

# **Appendix O** Regional Species of Concern and Coverage Under Habitat Conservation Plans

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## Appendix O – Regional Species of Concern and Coverage Under Habitat Conservation Plans

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming / Activity Period	Species Coverage <sup>1</sup>			Habitat Present/Absent in BSA	Rationale
					MSHCP	Lake Mathews MSHCP	EI Sobrante Landfill MSHCP		
<b>Plants</b>									
<i>Allium munzii</i>	Munz's onion	US: FE CA: ST CNPS: 1B	Clay soils on mesic exposures or seasonally moist microsites in grassy openings of coastal sage scrub, chaparral, juniper woodland or valley, and foothill grassland.  The MSHCP account for this species states that "Munz's onion is found on clay and cobbly clay soils which include the following series: Altamont, Auld, Bosanko, Claypit, and Porterville." The account also mentions that "one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay." However, pyroxenite, like other crystalline (i.e. igneous and metamorphic) rocks, decomposes into sediments rich in clay. With bioturbation, those sediments become soils. Weathering of pyroxenite, specifically, generally results in a clay soil (Robert E. Reynolds pers. comm. to Stan Spencer, Mar. 8, 2005). It is therefore expected that any Munz's onion population associated with pyroxenite outcrops would be in clay soils.	Blooms April through May (Perennial bulb)	X			IP	Results of focused 2005 and 2006 surveys for this species were negative. However, additional potentially suitable habitat for this species will be surveyed in 2008. This species is inferred to be present in Alternatives 4, 5, and 9 pending the results of the 2008 survey.
<i>Ambrosia pumila</i>	San Diego ambrosia	US: FE CA: SP CNPS: 1B	Open floodplain terraces on Garretson gravelly fine sandy loams, or in the watershed margins of vernal pools or alkali playas on Las Posas loam in close proximity to Willow silty alkaline soils. Occurs in sparse annual vegetation.	Generally non-flowering (perennial herb)	X			A	Results of focused survey for this species were negative. Not known from the project vicinity.
<i>Atriplex coronata</i> var. <i>notator</i>	San Jacinto Valley crownscale	US: FE CA: SP CNPS: 1B	Highly alkaline silty-clay soils in association with the Traver-Domino-Willows soil association in floodplains (seasonal wetlands) dominated by alkali scrub, alkali playas, vernal pools, and, to a lesser extent, alkali grasslands. The majority (approximately 80%) of the populations are associated with Willows soils.	Blooms April through May (annual herb)	X			P	Four individuals of this species were observed in the BSA during focused plant surveys in 2005. However, no individuals were observed within the footprint of any project alternative.
<i>Atriplex parishii</i>	Parish's brittlescale	US: – CA: SP CNPS: 1B	Domino, Willows, and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Blooms June through October (annual herb)	X			A	The results of the focused survey for this species were negative.
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	US: – CA: SP CNPS: 1B	Domino, Willows, and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Blooms May through October (annual herb)	X			A	The results of the focused survey for this species were negative.
<i>Berberis nevinii</i>	Nevin's barberry	US: FE CA: SE CNPS: 1B	Gravelly wash margins in alluvial scrub, or coarse soils in chaparral; typically 275 to 825 meters (900 to 2,700 feet) elevation; Los Angeles, San Bernardino, Riverside, and San Diego Counties. In Riverside County, this species occurs in restricted localized populations in the Vail Lake area, Jurupa Hills, the Badlands, and Aguanga. A lone individual has been reported from the City of Riverside, and a report from Temecula needs to be verified.	Blooms March through April (evergreen shrub, survey year-round)	X			A	This species is not known from nor expected to occur in the project vicinity.
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	US: FT CA: SE CNPS: 1B	Clay or alkaline silty-clay soils in semi-alkaline mudflats, vernal pools, mesic southern needlegrass grassland, mixed native – non-native grassland and alkali grassland.	Blooms March through June (Perennial bulb)	X			A	The results of the focused survey for this species were negative.

