

SENSITIVE BIOLOGICAL RESOURCES

Sensitive Habitats

Sensitive habitats are those habitats considered sensitive by the County for the purposes of California Environmental Quality Act (CEQA), RPO, and MSCP Subarea Plan/Biological Mitigation Ordinance (BMO) compliance.

The BMO and MSCP Subarea Plan classify wildlife habitats according to a 4-tier system. Habitats are classified in order of decreasing sensitivity. Tier I habitats include wetlands and riparian habitats, oak woodlands, and Mafic Southern Mixed Chaparral. Diegan Coastal Sage Scrub and Coastal Sage-Chaparral Scrub are Tier II. Tier III habitats include Southern Mixed Chaparral and Non-Native Grasslands. Finally, Tier IV habitats are Disturbed, Agricultural Lands, and Eucalyptus or other Non-Native Woodlands. Although lower Tier habitats (III or IV) may have increased sensitivity status due to the presence of sensitive species or foraging potential, examination of on-site Tier III and IV habitats did not reveal an overall increase in sensitivity. The only exception is the area of Southern Mixed Chaparral that supports Gander's Butterweed or Ragwort (*Packera* [formerly *Senecio*] *ganderi*), located in the western portion of the project site.

Wildlife Corridors

The BMO defines "Corridor" as a specific route that is used for movement and migration of species. A corridor may be different from a "Linkage" because it represents a smaller or more narrow avenue for movement. The BMO goes on to define a "Linkage" as an area of land which supports or contributes to the long-term movement of wildlife and genetic material (County of San Diego 1996).

Neither the County MSCP Subarea Plan nor the Poway Habitat Conservation Plan/Natural Communities Conservation Planning (HCP/NCCP) Subarea Plan identifies a corridor in this area (Ogden 1996a and County of San Diego 1997).

As addressed within the earlier methods section, a map-based (GIS) analysis was conducted to identify potential on-site corridors. After considering the presence of high quality habitats, conducive topography, and human encroachment or development, field indicators were used to augment the map-based analysis.

Within the project region, there are several expansive, significant biological areas, which have been assessed as high quality habitat on the Habitat Evaluation Map contained within the County MSCP Subarea Plan. These areas include lands surrounding State Route 67 to the west of the project site, lands to the southwest (San Vicente Open Space Preserve), and lands to the southeast, which form a connection with the recently preserved Monte Vista Ranch lands. In the immediate project vicinity, these regional high quality habitat areas connect via the high quality oak riparian habitat associated with the West Fork of San Vicente Creek (County MSCP Subarea Plan Figure 4-1) and high to very high quality habitats that border the southeastern edge of the Camp.

As expected, much of the topography that favors movement (canyon bottoms) also favors higher quality habitats; thus, likely movement routes delineated based on topography generally corresponded with the high quality linear habitat connections. In some cases, topography and habitats create a "dead-end" route, where drainages abut steep slopes; these areas are less likely to support wildlife movement.

In the case of the Camp, existing on-site development in the central valley portion of the site and ranching development to the north and south, limit the likelihood of extensive north-south wildlife movement, despite the advantageous topography.

Thus, having examined regional connectivity potential, habitat quality, topography, and existing human development, the primary movement routes identified were east-west routes south of the Camp and along the West Fork of San Vicente Creek within the northern Camp property. Fieldwork conducted over several years supported designation of the West Fork of San Vicente Creek as a corridor. Through observation of tracks, scat, and individual mammals, bobcat, coyote, grey fox, and mule deer were identified as utilizing the West Fork corridor on-site. Although each of these species was also identified in other on-site areas, track abundance was higher at the West Fork-Mussey Grade Road connection than at other areas examined.

