

ATTACHMENT 4.4-C: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR

Species Name	Listing Status ¹	Life History	Known Records	Potential to Occur
Invertebrates				
Hermes copper butterfly <i>(Lycaena hermes)</i>	FC —	Hermes copper butterfly is found in mixed woodlands, chaparral, and coastal sage scrub from San Diego County to adjacent Baja California Norte, Mexico. Spiny redberry (<i>Rhamnus crocea</i>) is the host larval food plant for this species, which is common in cismontane California coastal sage scrub and chaparral vegetation communities. However, this species is limited to only a portion of the redberry range, usually along north-facing hillsides or within deeper, well-drained soils of canyon bottoms where host (spiny redberry) and nectar (California buckwheat [<i>Eriogonum fasciculatum</i>]) plants are present. In addition, mature spiny redberry plants appear to be essential to this species' survival. It may take as long as 18 years after a wildfire for this species to re-colonize an area.	Three recent ² California Natural Diversity Database (CNDDDB) occurrences are recorded within five miles of the Biological Resources Study Area (BRSA). Marschalek and Klein (2012) document extant Hermes copper populations in San Diego County near the cities Poway and Escondido, and the community of Fallbrook, with historic occurrences within Marine Corps Air Station (MCAS) Miramar that are presumed to have been extirpated as a result of the 2003 wildfires that burned in that area. A small, inconsistent population of Hermes copper butterfly is known from the Meadowbrook Ecological Reserve, directly adjacent to but outside of the BRSA, west of Pomerado Road and south of Ted Williams Parkway.	Spiny redberry, the host plant for Hermes copper butterfly, was observed very sporadically within the BRSA and primarily on north-facing slopes, occasionally in association with California buckwheat, which is the preferred nectar plant for Hermes copper butterfly. The spiny redberry individuals on MCAS Miramar are approximately 12 years old. Other more mature individuals were observed in a remnant coastal sage scrub hillside in the City of Poway. Hermes copper butterfly is known or has been historically documented from areas near and within the BRSA. Moderate Potential
Quino checkerspot butterfly <i>(Euphydryas editha quino)</i>	FE —	Quino checkerspot butterfly inhabits open canopy scrub habitat from the Santa Monica Mountains south to Baja California, Mexico. This species is native to coastal sage scrub, chaparral, and valley grassland communities; the larval host plant is usually dot-seed plantain (<i>Plantago erecta</i>) or a related species.	Four recent CNDDDB occurrences are recorded within five miles of the BRSA.	Suitable habitat for the species is present within the BRSA within open coastal sage scrub and open chaparral habitats, vernal pool complexes on MCAS Miramar, and grasslands. All of the BRSA within MCAS Miramar overlaps the area where the USFWS requires surveys for this species. This species was not observed during protocol-level surveys conducted in the spring of 2015, nor has the USMC documented this species within MCAS Miramar in its INRMP (USMC 2014). However, no surveys were conducted within suitable habitat on 19 acres within the Elliot Field Station due to access restrictions. Surveys on this area will be conducted prior to construction of the Proposed Project. Moderate Potential

¹ Explanation of state and federal listing status:

Federal listing codes:

- FE: Federally Endangered Species
- FT: Federally Threatened Species
- FC: Federal Candidate for Listing
- DPS: Distinct Population Segment
- BGEPA: Bald and Golden Eagle Protection Act

California listing codes:

- CE: State-listed as Endangered
- CT: State-listed as Threatened
- CC: State Candidate for Listing
- FP: Fully Protected Species
- SSC: Species of Special Concern

² Recent is defined as less than 30 years ago, or since 1985.