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<i>Calochortus plummerae</i>	Plummer's mariposa lily	US: – CA: SP CNPS: 1B	Sandy or rocky sites of (usually) granitic or alluvial material in valley and foothill grassland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest at 100 to 1,700 meters (300 to 5,600 feet) elevation. Known from the Santa Monica Mountains to San Jacinto Mountains in Riverside, San Bernardino, Los Angeles, and Ventura Counties. In western Riverside County, this species is known from the foothills of the San Bernardino Mountains, northeastern Santa Ana Mountains, Box Springs Mountains, and from the Lake Skinner area ( <i>The Vascular Plants of Western Riverside County, California</i> . F.M. Roberts et al., 2004).	Blooms May through July (perennial herb)	X			HP	This species was not observed during the focused surveys. Given the known distribution and habitat requirements of this species, there is a low probability of occurrence in the BSA.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate mariposa lily	US: – CA: SP CNPS: 1B	Rocky areas in hills with annual grassland and coastal sage scrub. 180 to 855 meters (600 to 2,800 feet) elevation. Los Angeles, Orange, and Riverside Counties. In western Riverside County, this species is known from the hills and valleys west of Lake Skinner and Vail Lake ( <i>The Vascular Plants of Western Riverside County, California</i> . F.M. Roberts et al., 2004).	June through July	X			HP	This species was not observed during the focused surveys. Given the known distribution of this species, there is a low probability of occurrence in the BSA.
<i>Centromadia (Hemizonia) parryi</i> ssp. <i>australis</i>	Southern tarplant	US: – CA: SP CNPS: 1B	Edges of marshes and swamps, vernal pools, and vernal wet areas in grasslands below 425 meters (1,400 feet) elevation. In California, known only from Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties.	May through November		X		A	Site is outside the known range of this species. Species is not covered by the MSHCP, but is a Lake Mathews MSHCP covered species.
<i>Centromadia (Hemizonia) pungens</i> ssp. <i>laevis</i>	Smooth tarplant	US: – CA: SP CNPS: 1B	Primarily alkaline soils in alkali scrub, alkali playas, riparian woodland, watercourses, and alkaline grasslands.  The MSHCP account for this species states that "Suitable habitat for the smooth tarplant includes alkali scrub, alkali playas, and grasslands with alkaline affinities...smooth tarplant is restricted to clay and alkaline, silty-clay soils."	Blooms April through November (annual herb)	X			P	This species was observed during focused surveys in alkaline areas in the eastern portion of the BSA.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Long-spined spineflower	US: – CA: SP CNPS: 1B	Clay soils in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland at 30 to 1,450 meters (100 to 4,800 feet) elevation. Occurs in Riverside and San Diego Counties.	April through July (annual herb)	X		X	P	This species was observed during focused surveys south of Lake Mathews. El Sobrante Landfill MSHCP target species.
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	US: FE CA: SE CNPS: 1B	Sandy soils in association with mature alluvial scrub (Riversidean alluvial fan sage scrub); or gravel soils of Temecula arkose deposits (i.e., coarse, decomposing pale feldspar-rich sandstone) in association with open chamise chaparral in the Vail Lake area. The ideal habitat appears to be terraces and benches that receive overbank deposits every 50–100 years.  The MSHCP account for this species states that "this species is dependent on mature alluvial scrub that is maintained by periodic flooding and sediment transport and only occurs along Arroyo Seco and Kolb Creeks, Temescal Wash at Indian Creek, central Bautista Creek, Vail Lake, and the upper San Jacinto River near Valle Vista and Hemet. Cryptogammic crusts are frequently present in areas occupied by slender-horned spine flower."	Blooms April through June (annual herb)	X			A	The results of the focused survey for this species were negative.
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	US: – CA: SP CNPS: 1B	Clay soils in barrens, rocky places, ridgelines, and thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands. Visible population size varies considerably year-to-year depending on rainfall patterns.  The MSHCP account for this species states that "Many-stemmed dudleya is associated with openings in chaparral, coastal sage scrub, and grasslands underlain by clay and cobbly clay soils of the following series: Altamont, Auld, Bosanko, Claypit, and Porterville."	Blooms May through June (perennial herb)	X		X	IP	This species was observed south of Lake Mathews, but not within the areas to be impacted. However, additional potentially suitable habitat for this species will be surveyed in 2008. This species is inferred to be present in Alternatives 4, 5, and 9 pending the results of the 2008 survey. El Sobrante Landfill MSHCP target species.

