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MENIFEE VALLEY PROJECT – FOCUSED BURROWING OWL SURVEY REPORT

Menifee, California

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Prepared for:
Brookfield Properties
3200 Park Center Drive, Suite 100
Costa Mesa, CA 92626
(714) 200-1609

Prepared by:
Rocks Biological Consulting
4312 Rialto Street
San Diego, CA 92107
(619) 701-6798

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1 SUMMARY

This report is a summary of focused burrowing owl (*Athene cunicularia*; BUOW) surveys conducted by Rocks Biological Consulting (RBC) for the Menifee Valley Project (project) in the City of Menifee, Riverside County, California. The project is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Burrowing Owl Survey Area (RCA 2021). Focused burrowing owl surveys were conducted by Cadre Environmental (Cadre Environmental 2019) in 2016 and 2018 and were negative for BUOW. Since the completion of the focused surveys in 2018, the project has expanded to include off-site improvement areas along California State Route 74 (CA-74), Menifee Road, Briggs Road, and Matthews Road. RBC re-assessed the project area for the presence of suitable BUOW habitat and conducted focused breeding season BUOW surveys on the updated overall Menifee Valley Project site, including off-site improvements areas, plus a surrounding 500-foot buffer (survey area). Surveys were conducted in accordance with the *Burrowing Owl Survey Instructions for Western Riverside MSHCP Area* (BUOW Survey Instructions; RCA 2006); the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) was also used for general guidance. No BUOW, active BUOW burrows, or BUOW sign were documented within the survey area.

2 INTRODUCTION

2.1 PROJECT LOCATION & PROPOSED ACTIVITY

The project is in the northeastern portion of the City of Menifee, California (Figure 1). The project site is approximately 639 acres, located east of Interstate 215 on CA-74 between Menifee Road and Briggs Road. The project entails the proposed construction of a master planned community consisting of a mix of uses including residential, commercial, business park, public facilities, and open space, with additional on-site infrastructure improvements. Off-site improvements include roadway improvements and subsurface utility line installations and connections along CA-74, Menifee Road, Briggs Road, and Matthews Road, in addition to a pedestrian bridge over Matthews Road.

2.2 BURROWING OWL NATURAL HISTORY

Within California, BUOW is listed by the CDFW as a Species of Special Concern (SSC). Suitable habitat for BUOW is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils, such as naturally occurring grassland, shrub steppe, and desert habitats (Haug et al. 1993). Additionally, BUOW may occur in agricultural areas, ruderal grassy fields, vacant lots and pastures containing suitable vegetation structure and useable burrows and foraging habitat in proximity (Gervais et al. 2008). Typically, BUOW use burrows that have been dug by other species, termed host burrowers. In California, BUOW frequently use burrows dug by California ground squirrel (*Otospermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) and dens or holes dug by other fossorial species, including badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox (e.g., San Joaquin kit fox [*Vulpes macrotis mutica*]) (Ronan 2002). In addition, BUOW also frequently use natural rock cavities, debris piles, culverts,

and pipes for nesting and roosting (Rosenberg et al. 1998) and have been documented using artificial burrows for nesting and cover (Belthoff and Smith 2003). Occupancy of burrowing owl habitat is confirmed at a site when at least one burrowing owl, or its sign at or near a burrow entrance, is observed within the last three years (Rich 1984).

3 METHODS

3.1 SURVEY METHODS

RBC biologist Ian Hirschler conducted a habitat assessment for BUOW on October 15, 2021 in accordance with Step I of the BUOW Survey Instructions (RCA 2006). Afterwards, the project expanded to include off-site improvement areas along CA-74, Menifee Road, Briggs Road, and Matthews Road; an additional habitat assessment was performed for the off-site improvements footprint on February 24, 2022. Based on the presence of suitable habitat on the project site and surrounding 500-foot buffer, RBC avian biologists Ian Hirschler, Shannon Mindeman, Alec Goodman, Hannah Swarthout, and Kelsey Woldt conducted focused burrow surveys and focused breeding season BUOW surveys between May 31 and July 1, 2022, in accordance with Step II of the BUOW Survey Instructions (RCA 2006).