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Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE —	The Riverside fairy shrimp is restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds and other human-modified depressions. It has a relatively long maturation time. Riverside fairy shrimp prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remain filled for extended periods of time. It inhabits deeper vernal pools, which hold water for a longer duration. This species ranges from Ventura County to Baja California, Mexico and can be found in annual grassland, chaparral, or coastal sage scrub along coastal mesas or within valley depressions.	One recent CNDDDB occurrence of this species is recorded within 1 mile of the BRSA. Four recent CNDDDB records are documented within five miles of the BRSA; however, two of these may be extirpated.	Suitable habitat for the species is present in the vernal pools along the aqueduct road on MCAS Miramar. San Diego fairy shrimp has been documented within vernal pool complexes on MCAS Miramar within the same geographic area as the BRSA. As a result, the presence of this species is presumed within the vernal pool complexes on MCAS Miramar within the BRSA. No other vernal pools are present within the BRSA. Presumed Present
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	FE —	The San Diego fairy shrimp inhabits fresh or alkaline vernal pools, potholes, and other ephemeral pools. The range of this species extends from coastal Orange and San Diego counties into northwestern Baja California, Mexico. This species can be found in shallow pools ranging in depth from two to 12 inches, and is often found in vernal pool complexes that may be hydrologically connected.	Three recent ³ CNDDDB occurrences of this species are recorded within 0.25 mile of the BRSA. Five recent occurrences are also recorded within one mile of the BRSA.	Suitable habitat for the species is present in the vernal pools along the aqueduct road on MCAS Miramar. Riverside fairy shrimp has been documented within vernal pool complexes on MCAS Miramar within the same geographic area as the BRSA. As a result, the presence of this species is presumed within the vernal pool complexes on MCAS Miramar within the BRSA. No other vernal pools are present within the BRSA. Presumed Present
Fishes				
Arroyo chub (<i>Gila orcuttii</i>)	— SSC	The arroyo chub is a small fish found in coastal freshwater streams and rivers in Southern California. This species occurs in Los Angeles, Orange, and San Diego counties, but has also been introduced into several rivers and streams in Southern California, including as far north as the City of San Luis Obispo and to the east within the Mojave River watershed. This species prefers slow-moving water in streams and rivers with mud or sand substrates and water depths of at least 15 inches; however, some individuals have been found in areas with gravel or boulder substrates as well.	Four recent CNDDDB occurrences are recorded within five miles of the BRSA, all within the Santa Margarita River watershed, including within Rainbow Creek, which is approximately five miles downstream of the BRSA. The remaining records are within the Santa Margarita River.	Rainbow Creek within the BRSA appears to be an intermittent or perennial drainage with a depth of approximately 12 inches observed in the spring of 2015, which is less than drainages where this species typically occurs. In addition, this species has not been observed this far upstream in Rainbow Creek. As a result, this stretch of Rainbow Creek has a low potential for arroyo chub. It is not expected to occur within any of the other perennial drainages within the BRSA. Low Potential
Amphibians				
Arroyo toad (<i>Anaxyrus californicus</i>)	FE SSC	Arroyo toad ranges coastally between Monterey County and Baja California, Mexico and inhabits sandy riverbanks, washes, and arroyos, especially in riparian areas. Habitat may include mulefat (<i>Baccharis salicifolia</i>), willow (<i>Salix</i> spp.), cottonwood (<i>Populus</i> spp.), sycamores (<i>Platanus racemosa</i>), and/or coast live oak (<i>Quercus agrifolia</i>). Breeding takes place in the spring or summer, primarily after rain, and adults then disperse onto adjacent uplands.	Six recent CNDDDB occurrences are recorded within five miles of the BRSA, including two within 0.25 mile of the San Luis Rey River watershed.	Potential habitat for this species occurs within the BRSA in the San Luis Rey River and tributaries, as well as within the San Dieguito River/Lake Hodges and its associated tributaries. Surveys conducted in 2015 did not result in any observation of arroyo toad individuals, but two drainages within the BRSA will be surveyed again during a wetter rain year to confirm absence of arroyo toad. Moderate Potential

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Western spadefoot (<i>Spea hammondi</i>)	— SSC	Western spadefoot ranges throughout the Central Valley and adjacent foothills of California, and in the Coast Ranges, it is found from Santa Barbara County south to the U.S.-Mexico border. This species prefers areas of open vegetation and short grasses with sandy or gravelly soils. The western spadefoot frequents washes, floodplains of rivers, and alkali flats, but can be found in foothills and mountains. Throughout most of the year, this species resides in underground burrows. Breeding occurs in shallow, temporary pools formed by heavy winter rains that are void of bullfrogs (<i>Rana catesbeiana</i>), fish, and crayfish.	Three recent CNDDDB occurrences are recorded within 0.25 mile of the BRSA. In addition, three recent occurrences are recorded within one mile of the BRSA.	Suitable habitat for this species is present along MCAS Miramar and in various drainages throughout the northern urban section of the BRSA. Western spadefoot has been documented within MCAS Miramar. As a result, the presence of this species is presumed within the BRSA in drainages on MCAS Miramar; Carroll Canyon Creek; the South Fork of Moosa Creek; and Keys Creek, a tributary to the San Luis Rey River. Presumed Present
Reptiles				
Belding's orange-throated whiptail (<i>Aspidoscelis hyperythra beldingi</i>)	— SSC	Belding's orange-throated whiptail occurs in Orange, Riverside, and San Diego counties west of the crest of the Peninsular Ranges. It also occurs in southwestern San Bernardino County and extends to the tip of Baja California, Mexico. This species inhabits washes, streams, and sandy areas with rocks, patches of brush, and often dry or rocky hillsides. These lizards can also be found along ridges and valleys that support coastal sage scrub, open chaparral, dry washes, and sparse grasslands mixed with sage scrub species. Breeding takes place in summer, and eggs are usually laid between June and July.	Six recent CNDDDB occurrences of this species have been recorded within 0.25 mile of the BRSA.	Suitable habitat for this species occurs throughout much of the BRSA. Belding's orange-throated whiptails were observed within the BRSA adjacent to Moosa Creek and two tributaries to Moosa Creek; in upland habitats just north of the San Dieguito River/Lake Hodges; and along Pomerado Road within the BRSA. This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. Present
Coast horned lizard (=Blainville's horned lizard) (<i>Phrynosoma blainvillii</i>)	— SSC	Coast horned lizard is found in the Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast. It occurs in valley-foothill hardwood, conifer woodland, riparian woodland, pine-cypress woodland, juniper woodland, and annual grassland habitats. This species inhabits open country, especially sandy areas, washes, floodplains, and wind-blown deposits. It is typically found at elevations up to 8,000 feet.	Two recent CNDDDB occurrences have been recorded within 0.25 mile of the BRSA and five recent occurrences have been recorded within one mile of the BRSA.	Habitat for this species is present within the BRSA, including in MCAS Miramar and in scattered locations throughout the urban section of the BRSA. This species was incidentally detected on MCAS Miramar within the BRSA during special-status plant surveys in the spring of 2015. Present
Coast patch-nosed snake (<i>Salvadora hexalepis virgulata</i>)	— SSC	Coast patch-nosed snake inhabits brushy areas and chaparral in canyons, rocky hillsides, and plains in coastal Southern California. Distribution begins from the northern Carrizo Plains in San Luis Obispo County, south through the coastal zone, and extends into Baja California Norte, Mexico. This species actively forages during the day and requires loose soil and small mammal burrows for refuge and breeding.	Two recent CNDDDB occurrences have been recorded within five miles of the BRSA.	Brushy areas and rocky hillsides are present in multiple locations within the BRSA, which provide refuge and foraging habitat for this species. This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. High Potential
Coronado skink (<i>Plestiodon skiltonianus interparietalis</i>)	— SSC	The Coronado skink is found throughout most of San Diego County and its distribution continues south into Baja California Norte, Mexico. This species frequents grassland, juniper-sage woodland, chaparral, and open pine-oak forests. Rocky habitat near streams with ample plant cover is preferred, but this species can also be found on dry hillsides far from water. Eggs are laid from June to July and are tended by the female.	Two recent CNDDDB occurrences have been recorded within 0.25 mile of the BRSA, and one occurrence has been recorded within one mile.	Habitat for this species is present within the BRSA, including grasslands, rocky areas, and streams. This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. High Potential
Red diamond rattlesnake (<i>Crotalus ruber</i>)	— SSC	The red diamond rattlesnake ranges along coastal San Diego County to the eastern slopes of the mountains, north through western Riverside County, and into the southernmost portion of San Bernardino County. Habitat includes woodland, chaparral, and arid desert in rocky areas and dense vegetation from sea level to 3,000 feet in elevation. This species emerges and breeds in the spring, is most active from March to June, and gives live-birth from mid-August to October.	Four recent CNDDDB occurrences are recorded within 0.25 mile of the BRSA; however, one is considered extirpated.	Suitable habitat for this species is present throughout the BRSA in the form of coast live oak woodlands and chaparral. This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. High Potential