## Appendix O – Regional Species of Concern and Coverage Under Habitat Conservation Plans

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<i>Erodium macrophyllum</i>	Round-leaved filaree	US: – CA: SP CNPS: 2	Clay soils in open cismontane woodland (e.g. oak, juniper woodlands) and valley and foothill grassland.  The MSHCP account for this species states that it is restricted to "very friable clay soils...Within the Plan Area, two of the mapped localities occur on Bosanko clay soils" and that "this species tends to be associated primarily with wild oats ( <i>Avena fatua</i> )."	Blooms March through May (annual herb)	X	X		P	This species was observed south of Lake Mathews.
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	US: FE CA: SE CNPS: 1B	Vernal pools at 15 to 620 meters (50 to 2,000 feet) elevation. In California, known only from Riverside and San Diego Counties.	April through June	X			A	This species is a vernal pool obligate species known to occur in Riverside County only on the Santa Rosa Plateau.
<i>Harpagonella palmeri</i>	Palmer's grappling hook	US: – CA: SP CNPS: 2	Clay soils in openings in coastal sage scrub, juniper woodland, and grassland below 830 meters (2,700 feet) elevation. In California, known only from Orange, Riverside, and San Diego Counties and the Channel Islands.		X	X		P	This species was observed in the BSA but outside the project footprint.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa horkelia	US: – CA: SP CNPS: 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters (200 to 2,700 feet) elevation. Occurs in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, and Orange Counties. Believed extirpated from San Bernardino, Riverside, and San Diego Counties.	February through September	X			HP	Although this species is known from the County from very few collections, there is a low probability that it could occur in the BSA in areas of chaparral. Species is not covered by the MSHCP.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	US: – CA: SP CNPS: 1B	Traver, Domino, or (usually) Willows soils in alkali scrub, alkali playas, vernal pools, and alkali grasslands.  The MSHCP account for this species states that "Coulter's goldfields is restricted to clay and alkaline, silty-clay soils."	Blooms February through June (annual herb)	X			P	This species was observed in the eastern portion of the BSA.
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	US: – CA: SP CNPS: 1B	Dry slopes and ridges in openings in chaparral, woodland, and forest at 695 to 2,195 meters (2,280 to 7,200 feet) elevation. Known only from San Diego, Orange, Riverside, and San Bernardino Counties. In western Riverside County, known only from higher elevations in the Santa Ana and Aqua Tibia Mountains ( <i>The Vascular Plants of Western Riverside County, California</i> . F.M. Roberts et al., 2004).	June through August (perennial herb)	X			A	This species has not been reported from the project vicinity. Suitable habitat within the BSA is outside the known elevation range of this species.
<i>Myosurus minimus</i> ssp. <i>apus</i>	Little mousetail	US: – CA: SP CNPS: 3	Alkaline soils in vernal pools and vernal plains.  The MSHCP account for this species states that "little mousetail is found in areas that have semiregular inundation."	Blooms April through May (annual herb)	X			A	This species was not observed during focused surveys.
<i>Nama stenocarpum</i>	Mud nama	US: – CA: SP CNPS: 2	Muddy embankments of marshes and swamps, and within lake margins and riverbanks.	Blooms January through July (annual or perennial herb)	X			A	This species was not observed during focused surveys.
<i>Navarretia fossalis</i>	Spreading navarretia	US: FT CA: SP CNPS: 1B	Saline alkaline soils of vernal pools and depressions and ditches in areas that once supported vernal pools.  The MSHCP account for this species states that it "is primarily restricted to the alkali floodplains of the San Jacinto River, Mystic Lake and Salt Creek in association with Willows, Domino and Traver soils" and that "in western Riverside County, spreading navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within a larger vernal floodplains dominated by annual alkali grassland or alkali playa."	Blooms April through June (annual herb)	X			P	This species was observed along Ramona Expressway in the eastern portion of the site.

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<i>Orcuttia californica</i>	California Orcutt grass	US: FE CA: SE CNPS: 1B	Alkaline soils and southern basaltic claypan in vernal pools.  The MSHCP account for this species states that, in Riverside County, it "is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet."	Blooms April through June (annual grass)	X			A	This species was not observed during focused surveys.
<i>Phacelia stellaris</i>	Brand's phacelia	US: FC CA: SP CNPS: 1B	Sandy soils of washes or benches in alluvial flood plains. This species is generally dependent on periodic flooding and sediment transport.  The MSHCP account for this species states that "within western Riverside County, Brand's phacelia is restricted to sandy benches along the Santa Ana River."	Blooms March through June (annual herb)	X			A	This species was not observed during focused surveys.
<i>Satureja chandleri</i>	San Miguel savory	US: – CA: SP CNPS: 1B	Rocky, gabbroic, and metavolcanic substrates in chaparral or oak woodland.  MSHCP Table 6-1 lists chaparral, coastal sage scrub, cismontane woodland, riparian woodland, and valley and foothill grasslands as potential habitat for this species. However, this species prefers moist rocky canyons with trees or large shrubs and would not be expected in coastal sage scrub or open grassland except at the margins of chaparral or oak woodland, nor would it be expected in woodlands outside of rocky canyons (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, Dec. 8, 2004). All occurrences of this species in the CNDDDB that include habitat information (16 occurrences in Riverside, Orange, and San Diego Counties) list coast live oak ( <i>Quercus agrifolia</i> ) or chaparral species as associates, or indicate that the habitat is chaparral, oak woodland, a chaparral-coastal sage scrub interface, or grassy openings in chaparral. In Riverside County, this species is known only from the Santa Ana Mountains and Santa Rosa Plateau, except for a dubious record of an occurrence near Sage Road south of Hemet (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, Dec. 8, 2004; MSHCP species account for San Miguel savory).	Blooms March through May (perennial herb)	X			IP	This species was not observed during focused surveys. This species is inferred to be present in some areas of the BSA that have not been surveyed, but is not present within the project footprint.
<i>Sibaropsis hammittii</i>	Hammitt's clay-cress	US:– CA: SP CNPS: 1B	Clay soils in chaparral and valley and foothill grassland habitats at 700 to 1,100 meters (2,300–3,600 feet) elevation.  The MSHCP account for this species states that "Hammitt's clay-cress is associated with clay soils, such as Altamont, Auld, Bosanko, Claypit, and Porterville soil series" and that, in western Riverside County "Hammitt's clay-cress is only known from the Elsinore Peak area of the Santa Ana Mountains in grasslands."	Blooms March through April (annual herb)	X			A	This species was not observed during focused surveys.
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	US: – CA: SP CNPS: 2	Alkali soils in alkali playa, alkali annual grassland, and alkali vernal pools.  The MSHCP account for this species states that "Wright's trichocoronis is restricted to highly alkaline, silty-clay soils in association with Traver, Domino, and Willows soils."	Blooms May through September (annual or perennial herb)	X			A	This species was not observed during focused surveys.

