M - migrant (i.e., seasonal transient; usually, both spring and fall)

Observed Breeding Evidence (birds only) -- These codes are a condensation of categorizations used as standards for breeding bird atlases (such as that just completed for the county by the San Diego Museum of Natural History), and specific criteria follow that in Smith (1990). In that system, codes are provided for a variety of specific types of evidence under the Probable and Confirmed categories. While these specific codes were used in compiling daily field notes, only the highest category is indicated here, both for simplicity, and to avoid the inclusion of a long string of codes providing a confusing level of detail. Finally, note that best professional judgement was used to determine whether the evidence in specific cases indicated breeding on the site itself or simply breeding in the vicinity of the site.

- P - probable breeding effort; substantial evidence but no proof, such as a pair in suitable habitat on the site during the appropriate season or observation of behavior associated with nesting
- # - confirmed breeding evidence (symbol represents a nest); reliable evidence of breeding on the site, such as carrying nest material, nest observation, or recently fledged young incapable of sustained flight

Likelihood of Occurrence (expected status) -- Reflects a judgement of the likelihood that the species occurs (for species that were unrecorded during the current work) or that the species occurs at the given abundance (for species that were recorded as present on the site during the current work).

- L: - Low (unlikely, but still reasonable)
- I: - Intermediate (uncertain; moderate likelihood)
- H: - High (expected, but clearly not certain)
- V: - Very High (almost certain; absence would be very surprising)

Potential Roost Sites (bats only) -- For expected status, thus within brackets, we indicate with an asterisk when there is believed to be a reasonable potential that the species may roost on the site, given the available resources and conditions (e.g., disturbance).

- * - At least reasonable (thus, "Low" or better as defined above) potential for roosts on the site; in the case of the current sites, this is limited to crevices in boulders.

Origin

Whether a species is native (i.e., naturally established currently or at some time during recorded history) within the vicinity of a particular study area generally can be established with reasonable certainty for terrestrial vertebrates, in contrast to invertebrates and some plants. Status of origin given follows that in the taxonomic standards mentioned above. Note however that many species may be native to a large area covered by a standard reference but nonnative to a local study area (e.g., Black Bear and Red Fox are nonnative in southern California but native to the state); in these cases a variety of published sources are reviewed for application to the particular species and study area. Finally, a species is considered native if it has expanded its range in response to anthropogenic environmental changes (e.g., Brown-headed Cowbird in coastal California). This is because there is often no means to distinguish among the various non-anthropogenic and indirect anthropogenic causes. In point of fact, most range changes may be the result of combinations of many causes.

- * - Nonnative
- ? - Origin uncertain
- d - Domesticated; in contrast to feral (wild) animals, but may or may not be free-ranging

Special Status

The table below lists codes for all of the special regulatory and management status categories presented. One category not included is that of federal, "Species of Concern." As explained in the current state Department of Fish and Game's, "Special Animals List" (CDFG 2001), this is a "term-of-art" for former Category 2 candidate species under the federal Endangered Species Act. However, neither the federal government nor any other organization maintains this list, and the categorization does not indicate any specific biological status or any special protection.

- ! - The given status refers to only a portion of the species given, and it is expected that some or all of any members of the species present on the study area are referable to that portion of the species to which the given status pertains.
- { } - The given status refers to only a portion of the species given, and it is expected that none of any members of this species present on the study area are referable to that portion of the species to which the given status pertains.

Table G1. Special Status Codes for Vertebrate Fauna

Status code	Explanation
Multiple Species Conservation Program (MSCP)	
M	MSCP Covered Species
Federal	
FE	federally Endangered
FT	federally Threatened
FPE	federally proposed Endangered
FPT	federally proposed Threatened
FC	federal Candidate species
BGEPA	covered under the Federal "Bald and Golden Eagle Protection Act"
California	
SE	state Endangered
ST	state Threatened
SCE	state Candidate for Endangered listing
SCT	state Candidate for Threatened listing
SSC	state Species of Special Concern
CFP	California Fully Protected species
Miscellaneous or General	
pt, pd	codes appended by lowercase "pt" or "pd": the taxon is currently formally proposed to be downlisted from Endangered to Threatened ("pt"), or delisted completely ("pd")

Table G2. Vertebrate Fauna Detected on the Study Area

Study Area Status		Origin	SPECIES	Special Status
West Site	East Site			
Note: "Status" cells (left columns) shown in light green indicate the species was recorded as present on that site.				
CLASS AMPHIBIA - AMPHIBIANS				
<u>Plethodontidae - Lungless Salamander Family</u>				
[I:u]	[I:o]		<i>Batrachoseps pacificus</i>	Pacific Slender Salamander
<u>Bufonidae - True Toad Family</u>				
[I:u]	[I:u]		<i>Bufo boreas</i>	Western Toad
<u>Hylidae - Treefrog Family</u>				
u	u		<i>Pseudacris [= Hyla] regilla</i>	Pacific Chorus Frog (=P. Treefrog)
CLASS REPTILIA - REPTILES				
<u>Gekkonidae - Gecko Family</u>				
o[H:u]	[I:u]		<i>Coleonyx variegatus</i>	Western Banded Gecko
<u>Iguanidae - Iguanid Lizard Family</u>				
f	f		<i>Sceloporus orcutti</i>	Granite Spiny Lizard
f	f		<i>Sceloporus occidentalis</i>	Western Fence Lizard
c	c		<i>Uta stansburiana</i>	Side-blotched Lizard
[L:u]	f		<i>Phrynosoma coronatum</i>	Coast Horned Lizard
<u>Xantusiidae - Night Lizard Family</u>				
[I:u]	[I:u]		<i>Xantusia henshawi</i>	Granite Night Lizard
<u>Scincidae - Skink Family</u>				
[I:o]	o		<i>Eumeces skiltonianus</i>	Western Skink
<u>Teiidae - Whiptail Lizard Family</u>				
c	f		<i>Cnemidophorus hyperythrus</i>	Orange-throated Whiptail
[L:o]	o		<i>Cnemidophorus tigris</i>	Western Whiptail
<u>Anguidae - Alligator Lizard Family</u>				
[H:o]	o		<i>Elgaria multicarinata</i>	Southern Alligator Lizard
<u>Anniellidae - California Legless Lizard Family</u>				
[L:u]	[L:u]		<i>Anniella pulchra</i>	California Legless Lizard
<u>Leptotyphlopidae - Slender Blind Snake Family</u>				
[L:o]	[L:o]		<i>Leptotyphlops humilis</i>	Western Blind Snake
<u>Boidae - Boa Family</u>				
[I:o]	[I:o]		<i>Lichanura trivirgata</i>	Rosy Boa
<u>Colubridae - Colubrid Snake Family</u>				
[I:o]	[I:o]		<i>Masticophis flagellum</i>	Coachwhip
u	u		<i>Masticophis lateralis</i>	Striped Racer
[L:o]	[L:o]		<i>Salvadora hexalepis</i>	Western Patch-nosed Snake
u	u		<i>Pituophis melanoleucus</i>	Gopher Snake
[I:o]	[I:o]		<i>Lampropeltis getulus</i>	Common Kingsnake
[I:o]	[I:o]		<i>Tantilla planiceps</i>	California Black-headed Snake
[L:o]	[L:o]		<i>Hypsiglena torquata</i>	Night Snake
<u>Viperidae - Viper Family</u>				
[I:o]	[I:o]		<i>Crotalus atrox</i>	Western Diamondback Rattlesnake
[L:o]	[L:o]		<i>Crotalus ruber</i>	Red Diamond Rattlesnake
CLASS AVES - BIRDS				
<u>Phalacrocoracidae - Cormorant Family</u>				
	< >		<i>Phalacrocorax auritus</i>	Double-crested Cormorant