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Two-striped gartersnake <i>(Thamnophis hammondi)</i>	— SSC	The two-striped gartersnake ranges from the southeastern slope of the Diablo Range and the Salinas Valley south along the South Coast and Transverse ranges to the U.S.-Mexico border; it also occurs on Santa Catalina Island. This species is highly aquatic and forages primarily in and along streams. During the night, refuge is sought in small mammal burrows, crevices, or under surface objects. In winter, this species may retreat to upland habitat.	One recent CNDDDB occurrence is recorded within one mile of the BRSA within MCAS Miramar, and three recent CNDDDB occurrences are recorded within five miles of the BRSA.	Suitable habitat for the species is present within the BRSA primarily along named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek). This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. Moderate Potential
Silvery legless lizard <i>(Anniella pulchra pulchra)</i>	— SSC	The silvery legless lizard ranges from Contra Costa County, south through the Coast Ranges and into Baja California, Mexico. Populations also exist in the San Joaquin Valley and into the mountains of Southern California. This is a fossorial species that buries itself in the top layer of sand or soil, and forages at the base of shrubs or other vegetation on the surface or just below the surface in leaf litter or sandy soil.	No CNDDDB occurrences have been recorded within five miles of the BRSA, but this species has been observed within MCAS Miramar.	Suitable habitat for this species occurs throughout much of the BRSA. This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. High Potential
Western pond turtle <i>(Actinemys marmorata)</i>	— SSC	This species is found throughout California west of the Sierra-Cascade crest. It is absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. This species occurs in aquatic habitat with permanent or nearly permanent water in a wide variety of habitat types. Western pond turtle requires basking sites within aquatic habitat, such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. This species is typically found at elevations below 4,700 feet, but has been documented above 5,000 feet.	Four recent CNDDDB occurrences of the species have been recorded within five miles of the BRSA.	Habitat for this species in the form of perennial water or ponds with basking sites occurs in multiple areas within the BRSA, notably within named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek). This species was detected at the edge of the BRSA within the pond associated with the All Seasons Recreational Vehicle Park. This species also has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. Present
Birds				
Coastal cactus wren <i>(Campylorhynchus brunneicapillus sandiegensis)</i>	— SSC	The coastal cactus wren is limited in range to southern Orange County, the coastal lowlands of San Diego County, and the extreme northwestern edge of Baja California, Mexico. This species is found in arid and semiarid regions where it nests in areas containing thickets of chollas (<i>Cylindropuntia</i> spp.) or prickly-pear cacti (<i>Opuntia</i> spp.) that are tall enough to support and protect their nests; occasionally they utilize spiny ornamental plants as well. Coastal cactus wrens nest almost exclusively in prickly pear (<i>Opuntia littoralis</i> and <i>O. oricola</i>) and coastal cholla (<i>Cylindropuntia prolifera</i>). Typically, associated habitat includes coastal sage scrub at elevations below 1,500 feet where cacti are prominent.	Two recent CNDDDB occurrences of this species are recorded within 0.25 mile of the BRSA, and five recent occurrences are recorded within one mile of the BRSA.	Within the BRSA, one small stand of prickly pear was observed in association with a disturbed coastal sage scrub stand. The prickly pear individuals in this area were observed at approximately 25-percent relative cover, and therefore the prickly pear is not sufficiently dense to support high-quality nesting habitat for this species. Another small isolated stand of coastal sage scrub habitat dominated by cane cholla (<i>Cylindropuntia californica</i> var. <i>parkeri</i>) was observed. Collectively, these two areas dominated by either prickly pear or cane cholla comprise a total of 0.6 acre, all of which is outside of the Proposed Project impact areas and is exclusively within the BRSA survey buffer. Coastal cactus wren territories are generally larger than one acre, and no other suitable habitat was observed in the vicinity of either of these potentially suitable habitat stands. As a result, there is a low potential for this species to occur within the BRSA. Nesting: Low Potential Foraging: Low Potential