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<b>Invertebrates</b>									
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	US: FT CA: SA	Vernal pools and swales in grassland areas. Known from the Central Valley, the central coast and south coast mountains as far south as Ventura County, and from the Santa Rosa Plateau, Skunk Hollow, and a vernal pool just west of Hemet in Riverside County.	Seasonally following rains; typically January through April	X			A	This species was not observed during focused surveys.
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	US: FE CA: SA	Meadows or openings within coastal sage scrub or chaparral where food plants ( <i>Plantago erecta</i> and/or <i>Orthocarpus purpurascens</i> ) are present. Historically known from Santa Monica Mountains to northwest Baja California; currently known only from southwestern Riverside County, southern San Diego County, and northern Baja California.	January through late April	X			HP CH	Potentially suitable habitat exists in non-native grassland and openings in scrub communities on the site. Critical habitat within the BSA is located south of Lake Mathews and in the Gavilan Hills; however, Quino checkerspot butterfly has been extirpated from this area according to the MSHCP.
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	US: FE CA: SA	Warm-water vernal pools (i.e., large, deep pools that retain water into the warm season) including artificially created or enhanced pools, such as some stock ponds, that have vernal pool-like hydrology and vegetation. Known from areas within about 50 miles of the coast from Ventura County south to San Diego County.	Seasonally following rains; typically January through April	X			A	This species was not observed during focused surveys.
<b>Fish</b>									
<i>Gila orcutti</i>	Arroyo chub	US: – CA: CSC	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams.	Year-round	X			HP	Potentially suitable habitat exists in the permanent pools of Temescal Wash. Species is known to occur in Temescal Wash, in Riverside County.
<b>Amphibians</b>									
<i>Bufo californicus</i>	Arroyo toad	US: FE CA: CSC	Washes and arroyos with open water; sand or gravel beds; for breeding, pools with sparse overstory vegetation. Coastal and a few desert streams from Monterey County to Baja California.	March through July	X			HP	Project site is located outside of MSHCP designated survey area for this species. Potentially suitable habitat exists in washes and open water areas on site. The arroyo toad has historically been known to occur within the San Jacinto River or tributaries in higher elevations within the San Bernardino National Forest; however, these observations are approximately 10 kilometers (6 miles) to the east of the BSA.
<i>Rana aurora draytonii</i>	California red-legged frog	US: FT CA: CSC MSHCP: S	Streams with slow-moving water and deep pools; dense, shrubby riparian vegetation at pool edges. Foothills surrounding the Sacramento Valley and coastal streams from Marin County to northwestern Baja California. Believed to be extirpated between Los Angeles County and the Mexican border.	December through April			X	A	Only one remnant and possibly extirpated population is found in western Riverside County (located at the Santa Rosa Plateau).
<i>Spea (=Scaphiopus) hammondi</i>	Western spadefoot	US: – CA: CSC MSHCP: C	Grasslands and occasionally hardwood woodlands; requires temporary pools (persisting for at least three weeks) for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and in Baja California, Mexico.	October through April (following onset of winter rains)		X	X	P	Species observed during 2005 field surveys. Potentially suitable habitat exists in alkali grasslands and oak woodland communities on site. Known populations found in the City of Corona, Lake Mathews Reserve area, and Temescal Wash. El Sobrante Landfill MSHCP target species.
<i>Taricha torosa torosa</i>	Coast Range newt	US: – CA: CSC	Breeds in ponds, reservoirs, and slow-moving streams; uses nearby upland areas including grassland, chaparral, and woodland; coastal drainages from Mendocino County south to San Diego County. Populations south of Monterey County designated as sensitive.	October through May	X			HP	Potentially suitable habitat exists along ponds and streams adjacent to grassland, chaparral, and woodland communities.