The Camp's contiguous riparian oak woodlands associated with the West Fork of San Vicente Creek, form the local east-west corridor. This local corridor crosses Mussey Grade Road at the entrance to the Camp where an underpass, if utilized, permits the continued safe passage of wildlife to the southeast and provides evidence of local corridor use, in the form of numerous tracks. To the east, this local corridor connects with the Iron Mountain Preserve lands. On-site, the corridor appears to be utilized by meso-predators, Bobcat, Coyote, and Mule Deer.

[The Biological Monitoring Plan for the Multiple Species Conservation Program is one of the few MSCP documents to address regional vs. local corridors. It states that: "regional corridors link 2 or more large areas of natural open space and are necessary to maintain demographic and genetic exchange between wildlife populations residing within these geographically disjunct areas. Local corridors allow resident animals access to necessary resources within a large habitat patch and they may function as secondary connections to the regional corridor system" (Ogden 1996b).] A regional corridor has not been identified on-site, as there is a lack of habitat connectivity to the north, east, and south of the site (regionally), due to residential development. No evidence exists that on-site habitats are necessary to maintain the viability of wildlife populations in the region. Specifically, rural residential development occupies the land eastward and additional development has been approved immediately east of Mussey Grade Road; north of the site, native habitats have largely been converted to agricultural use (Golden Eagle Ranch and other equestrian facilities in southern Ramona); and south of the site, limited agricultural and rural development combined with Mussey Grade Road's impact on the riparian corridor and the area's topography (numerous steep north-south ridgelines) limit the suitability of the area for regional north-south wildlife movement. Finally, a more suitable (east-west) regional corridor exists to the south through the San Vicente Open Space Preserve.

Additional evidence of wildlife movement (the presence of scat, predominantly Coyote) was observed along some of the maintained and non-maintained trails. The use of a "least resistance route" with sufficient cover is expected to account for these observations. As no specific linear feature or habitat is associated with such "trail" routes they are likely advantageous movement avenues, but not necessary corridors for daily or seasonal movement.

Sensitive Plant Species

Sensitive plants include those listed by USFWS (1999), CDFG (2006), the County (County of San Diego 2007), and the California Native Plant Society (CNPS) (CNPS 2001). Five sensitive plant species were identified within the Camp property: Gander's Butterweed or Ragwort, Felt-leaved

Monardella (*Monardella hypoleuca* ssp. *lanata*), Ramona Horkelia (*Horkelia truncata*), Ashy Spike-moss (*Selaginella cinerascens*), and Engelmann Oak. Ashy Spike-moss is no longer considered sensitive by CNPS but remains on the County's Sensitive Plant List as of September 2006. The population totals for the sensitive species detected on-site, with the exception of Ashy Spike-moss, and expected significance of these populations are addressed below (Table 5).

Table 5. On-site Sensitive Flora Population Estimates and Significance

Common Name Scientific Name	Status	On-site Population (approx. # individuals) ¹	Local and Regional Significance Notes
Ramona Horkelia (<i>Horkelia truncata</i>)	CNPS List: 1B County List: A	10	Ramona Horkelia populations are presently stable in San Diego County; however, all populations should be protected (Reiser 1996). The state and global rankings for this species indicate that it is less vulnerable than the above species. Given this information, and the small size of the on-site population, the population is expected to be locally but not regional significant.
Felt-leaved Monardella (<i>Monardella hypoleuca</i> ssp. <i>lanata</i>)	CNPS List: 1B County List: A	7	Populations are presumed stable in San Diego County. All substantial populations should be protected, and significant portions of all smaller populations are also recommended for protection (Reiser 1996). Based on state and CNPS rankings, this species has significantly declined and is vulnerable to extinction. The on-site population also lies in close proximity to the MSCP Critical Population at Iron Mountain. The on-site population of this species is significant on a regional and local level.
Gander's Ragwort/ Butterweed (<i>Senecio ganderi</i>) ²	CNPS List: 1B County List: A	3	Populations are presently stable in San Diego and Riverside Counties (Reiser 1996); however, based on global, state, and CNPS rankings, this species has significantly declined and is vulnerable to extinction. On-site populations of this species are significant on a regional and local level.
Engelmann Oak (<i>Quercus engelmannii</i>)	CNPS List: 4 County List: D	>53	Engelmann Oak populations in southern California are still relatively abundant and stable (Reiser 1996). Engelmann Oak has the lowest global, state, and CNPS ranking of all the sensitive plants found on-site. While oak woodlands are a significant declining resource as a vegetation community, this particular on-site oak population is not significant regionally. However, the importance of this population locally should not be underestimated, the on-site population is expected to be a significant local resource.
Ashy Spike-moss (<i>Selaginella cinerascens</i>)	County List: D	Abundant, exact total not calculated	Ashy Spike-moss is declining due to urban expansion along the coast. Nevertheless, it still occurs at locations numbering in the thousands, and has recently been de-listed by CNPS. In sheer numbers, this may be one of the most common plants in the County and does not warrant sensitivity status (Reiser 2001). Nearby populations are found on Iron Mountain and west of Daney Canyon. The on-site population is not expected to be significant due to the low sensitivity of this species and its presence throughout much of the region.