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Coastal California gnatcatcher (<i>Poliophtila californica californica</i>)	FT SSC	Coastal California gnatcatcher is an obligate, permanent resident of coastal sage scrub vegetation. It makes limited use of adjacent habitats outside of the breeding season. The species typically occurs in areas dominated by California sagebrush (<i>Artemisia californica</i>) and California buckwheat. The species is restricted to elevations from sea level to 2,000 feet. Coastal California gnatcatcher breeds from February to late August, but most of the breeding occurs between mid-March and mid-May.	Twenty recent CNDDDB occurrences of this species are recorded within 0.25 mile of the BRSA.	Coastal California gnatcatchers were observed foraging and breeding within the BRSA during the 2015 protocol surveys for this species in multiple coastal sage scrub stands. MCAS Miramar representatives have also documented this species at multiple locations within 0.25 mile of the BRSA during the 2013 surveys for this species. Nesting: Present Foraging: Present
Golden eagle (<i>Aquila chrysaetos</i>)	BGEPA FP	The distribution of golden eagle ranges from Mexico to Alaska. In the western U.S., this species generally occurs in open country, prairies, tundra, open coniferous forest, and barren areas, especially in hilly or mountainous regions. Up to 90 percent of its prey consists of rodents and rabbits, but it also consumes other mammals, birds, amphibians, fish, and reptiles. Golden eagle typically nests in high locations and utilizes cliffs with overhanging ledges and large trees for cover. This species breeds from late January through August, with a peak in March through July.	Two recent CNDDDB occurrences for this species are recorded within five miles of the BRSA.	The northern portion of the BRSA does contain high cliffs and hilly habitat, but is limited in size and scale such that breeding golden eagles are not expected to occur within the BRSA. Foraging habitat is present within large stands of native habitats throughout the BRSA, such as on MCAS Miramar. Nesting: Low Potential Foraging: Moderate Potential
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	— SSC	Grasshopper sparrow occurs in California primarily as a summer resident from March to September, but can sometimes be found in winter primarily on the coastal slope of Southern California. Short to middle-height and moderately open grasslands are preferred, with scattered shrubs, such as California buckwheat or California sagebrush. This species is usually absent from areas with dense scrub or trees present, and is usually found in larger tracts of habitat, rather than small, isolated areas. Nests are built on the ground at the base of grass clumps, and pairs can raise two broods per season.	No CNDDDB occurrences are recorded within five miles of the BRSA. However, this species has been observed within MCAS Miramar in the past.	Suitable habitat for the species is present within the BRSA in open coastal sage scrub communities and grasslands, which occur throughout the BRSA. This species has been detected on MCAS Miramar, not necessarily within the BRSA. Nesting: Moderate Potential Foraging: Moderate Potential
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE CE	Least Bell's vireo is a rare, summer visitor in California that ranges from sea level in coastal areas to 1,500 feet in elevation in the interior areas. Least Bell's vireo breeds in willow riparian thickets with good overstory and understory vegetation, preferably where flowing water is present. This species typically inhabits structurally diverse woodlands along watercourses, including oak woodlands, mulefat scrub, and cottonwood-willow forests. During the breeding season, this species may forage in adjacent upland habitats. Breeding typically occurs from late March to late September.	Five recent CNDDDB occurrences of this species are recorded within 0.25 mile of the BRSA.	Suitable riparian habitat is present within the BRSA, most notably within named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek). This species was observed foraging and breeding within the BRSA in multiple riparian systems. This species has also been detected on MCAS Miramar in the past, including nesting and foraging observations in 2011 from San Clemente Canyon where it crosses the BRSA. This species was also observed foraging within the riparian system at the far southern end of the BRSA on MCAS Miramar (i.e., Elanus Canyon) in 2011. Nesting: Present Foraging: Present
Least bittern (<i>Ixobrychus exilis hesperis</i>)	— SSC	The least bittern is a solitary and secretive bird that resides and breeds in freshwater or brackish marshes with tall emergent vegetation. The breeding range for this species is scattered throughout California. Though many migrate during winter to the neotropics, some remain in southern regions, including Southern California. Resident birds also exist on the coastal slope of Southern California, in the Salton Sea area, and along the lower Colorado River.	One recent CNDDDB occurrence for this species is recorded within 0.25 mile of the BRSA. In addition, one occurrence is recorded within five miles of the BRSA.	Suitable habitat for this species is present in the form of freshwater marsh and cismontane alkali marsh in scattered locations throughout the BRSA, most notably within named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek). Nesting: High Potential Foraging: High Potential