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<b>Reptiles</b>									
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated	US: – CA: CSC	Prefers chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 915 meters (3,000 feet) elevation; inland and coastal valleys of Riverside, Orange, and San Diego Counties to Baja California.	March through July with reduced activity August through October	X		X	P	Species observed during 2006 surveys. Potentially suitable habitat exists in chaparral, coastal sage scrub, juniper woodland, and oak woodland communities on site. El Sobrante Landfill MSHCP target species.
<i>Crotalus ruber ruber</i>	Northern red-diamond rattlesnake	US: – CA: CSC	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south to Baja California.	Mid-spring through mid-fall	X	X	X	P	Species observed during 2005 field surveys. Potentially suitable habitat exists in chaparral, rocky sage scrub, and oak and juniper woodland communities on site. Found throughout western Riverside County. El Sobrante Landfill MSHCP target species.
<i>Emys (=Clemmys) marmorata pallida</i>	Southwestern pond turtle	US: – CA: CSC	Inhabits permanent or nearly permanent water below 1,830 meters (6,000 feet) from central California, west of the Sierra-Cascade crest south to north-western Baja California. Absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Requires basking sites such as partially submerged logs, rocks, or open mud banks.	Year-round with reduced activity November through March	X	X		HP	Potentially suitable habitat exists along the San Jacinto River and its tributaries on site. Known populations include Cajalco Creek and Temescal Wash. Lake Mathews MSHCP target species.
<i>Lampropeltis zonata pulchra</i>	San Diego mountain king snake	US: – CA: CSC	In the interior mountain ranges, this subspecies occurs primarily in associations of ponderosa, Jeffrey, and Coulter pine, and black oak. At lower elevations and in the coastal ranges, it occurs in riparian woodlands, usually in canyon bottoms, that have western sycamore, Fremont's cottonwood, coast live oak, willows, wild rose, poison oak, and blackberries. Found most commonly in the vicinity of rocks or boulders near streams or lake shores. This species ranges from the Santa Monica Mountains (Los Angeles County), Santa Ana Mountains (Orange and Riverside Counties), Santa Rosa Mountains (Riverside County), to the mountain areas of San Diego County. Documented from sea level to about 1,800 meters (5,900 feet) elevation. The lower elevational ranges are for coastal situations with lower temperatures and fog or abundant cloud cover. The inland locations are more typical and primarily support the subspecies between 1,220 meters (4,000 feet) and 1,830 meters (6,000 feet).	Active diurnally throughout most of the year. Nocturnal in warm weather.	X			A	Known range for the species in Riverside County includes the Santa Ana and Santa Rosa Mountains. Project site does not provide suitable habitat.
<i>Phrynosoma coronatum</i>	Coast horned lizard (including San Diego horned lizard)	US: – CA: CSC	Occurs in annual grassland, coastal sage scrub, chaparral, and woodland communities. Prefers open country, especially sandy areas, washes, and floodplains. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs in Siskiyou County, in the Central Valley and adjacent foothills below 1,200 meters (4,000 feet) elevation, in coastal areas of central California, and in non-desert areas of southern California below 1,830 meters (6,000 feet) elevation, and throughout the Baja California Peninsula.	April through July with reduced activity August through October	X	X	X	P	Species observed in non-native grasslands and coastal sage scrub within the Lake Mathews Reserve during 2005 surveys. El Sobrante Landfill MSHCP target species.
<b>Birds</b>									
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	US: – CA: CSC	Primarily forests and woodlands throughout North America.	Present year-round, nesting February through July	X	X	X	P	Species observed during 2005 field surveys. Potentially suitable habitat exists in juniper and oak woodland, riparian scrub and forest communities. El Sobrante Landfill MSHCP target species.