¹ Numbers reflect populations prior to Cedar Fire

² Name changed to *Packera ganderi*

Despite focused, site-wide surveys, other sensitive plants known from the region including San Diego Thorn-mint (*Acanthomintha ilicifolia*), Encinitas Baccharis (*Baccharis vanessae*), Lakeside Lilac (*Ceanothus cyaneus*), Southern Mountain Misery (*Chamaebatia australis*), San Miguel Savory (*Satureja chandleri*), and Parry's Tetracoccus (*Tetracoccus dioicus*) were not identified on-site during the 1999 or 2000 biological survey work. Lakeside Lilac was previously mapped on the project site, but 1999 botanical investigations indicate that the shrub mapped as Lakeside Lilac was a hybrid. Hybrid *Ceanothus* are relatively common in the region. Heart-leaved Pitcher Sage is known from a ridge leading up to Iron Mountain, south of Dos Picos, and immediately north of the Camp (Oberbauer 1985 in CDFG 1997). This species was not identified on-site, despite efforts to locate it, which included surveys of the entire site in fall 2000. Finally, the potential for occurrence of Delicate Clarkia and Orcutt's Brodiaea on-site was investigated in spring 2000. Surveys indicated the absence of these species on-site.

Ashy Spike-moss was observed in association with rock outcrops throughout the site, particular in the mid to high elevations. Ramona Horkelia, Felt-leaved Monardella, and Gander's Butterweed were all located within chaparral at high elevations within the site. Each species was identified near the western trail that leads to a cross/scenic overlook. Gander's Butterweed was also identified in the northern portion of the project site adjacent to an existing hiking trail. Engelmann Oaks are scattered throughout the property, but occur primarily as individuals within Non-Native Grassland, Coastal Sage Scrub, or Disturbed habitats. Additional information regarding the status, presence, likelihood of occurrence on-site, and habitat of the aforementioned species is available in Appendix 4.

Sensitive Wildlife Species

Sensitive wildlife species include those listed by USFWS (1999), CDFG (2006), and those considered regionally or locally sensitive by the County of San Diego (2000 and 2007)(also included within this list are MSCP covered species). Sensitive species observed on-site were limited; however, numerous mammalian species can be difficult to detect during limited diurnal surveys. A number of sensitive species recorded from the area are expected to use portions of the Camp property. Sensitive species observed or detected within the project site include San Diego Horned Lizard, Orange-throated Whiptail, Turkey Vulture, Cooper's Hawk, Red-shouldered Hawk, Southern California Rufous-crowned Sparrow, Western Bluebird, Northwestern San Diego Pocket Mouse, San Diego Desert Woodrat, and Mule Deer. Table 6 provides information on the numbers of each species observed and the expected significance of the on-site populations.