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Northern harrier (<i>Circus cyaneus</i>)	— SSC	The northern harrier occurs year-round in California from sea level to 9,000 feet in elevation. Breeding and foraging habitats include a variety of treeless, open areas that provide adequate vegetation for cover. Suitable habitat includes freshwater, brackish and saltwater marshes, wet meadows, annual and perennial grasslands (including those with vernal pools), some croplands, sagebrush flats, and desert sinks. Nests are usually located within patches of dense, tall vegetation in undisturbed areas, and the breeding season extends from March through August.	One recent CNDDDB occurrence of this species is recorded within five miles of the BRSA.	Suitable foraging and breeding habitat for the species is present within scattered patches in the BRSA, primarily within the northern portion of the BRSA around the communities of Rainbow and Fallbrook, and on MCAS Miramar. One individual northern harrier was observed foraging near the intersection of the aqueduct road and the paved Green Farm Road on MCAS Miramar in April 2015. Nesting: High Potential Foraging: Present
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	FE CE	Southwestern willow flycatcher winters in Mexico, Central America, and northern South America, and breeds in Southern California, Arizona, New Mexico, and the southern portions of Nevada, Utah, and Colorado. Riparian habitat is required for breeding, and nest sites usually occur in areas with dense vegetation and streams or wetland areas. Breeding takes place from mid-May to late August.	Five recent CNDDDB occurrences of this species are recorded within five miles of the BRSA.	Suitable riparian habitat is present within the BRSA, most notably within named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek) and within some of the larger unnamed intermittent drainages. Protocol-level surveys for this species in 2015 resulted in a single observation of a migrant willow flycatcher, although the subspecies could not be confirmed due to similarities between subspecies. Breeding was not documented within the BRSA, but moderate potential for breeding southwestern willow flycatcher exists within the BRSA within larger riparian systems, such as the San Dieguito River / Lake Hodges. Nesting: Moderate Potential Foraging: Presumed Present
Swainson's hawk (<i>Buteo swainsoni</i>)	— CT	Swainson's hawk breeds in the western U.S. and Canada and winters in South America. This species breeds in trees within mature riparian forests, oak groves, and in mature roadside trees in close proximity to large, open expanses of suitable foraging habitat. Suitable foraging habitat includes native grassland or lightly grazed dryland pasture, alfalfa and other hay crops, and row crops. Swainson's hawk does not forage in vineyards, orchards, or cotton fields because prey is not available in these areas during most of the breeding season.	Five CNDDDB occurrences for this species are recorded within five miles of the BRSA; however, the most recent occurrence was recorded in 1933. All five of these occurrences are listed as possibly extirpated.	Marginally suitable habitat is present throughout many areas of the BRSA. Swainson's hawk no longer nests in Southern California. Over most of San Diego County, Swainson's hawk is now a rare fall migrant. Nesting: No Potential Foraging: Low Potential
Western burrowing owl (<i>Athene cunicularia hypugaea</i>)	— SSC	Western burrowing owl lives in dry, open areas with no trees and short grass or vegetation. This species is a resident throughout the year in parts of California, but usually migrates between nesting and wintering sites. Refuge and nests are primarily within burrows of the California ground squirrel (<i>Otospermophilus beecheyi</i>) but other retreats are also used. Elevation ranges from sea level to 5,000 feet, and breeding takes place from March through August.	Four recent CNDDDB occurrences of this species are recorded within five miles of the BRSA.	California ground squirrel burrows were observed in multiple locations within the BRSA in or near grassland or other open areas, primarily in the northern portion of the BRSA. Burrows and open areas provide both nesting and foraging opportunities for the western burrowing owl. This species has also been documented on MCAS Miramar during surveys conducted in the past, not necessarily within the BRSA. Nesting: Moderate Potential Foraging: Moderate Potential
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT CE	Western yellow-billed cuckoo arrives in California as early as May and departs by mid-September. This species prefers to nest in open woodlands with clearings and dense, scrubby vegetation, often along water. Breeding habitat generally consists of mixed old-growth riparian forests vegetated by willow and cottonwood. Breeding generally occurs in the summer between May and August at elevations below 2,500 feet.	One CNDDDB occurrence for this species is recorded within five miles of the BRSA; however, it was recorded in 1950.	Although suitable habitat for this species is present within larger named drainages within the BRSA (e.g., the San Luis Rey River), the yellow-billed cuckoo is now only a rare and sporadic summer visitor to San Diego County, and is not known to have nested for decades. Nesting: No Potential Foraging: No Potential