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<i>Accipiter striatus</i> (nesting)	Sharp-shinned hawk	US: – CA: CSC	Nests in woodland, coniferous/deciduous forest. Winter visitor and migrant to coastal southern California. Forages over a variety of habitats.	Fall and winter; scarce in summer	X	X	X	HP	Species is not known to nest in Riverside County. Species is adequately conserved under the MSHCP. Target species of Lake Mathews MSHCP. EI Sobrante Landfill MSHCP target species. Suitable winter foraging habitat exists throughout the BSA. Species is known to migrate through and winter in the Lake Mathews and Lake Perris areas.
<i>Agelaius tricolor</i> (nesting colony)	Tricolored blackbird	US: – CA: CSC	Open country in western Oregon, California, and northwestern Baja California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.	Present year-round, nesting March through June	X	X		HP	Potentially suitable nesting habitat exists along the San Jacinto River and its tributaries in riparian thickets adjacent to grasslands. Due to the nomadic behavior of the species, its exact range is difficult to document.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	US: – CA: CSC	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Year-round, diurnal activity	X	X	X	P	Species observed during 2005 field surveys. Potentially suitable habitat exists in coastal sage scrub and chaparral communities on site. EI Sobrante Landfill MSHCP target species.
<i>Amphispiza belli belli</i>	Bell's sage sparrow	US: – CA: CSC	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California.	Year-round, diurnal activity	X	X	X	P	Species observed during 2005 field surveys. Potentially suitable habitat exists in coastal sage scrub and chaparral communities on site.
<i>Aquila chrysaetos</i>	Golden eagle	US: – CA: CSC, CFP	Generally open country of the Temperate Zone worldwide. Uncommon resident in southwestern California.	Year-round diurnal	X	X	X	P	Species observed during 2005 and 2006 field surveys. Potentially suitable foraging habitat exists in grasslands and juniper and oak woodland communities on site. EI Sobrante Landfill MSHCP target species.
<i>Athene cunicularia</i> (burrow sites)	Burrowing owl	US: – CA: CSC	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles.	Year-round	X		X	P	Burrowing owl was observed within the BSA in 2006. Suitable habitat exists for burrowing owls in grasslands, agricultural and range lands, dairies, and other disturbed areas on site. Species known to occur in the Perris Reservoir Area, City of Corona, and Lake Mathews Reserve. EI Sobrante Landfill MSHCP target species.
<i>Buteo regalis</i> (wintering)	Ferruginous hawk	US: – CA: CSC	Open country in western North America; north to Canada in summer and south to Mexico in winter.	Mid-September through mid-April	X	X		HP	Potentially suitable wintering habitat exists in open fields, grasslands, agricultural areas, and juniper woodland communities on site.
<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	US: – CA: ST	Grassland and agricultural areas; large trees for nesting. Breeds and nests in western North America; winters in South America; in California nesting is essentially restricted to Central Valley and Modoc Plateau.	Spring and fall (in migration)	X	X		HP	Species is not known to nest within Riverside County. Suitable foraging habitat exists over open fields, grasslands, and agricultural areas.
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego County and Orange County)	San Diego cactus wren	US: – CA: CSC	Inhabits coastal sage scrub, nesting almost exclusively in thickets of cholla ( <i>Opuntia prolifera</i> ) and prickly pear ( <i>Opuntia littoralis</i> and <i>Opuntia oricola</i> ), typically below 150 m (500 feet) elevation. Found in coastal areas of Orange County and San Diego Counties, and extreme northwestern Baja California.	Year-round (non-migratory)	X	X	X	A	Subspecies is not known from Riverside County (CDFG 2006). Lake Mathews MSHCP target species.  The mainland cactus wren ( <i>Campylorhynchus brunneicapillus anthonyi</i> ) was observed on site, but is not a sensitive species. Although cactus wren is a covered species under the MSHCP, Lake Mathews MSHCP and EI Sobrante Landfill MSHCP, cactus wren in Riverside County is not considered sensitive by CDFG and is not a federally listed or candidate species (CDFG CNDDDB 2006b).
<i>Circus cyaneus</i> (nesting)	Northern harrier	US: – CA: CSC	Open country in the Temperate Zone worldwide.	Present year-round, nesting April through July	X	X	X	P	Species observed during 2005 field surveys. Potentially suitable nesting habitat exists in grassland and marsh communities on site. EI Sobrante Landfill MSHCP target species.

**Appendix O – Regional Species of Concern and Coverage Under Habitat Conservation Plans**

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming / Activity Period	Species Coverage <sup>1</sup>			Habitat Present/ Absent in BSA	Rationale
					MSHCP	Lake Mathews MSHCP	El Sobrante Landfill MSHCP		
<i>Coccyzus americanus occidentalis</i> (nesting)	Western yellow-billed cuckoo	US: FC CA: SE	Breeds and nests in extensive stands of dense cottonwood/ willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	May through September	X			A	Project area is outside of the known nesting locations of this species. Species known to occur in the Prado Basin.
<i>Dendroica petechia brewsteri</i> (nesting)	California yellow warbler	US: – CA: CSC	Riparian woodland while nesting in the western United States and northwestern Baja California; more widespread in brushy areas and woodlands during migration and winter, when occurring from western Mexico to northern South America.	April through September	X			P	Species observed during 2005 and 2006 field surveys. Potentially suitable nesting habitat exists in riparian forest and scrub communities on site.
<i>Elanus leucurus</i> (nesting)	White-tailed kite	US: – CA: CFP	Open country in South America and southern North America. Typically nests in riparian trees such as oaks, willows, and cottonwoods.	Present year-round, nesting February through July	X	X	X	P	Species, including juveniles, observed during 2005 and 2006 field surveys. Potentially suitable nesting habitat exists in riparian forest communities on site. El Sobrante Landfill MSHCP target species.
<i>Empidonax traillii extimus</i> (nesting)	Southwestern willow flycatcher	US: FE CA: SE	Rare and local breeder in riparian habitat usually with standing water, in the southwestern United States and (formerly?) northwestern Mexico. Winters in Central and South America.	May through September	X			HP	Subspecies considered absent based on protocol surveys in 2005 and 2006. Potentially suitable habitat exists in riparian forest communities on site.
<i>Eremophila alpestris actia</i>	California horned lark	US: – CA: CSC	Open grasslands and fields, agricultural area, open montane grasslands. This subspecies is resident from northern Baja California northward throughout non-desert areas to Humboldt County, including the San Joaquin Valley and the western foothills of the Sierra Nevada (north to Calaveras County). During the breeding season, this is the only subspecies of horned lark in non-desert southern California; however, from September through April or early May, other subspecies visit the area.	Year-round	X	X	X	P	Species observed during 2005 and 2006 field surveys. Potentially suitable habitat exists in grasslands and agricultural areas on site.
<i>Falco columbarius</i> (wintering)	Merlin	US: – CA: CSC	Open country; breeds in the Holarctic Region and winters south to the tropics. Rare fall migrant and winter visitor to southwestern California.	September through April	X			HP	Species could occur anywhere in the study area.
<i>Falco mexicanus</i> (nesting)	Prairie falcon	US: – CA: CSC	Open country in much of North America. Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Rare in southwestern California.	Present year-round diurnal, nesting March through June	X		X	P	Species observed foraging within study area; however, unlikely to nest in the vicinity of the project site. El Sobrante Landfill MSHCP target species.
<i>Falco peregrinus anatum</i> (nesting)	American peregrine falcon	US: Delisted CA: SE, CFP	Widespread, but scarce and local throughout North America. Wetlands near high cliffs; few known to nest in urban settings on tall buildings.	Present year-round, nesting March through June	X			A	Species unlikely to nest in the vicinity of the project site due to lack of nesting habitat.
<i>Haliaeetus leucocephalus</i>	Bald eagle	US: Delisted CA: SE, CFP	Winters locally at deep lakes and reservoirs feeding on fish and waterfowl. Locally rare throughout North America.	November through February	X	X		P	This species was observed during 2005 site surveys within Metropolitan Water District land adjacent to Lake Mathews. Potentially suitable foraging/wintering habitat exists in deep lakes and reservoirs adjacent to and within the BSA. However, the BSA does not include suitable nesting habitat for this species near the lake.
<i>Icteria virens</i> (nesting)	Yellow-breasted chat	US: – CA: CSC	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	April through September	X			P	Species observed during 2005 and 2006 field surveys. Suitable habitat exists in riparian forests and scrub communities on site.