The survey included four survey 'passes'; two visits were required for each survey 'pass' due to the size of the survey area and survey timing restrictions. During each site visit, RBC biologists walked through suitable BUOW habitat within the survey area via straight-line transects spaced 10 meters (m) to 30 m apart, adjusting for vegetation height and density, and used binoculars to scan the survey area at least every 100 m for BUOW, active burrows, and/or sign of BUOW. No calls were used. Care was taken to minimize disturbance near suitable burrows to avoid flushing any burrowing owls, if any. All observed burrows were examined for sign, including feathers, pellets, whitewash, and prey remains. Burrows were considered active if a BUOW was observed at or near the entrance or if recent sign was present. All BUOW, active BUOW burrows, and BUOW sign were mapped in the geographic information system (GIS) program ArcGIS Collector, if any.

3.2 SURVEYOR QUALIFICATIONS

Mr. Hirschler is a wildlife biologist with over eight years of professional experience and a Bachelor of Science degree in Field and Wildlife Biology. Mrs. Mindeman is a wildlife biologist with over nine years of experience and holds a Master of Science degree in Evolutionary Biology and a Bachelor of Science degree in Biology. Mr. Goodman is a wildlife biologist with over 5 years of professional experience and a Bachelor of Science degree in Environmental Science. Ms. Swarthout is a wildlife biologist with 3 years of professional experience and a Bachelor of Arts degree in Environmental Studies and a minor in Geography. Ms. Woldt is a wildlife biologist with over two years of professional experience and holds a Master of Science degree in Biology and a Bachelor of Science degree in Ecology, Animal Behavior, and Evolutionary Biology. The biologists are experienced at conducting burrowing owl surveys.

4 RESULTS

4.1 EXISTING CONDITIONS & HABITAT ASSESSMENT

The survey area is composed primarily of active agriculture and disturbed habitat, which are dominated by common barley (*Hordeum vulgare*), cheeseweed (*Malva parviflora*), ripgut brome (*Bromus diandrus*), red brome (*B. rubens*), slender wild oat (*Avena barbata*), and soft chess (*Bromus hordeaceus*). Some broad-leaved forbs such as tocalote (*Centaurea melitensis*), short-pod mustard (*Hirschfeldia incana*), and tumbleweed (*Salsola australis*) are also present within the disturbed habitat. The survey area also includes developed habitat, Riversidean sage scrub, non-native grassland, and smaller areas of mulefat thickets, southern riparian forest, and freshwater marsh. The active agriculture and some areas of non-native grassland and disturbed habitat within the survey area are regularly tilled.

During the BUOW habitat assessments, parts of the survey area were determined to be suitable BUOW habitat based on the presence of open grassland, disturbed habitat, and agriculture within the project site and buffers areas (Figure 1). Photographs of site conditions are presented in Appendix A.

4.2 FOCUSED BURROWING OWL SURVEY RESULTS

RBC conducted four focused BUOW surveys during the breeding season (February 1 to August 31) between March 31, 2022, and July 1, 2022. No BUOW, sign, or active BUOW burrows were observed during focused surveys. However, several small mammal burrows suitable for BUOW were observed and are mapped on Figure 1. Survey dates, times, and weather conditions are presented in Table 1, below. Climatic and temporal conditions did not affect BUOW detection or survey scope. Because burrows and active BUOW sign can be observed throughout the daytime, some surveys extended past the recommended timeframe provided in the BUOW Survey Instructions (i.e., surveys conducted several hours past sunrise). Additionally, the 4th dusk survey started when temperatures were over 90° Fahrenheit (F), but that quickly decreased to below 90° F and did not prevent the potential observations of recent BUOW sign or potential BUOW burrows. Therefore, the results of the BUOW surveys were not compromised by the survey conditions and are considered valid.