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White-tailed kite (<i>Elanus leucurus</i>)	— FP	In California, the white-tailed kite may remain resident in coastal and valley lowlands, but is rarely found away from agricultural areas. This species is not considered migratory, but may become nomadic in response to prey abundance. Foraging takes place in open grasslands, meadows, farmlands, and emergent wetlands. Nests are constructed in dense oak, willow, or other tree and shrub stands located near open foraging.	Two recent CNDDDB occurrences for this species are recorded within five miles of the BRSA.	Suitable habitat for nesting and foraging is present within the BRSA, primarily within the northern portion of the BRSA around the communities of Rainbow and Fallbrook where agricultural operations, as well as potential nest sites (e.g., dense oak, willow, or other trees), occur. This species was observed foraging within southern willow scrub stands associated with Lake Hodges. Nesting: High Potential Foraging: Present
Yellow warbler (<i>Setophaga petechia</i>)	— SSC	The yellow warbler occurs as a migrant and summer resident in California from late March through early October and breeds from April to late July. It is absent from most of the Mojave Desert and all of the Colorado Desert, with breeding limits at 7,000 to 8,500 feet. This species generally occupies riparian vegetation in close proximity to water along streams and wet meadows. Yellow warblers are often associated with willow and cottonwood trees in riparian areas. This species has shown a high degree of site fidelity, returning to the same breeding grounds or territory year after year.	One recent CNDDDB occurrence of this species is recorded within 0.25 mile of the BRSA.	Suitable riparian habitat is present in scattered locations throughout the BRSA, most notably within named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek). This species was observed within the BRSA in an unnamed tributary to Rainbow Creek; within the San Luis Rey River; within Moosa Creek and an associated tributary; within the riparian area north of the San Dieguito River/Lake Hodges area along Bear Valley Parkway; and within the riparian habitat associated with the San Dieguito River/Lake Hodges. This species has also been detected on MCAS Miramar surveys, although not necessarily within the BRSA. Nesting: Presumed Present Foraging: Present
Yellow-breasted chat (<i>Icteria virens</i>)	— SSC	The yellow-breasted chat occupies early successional riparian habitats with a well-developed shrub layer and an open canopy. This species is widely distributed in California, but is now rare or absent from much of the Central Valley and parts of the southern coastal slope. It is generally present during migration, and residency occurs from late March to late September. Breeding takes place from late April through early August.	One recent CNDDDB occurrence of this species is recorded within 0.25 mile of the BRSA, and one is recorded within one mile.	Suitable riparian habitat with an associated shrub layer is present within the BRSA, most notably within named rivers and drainages (i.e., the Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek). This species was observed within the BRSA within the San Dieguito River/Lake Hodges area, and to the north within riparian habitat associated with an unnamed tributary to the San Dieguito River located parallel to Bear Valley Parkway. Yellow-breasted chat was also detected on MCAS Miramar during surveys, although not necessarily within the BRSA. Nesting: Presumed Present Foraging: Present
Mammals				
American badger (<i>Taxidea taxus</i>)	— SSC	American badger has an extensive range throughout Canada, the U.S., and Mexico, and occurs throughout California. It is found primarily in grasslands, parklands, farms, and other treeless areas with friable soil and a supply of rodent prey. The species is also found in forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows. It is sometimes found at elevations up to 12,000 feet, but is usually found in elevations lower and warmer than those characterized by coniferous forests. Burrows have low, elliptical entrances that are usually eight to 12 inches wide. Breeding generally occurs in the summer or fall, but implantation is delayed so young are born between March and April.	Three CNDDDB occurrences for this species are recorded within five miles of the BRSA, including one within 0.25 mile; however, no dates are available. The record within 0.25 mile is from the Escondido area and is likely extirpated. The other two records are from west of Interstate 15 in the Deer Springs Road area, north of the City of Escondido. It is estimated that these sites were visited after 1900.	Open areas of grasslands, parklands, farms, and other treeless areas and brush are present within the BRSA, which may provide habitat for this species. However, this species is very scarce in San Diego County and has never been documented on MCAS Miramar, and the CNDDDB records are presumed to be older than 30 years because the dates are unavailable for these records. Low Potential