Study Area Status		Origin	SPECIES	Special Status
West Site	East Site			
Note: "Status" cells (left columns) shown in light green indicate the species was recorded as present on that site.				
<u>Ardeidae - Heron Family</u>				
< > [I:o]	< > [I:o]		<i>Ardea herodias</i>	Great Blue Heron
	< >		<i>Ardea alba</i>	Great Egret
<u>Threskiornithidae - Ibis Family</u>				
	< >		<i>Plegadis chihi</i>	White-faced Ibis
<u>Cathartidae - New World Vulture Family</u>				
uY	uY		<i>Cathartes aura</i>	Turkey Vulture
<u>Anatidae - Swan, Goose, and Duck Family</u>				
oSM	< > [H:oSM]		<i>Anas platyrhynchos</i>	Mallard
<u>Accipitridae - Hawk Family</u>				
	< >		<i>Pandion haliaetus</i>	Osprey
o	[H:o]		<i>Elanus leucurus</i>	White-tailed Kite
[L:oWM]	[L:oWM]		<i>Circus cyaneus</i>	Northern Harrier
[H:uWM]	uWM		<i>Accipiter striatus</i>	Sharp-shinned Hawk
uY(#)	[H:uY]		<i>Accipiter cooperii</i>	Cooper's Hawk
oY	oY		<i>Buteo lineatus</i>	Red-shouldered Hawk
fY#	fY		<i>Buteo jamaicensis</i>	Red-tailed Hawk
[L:oY]	[L:oY]		<i>Aquila chrysaetos</i>	Golden Eagle
<u>Falconidae - Falcon Family</u>				
< > [H:uY]	uS,fWM		<i>Falco sparverius</i>	American Kestrel
[H:oWM]	oM[H:oWM]		<i>Falco columbarius</i>	Merlin
[L:oWM]	[L:oWM]		<i>Falco peregrinus</i>	Peregrine Falcon
<u>Phasianidae - Pheasants and Partridges</u>				
(f)		*d	<i>Gallus gallus</i>	Red Junglefowl (Domestic Chicken)
(u)	(u)	*d	<i>Pavo cristatus</i>	Common (=Indian) Peafowl
<u>Odontophoridae - New World Quail Family</u>				
fY#	fY#		<i>Callipepla californica</i>	California Quail
<u>Charadriidae - Plover Family</u>				
	< >		<i>Charadrius vociferus</i>	Killdeer
<u>Columbidae - Pigeon and Dove Family</u>				
oV < cY >	[H:oV] < cY >	*	<i>Columba livia</i>	Rock Dove
cY#	cY#		<i>Zenaida macroura</i>	Mourning Dove
[L:oV]	[L:oV]		<i>Columbina passerina</i>	Common Ground-Dove
<u>Cacatuidae - Cockatoo Family</u>				
< o >		*	<i>Nymphicus hollandicus</i>	Cockatiel
<u>Psittacidae - Parrot Family</u>				
< u >	< u >	*	<i>Amazona finschi</i>	Lilac-crowned Amazona
<u>Cuculidae - Cuckoo and Roadrunner Family</u>				
uY	[L:uY]		<i>Geococcyx californianus</i>	Greater Roadrunner
<u>Tytonidae - Barn Owl Family</u>				
[I:uY]	[I:uY]		<i>Tyto alba</i>	Barn Owl
<u>Strigidae - Typical Owl Family</u>				
[L:o]	[L:o]		<i>Otus kennicottii</i>	Western Screech-Owl
[H:uY]	(o)[H:uY]		<i>Bubo virginianus</i>	Great Horned Owl

Study Area Status		Origin	SPECIES	Special Status
West Site	East Site			
Note: "Status" cells (left columns) shown in light green indicate the species was recorded as present on that site.				
<u>Caprimulgidae - Nightjar Family</u>				
[H:uM]	uM		<i>Phalaenoptilus nuttallii</i>	Common Poorwill
<u>Apodidae - Swift Family</u>				
[I:uM]	[I:uM]		<i>Chaetura vauxi</i>	Vaux's Swift
[I:oV]	[I:oV]		<i>Aeronautes saxatalis</i>	White-throated Swift
<u>Trochilidae - Hummingbird Family</u>				
[H:oM]	oM		<i>Archilochus alexandri</i>	Black-chinned Hummingbird
fYP	fYP		<i>Calypte anna</i>	Anna's Hummingbird
oSM	uSM		<i>Calypte costae</i>	Costa's Hummingbird
[H:uM]	[H:uM]		<i>Selasphorus rufus</i>	Rufous Hummingbird
[H:oM]	[H:oM]		<i>Selasphorus sasin</i>	Allen's Hummingbird
	oM		<i>Selasphorus</i> sp.	Rufous / Allen's hummingbird
<u>Picidae - Woodpecker Family</u>				
[L:o]	[L:o]		<i>Sphyrapicus ruber</i>	Red-breasted Sapsucker
uY	uY		<i>Picoides nuttallii</i>	Nuttall's Woodpecker
	(o)		<i>Picoides pubescens</i>	Downy Woodpecker
uWM	uWM		<i>Colaptes auratus</i>	Northern Flicker
<u>Tyrannidae - Tyrant Flycatcher Family</u>				
[I:oM]	[I:oM]		<i>Contopus cooperi</i>	Olive-sided Flycatcher
[H:uM]	[H:uM]		<i>Contopus sordidulus</i>	Western Wood-Pewee
[H:oM]	[H:oM]		<i>Empidonax traillii</i>	Willow Flycatcher
[H:oM]	[H:oM]		<i>Empidonax hammondi</i>	Hammond's Flycatcher
uM	(uSP)[H:uM]		<i>Empidonax difficilis</i>	Pacific-slope Flycatcher
uY	uY		<i>Sayornis nigricans</i>	Black Phoebe
[H:uWM]	uY(#[H:uWM]		<i>Sayornis saya</i>	Say's Phoebe
uM	uM		<i>Myiarchus cinerascens</i>	Ash-throated Flycatcher
fY(P)	fY		<i>Tyrannus vociferans</i>	Cassin's Kingbird
oS[H:fSM]	fSM(#[H:fSM]		<i>Tyrannus verticalis</i>	Western Kingbird
<u>Laniidae - Shrike Family</u>				
[I:oWM]	[I:oWM]		<i>Lanius ludovicianus</i>	Loggerhead Shrike
<u>Vireonidae - Vireo Family</u>				
[H:oM]	[H:oM]		<i>Vireo cassinii</i>	Cassin's Vireo
uM	uM		<i>Vireo gilvus</i>	Warbling Vireo
<u>Corvidae - Jay and Crow Family</u>				
fY	fY		<i>Aphelocoma californica</i>	Western Scrub-Jay
uY(cY) < cY >	uY(cY) < cY >		<i>Corvus brachyrhynchos</i>	American Crow
oY < fY >	oY < fY >		<i>Corvus corax</i>	Common Raven
<u>Alaudidae - Lark Family</u>				
[L:oWM]	[L:oWM]		<i>Eremophila alpestris</i>	Horned Lark
<u>Hirundinidae - Swallow Family</u>				
[H:oM]	[H:oM]		<i>Tachycineta bicolor</i>	Tree Swallow
[H:oM]	< > [H:oM]		<i>Tachycineta thalassina</i>	Violet-green Swallow
uSM	uSM		<i>Stelgidopteryx serripennis</i>	No. Rough-winged Swallow
cSM	cSM		<i>Petrochelidon pyrrhonota</i>	Cliff Swallow
oM[H:oM]	[H:oM]		<i>Hirundo rustica</i>	Barn Swallow