Table 1. Focused Breeding Season Burrowing Owl Survey Dates and Conditions

Survey Number	Date	Surveyor(s)	Time (Start; End)	Temp (F) (Start; End)	Cloud Cover (%) (Start; End)	Wind Range (mph) (Start; End)	Precip. (Start; End)	Visibility (Lo, Med, High) (Start; End)
1 (dusk)	3/31/22	A. Goodman, H. Swarthout, K. Woldt	1600-1915	63; 57	100; 100	8-10; 8-10	None; None	High; High
1 (dawn)	4/1/22	A. Goodman, H. Swarthout, K. Woldt	0630-1245	54; 66	100; 0	1-3; 2-5	None; None	High; High
2 (dusk)	4/28/22	A. Goodman, S. Mindeman, K. Woldt	1600-1945	68; 58	75; 75	5-10; 10-12	None; None	High; High
2 (dawn)	4/29/22	A. Goodman, S. Mindeman, K. Woldt	0630-1215	52; 72	100; 0	0-2; 1-3	None; None	High; High
3 (dusk)	5/26/22	A. Goodman, I. Hirschler, K. Woldt	1530-1915	88; 68	0; 0	7-12; 5-10	None; None	High; High
3 (dawn)	5/27/22	A. Goodman, I. Hirschler, K. Woldt	0715-1000	55-58	100; 100	2-5; 2-5	None; None	High; High
4 (dusk)	6/30/22	A. Goodman, H. Swarthout, K. Woldt	1630-1945	95-83	10; 5	10-15; 5-12	None; None	High; High
4 (dawn)	7/1/22	A. Goodman, K. Woldt	0715-1100	70-88	40; 5	2-5; 3-5	None; None	High; High

Additionally, 48 bird species, three invertebrate species, and two reptile species were observed during focused surveys as listed in Appendix B.

5 BURROWING OWL MITIGATION

Pursuant to the MSHCP, all project sites containing burrows or suitable habitat require pre-construction surveys, regardless of BUOW presence/absence during previous surveys (RCA 2006). The pre-construction surveys will be conducted in accordance with MSHCP Objective 6 for BUOW and the BUOW Survey Instructions. As such, the following minimization and avoidance measure is required in order to avoid direct impacts on BUOW:

> A qualified biologist will conduct a pre-construction presence/absence survey for burrowing owls within 30 days prior to site disturbance. If burrowing owls are documented on site, the owls will be relocated/excluded from the site outside of the breeding season following accepted protocols, as specified in the MSHCP.

If active BUOW nesting is observed, a Burrowing Owl Plan shall be required which describes avoidance, relocation, monitoring, minimization, and/or mitigation actions for the on-site BUOW. If impacts to active nests cannot be avoided, the Burrowing Owl Plan shall include the appropriate method of relocation from the project site (i.e., passive versus active relocation), and must be

approved by the Western Riverside County Regional Conservation Authority in conjunction with the Wildlife Agencies. Further coordination is needed to determine if passive relocation would be acceptable at this location.

6 CONCLUSIONS

No BUOW, active burrows, or BUOW sign were documented within the survey area during the focused BUOW surveys conducted between March 31, 2022, and July 1, 2022. However, due to the presence of suitable habitat on site and within the surrounding areas, as well as the potential for future occupation of the site, pre-construction surveys will be required to avoid potential direct impacts on BUOW resulting from the project in conformance with the MSHCP.