Table 6. On-site Sensitive Fauna Population Estimates and Significance

Common Name	Status	Individuals observed (#) ¹	Local and Regional Significance Notes
San Diego Horned Lizard	DFG: CSC County Group: 2	1	The on-site San Diego Horned Lizard population would not be significant locally or regionally. This low sensitivity species is present on-site in low numbers and while the site provides suitable habitat, it does not provide extensive areas of high quality habitat.
Orange-throated Whiptail	DFG: CSC County Group: 2	1	Similar to the horned lizard, the on-site whiptail population would not be locally or regionally significant. No evidence of a dense, substantial population was identified on-site currently or historically.
Turkey Vulture	County Group: 1	~6	Observations of Turkey Vultures on-site do not indicate the presence of an on-site breeding area, nor was a roosting area

Common Name	Status	Individuals observed (#) ¹	Local and Regional Significance Notes
			observed. Therefore, the on-site observations do not reflect a locally or regionally significant habitat feature or population.
Cooper's Hawk	DFG: CSC County Group: 1	≥1	Cooper's Hawk observations, coupled with the previous identification of a nest indicate at least historic breeding activity on-site. As an on-site breeding resident, it would be significant locally but not regionally. Cooper's Hawks are an MSCP covered species.
Red-shouldered Hawk	County Group: 1	2	The on-site pair of Red-shouldered Hawks does not represent a significant local or regional population. This species is common in appropriate habitat and has shown stable or increasing populations locally (Unitt 2004).
Western Bluebird	County Group: 2	~8	This seasonally present species does not occupy the site in substantial numbers and would not be considered a locally or regionally significant population due to its low sensitivity coupled with low site use.
Southern California Rufous-crowned Sparrow	DFG: CSC County Group: 1	~4	The on-site biological surveys detected this species presence in low numbers that do not reflect local or regional significance. The relatively limited amount of sage scrub habitat on-site likely precludes a significant population.
Northwestern San Diego Pocket Mouse	DFG: CSC County Group: 2	7	This low sensitivity species is ubiquitously present in suitable habitat throughout the region; therefore, the small on-site population is not locally or regionally significant.
San Diego Desert Woodrat	DFG: CSC County Group: 2	4	This low sensitivity species is ubiquitously present in suitable habitat throughout the region; therefore, the limited on-site population is not locally or regionally significant.
Mule Deer	County Group: 2	3	This species is expected to occur at relatively low densities on-site; while it is an important part of the site's fauna, the on-site population is not significant locally or regionally due to its low sensitivity and the absence of high numbers on-site.

¹ Population estimates for faunal species are not possible without more detailed species-specific investigations. The numbers of individuals observed are presented for information, but do not reflect an active, specific search for these species on the project site.

Sensitive or protected wildlife with potential to occur in the project area include Harbison's Dun Skipper, Western Spadefoot, Silvery Legless Lizard (*Amniella pulchra pulchra*), San Diego Banded Gecko, Coastal Western Whiptail, Northern Red Diamond Rattlesnake, San Diego Ringneck Snake, Coronado Skink, Coast Patch-nosed Snake, Two-striped Garter Snake, Coastal Rosy Boa, Sharp-shinned Hawk, White-tailed Kite, Golden Eagle, California Horned Lark (*Eremophila alpestris actia*), Bell's Sage Sparrow (*Amphispiza belli*), Yellow Warbler, Ferruginous Hawk, Yuma Myotis, Long-eared Myotis, Small-footed Myotis, Spotted Bat, Pallid Bat, Townsend's Big-eared Bat, Pocketed Free-tailed Bat, Big Free-tailed Bat, California Mastiff Bat, San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*), Ringtail, and Mountain Lion. Of the aforementioned sensitive species with potential to occur on-site, the following are covered under the MSCP: Ferruginous Hawk, Golden Eagle and Mountain Lion. A table of sensitive species' presence, status, habitat, and potential for occurrence is provided as Appendix 5.