Study Area Status		Origin	SPECIES	Special Status
West Site	East Site			
Note: "Status" cells (left columns) shown in light green indicate the species was recorded as present on that site.				
<u>Aegithalidae - Bushtit Family</u>				
fY#	fY#		<i>Psaltriparus minimus</i> Bushtit	
<u>Troglodytidae - Wren Family</u>				
	uY(#)		<i>Campylorhynchus brunneicapillus</i> Cactus Wren	SSC!, M!
fYP	fYP		<i>Thryomanes bewickii</i> Bewick's Wren	
uY(P)	(uY)[H:uWM]		<i>Troglodytes aedon</i> House Wren	
<u>Regulidae - Kinglet Family</u>				
uWM	uWM		<i>Regulus calendula</i> Ruby-crowned Kinglet	
<u>Muscicapidae - Gnatcatcher and Thrush Family</u>				
oM	oM		<i>Poliophtila caerulea</i> Blue-gray Gnatcatcher	FT!, SSC, M M
uY#	uY#		<i>Poliophtila californica</i> California Gnatcatcher	
(o)[I:oY]	oV[I:oY](P)		<i>Sialia mexicana</i> Western Bluebird	
[H:oM]	[H:oM]		<i>Catharus ustulatus</i> Swainson's Thrush	
oW[H:oWM]	[H:oWM]		<i>Catharus guttatus</i> Hermit Thrush	
[I:oWM]	[I:oWM]		<i>Turdus migratorius</i> American Robin	
fYP	fYP		<i>Chamaea fasciata</i> Wrentit	
<u>Mimidae - Thrasher Family</u>				
fY	fY		<i>Mimus polyglottos</i> Northern Mockingbird	
fY	fY		<i>Toxostoma redivivum</i> California Thrasher	
<u>Sturnidae - Starling Family</u>				
uV(fY) < f >	(fY) < f >	*	<i>Sturnus vulgaris</i> European Starling	
<u>Motacillidae - Pipit and Wagtail Family</u>				
[I:oWM]	[I:oWM]		<i>Anthus rufescens</i> American pipit	
<u>Bombycillidae - Waxwing Family</u>				
oM[H:oWM]	< > [H:oWM]		<i>Bombycilla cedrorum</i> Cedar Waxwing	
<u>Ptilonotidae - Silky-flycatcher Family</u>				
uSMP	oSM		<i>Phainopepla nitens</i> Phainopepla	
<u>Parulidae - Wood-Warbler Family</u>				
uM[H:uWfM]	fM[H:uWfM]		<i>Vermivora celata</i> Orange-crowned Warbler	SSC!
[H:oM]	[H:oM]		<i>Vermivora ruficapilla</i> Nashville Warbler	
oM[H:uM]	[H:uM]		<i>Dendroica petechia</i> Yellow Warbler	
fWM	fWM		<i>Dendroica coronata</i> Yellow-rumped Warbler	
[H:oM]	[H:oM]		<i>Dendroica nigrescens</i> Black-throated Gray Warbler	
[H:oM]	[H:oM]		<i>Dendroica townsendi</i> Townsend's Warbler	
[H:oM]	[H:oM]		<i>Oporornis tolmiei</i> MacGillivray's Warbler	
[H:oM]	(uSP)[H:oM]		<i>Geothlypis trichas</i> Common Yellowthroat	
uM	uM		<i>Wilsonia pusilla</i> Wilson's Warbler	
<u>Thraupidae - Tanager Family</u>				
uM	(oM)[H:uM]		<i>Piranga ludoviciana</i> Western Tanager	
<u>Emberizidae - Sparrow Family</u>				
uYP	uYP		<i>Pipilo maculatus</i> Spotted Towhee	SSC!, M!
fYP	fY#		<i>Pipilo crissalis</i> California Towhee	
uYP	uY#		<i>Aimophila ruficeps</i> Rufous-crowned Sparrow	
uM	[H:uM]		<i>Spizella passerina</i> Chipping Sparrow	
[I:oV]	[I:oV]		<i>Chondestes grammacus</i> Lark Sparrow	

Study Area Status		Origin	SPECIES		Special Status
West Site	East Site				
Note: "Status" cells (left columns) shown in light green indicate the species was recorded as present on that site.					
[H:uWM]	[H:uWM]		<i>Passerculus sandwichensis</i>	Savannah Sparrow	{SSC}, {M}
[L:oW]	[L:oW]		<i>Passerella iliaca</i>	Fox Sparrow	
[H:oWMV]	oV[H:oWMV]		<i>Melospiza melodia</i>	Song Sparrow	
[H:uWM]	uWM		<i>Melospiza lincolnii</i>	Lincoln's Sparrow	
cWM	cWM		<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	
oWM	oWM		<i>Zonotrichia atricapilla</i>	Golden-crowned Sparrow	
[I:oWM]	[I:oWM]		<i>Junco hyemalis</i>	Dark-eyed Junco	
Cardinalidae - Grosbeak and Bunting Family					
uM	uM		<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak	
oSM	oSM		<i>Guiraca caerulea</i>	Blue Grosbeak	
uM	uM		<i>Passerina amoena</i>	Lazuli Bunting	
Icteridae - Blackbird, Cowbird and Oriole Family					
[H:oWM]	oW[H:oWM]		<i>Sturnella neglecta</i>	Western Meadowlark	
(fY)[I:oV]	[I:oV]		<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	
(o) < u >	oSM(u#) < u >		<i>Molothrus ater</i>	Brown-headed Cowbird	
uSM(#)	uSM(P)		<i>Icterus cucullatus</i>	Hooded Oriole	
uSM(P)	uSM		<i>Icterus bullockii</i>	Bullock's Oriole	
Fringillidae - Finch Family					
fY	fY(P)		<i>Carpodacus mexicanus</i>	House Finch	
uY(#)	uY		<i>Carduelis psaltria</i>	Lesser Goldfinch	
[I:oV]	[I:oV]		<i>Carduelis lawrencei</i>	Lawrence's Goldfinch	
[I:uWV]	< > [I:uWV]		<i>Carduelis tristis</i>	American Goldfinch	
Passeridae - Old World Sparrow Family					
uY(#)	uY(#)	*	<i>Passer domesticus</i>	House Sparrow	
CLASS MAMMALIA - MAMMALS					
Didelphidae - New World Opossum Family					
o	u	*	<i>Didelphis virginiana</i>	Virginia Opossum	
Soricidae - Shrew Family					
[I:u]	[I:u]		<i>Notiosorex crawfordi</i>	Desert Shrew	
Vespertilionidae - Evening Bat Family					
[L:o*]	[L:o*]		<i>Myotis evotis</i>	Long-eared Myotis	SSC
[L:o*]	[L:o*]		<i>Myotis volans</i>	Long-legged Myotis	
[I:u*]	[I:u*]		<i>Myotis californicus</i>	California Myotis	
[L:o*]	[L:o*]		<i>Myotis ciliolabrum</i>	Western Small-footed Myotis	
[H:f*]	[H:f*]		<i>Pipistrellus hesperus</i>	Western Pipistrelle	
[I:u]	[I:u]		<i>Eptesicus fuscus</i>	Big Brown Bat	
[H:u]	[H:u]		<i>Lasiurus cinereus</i>	Hoary Bat	
[L:o]	[L:o]		<i>Plecotus townsendii</i>	Townsend's big-eared Bat	
[L:o*]	[L:o*]		<i>Antrozous pallidus</i>	Pallid Bat	
Leporidae - Hare and Rabbit Family					
f	f		<i>Sylvilagus audubonii</i>	Audubon's (=Desert) Cottontail	
Sciuridae - Squirrel Family					
u	u		<i>Spermophilus beecheyi</i>	California Ground Squirrel	
Geomysidae - Pocket Gopher Family					
c	c		<i>Thomomys bottae</i>	Botta's (= Valley) Pocket Gopher	