Species Name	Listing Status ¹	Life History	Known Records	Potential to Occur
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	— SSC	The big free-tailed bat is primarily known from urban areas of San Diego County, but is found in New Mexico, Arizona, and Texas up to 8,000 feet in elevation. Buildings, caves, and crevices in high cliffs or rocky outcrops are used for roosting. This species inhabits arid hilly regions and lowlands up to 6,000 feet, and young are born in June and July.	Four recent CNDDDB occurrences of this species are recorded within five miles of the BRSA, including one within 0.25 mile.	Foraging habitat occurs within the BRSA in multiple locations. Rocky outcrops are located within Kit Carson Park, and buildings are all present within the BRSA—all of which may provide additional roosting sites for this species. High Potential
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	— SSC	This species inhabits a variety of habitats, including coastal scrub, chaparral, open scrub oak, and grasslands in San Diego County. This mouse eats the seeds of grasses and shrubs, such as sage (<i>Salvia</i> spp.).	Five recent CNDDDB occurrences have been recorded within five miles of the BRSA.	Suitable habitat is present within the BRSA, and this species has been documented within five miles of the BRSA. This species has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. Moderate Potential
Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)	— SSC	The Los Angeles pocket mouse historically ranged from the San Fernando Valley east toward the City of San Bernardino and south into western Riverside County. Their current range is not well defined as because this species is difficult to detect due to its seasonal emergence patterns. Hibernation occurs from October to February, and animals become torpid when deprived of food for more than a day. Habitat includes lower-elevation grassland, alluvial sage scrub, and coastal sage scrub.	One recent CNDDDB occurrence of this species is recorded within five miles of the BRSA, but it is within Riverside County. Los Angeles pocket mouse is known only from the Warner Valley area in San Diego County.	Grassland and coastal sage scrub are present within the BRSA, but this species' geographic distribution in San Diego County does not overlap with the BRSA. Low Potential
Mexican long-tongued bat (<i>Choeronycteris mexicana</i>)	— SSC	The Mexican long-tongued bat is known only from San Diego County as a summer resident, with records largely from urban locations in the City of San Diego. In New Mexico and Arizona, they occupy desert and montane riparian, succulent scrub, desert scrub, and pinyon-juniper habitats from sea level to 6,000 feet. This species feeds primarily on nectar, pollen, and fruit, and it uses mines, caves, and buildings for roosting and breeding. Seasonal movements follow the flowering period of food plants, particularly agave and yucca; this species will also feed from hummingbird feeders in urban areas.	No recent CNDDDB occurrences of this species are recorded within five miles of the BRSA. Two CNDDDB occurrences were recorded in 1981, including one recorded within one mile and one recorded within five miles of the BRSA.	Because buildings are present throughout much of the BRSA, and this species has been known to use buildings for both roosting and breeding, suitable habitat is present within the BRSA. However, all CNDDDB occurrences of this species are older than 30 years. Low Potential
Northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	— SSC	The northwestern San Diego pocket mouse is found in Orange County and arid, coastal habitats of San Diego, Riverside, and San Bernardino counties. This species inhabits sagebrush, desert scrub, chaparral, pinyon-juniper, and annual grasslands, as is usually associated with sandy or gravelly substrate.	One recent CNDDDB occurrence of this species has been recorded within one mile of the BRSA, and nine recent occurrences have been recorded within five miles of the BRSA.	Suitable habitat for this species in the form of coastal sage scrub, desert scrub, chaparral, and annual non-native grassland is present within the BRSA. This species was also detected on MCAS Miramar in the past during surveys (although not necessarily within the BRSA) conducted in 2000 through their natural resources program. Moderate Potential
Pallid bat (<i>Antrozous pallidus</i>)	— SSC	The pallid bat is found throughout low elevations in California and is absent from the high Sierra Nevada from Shasta to Kern counties, and is also absent from Del Norte and western Siskiyou counties to northern Mendocino County. Occupied habitats include grasslands, shrublands, woodlands, and forests from sea level to mixed conifers. This species is a yearlong resident in California and is most common in open, dry locations with rocky areas, caves, or mines for roosting. Insects form the diet and are usually gleaned and frequently taken on the ground as this species forages from approximately 1.5 to eight feet above the ground. Mating takes place from late October to February, and young are born from April to July.	No recent CNDDDB occurrences of this species are recorded within five miles of the BRSA. The last occurrence was recorded within 0.25 mile of the BRSA during 1968.	Suitable habitat does exist within the BRSA for this species, including cliffs and rocky areas, as well as grasslands, shrub lands, and woodland. However, all CNDDDB occurrences of this species are older than 30 years. Low Potential