Of the above-mentioned species, some have only a low probability of occurrence while others are expected, although not observed. Those species, not previously discussed in detail, which have

strong potential to occur on-site (as indicated by a probability of occurrence assessment of “good” or “excellent” in Appendix 5) are discussed in the text below. This information has been collected and is discussed in response to the County’s request for further textual discussion of all sensitive species that have a strong potential to use the site.

The San Diego Banded Gecko occurs in coastal and cismontane southern California from interior Ventura Co. south, although it is absent from extreme outer coast. It is uncommon in coastal scrub and chaparral, most often occurring in granite or rocky outcrops in these habitats (Stebbins 1972). This species has been detected at only 3 sites within the San Diego MSCP USGS monitoring study area, La Cresta, Marron Valley, and the San Diego Wild Animal Park (Rochester et al. 2001). Within the sites where they occur, this species is typically very rare. Due to the presence of suitable habitat and a lack of fragmentation, it is believed that this species may occur on-site, undetected, in low numbers similar to those recorded in suitable habitats at La Cresta, the closest MSCP monitoring site to the project site.

The Silvery Legless Lizard was shown to be nearly as uncommon as the San Diego Banded Gecko during monitoring within the MSCP region (Rochester et al. 2001). It was detected at only 5 study sites, the Tijuana Estuary National Wildlife Refuge (NWR), Wild Animal Park, and occasional captures at Point Loma, San Diego NWR, and Torrey Pines (Rochester et al. 2001). The limited occurrence of this species may be due to specific habitat requirements. This lizard prefers loose sandy soils, which are common along the coast or along river drainages. Legless lizards are thought to be soil moisture-limited at the edges of portions of their geographic range. While this lizard may occur within the riparian habitats of the project area, it is not expected in significant numbers, as the availability of suitable soils is limited on-site.

The Coastal Western Whiptail can be found in open, often rocky areas with little vegetation or open microhabitats within shrub or grassland associations. USGS monitoring recorded this species at 9 of the 13 MSCP survey sites (Rochester et al. 2001). This whiptail has been reported from the immediate area and likely exists on-site in relatively low numbers. Although the site supports a considerable amount of rock outcrop, it is typically surrounded by dense chaparral limiting the availability of open, preferred whiptail habitat. Still, Coastal Western Whiptail likely occur in non-substantial numbers within openings in shrub habitats resulting from fires and possibly along sage scrub chaparral edges.

The Coronado Skink seems generalized in the sense that it occurs in a variety of plant associations ranging from coastal sage, chaparral, oak woodlands, pinon-juniper, and riparian woodlands to pine forests (Stebbins 1985), but within these associations it is often restricted to the more mesic pockets (Zeiner et al. 1988). This skink was the most widespread of the sensitive species monitored by USGS in the MSCP region and occurred at all but one study site (Rochester et al. 2001). The USGS monitoring studies indicated that Argentine Ant (*Linepithema hamile*), formerly (*Iridomyrmex humilis*), and Coronado Skink populations may be inversely correlated (Rochester et al. 2001). As the species is somewhat of a habitat generalist and no evidence of a substantial Argentine Ant population was recorded on-site, it is believed that the Camp supports a healthy population of Coronado Skinks.

San Diego Ringneck Snakes are most common in open, relatively rocky areas within chaparral and annual grass habitats where suitable surface litter provides habitat. They tend to prefer areas with increased moisture levels, including riparian zones. The project site provides high quality riparian habitat with an abundance of surface litter. However, the factors that limit this species distribution

within the County are not well understood and as such it is difficult to determine the status of any on-site population. Based on previous reporting by Klauber (Klauber unpublished data), the availability of suitable habitat and the limited presence of non-native predators (domestic or feral cats), a moderate ringneck snake population is expected on-site.