Study Area Status		Origin	SPECIES		Special Status
West Site	East Site				
Note: "Status" cells (left columns) shown in light green indicate the species was recorded as present on that site.					
Heteromyidae - Kangaroo Rat Family					
[I:f]	[I:f]		Perognathus longimembris	Little Pocket Mouse	SSC!
[I:f]	[I:f]		Chaetodipus fallax	San Diego Pocket Mouse	SSC!
[I:f]	[I:f]		Chaetodipus californicus	California Pocket Mouse	
[L:u]	[L:u]		Dipodomys agilis	Pacific Kangaroo Rat	
Muridae - Mouse, Rat, and Vole Family					
[I:u]	[I:u]		Reithrodontomys megalotis	Western Harvest Mouse	
[L:o]	[L:o]		Peromyscus eremicus	Cactus Mouse	
[H:f]	o[H:f]		Peromyscus maniculatus	Deer Mouse	
[L:o]	[L:o]		Peromyscus boylii	Brush Mouse	
[I:o]	[I:o]		Onychomys torridus	Southern Grasshopper Mouse	SSC!
x	(o)		Neotoma lepida	Desert Woodrat	SSC!
[H:u]	[H:u]		Microtus californicus	California Vole	
[I:o]	o[I:o]	*	Rattus rattus	Black (=Roof) Rat	
[I:u]	[I:u]	*	Mus musculus	House Mouse	
Canidae - Wolf and Fox Family					
u	u		Canis latrans	Coyote	
f	f	*d	Canis familiaris	Domestic Dog	
u	[I:o]		Urocyon cinereoargenteus	Common Gray Fox	
Procyonidae - Raccoon Family					
[I:o]	[I:o]		Procyon lotor	Common Raccoon	
Mustelidae - Weasel, Skunk, And Otter Family					
[L:o]	[L:o]		Mustela frenata	Long-tailed Weasel	
Mephitidae - Skunk Family					
[L:u]	[L:u]		Spilogale gracilis	Western Spotted Skunk	
o	u		Mephitis mephitis	Striped Skunk	
Felidae - Cat Family					
f	f	*d	Felis catus	Domestic Cat	
o	u		Lynx rufus	Bobcat	
Equidae - Horse And Burro Family					
u	u	*d	Equus caballus	Domestic Horse	
Bovidae - Bison, Goat, and Sheep Family					
(o)		*d	Capra hircus	Domestic Goat	

APPENDIX H

AVIAN POINT COUNT DATA

INTRODUCTION

This appendix presents the raw data gathered during the avian point counts. See the report for discussion of methods, evaluation of current results, and recommendations on point counts and other avian censusing relevant to the current study area and to the MSCP more generally. See Appendix G regarding avian taxonomy and nomenclature.

Numbers in individual cells in the tables below represent the numbers of individuals. Note that individuals counted as “fly-bys” were generally not incorporated into totals for species or individuals. The exceptions are where the birds were judged to be using site resources (e.g., foraging in the airspace); such cases are shown with the number in a bold, italic, and underlined typeface.

Latitude and Longitude in the table below are based on GPS data obtained at the time the stations were initially located, and were obtained on a Garmin GPS 12 unit without selective availability, and are thus at a mean positional accuracy of approximately plus-or-minus 3 meters. See Figure 3.2.5-1 for mapped locations of the stations, and Appendix A for photographs of the station locations.

Table H1. Point Count Station Information

Station	Site	Latitude	Longitude	Slope	Aspect
1	East	32° 50.676'	116° 54.641'	Shallow	North
2	East	32° 50.555'	116° 54.762'	Shallow	East
3	East	32° 50.750'	116° 54.798'	Moderate	West
4	East	32° 50.867'	116° 54.670'	Moderate	West
5	East	32° 50.989'	116° 54.864'	Moderate	South
6	West	32° 50.739'	116° 55.243'	Shallow	West
7	West	32° 50.693'	116° 55.081'	Moderate	East
8	West	32° 50.548'	116° 55.146'	Moderate	Southeast
9	West	32° 50.542'	116° 55.308'	Moderate	West
10	West	32° 50.408'	116° 55.272'	Steep	South

Table H2. Point Count Results for 16 March 2001

Start: 0602; 51°; cloud cover 40%; visibility good; wind 1-3W; no dew; upland ground surface dry; no precipitation.

End: 0954; 64°; cloud cover 80%; visibility fair; wind 1-5W; no precipitation during point counts.

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
01	Bewick's Wren	1	1								1	1	0	2	2
	Northern Mockingbird		3								0	3	0	3	3
	House Finch		2					1			1	2	0	3	3
	Mourning Dove	1	3						7		1	10	0	11	11
	Western Scrub-Jay		1			1					0	2	0	2	2
	Wrentit	1	1			1					1	2	0	3	3
	California Thrasher				1				1		1	1	0	2	2
	Double-crested Cormorant						1				0	0	1	0	1
	Nuttall's Woodpecker					1					0	1	0	1	1
	American Crow								1	1	0	1	1	1	2
	Bushtit							2			2	0	0	2	2
	Common Raven					1					0	1	0	1	1
02	Mourning Dove	1	5			5					1	10	0	11	11
	Northern Mockingbird		1			2					0	3	0	3	3
	California Thrasher	1									1	0	0	1	1
	Spotted Towhee	1									1	0	0	1	1
	American Crow		1								0	1	0	1	1
	Bushtit	1									1	0	0	1	1
	White-crowned Sparrow	1									1	0	0	1	1
	California Quail		1								0	1	0	1	1
	House Finch	1				2					1	2	0	3	3
	California Towhee							2			2	0	0	2	2
	Western Scrub-Jay							1	2		1	2	0	3	3
03	House Finch		3			1					0	4	0	4	4
	Mourning Dove	1	2								1	2	0	3	3
	Wrentit	1									1	0	0	1	1
	Northern Mockingbird		2								0	2	0	2	2
	Yellow-rumped Warbler		1								0	1	0	1	1
	Northern Flicker		1								0	1	0	1	1
	American Crow								1		0	1	0	1	1
	White-crowned Sparrow	1						1			2	0	0	2	2
	Bewick's Wren								1		0	1	0	1	1
	California Towhee								1		0	1	0	1	1
	Lilac-crowned Amazon									2	0	0	2	0	2
	House Sparrow		3								0	3	0	3	3
04	House Finch		4			2		2			2	6	0	8	8
	Northern Mockingbird		1			1					0	2	0	2	2
	California Towhee		1					2			2	1	0	3	3
	Lilac-crowned Amazon			3							0	0	3	0	3
	Bewick's Wren					1					0	1	0	1	1
	American Crow									1	0	0	1	0	1
	Nuttall's Woodpecker								1		0	1	0	1	1
	House Sparrow		2								0	2	0	2	2
05	House Finch	5			1					3	6	0	3	6	9
	White-crowned Sparrow	12						1			13	0	0	13	13
	Western Scrub-Jay	1									1	0	0	1	1
	Northern Mockingbird		1						1		0	2	0	2	2
	Mourning Dove	1									1	0	0	1	1

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	California Towhee	1									1	0	0	1	1
	American Crow						3				0	0	3	0	3
	kingbird sp.						1				0	0	1	0	1
	Bewick's Wren							1			1	0	0	1	1
	House Sparrow	1									1	0	0	1	1
06	Northern Mockingbird	1	1								1	1	0	2	2
	House Finch	2	5		2					1	4	5	1	9	10
	Common Raven		1								0	1	0	1	1
	California Towhee	1				1			1		1	2	0	3	3
	Mourning Dove	2	2				1				2	2	2	4	6
	European Starling		1								0	1	11	1	12
	Black Phoebe		1								0	1	0	1	1
	Wrentit				2						2	0	0	2	2
	Spotted Towhee					1					0	1	0	1	1
	Mallard									2	0	0	2	0	2
	Bewick's Wren							1			1	0	0	1	1
	Lesser Goldfinch							2			2	0	0	2	2
	Yellow-rumped Warbler								2		0	2	0	2	2
	California Thrasher							1			1	0	0	1	1
	American Crow								1		0	1	0	1	1
	raptor sp.								2		0	2	0	2	2
	Anna's Hummingbird							1			1	0	0	1	1
07	California Thrasher	1									1	0	0	1	1
	Wrentit		1					1			1	1	0	2	2
	House Finch	2							3		2	3	0	5	5
	Northern Mockingbird		2						1		0	3	0	3	3
	Anna's Hummingbird	1									1	0	0	1	1
	Bewick's Wren		1								0	1	0	1	1
	Mourning Dove			5					3	1	0	3	6	3	9
	Hermit Thrush				1						1	0	0	1	1
	California Towhee				1						1	0	0	1	1
	American Crow					1			4		0	5	0	5	5
	Western Scrub-Jay				1			1	1		2	1	0	3	3
	European Starling								1		0	1	0	1	1
08	California Towhee	1									1	0	0	1	1
	Northern Mockingbird	1	1			1					1	2	0	3	3
	Red-tailed Hawk		1								0	1	0	1	1
	Western Scrub-Jay		2					1			1	2	0	3	3
	California Thrasher								1		0	1	0	1	1
09	Mourning Dove	2			1				1	2	3	1	2	4	6
	Northern Mockingbird		1		1	1					1	2	0	3	3
	Red-tailed Hawk	1									1	0	0	1	1
	House Finch	2	2			2			3		2	7	0	9	9
	California Thrasher	1									1	0	0	1	1
	Turkey Vulture			<u>1</u>							0	0	1	0	1
	California Towhee		1					1			1	1	0	2	2
	Yellow-rumped Warbler	1									1	0	0	1	1
	Western Scrub-Jay					1		1	1		1	2	0	3	3
	American Crow					2	5			1	0	2	6	2	8
	Chipping Sparrow							2			2	0	0	2	2
	Hermit Thrush							1			1	0	0	1	1