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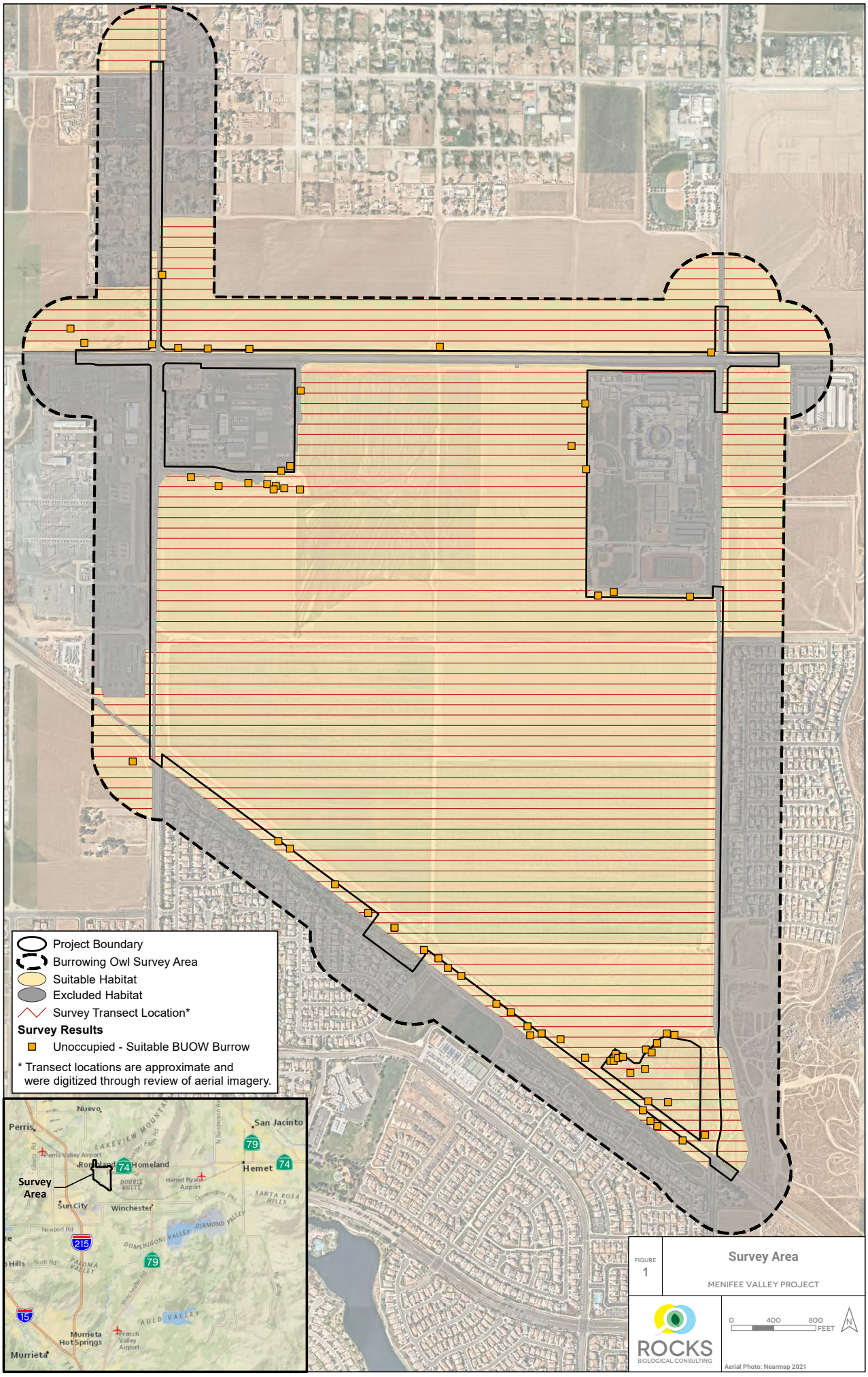
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Project Boundary
Burrowing Owl Survey Area
Suitable Habitat
Excluded Habitat
Survey Transect Location*
Survey Results
Unoccupied - Suitable BUOW Burrow
* Transect locations are approximate and were digitized through review of aerial imagery.
Survey Area
Nuevo
Perris
San Jacinto
Hemet
Sun City
Winchester
Murrieta
Murrieta Hot Springs
Homeland
Perris Valley Airport
Hemet Ryan Airport
French Valley Airport
FIGURE 1
Survey Area
MENIFEE VALLEY PROJECT
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Aerial Photo: Nearmap 2021

Appendix A

Site Photographs



Photo 1. Overview of on-site portion of the project site from the western site boundary facing southeast, showing active agriculture and dirt margins on March 31, 2022.



Photo 2. View of Riversidean sage scrub, non-native grassland, disturbed, and developed habitats in the in the southeastern portion of the project site, facing southeast on March 31, 2022.



Photo 3. View of recently harvested active agriculture within northern portion of the project, facing south on April 28, 2022.



Photo 4. View of non-native grassland within the northwestern portion of the project, facing north on April 29, 2022.



Photo 5. Representative photo from April 29, 2022, of a California ground squirrel (*Otospermophilus beecheyi*) burrow that is suitable but unoccupied by burrowing owl on the eastern boundary of the project site.



Photo 6. East-facing view of disturbed habitat - ephemeral streambed and recent disturbance within the eastern portion of the site, facing east on June 30, 2022.



Photo 7. Representative photo of the disturbed and developed habitats in the southern portion of the project site, facing west on July 1, 2022.