## Appendix O – Regional Species of Concern and Coverage Under Habitat Conservation Plans

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming / Activity Period	Species Coverage <sup>1</sup>			Habitat Present/ Absent in BSA	Rationale
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<i>Lanius ludovicianus</i> (nesting)	Loggerhead shrike	US: – CA: CSC	Open country in much of North America, but declining in many areas, including southwestern California.	Present year-round, nesting February through June	X	X	X	P	Species observed during 2005 and 2006 field surveys. Potentially suitable habitat exists in grasslands and juniper and oak woodland and scrub communities on site. EI Sobrante Landfill MSHCP target species.
<i>Plegadis chihi</i> (rookery site)	White-faced ibis	US: – CA: CSC	Winters locally in wet meadows, shallow freshwater marshes, ponds, lakes, rivers, flooded fields, and estuaries. May frequent brackish areas or feed in flooded fields. Known rookery in western Riverside County. In the Coachella Valley and Imperial Valley, this species primarily occurs in irrigated agricultural lands, particularly alfalfa and wheat.	Year-round diurnal activity	X			P	Species observed foraging during 2005 field surveys. Project area is outside the known breeding range of the species.
<i>Poliotptila californica californica</i>	Coastal California gnatcatcher	US: FT CA: CSC	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California.	Year-round	X	C	X	P CH	Species observed during 2005 and 2006 field surveys. Suitable habitat exists in coastal sage scrub communities on site. Portions of Alternatives 4, 5, and 9 south of Lake Mathews are within new final (2007) critical habitat.
<i>Progne subis</i> (nesting)	Purple martin	US: – CA: CSC	Open agricultural areas, towns, and marsh edges. Nesting habitat consists of old sycamores and pines, often within oak woodland or open coniferous forest. Breeds throughout much of North America, but rare and local in southern California. Winters in South America.	Summer – resident	X			HP	Potentially suitable nesting habitat exists in oak woodland communities on site.
<i>Riparia riparia</i> (nesting)	Bank swallow	US: – CA: ST	Nesting habitat is vertical banks of fine textured soils, most commonly along streams and rivers. In southern California, fairly common spring and fall transient in interior; very uncommon spring transient and rare fall transient along coast. Casual in winter.	Variable Year-round		X		A	The BSA is outside the nesting range for this species. Lake Mathews MSHCP target species. Species is not covered by the MSHCP.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	US: FE CA: SE	Riparian forests and willow thickets. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September	X			P	Species observed during 2005 and 2006 field surveys in western half of BSA. Suitable habitat exists in riparian forest communities on site.
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	US: – CA: CSC	Found in coastal scrub, chaparral, grasslands, and sagebrush in western San Diego and southwestern Riverside Counties. Ranges from southern Los Angeles County to northern Baja California.	Year-round	X	X	X	P	Species captured during small mammal trapping. Suitable habitat exists in coastal sage scrub, chaparral, and grassland communities on site. EI Sobrante Landfill MSHCP target species.
<i>Dipodomys merriami parvus</i>	San Bernardino Merriam's kangaroo rat	US: FE CA: CSC	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and sandy terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County).	Nocturnal, active year-round	X			P CH	Species was found in a 2006 survey of habitat that is contiguous with habitat on the project site. Potentially suitable habitat exists in alluvial fan sage scrub communities on site. Critical habitat is located along San Jacinto River at the eastern edge of BSA. Species known range includes the vicinity of Lake Perris.
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	US: FE CA: ST	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with <i>Artemisia tridentata</i> , <i>Eriogonum fasciculatum</i> , and <i>Erodium</i> . Requires well-drained soils with compaction characteristics suitable for burrow construction. Not found in soils that are highly rocky, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County and northern San Diego County, below 915 meters (3,000 feet) elevation. In northeastern Riverside County, known only from east of Interstate 15.	Year-round	X	X	X	P	Species detected during 2005 field surveys (no trapping was conducted). Potentially suitable habitat exists in grassland and coastal sage scrub communities on site. Known range of species includes the vicinity of Lake Mathews and Lake Perris. EI Sobrante Landfill MSHCP target species.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	US: – CA: CSC	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of southern California and northwestern Baja California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	Year-round, diurnal and crepuscular activity	X	X	X	P	Species observed during 2005 and 2006 field surveys. Suitable habitat exists in scrub and chaparral communities on site. EI Sobrante Landfill MSHCP target species.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	US: – CA: CSC	Frequents poorly vegetated arid lands and is especially associated with cactus patches. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Year-round, mainly nocturnal,	X	X	X	P	Species captured during small mammal trapping surveys. Suitable habitat exists in coastal sage scrub and chaparral communities on site. EI Sobrante Landfill MSHCP target species.