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
10	White-crowned Sparrow							1	1		0	1	0	1	1
	California Quail							1			1	0	0	1	1
	House Finch		2								0	2	0	2	2
	Northern Mockingbird		2								0	2	0	2	2
	California Towhee	1							1		1	1	0	2	2
	Wrentit		1						2		0	3	0	3	3
	Western Scrub-Jay		1								0	1	0	1	1
	California Thrasher	1									1	0	0	1	1
	Bewick's Wren	1									1	0	0	1	1
	Yellow-rumped Warbler				2				1		2	1	0	3	3
	Mourning Dove					1					0	1	0	1	1
	American Crow								1		0	1	0	1	1
	Common Raven									1	0	0	1	0	1
	California Gnatcatcher							1			0	1	0	1	1

Table H3. Point Count Results for 18 April 2001

Start: 0616; 55°; cloud cover 40%; visibility fair; wind calm; dew slight; upland ground surface dry; no precipitation.

End: 1002; 70°; cloud cover 0%; visibility fair; wind calm; no precipitation during point counts.

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
01	California Towhee	1	2								1	2	0	3	3
	Hooded Oriole	1									1	0	0	1	1
	Northern Mockingbird		3								0	3	0	3	3
	Mourning Dove			1				1			1	0	1	1	2
	Wrentit		1		1						1	1	0	2	2
	House Finch		2						1		0	3	0	3	3
	California Quail					1					0	1	0	1	1
	Cassin's Kingbird								1		0	1	0	1	1
	American Crow								3		0	3	0	3	3
	Bewick's Wren								1		0	1	0	1	1
02	House Sparrow		2								0	2	0	2	2
	California Towhee					2					0	2	0	2	2
	Northern Mockingbird	1	1								1	1	0	2	2
	California Quail		1								0	1	0	1	1
	Bewick's Wren	1									1	0	0	1	1
	Western Scrub Jay		1								0	1	0	1	1
	House Finch	1				2					1	2	0	3	3
	American Crow			1							0	0	1	0	1
	Mourning Dove		1						3	2	0	4	2	4	6
	Lesser Goldfinch				1						1	0	0	1	1
	Bullock's Oriole					1					0	1	0	1	1
	Black Phoebe								1		0	1	0	1	1
03	Wrentit		1		1						0	1	0	1	1
	California Towhee		3		1						1	3	0	4	4

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	House Finch	1						1	2		2	2	0	4	4
	House Sparrow		3						2		0	5	0	5	5
	Cliff Swallow			4							0	0	4	0	4
	Lesser Goldfinch	1									1	0	0	1	1
	American Crow		1			2			1		0	4	0	4	4
	Northern Mockingbird		1								0	1	0	1	1
	Hooded Oriole					1					0	1	0	1	1
	Red-tailed Hawk								1		0	1	0	1	1
	Western Scrub-Jay								1		0	1	0	1	1
	Mourning Dove								1		0	1	0	1	1
	Bullock's Oriole							1			1	0	0	1	1
04	House Finch	1	3				1				1	3	1	4	5
	Western Scrub-Jay			1	1						1	0	1	1	2
	Lesser Goldfinch	1							1		1	1	0	2	2
	Cliff Swallow						8				0	0	8	0	8
	Cedar Waxwing						7				0	0	7	0	7
	American Crow						1			1	0	0	2	0	2
	Mourning Dove									2	0	0	2	0	2
	Brown-headed Cowbird									1	0	0	1	0	1
05	Mourning Dove	3	1								3	1	0	4	4
	House Finch	1									1	0	0	1	1
	Rock Dove			4							0	0	4	0	4
	California Towhee	1						1			2	0	0	2	2
	House Sparrow		1								0	1	0	1	1
	Western Scrub-Jay	1							1		1	1	0	2	2
	Northern Mockingbird		1						1		0	2	0	2	2
	White-crowned Sparrow	1									1	0	0	1	1
	Western Tanager				1						1	0	0	1	1
	Brown-headed Cowbird				1						1	0	0	1	1
	Bullock's Oriole								1		0	1	0	1	1
	No. Rough-winged Swallow									1	0	0	1	0	1
06	Spotted Towhee	1			1						2	0	0	2	2
	House Finch	5								2	5	0	2	5	7
	Mourning Dove	1			1						2	0	0	2	2
	Common Raven			4			1				0	0	5	0	5
	Rock Dove			5						6	0	0	11	0	11
	Wrentit		1								0	1	0	1	1
	Lesser Goldfinch	2									2	0	0	2	2
	Northern Mockingbird		1			2					0	3	0	3	3
	California Towhee				1			1	1		2	1	0	3	3
	Great Blue Heron									1	0	0	1	0	1
	Western Scrub-Jay							1			1	0	0	1	1
	Cooper's Hawk									1	0	0	1	0	1
	Brown-headed Cowbird								1		0	1	0	1	1
07	Northern Mockingbird	1	1								1	1	0	2	2
	House Finch	4	1								4	1	0	5	5
	California Towhee		1								0	1	0	1	1
	American Crow		1			1					0	2	0	2	2
	Red-tailed Hawk		1								0	1	0	1	1
	Mourning Dove			3							0	0	3	0	3
	Western Scrub-Jay			1					1		0	1	1	1	2

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	No. Rough-winged Swallow			3							0	0	3	0	3
	House Sparrow			1							0	0	1	0	1
	Wrentit				1						1	0	0	1	1
	California Quail							1			1	0	0	1	1
	California Thrasher							1			1	0	0	1	1
	Anna's Hummingbird							1			1	0	0	1	1
	Rock Dove									20	0	0	20	0	20
08	California Thrasher	1	1					1			1	1	0	2	2
	California Towhee		1					1			1	1	0	2	2
	California Quail		1								0	1	0	1	1
	Wrentit		1					1			1	1	0	2	2
	Spotted Towhee		1								0	1	0	1	1
	Mourning Dove						1		3		0	3	1	3	4
	Northern Mockingbird								1		0	1	0	1	1
	Western Scrub-Jay								1		0	1	0	1	1
09	White-crowned Sparrow	1									1	0	0	1	1
	California Thrasher	2									2	0	0	2	2
	House Finch		1					5			5	1	0	6	6
	Mourning Dove		1	2						1	0	1	3	1	4
	California Quail	1									1	0	0	1	1
	Wrentit	1				1					1	1	0	2	2
	Northern Mockingbird		1								0	1	0	1	1
	California Towhee	1						1	1		2	1	0	3	3
	Western Scrub-Jay	1									1	0	0	1	1
	American Crow									1	0	0	1	0	1
	Anna's Hummingbird							1			1	0	0	1	1
	Cockatiel									1	0	0	1	0	1
10	Western Scrub-Jay		2								0	2	0	2	2
	California Thrasher	1									1	0	0	1	1
	California Towhee		2								0	2	0	2	2
	California Quail	1									1	0	0	1	1
	Black-headed Grosbeak		1								0	1	0	1	1
	House Finch	2	1								2	1	0	3	3
	Wrentit		2								0	2	0	2	2
	White-crowned Sparrow	1				3		1			2	3	0	5	5
	Northern Mockingbird					1					0	1	0	1	1
	Mourning Dove					1					0	1	0	1	1
	Common Raven									1	0	0	1	0	1
	Rufous-crowned Sparrow							1			1	0	0	1	1
	Yellow Warbler							1			1	0	0	1	1

Table H4. Point Count Results for 08 May 2001

Start: 0555; 61°; cloud cover 0%; visibility fair; wind 1-3E; dew slight; upland ground surface dry; no precipitation.