Species Name	Listing Status ¹	Life History	Known Records	Potential to Occur
Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	— SSC	The pocketed free-tailed bat ranges from Riverside, San Diego, and Imperial counties in California, but is more common in Mexico. Habitat includes desert riparian, alkali, and succulent scrub, pinyon-juniper woodlands, Joshua tree, and palm oasis. This species prefers rock crevices in cliffs as roosting sites, but may also be found in caverns or buildings. Roosts are usually made up of small groups, and this species is likely active year-round, except during rain events. Young are born in June and July, peaking in late June.	Five recent CNDDDB occurrences of this species are recorded within five miles of the BRSA, including one within 0.25 mile.	Habitat for this species in the form of riparian habitats, palm trees, cliffs, and alkali scrub (i.e., tamarisk scrub and cismontane alkali marsh) is present within the BRSA. This species has also been detected on MCAS Miramar in the past, but not necessarily within the BRSA. High Potential
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	— SSC	San Diego black-tailed jackrabbit generally occurs in open areas or semi-open country with scattered low shrubs and is confined to coastal Southern California. It typically occurs in grasslands, agricultural fields, or sparse coastal sage scrub, at elevations ranging from sea level to 6,000 feet. It is generally not found in chaparral or woodland habitats. The length of the breeding season depends on the duration and severity of winter, but within this range, the San Diego black-tailed jackrabbit can usually breed throughout the year.	One recent CNDDDB occurrence of this species is recorded within 0.25 mile of the BRSA and one is recorded within one mile of the BRSA.	This species was observed in multiple locations within the BRSA on MCAS Miramar in late 2014 and early 2015 during within the BRSA during habitat assessments and drainage mapping. Present
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	— SSC	The San Diego desert woodrat inhabits areas with oak, scrub oak, and chaparral. This species occurs in coastal California from the City of San Luis Obispo south through the Transverse and Peninsular ranges into Baja California, Mexico. Large rocks or rocky outcrops with succulents are preferred for cover. Diet consists of fruit, grain, and other vegetation, including cactus.	One recent CNDDDB occurrence has been recorded within 0.25 mile of the BRSA, and three recent occurrences have been recorded within one mile of the BRSA.	Habitat is present for this species within the BRSA in coast live oak woodlands, and mixed chaparral throughout the BRSA. This species has been detected on MCAS Miramar in the past, although not necessarily within the BRSA. High Potential
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	FE CT	Stephens' kangaroo rat is located in the San Jacinto Valley from Riverside County to San Diego County. This species generally occurs in both non-native annual and native perennial grasslands with sparse perennial vegetation, as well as in sparse coastal sage scrub and sagebrush communities with sparse (i.e., less than 30 percent) canopy coverage. This species is frequently found in close association with dirt roads, disturbed areas, and other sites with a high percentage of bare ground. In general, perennial shrub cover and dense grasses restrict the presence of this species. Burrowing takes place in firm soil that is not hard nor sandy, and this species may use abandoned pocket gopher (<i>Thomomys bottae</i>) burrows. The known range of this species is generally north of the Escondido area into Riverside County.	Eight recent CNDDDB occurrences of this species have been recorded within five miles of the BRSA.	Suitable habitat for this species is present within the BRSA in open coastal sage scrub, non-native grasslands, and disturbed areas. Many open coastal sage scrub and non-native grassland stands were densely vegetated with brome grasses (<i>Bromus</i> spp.) at the time of the habitat assessment, reducing the likelihood for this species to occur there. This species also appears to require specific edaphic conditions that have not been confirmed within the BRSA. Moderate Potential
Townsend's big-eared bat (<i>Corynorhinus townsendii townsendii</i>)	— CC/SSC	The Townsend's big-eared bat has a range throughout California, but is considered uncommon; it is most abundant in mesic habitats. These bats gather at hibernacula from October to April and mate from November to February; young are born in May and June. This species gleans moths and sometimes other soft-bodied prey from brush, trees, or along habitat edges. Caves, mines, tunnels, or man-made structures are used for roosting and are the most limiting factor for this species. The Townsend's big-eared bat is extremely sensitive to disturbance at roosts sites, which often causes abandonment. Separate sites may also be used for night, day, hibernation, and maternity roosts.	One recent CNDDDB occurrence of this species is recorded within five miles of the BRSA.	Suitable habitat exists within the BRSA for this species, including tunnels and large drainage culverts, some of which are in fairly undisturbed sites. Moderate Potential

Species Name	Listing Status ¹	Life History	Known Records	Potential to Occur
Western mastiff bat <i>(Eumops perotis californicus)</i>	— SSC	Western mastiff bat is found in southeastern San Joaquin Valley and the Coastal Ranges from Monterey County to southern California and eastward to the Colorado Desert. Habitat is open and semi-arid to arid, woodland, coastal scrub, annual grasslands, palm oases, chaparral, desert scrub, and urban. This species is the largest native bat in the U.S. and requires tall roost sites, including cliff faces, tall trees, or tall buildings, which it drops from in order to take flight.	Five recent CNDDDB occurrences for this species are recorded within five miles of the BRSA.	Tall trees and tall buildings were observed in scattered locations throughout the BRSA. This species has been detected at MCAS Miramar in the past, not necessarily within the BRSA. Moderate Potential
Western red bat <i>(Lasiurus blossevillii)</i>	— SSC	Western red bat occurs throughout the Central Valley and coastal California. The winter range includes western lowlands and coastal regions south of San Francisco Bay. This species roosts primarily in trees within forests and woodlands from sea level up through mixed conifer forests. Foraging occurs over grasslands, shrublands, open forests, and croplands. Water—in addition to the diet—is required, so this species is often associated with riparian or wetland habitat as well.	Two recent CNDDDB occurrences for this species are recorded within five miles of the BRSA.	Habitat for this species is present within the BRSA, most notably within named rivers and drainages (i.e., Rainbow Creek, the San Luis Rey River, Escondido Creek, the San Dieguito River/Lake Hodges, Beeler Creek, and Poway Creek) and other tributaries that provide water for this species. Moderate Potential
Western yellow bat <i>(Lasiurus xanthinus)</i>	— SSC	Western yellow bat occurs in palm oases, but may also use ornamental palms in landscaping. Distribution is primarily within Mexico and Central America, with a range that extends into the southern portions of California and Arizona. This species appears to roost exclusively in skirts of palm trees and is limited in its distribution by the availability of palm habitat. Yellow bats likely do not hibernate, as activity has been observed year-round. Breeding is thought to occur from late April through July.	One recent CNDDDB occurrence of this species is recorded within 0.25 mile of the BRSA and one is recorded within one mile of the BRSA.	Palm trees are located throughout the BRSA, including within urban areas; therefore, roosting habitat is plentiful for this species. Foraging takes place within proximity to palm tree habitat as well. High Potential