**Appendix O – Regional Species of Concern and Coverage Under Habitat Conservation Plans**

Scientific Name	Common Name	Status	Habitat and Distribution	Blooming / Activity Period	Species Coverage <sup>1</sup>			Habitat Present/ Absent in BSA	Rationale
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				occasionally crepuscular and diurnal					
<i>Nyctinomops macrotis</i>	Big free-tailed bat	US: – CA: CSC	Found from northern South America and the Caribbean Islands northward to the western United States. In the southwestern United States, populations appear to be scattered.	Primarily the warmer months; nocturnal		X		HP	There is insufficient information on data and habitat for this species. Species is not known to occur within the study area (although was included in the Lake Mathews MSHCP). Species is not covered by the MSHCP.
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	US: – CA: CSC	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal scrub in Los Angeles, Riverside, and San Bernardino Counties.	Nocturnal. Active late spring through early fall.	X			P	Species captured during 2005 field trapping surveys. Suitable habitat exists in coastal sage scrub communities on site.

<sup>1</sup> Species coverage refers to regional species of concern identified in the *Natural Environment Study* that are covered/target species under Habitat Conservation Plans. Covered species of Habitat Conservation Plans that are not considered sensitive by regulatory agencies or CNPS and species not targeted under the Habitat Conservation Plans are not included in this table.

BSA = Biological Study Area

CDFG = California Department of Fish and Game

CNDDDB = California Natural Diversity Database

MSHCP = Multiple Species Habitat Conservation Plan

LEGEND	
<b>US: Federal Classifications</b>	
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
FPE	Taxa proposed for listing as Endangered.
FPT	Taxa proposed for listing as Threatened.
FPD	Taxa proposed for delisting.
FC	Candidate for listing as Threatened or Endangered.
<b>CA: State Classifications</b>	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
SR	Taxa State-listed as Rare.
SCE	Candidate for State-listing as Endangered.
SCT	Candidate for State-listing as Threatened.
CSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP	California Fully Protected. Refers to animals protected from take under Fish and Game Code sections 3511, 4700, 5050, and 5515.
SA	Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
SP	Special Plant. Refers to any other plant monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
<b>CNPS: California Native Plant Society Classifications</b>	
1A	Plants presumed extinct in California.
1B	Plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere.
2	Plants considered by CNPS to be rare, threatened, or endangered in California, but more common elsewhere.
3	Plants about which more information is needed – a CNPS review list.
<b>MSHCP: Western Riverside County MSHCP Status</b>	
X	Covered species include: Target species under EI Sobrante and Lake Mathews HCP and the following MSHCP covered species: 1) species adequately conserved by the MSHCP, but surveys are required within indicated habitats and/or survey areas; 2) species adequately conserved by the MSHCP; and 3) species covered but not considered adequately conserved pending completion of MSHCP specified requirements.
<b>Habitat Presence/Absence Determinations</b>	
A	Habitat absent, or habitat may be present but the species was determined to be absent.
HP	Habitat is or may be present. The species may be present.
P	The species was determined to be present.
AP	The species is assumed to be present pending the results of the 2008 focused survey for NEPSSA plants.
CH	Project footprint is located within a designated critical habitat unit.