End: 1003; 84°; cloud cover 0%; visibility good; wind 1-6W/SW; no precipitation during point counts.

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
01	California Towhee	1	1								1	1	0	2	2
	Northern Mockingbird		2								0	2	0	2	2
	Bewick's Wren		1								0	1	0	1	1
	House Finch	1	2			1				1	1	3	1	4	5
	American Crow		3						1		0	4	0	4	4
	Wrentit	1				1					1	1	0	2	2
	Mallard			3							0	0	3	0	3
	Spotted Towhee				1						1	0	0	1	1
	Mourning Dove									2	0	0	2	0	2
	Rufous-crowned Sparrow								1		0	1	0	1	1
	Western Scrub-Jay								1		0	1	0	1	1
02	Northern Mockingbird	1	1								1	1	0	2	2
	Wrentit		1								0	1	0	1	1
	Spotted Towhee	1									1	0	0	1	1
	House Sparrow		1			1					0	2	0	2	2
	American Crow		3								0	3	0	3	3
	Mallard			1			1				0	0	2	0	2
	Mourning Dove	12	4						1		12	5	0	17	17
	House Finch	1			1				2		2	2	0	4	4
	Cedar Waxwing						21				0	0	21	0	21
	Cliff Swallow						1				0	0	1	0	1
	California Towhee				1						1	0	0	1	1
	Anna's Hummingbird								1		0	1	0	1	1
	Say's Phoebe								2		0	2	0	2	2
	Bushtit							1			1	0	0	1	1
	Western Tanager							1			1	0	0	1	1
	Rock Dove									20	0	0	20	0	20
03	House Sparrow	4									4	0	0	4	4
	House Finch	3							3		3	3	0	6	6
	Rufous-crowned Sparrow		1								0	1	0	1	1
	California Gnatcatcher		1								0	1	0	1	1
	Lesser Goldfinch	1						1			2	0	0	2	2
	Northern Mockingbird	1	1								1	1	0	2	2
	Wrentit		1								0	1	0	1	1
	American Crow		1			1					0	2	0	2	2
	Brown-headed Cowbird									3	0	0	3	0	3
	California Towhee								1		0	1	0	1	1
	Lazuli Bunting		1								0	1	0	1	1
	Mourning Dove								1		0	1	0	1	1
04	Spotted Towhee								1		0	1	0	1	1
	House Finch	4			2						6	0	0	6	6
	Rufous-crowned Sparrow	1			1						2	0	0	2	2
	California Towhee	1							1		1	1	0	2	2
	Northern Mockingbird		1								0	1	0	1	1
	House Sparrow		2								0	2	0	2	2
	Lesser Goldfinch		1								0	1	0	1	1
	American Crow									2	0	0	2	0	2
	Mourning Dove							2		1	2	0	1	2	3

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	Western Scrub-Jay							1			0	1	0	1	1
05	California Towhee	2	1								2	1	0	3	3
	House Finch	4	2				1				4	2	1	6	7
	Northern Mockingbird		1								0	1	0	1	1
	Mourning Dove		1	2		1			1		0	3	2	3	5
	Wrentit	1									1	0	0	1	1
	Rock Dove			4							0	0	4	0	4
	Anna's Hummingbird				1						1	0	0	1	1
	Spotted Towhee				1						1	0	0	1	1
	American Crow					1					0	1	0	1	1
06	California Quail	1									1	0	0	1	1
	American Crow		1			1					0	2	0	2	2
	House Finch	7								1	7	0	1	7	8
	European Starling		1		1					3	1	1	3	2	5
	Northern Mockingbird	2	1			1					2	2	0	4	4
	Mourning Dove	2									2	0	0	2	2
	Bullock's Oriole	1									1	0	0	1	1
	Anna's Hummingbird	1									1	0	0	1	1
	House Sparrow		1								0	1	0	1	1
	Bushtit	1			1						2	0	0	2	2
	California Towhee	3									3	0	0	3	3
	Spotted Towhee				1						1	0	0	1	1
	Lesser Goldfinch				2						2	0	0	2	2
	Rock Dove					30					0	30	0	30	30
	Bewick's Wren							1			1	0	0	1	1
	Wilson's Warbler							1			1	0	0	1	1
07	Wrentit	2	1			1					2	2	0	4	4
	Western Scrub-Jay	1									1	0	0	1	1
	California Towhee	1	1								1	1	0	2	2
	House Finch	2				1			2		2	3	0	5	5
	Ash-throated Flycatcher	1									1	0	0	1	1
	Lesser Goldfinch	1									1	0	0	1	1
	Anna's Hummingbird		1								0	1	0	1	1
	Red-tailed Hawk		1								0	1	0	1	1
	Spotted Towhee		1								0	1	0	1	1
	Bewick's Wren		1								0	1	0	1	1
	Cliff Swallow						3				0	0	3	0	3
	Phainopepla							1			1	0	0	1	1
	Lazuli Bunting								1		0	1	0	1	1
	Mourning Dove								1		0	1	0	1	1
	Cassin's Kingbird								1		0	1	0	1	1
	Northern Mockingbird		1						1		0	2	0	2	2
	Hooded Oriole								1		0	1	0	1	1
08	Northern Mockingbird	1	1								1	1	0	2	2
	Wrentit		1								0	1	0	1	1
	California Quail	1									1	0	0	1	1
	Western Scrub-Jay		1								0	1	0	1	1
	California Towhee		2								0	2	0	2	2
	Spotted Towhee		1								0	1	0	1	1
	California Gnatcatcher		1								0	1	0	1	1
	Bewick's Wren					1					0	1	0	1	1

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	Hooded Oriole									1	0	0	1	0	1
09	Spotted Towhee	1									1	0	0	1	1
	Wrentit	1	1								1	1	0	2	2
	Northern Mockingbird	1	1								1	1	0	2	2
	House Finch	1	2			4		1			2	6	0	8	8
	Western Scrub-Jay		1					1			1	1	0	2	2
	California Towhee		1								0	1	0	1	1
	Anna's Hummingbird					1					0	1	0	1	1
	Mourning Dove								1		0	1	0	1	1
	Lesser Goldfinch									1	0	0	1	0	1
	California Thrasher								1		0	1	0	1	1
	Hooded Oriole									1	0	0	1	0	1
10	Western Scrub-Jay		1						1		0	2	0	2	2
	Common Raven			2							0	0	2	0	2
	House Finch	1	1							1	1	1	1	2	3
	California Thrasher		1								0	1	0	1	1
	California Quail	1	1								1	1	0	2	2
	Wrentit		1								0	1	0	1	1
	Lesser Goldfinch			1							0	0	1	0	1
	Rufous-crowned Sparrow		1								0	1	0	1	1
	Mourning Dove						1				0	0	1	0	1
	Northern Mockingbird					1			1		0	2	0	2	2
	Turkey Vulture									1	0	0	1	0	1
	California Towhee							1			1	0	0	1	1

Table H5. Point Count Results for 06 June 2001

Start: 0535; 57°; cloud cover 100%; visibility fair; wind 1-5S; no dew; upland ground surface dry; no precipitation.

End: 0914; 71°; cloud cover 0%; visibility good; wind 1-5S; no precipitation during point counts.