Coast Patch-nosed Snake historically probably occurred throughout the region, particularly in areas with sage scrub and chaparral. This snake seems to require at least a low shrub structure of minimum density since they are not found in habitats lacking this structural component. They are presumed to take refuge and perhaps overwinter in burrows or woodrat nests, so the presence of one or more burrow or refuge-creating mammals may be necessary for this snake to be present. The presence of dense chaparral, sage scrub, and ecotonal scrub chaparral mixes in conjunction with woodrats and ground squirrels provides excellent habitat capable of supporting a substantial population. The species was previously collected within Mussey Grade by Klauber (Klauber unpublished data) and certainly persists in moderate numbers.

The Coastal Rosy Boa is widely but sparsely distributed in desert and chaparral habitats throughout southern California, south of Los Angeles. It inhabits rocky chaparral-covered hillsides and canyons. This species is expected on-site in low numbers in association with suitable habitats in the higher elevations of the Camp, these rocky hillsides are reasonably isolated and are unlikely to have experienced herpetological collection to any significant degree. The species was previously collected within Mussey Grade by Klauber (Klauber unpublished data).

The Northern Red Diamond Rattlesnake was widespread throughout southern California historically and still appears to be widespread but with a patchier distribution (Rochester et al. 2001). It was detected at 8 of the USGS MSCP study sites, appearing to be more common at larger, more inland study sites (Rochester et al. 2001). Although Northern Red Diamond Rattlesnakes are recorded from a number of vegetative associations, they seem to occur more frequently in habitats with heavy brush associated with large rocks or boulders. These rattlesnakes eat mostly and rabbits as adults, but lizards are also significant in the diet of juveniles. Previous collection from the Mussey Grade area by Klauber (Klauber unpublished data), the Camp's relatively large size, inland location, extensive brushy habitats with large rock outcrops, and seemingly diverse and abundant prey base likely indicate a sizable Northern Red Diamond Rattlesnake population in the suitable portions (upper elevations of the western half) of the site.

The Sharp-shinned Hawk is an uncommon migrant and winter visitor, casual in the summer. This species prefers riparian habitats and north facing slopes with perches, but occurs in woodlands, parks, and residential areas throughout San Diego County and a few trees seem to be their only winter requirement. As with other Accipiters, this hawk preys almost exclusively on passerines and may be attracted to residential bird feeders. It may occur in very low numbers as a migrant but would not breed on-site.

The Yuma Myotis is known from the San Vicente Reservoir area and is a common bat species in San Diego. Since suitable habitat exists on-site, it is expected. Substantial populations are not known from the site, but cannot be ruled out. The Pallid Bat, another species known from San Vicente area, utilizes open forest and grassland habitats for feeding and multiple habitats for roosting; there's potential foraging habitat on the Camp. Finally, the California Mastiff Bat is also known from San Vicente area, and expected to forage on-site. Since the Camp supplies open areas with roost locations in rock outcrops, oaks, and chaparral it is likely that this species is present on-site.