Photo 8. Representative picture of the developed and disturbed habitats in the western boundary of the project site, facing south on June 30, 2022.

Appendix B
Wildlife Species Observed

Family	Common Name	Scientific Name
Invertebrates		
Nymphalidae	painted lady	*Vanessa cardui*
Pieridae	cabbage white	*Pieris rapae*
Tenebrionidae	darkling beetle	*Coelocnemis spp*
Reptiles		
Phrynosomatidae	common side-blotched lizard	*Uta stansburiana*
Phrynosomatidae	Western fence lizard	*Sceloporus occidentalis*
Birds		
Accipitridae	Cooper's hawk (SSC when nesting)	*Accipiter cooperii*
Accipitridae	northern harrier (SSC when nesting)	*Circus hudsonius*
Accipitridae	red-tailed hawk	*Buteo jamaicensis*
Accipitridae	sharp-shinned hawk (SSC when nesting)	*Accipiter striatus*
Aegithalidae	bushtit	*Psaltriparus minimus*
Alaudidae	California horned lark (WL)	*Eremophila alpestris*
Anatidae	Canada goose	*Branta canadensis*
Anatidae	mallard	*Anas platyrhynchos*
Apodidae	white-throated swift	*Aeronautes saxatalis*
Ardeidae	great egret	*Ardea alba*
Cardinalidae	western tanager	*Piranga ludoviciana*
Cathartidae	turkey vulture	*Cathartes aura*
Charadriidae	killdeer	*Charadrius vociferus*
Columbidae	mourning dove	*Zenaida macroura*
Columbidae	rock pigeon*	*Columba livia*
Corvidae	American crow	*Corvus brachyrhynchos*
Corvidae	common raven	*Corvus corax*
Cuculidae	greater roadrunner	*Geococcyx californianus*
Falconidae	American kestrel	*Falco sparverius*
Fringillidae	house finch	*Haemorhous mexicanus*
Fringillidae	lesser goldfinch	*Spinus psaltria*
Hirundinidae	barn swallow	*Hirundo rustica*
Hirundinidae	cliff swallow	*Petrochelidon pyrrhonota*
Hirundinidae	northern rough-winged swallow	*Stelgidopteryx serripennis*
Hirundinidae	violet-green swallow	*Tachycineta thalassina*
Icteridae	Brewer's blackbird	*Euphagus cyanocephalus*

Icteridae	hooded oriole	*Icterus cucullatus*
Icteridae	red-winged blackbird	*Agelaius phoeniceus*
Icteridae	western meadowlark	*Sturnella neglecta*
Mimidae	northern mockingbird	*Mimus polyglottos*
Motacillidae	American pipit	*Anthus rubescens*
Parulidae	orange-crowned warbler	*Leiothlypis celata*
Parulidae	Wilson's warbler	*Cardellina pusilla*
Parulidae	yellow warbler (SCC when nesting)	*Setophaga petechia*
Passerellidae	California towhee	*Melozone crissalis*
Passerellidae	lark sparrow	*Chondestes grammacus*
Passerellidae	rufous-crowned sparrow (WL)	*Aimophila ruficeps*
Passerellidae	savannah sparrow	*Passerculus sandwichensis*
Passerellidae	song sparrow	*Melospiza melodia*
Passerellidae	white-crowned sparrow	*Zonotrichia leucophrys*
Passeridae	house sparrow*	*Passer domesticus*
Sturnidae	European starling*	*Sturnus vulgaris*
Trochilidae	Anna's hummingbird	*Calypte anna*
Troglodytidae	canyon wren	*Catherpes mexicanus*
Tyrannidae	black phoebe	*Sayornis nigricans*
Tyrannidae	Cassin's kingbird	*Tyrannus vociferans*
Tyrannidae	Say's phoebe	*Sayornis saya*
Tyrannidae	Western kingbird	*Tyrannus verticalis*
Mammals		
Canidae	coyote	*Canis latrans*
Leporidae	Audubon's cottontail	*Sylvilagus audubonii*
Sciuridae	California ground squirrel	*Otospermophilus beecheyi*
SSC: California Department of Fish and Wildlife (CDFW) Species of Special Concern WL: CDFW Watch List * Introduced Species		