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
01	Northern Mockingbird		2			1					0	3	0	3	3
	Bewick's Wren	1							1		1	1	0	2	2
	California Towhee	2	2						1		2	3	0	5	5
	Western Kingbird		1								0	1	0	1	1
	House Finch		3								0	3	0	3	3
	California Thrasher	1									1	0	0	1	1
	American Crow		1								0	1	0	1	1
	Spotted Towhee	1	1								1	1	0	2	2
	Wrentit		1			1					0	2	0	2	2
	Ash-throated Flycatcher		1								0	1	0	1	1
	California Quail								1		0	1	0	1	1
02	Northern Mockingbird	1	1						1		1	2	0	3	3
	Mourning Dove	2	1			2					2	3	0	5	5
	House Finch		2			5					0	7	0	7	7
	Western Kingbird		2								0	2	0	2	2

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	Hooded Oriole		1		1						1	1	0	2	2
	California Towhee	2			2	3					4	3	0	7	7
	Cliff Swallow			6			1			3	0	0	10	0	10
	American Crow								1		0	1	0	1	1
	House Sparrow							2	2		2	2	0	4	4
	hummingbird sp.								1		0	1	0	1	1
03	Mourning Dove		1								0	1	0	1	1
	House Finch	4	2	3							4	2	3	6	9
	American Crow		1			1					0	2	0	2	2
	House Sparrow	2	2			2					2	4	0	6	6
	California Towhee	1	2					1			2	2	0	4	4
	Cliff Swallow			3			5			1	0	0	9	0	9
	Western Scrub-Jay		2								0	2	0	2	2
	Northern Mockingbird	1	1								1	1	0	2	2
	Spotted Towhee	1									1	0	0	1	1
	Bullock's Oriole					1					0	1	0	1	1
	Wrentit								1		0	1	0	1	1
	Bushtit							1			1	0	0	1	1
04	House Finch	1	3					1			2	3	0	5	5
	hummingbird sp.			2							0	0	2	0	2
	California Towhee	1	2								1	2	0	3	3
	Rufous-crowned Sparrow	1									1	0	0	1	1
	House Sparrow		2								0	2	0	2	2
	Wrentit		1								0	1	0	1	1
	Northern Mockingbird		2			1			1		0	4	0	4	4
	American Crow			1						2	0	0	3	0	3
	Common Raven			2							0	0	2	0	2
	Cliff Swallow						2				0	0	2	0	2
	Nuttall's Woodpecker								1		0	1	0	1	1
	Mourning Dove									1	0	0	1	0	1
05	Mourning Dove	2	1						1		2	2	0	4	4
	Northern Mockingbird	1	1			2		1			2	3	0	5	5
	House Finch	5					2				5	0	2	5	7
	House Sparrow	1									1	0	0	1	1
	American Crow		1			1					0	2	0	2	2
	Spotted Towhee	1						1			2	0	0	2	2
	California Towhee		1								0	1	0	1	1
	Cliff Swallow			1							0	0	1	0	1
	Western Scrub-Jay								1		0	1	0	1	1
	Wrentit								2		0	2	0	2	2
	Rufous-crowned Sparrow							1			1	0	0	1	1
06	House Finch	5									5	0	0	5	5
	California Towhee	1						2			3	0	0	3	3
	Common Raven			1							0	0	1	0	1
	Phainopepla	1									1	0	0	1	1
	House Sparrow	2									2	0	0	2	2
	Lilac-crowned Amazon			3							0	0	3	0	3
	Northern Mockingbird		1						1		0	2	0	2	2
	California Quail		1								0	1	0	1	1
	hummingbird sp.	1									1	0	0	1	1
	Mourning Dove	2			1						3	0	0	3	3

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	Spotted Towhee	1						1			2	0	0	2	2
	California Thrasher	1						2			3	0	0	3	3
	Bewick's Wren				1			1			2	0	0	2	2
	Cliff Swallow						<u>1</u>			<u>1</u>	0	0	2	0	2
	Lesser Goldfinch						1			3	0	0	4	0	4
	European Starling						1				0	0	1	0	1
07	House Finch	2				1		5			7	1	0	8	8
	California Towhee	3									3	0	0	3	3
	House Sparrow	2									2	0	0	2	2
	Northern Mockingbird		1								0	1	0	1	1
	Cliff Swallow			<u>4</u>			<u>2</u>				0	0	6	0	6
	Mourning Dove			1							0	0	1	0	1
	No. Rough-winged Swallow			<u>1</u>							0	0	1	0	1
	Red-tailed Hawk		1								0	1	0	1	1
	American Crow			1					1		0	1	1	1	2
	Anna's Hummingbird			1				1			1	0	1	1	2
	Bewick's Wren	1				1					1	1	0	2	2
	Western Scrub-Jay				1						1	0	0	1	1
	Phainopepla					1					0	1	0	1	1
	Bushtit							3			3	0	0	3	3
08	Northern Mockingbird	1									1	0	0	1	1
	Red-tailed Hawk			<u>1</u>							0	0	1	0	1
	Phainopepla	1									1	0	0	1	1
	House Finch	2									2	0	0	2	2
	Bewick's Wren	1									1	0	0	1	1
	Cliff Swallow			<u>2</u>			<u>3</u>				0	0	5	0	5
	California Towhee					1		1			1	1	0	2	2
	Western Scrub-Jay					1					0	1	0	1	1
	American Crow					1			1		0	2	0	2	2
	No. Rough-winged Swallow									<u>1</u>	0	0	1	0	1
	California Thrasher								1		0	1	0	1	1
	Wrentit							3	1		3	1	0	4	4
09	California Towhee	1	1					1	1		2	2	0	4	4
	House Finch	2				1					2	1	0	3	3
	Spotted Towhee	1									1	0	0	1	1
	Wrentit	1									1	0	0	1	1
	California Thrasher	1									1	0	0	1	1
	Northern Mockingbird		1			1					0	2	0	2	2
	Mourning Dove		1								0	1	0	1	1
	Bewick's Wren	1									1	0	0	1	1
	Western Scrub-Jay				1						1	0	0	1	1
	Cliff Swallow						<u>2</u>			<u>1</u>	0	0	3	0	3
	California Quail								1		0	1	0	1	1
	Lesser Goldfinch							1		1	1	0	1	1	2
	Phainopepla									1	0	0	1	0	1
10	Northern Mockingbird	1	1					1			2	1	0	3	3
	House Finch	3	1								3	1	0	4	4
	Cliff Swallow			<u>2</u>			<u>5</u>				0	0	7	0	7
	Western Scrub-Jay	1			1						2	0	0	2	2
	California Thrasher		1								0	1	0	1	1
	California Towhee	1									1	0	0	1	1

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	Phainopepla		1								0	1	0	1	1
	Rufous-crowned Sparrow				1						1	0	0	1	1
	Common Raven						1				0	0	1	0	1
	Wrentit								1		0	1	0	1	1
	Spotted Towhee							1			0	1	0	1	1

Table H6. Point Count Results for 18 July 2001

Start: 0540; 65°; cloud cover 100%; visibility fair; wind 0-3S; no dew; upland ground surface dry; no precipitation.

End: 0918; 70°; cloud cover 0%; visibility good; wind 1-5E; no precipitation during point counts.