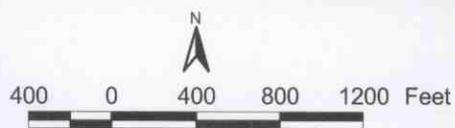
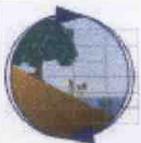
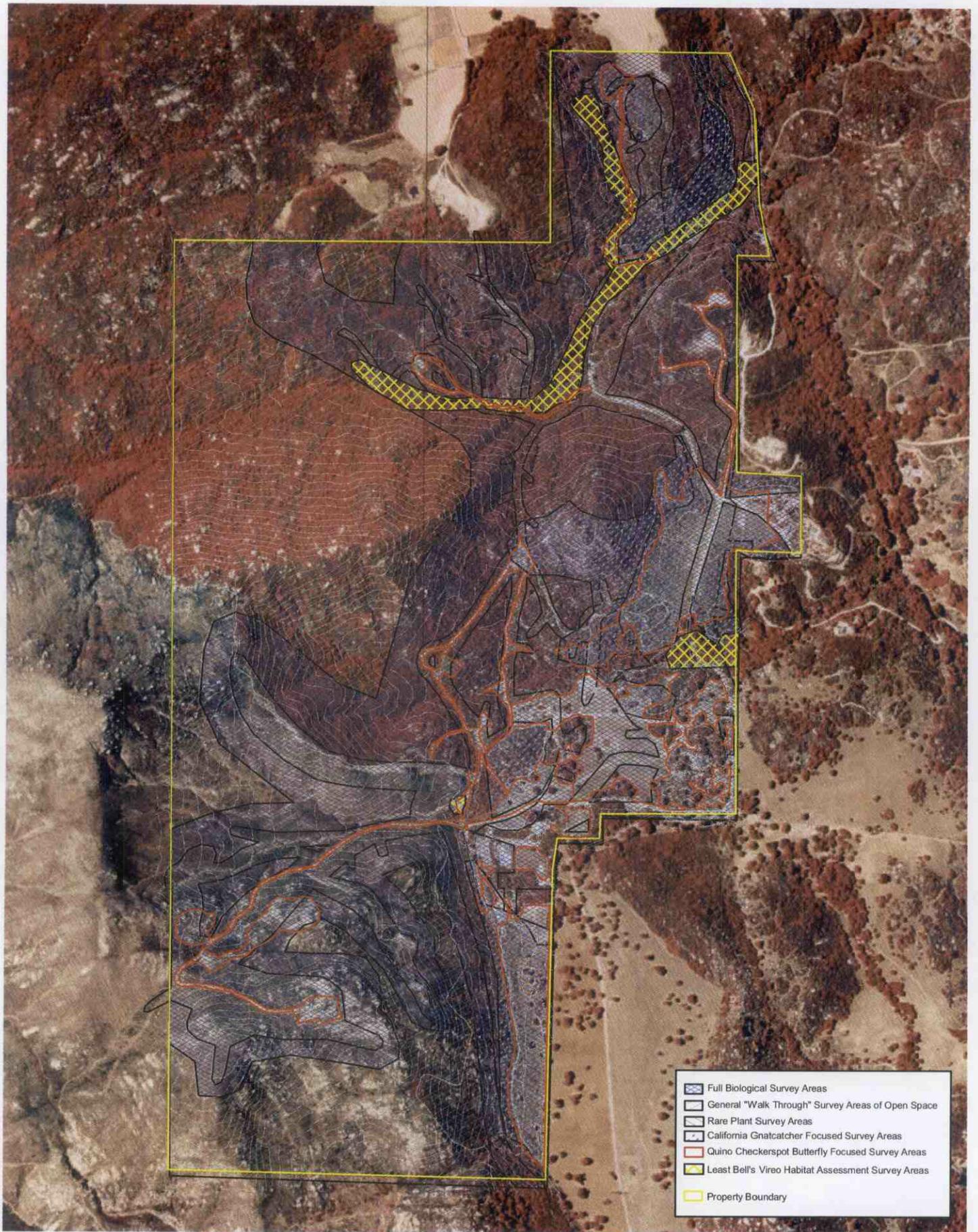
Townsend's Big-eared Bat has a strong foraging association with oak woodland, but is a cave rooster. It may forage on-site but is not expected to roost there. Similarly, the Pocketed Free-tailed Bat has good potential to forage on-site but not roost within the Camp area. Even after additional literature searches and consultation with local bat researchers, there is insufficient information to determine, more accurately, the probability of occurrence for the Long-eared Myotis, Small-footed Myotis, and Big Free-tailed Bat. However, none are expected to occur on-site in substantial numbers.

The San Diego Black-tailed Jackrabbit occurs in suitable grassland, sage scrub, and chaparral habitats. They do not typically occur within areas that support dense vegetation exclusively, as they require a degree of openness for locomotion. They may occur in low numbers within the lower elevation open sage scrub and scrub-grassland edge habitats of the Camp, but are unlikely to occur undetected after so many field surveys. Therefore, a substantial population is not expected as no jackrabbits were observed on-site, despite the species somewhat obvious presence.