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
01	Northern Mockingbird		3								0	3	0	3	3
	California Thrasher	1									1	0	0	1	1
	Mourning Dove			1							0	0	1	0	1
	House Sparrow		2								0	2	0	2	2
	House Finch					1					0	1	0	1	1
	American Crow						1			1	0	0	2	0	2
	Cassin's Kingbird					1					0	1	0	1	1
	Wrentit								1		0	1	0	1	1
	Western Scrub-Jay								1		0	1	0	1	1
	Bewick's Wren							1			1	0	0	1	1
	California Towhee							1			1	0	0	1	1
02	Mourning Dove	1	4	1		1		1	3	1	2	8	2	10	12
	Northern Mockingbird	1	2					1			2	2	0	4	4
	California Quail	1									1	0	0	1	1
	American Crow			1					6	2	0	6	3	6	9
	House Finch	2	1					1			3	1	0	4	4
	Western Scrub-Jay		1								0	1	0	1	1
	Cliff Swallow			1							0	0	1	0	1
	Bewick's Wren				1						1	0	0	1	1
	Wrentit				1			1			2	0	0	2	2
	Rock Dove									3	0	0	3	0	3
	House Sparrow								2		0	2	0	2	2
	California Towhee							1			1	0	0	1	1
	California Thrasher							1			1	0	0	1	1
03	American Crow		2						2		0	4	0	4	4
	House Sparrow	2									2	0	0	2	2
	House Finch	2		2				2	4	3	4	4	5	8	13
	Northern Mockingbird		1			1		1			1	2	0	3	3
	Western Scrub-Jay	1									1	0	0	1	1
	Wrentit	1	1						1		1	2	0	3	3
	Mourning Dove		1							1	0	1	1	1	2
	Bewick's Wren	1									1	0	0	1	1
	Cliff Swallow			1			1			2	0	0	4	0	4
	California Towhee				1			3			4	0	0	4	4

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	Red-tailed Hawk					1					0	1	0	1	1
04	Western Scrub-Jay		2		2						2	2	0	4	4
	Mourning Dove	2								1	2	0	1	2	3
	American Crow		1						7		0	8	0	8	8
	California Towhee	1									1	0	0	1	1
	House Finch			10						5	0	0	15	0	15
	Spotted Towhee		1								0	1	0	1	1
	Wrentit	1							1		1	1	0	2	2
	Northern Mockingbird		1		2						0	3	0	3	3
	Cliff Swallow			<u>2</u>						<u>26</u>	0	0	28	0	28
	Common Raven						1				0	0	1	0	1
	Lesser Goldfinch							1			1	0	0	1	1
05	Northern Mockingbird	2	1	1		1					2	2	1	4	5
	Mourning Dove			1					1		0	1	1	1	2
	Cliff Swallow			<u>1</u>						<u>1</u>	0	0	2	0	2
	House Finch	3			2					1	3	2	1	5	6
	California Towhee	2									2	0	0	2	2
	Wrentit	1									1	0	0	1	1
	Western Scrub-Jay		1								0	1	0	1	1
	House Sparrow	2									2	0	0	2	2
	Hooded Oriole				1						0	1	0	1	1
	Cassin's Kingbird									1	0	0	1	0	1
	Common Raven									1	0	0	1	0	1
	White-tailed Kite								1		0	1	0	1	1
06	Mourning Dove	4							10	1	4	10	1	14	15
	Northern Mockingbird	3			1						4	0	0	4	4
	House Finch	9		4					10		9	10	4	19	23
	Spotted Towhee	2									2	0	0	2	2
	California Towhee	4			1						4	1	0	5	5
	California Quail	2						2			4	0	0	4	4
	House Sparrow	2									2	0	0	2	2
	California Thrasher							1			1	0	0	1	1
	Wrentit							1			1	0	0	1	1
	Cliff Swallow						<u>2</u>				0	0	2	0	2
	Western Scrub-Jay								1		0	1	0	1	1
	American Crow								2		0	2	0	2	2
	Nuttall's Woodpecker								1		0	1	0	1	1
07	Northern Mockingbird		1								0	1	0	1	1
	Cliff Swallow			<u>3</u>			<u>2</u>			<u>5</u>	0	0	10	0	10
	House Finch	2	7	4	3						5	7	4	12	16
	Phainopepla	1									1	0	0	1	1
	Bewick's Wren	1									1	0	0	1	1
	Cassin's Kingbird		1								0	1	0	1	1
	American Crow		1								0	1	0	1	1
	Wrentit				2						2	0	0	2	2
	Lesser Goldfinch							2			2	0	0	2	2
	hummingbird sp.							1			1	0	0	1	1
	Rock Dove								3		0	3	0	3	3
	Bushtit							10			10	0	0	10	10
	Greater Roadrunner							1			1	0	0	1	1
08	Cliff Swallow			<u>3</u>			<u>1</u>			<u>2</u>	0	0	6	0	6

Station	SPECIES	0 - 3 Minutes			3 - 5 Minutes			5 - 10 Minutes			Total	Total > 50 m	Fly-by Total	Total (no Fly-bys)	Total (all)
		≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by	≤ 50 m	> 50 m	Fly-by					
	House Finch	2	3				2			1	2	3	3	5	8
	California Thrasher		2								0	2	0	2	2
	American Crow		3								0	3	0	3	3
	Northern Mockingbird		2								0	2	0	2	2
	Bullock's Oriole					3					0	3	0	3	3
	Lesser Goldfinch									1	0	0	1	0	1
	Rock Dove									8	0	0	8	0	8
	California Towhee							1			0	1	0	1	1
09	Mourning Dove		22			4	2				0	26	2	26	28
	Northern Mockingbird		1								0	1	0	1	1
	Western Scrub-Jay		1								0	1	0	1	1
	Common Raven		1								0	1	0	1	1
	California Towhee	2	1								2	1	0	3	3
	European Starling		2								0	2	0	2	2
	House Finch	4	10	1			2	1		5	5	10	8	15	23
	Cliff Swallow			<u>1</u>							0	0	1	0	1
	Wrentit	1									1	0	0	1	1
	Spotted Towhee				1						1	0	0	1	1
	California Quail							1			1	0	0	1	1
	American Crow								2		0	2	0	2	2
10	House Finch	3	1			3		2			5	4	0	9	9
	California Thrasher		1								0	1	0	1	1
	Western Scrub-Jay		1								0	1	0	1	1
	Wrentit	2									2	0	0	2	2
	Mourning Dove		2	2							0	2	2	2	4
	Northern Mockingbird		4			3					0	7	0	7	7
	Lesser Goldfinch	1									1	0	0	1	1
	American Crow		1								0	1	0	1	1
	Spotted Towhee	1				1					1	1	0	2	2
	California Gnatcatcher	1									1	0	0	1	1
	Turkey Vulture									<u>1</u>	0	0	1	0	1
	Red-tailed Hawk									<u>1</u>	0	0	1	0	1
	California Towhee					1		1			1	1	0	2	2
	Nuttall's Woodpecker								1		0	1	0	1	1
	Black-headed Grosbeak								1		0	1	0	1	1

Appendix I

Bibliography on California Gnatcatcher (*Polioptila californica*)

INTRODUCTION

This bibliography is believed to include all scientific, natural history, and federal regulatory references specifically addressing California Gnatcatcher. Not included are most general references, field guides, and popular articles or books addressing this species. A few unpublished studies and/or consulting reports are included where judged to hold some potential for long-term value. Style follows that used in the main literature cited list for this report.

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APPENDIX J

COPIES OF APPLICABLE PERMITS AND MEMORANDA

INTRODUCTION

Permits required for the current work are a federal Recovery Permit under Section 10(a)1(A) of the Endangered Species Act, and a State Memorandum of Understanding. Copies of each permit are provided here.

APPENDIX K

CALIFORNIA NATURAL DIVERSITY DATA BASE FIELD SURVEY FORMS

INTRODUCTION

Part of the scope for the current work consists of completion of CNDDDB Field Survey Forms. Attached are all forms for species and communities tracked in the CNDDDB for which records were generated in the current work. The forms are in taxonomic order by species, followed by communities in alphabetic order (none of the latter in this case). All have been sent in to the correct contact at the California Department of Fish and Game.

Species reported are: (San Diego) Coast Horned Lizard, (Coronado) Western Skink, (Belding's) Orange-throated Whiptail, Cooper's Hawk, (Coastal) Cactus Wren, (Coastal) California Gnatcatcher, and (Ashy [= Southern California]) Rufous-crowned Sparrow. The other five species with special status recorded on the study area during the current work either are not currently tracked by the CNDDDB (Western Bluebird) or were judged not to be potentially breeding on or adjacent to the study area, and for those species the CNDDDB does not solicit records except for breeding individuals (White-tailed Kite, Sharp-shinned Hawk, Merlin, Yellow Warbler). Note also that the CNDDDB does not track the occurrence of Diegan Coastal Sage Scrub, although this natural community is widely considered to be an important and declining resource.