Both the Ringtail and Mountain Lion are rarely seen; but they are believed present, at least intermittently, on-site. The presence of dense native vegetation, ridgelines and canyons, and, in the case of the cougar, a prey base, lead to the conclusion that while the site is not likely to support a significant population of either species, it is likely utilized by both.

Focused Sensitive Resource Surveys

In addition to general botanical and zoological surveys, a number of focused sensitive species surveys were conducted on-site in 1999 and 2000. Areas of the site covered are either described textually or depicted in Figure 4. The results of these surveys are detailed on the following pages.



**Salvation Army Camp
Biological Survey Areas**

**Figure
4**

Seasonal Surveys for Sensitive Plants

Initial site surveys in 1999 indicated the presence of several sensitive or rare plant species on-site. Further Delicate Clarkia and Orcutt's Brodiaea surveys were conducted in 2000. Surveys in appropriate habitat on-site were negative for both species. In fall 2000, the Camp was systematically surveyed for Heart-leaved Pitcher Sage and any other sensitive floral species known from the region. Surveyors did not identify this MSCP Narrow Endemic plant anywhere within the Camp, but additional occurrences of other rare plants were documented within the site.

Arroyo Toad Habitat Assessment

The on-site habitat is believed to be suboptimal to support the Arroyo Toad. This is based on the narrowness of most of the channel bottoms (generally 3 feet in width) and the limited amount and duration of water flow in most years. The creek is expected to carry only intermittent and relatively small amounts of water during the course of the year, and is believed to be extremely inadequate to support the early life history stages of the Arroyo Toad. The streambed was largely dry by the mid-April site visit, and the presence of upland species (various sage scrub and chaparral shrubs, and non-native grasses) emphasize the absence of a more substantial hydrologic regime. In addition, the creekbed lacks characteristic breeding habitat features (sand berms, etc.) as well as adjacent sand benches or terraces favored by newly metamorphosed Arroyo Toads. In addition, the segment of the west fork of San Vicente Creek, into which the on-site drainage connects, is only slightly improved habitat over that which occurs on-site. The off-site habitat was shadowed by a dense canopy of mature Coast Live Oaks, and the streambed lacked any standing or flowing water on the April survey date. It is therefore believed unsuitable to support newly metamorphosed Arroyo Toads which are known to stay associated with the sandy edges or terraces of (flowing) streams for extended periods in the late summer and early fall. As no suitable Arroyo Toad habitat was found either on-site or on the adjacent, downstream property to the east/southeast, this species is not expected on-site.

Least Bell's Vireo Habitat Assessment

Least Bell's Vireos were not recorded on-site during previous or current biological investigations. Furthermore, there are no CNDDDB database records (2006) of this species from this area, nor is it an occupied site according to the Draft Recovery Plan data for San Diego County (Fish and Wildlife Service 1998). However, riparian habitat exists on-site and was assessed for Least Bell's Vireo suitability in fall 2000.

Least Bell's Vireos are obligate riparian breeders. This species typically nests in willow-dominated areas and are known to prefer early successional habitat, but species composition does not appear to be as important a determinant as habitat structure (Fish and Wildlife Service 1998). Two habitat features appear to be essential for Least Bell's Vireo habitat: the presence of dense cover within one to 2 meters of the ground and a dense stratified canopy for foraging (Fish and Wildlife Service 1998).

The on-site riparian habitats are believed to be low quality in terms of Least Bell's Vireo suitability. They are generally mature oak woodlands characterized by a tall canopy, which shades out the lower shrub layer, limiting the amount of nesting habitat. The persistence of this mature oak canopy throughout virtually all of the site's riparian areas severely limits the amount of potential vireo habitat. Where notable understory occurs it is primarily composed of Poison Oak, not the typical willow or Mule Fat so often utilized by breeding vireos. These patches of understory may, in theory,