

Bat Habitat Assessment

Simi Valley Camp Alonim



**Prepared for
Wildscape Restoration, Inc.**

**Provided By:
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Introduction

The following bat survey was performed in accordance with the California Fish and Wildlife (CDFW) comments for the “Notice of preparation of an environmental impact report for the American Jewish University Camp Alonim Project (Project)” SCH #2023110297 pursuant to the California Environmental Act (CEQA) and CEQA guidelines to protect fish and wildlife. As part of the comments and recommendations, CDFW recommended that a qualified bat specialist be retained to identify potential daytime, nighttime, wintering, and hibernation roost sites and conduct bat surveys within these areas (plus a 100-foot buffer as access allows) to identify roosting bats and any maternity roosts. Additionally, CDFW recommended using acoustic recognition technology to maximize detection of bats at night. If the Project would impact bats, CDFW recommended the CEQA document EIR to include measures to avoid and minimize impacts on bats, roosts, and maternity roosts. Endemic Environmental Services (EES) provided a qualified bat specialist that identified potential daytime, nighttime, wintering, and hibernation roost sites and conducted bat surveys within these areas (plus a 100-foot buffer) to identify roosting bats and any maternity roosts.

Pursuant to the CDFW recommendations, each existing structure and adjacent areas within the project area were surveyed by EES bat biologists for the presence/absence of bat habitat and/or the presence of bats before the commencement of all work. In this report, EES provides recommendations and guidance for the project bat avoidance and minimization measures with the goal of minimizing project-related impacts to bats. For further information regarding humane exclusion of roosting bats and mitigation measures, refer to the measures described in the CEQA document.

Project Location

The project is in the vicinity of the existing American Jewish University Brandeis Bardin Campus (Map 1). The approximately 2,588-acre project is located at 1101 Peppertree Lane on Assessor Parcel Numbers (APNs) 685-0-051-040, -050, -140, -190, and -210. The Project site is situated along Meier Canyon Creek, immediately south of the City of Simi Valley. The Project site is currently developed with American Jewish University’s Brandeis-Bardin Campus, which includes Camp Alonim, the Brandeis Collegiate Institute, and other associated assembly and event uses.

Project Description

The Camp Alonim Project proposes to improve the existing campground by constructing a 4,460 sq. ft. Welcome Center Building, 13 new Camper Cabins each 1,930 sq. ft., three Head Counselor Cabins that are each 441 sq. ft., a 2,307 sq. ft. open-air Arts Pavilion, a 58-space parking lot, and landscaping improvements around the new structures. The project for purposes of this Agreement are activities including:

- The demolition of 3 housing trailers, two cottages, one cabin, and a garage
- Grading, filling, and disturbance of 10-acres
- Removal of 74 trees, 15 of which are protected (9 Coast Live oaks, 1 Sycamore, 5 large ornamental heritage trees which include 4 Pepper Trees and 1 Eucalyptus Tree)
- Encroachment upon 67 trees, 42 of which are protected (20 oaks, 18 sycamores, and 4 heritage-sized pepper trees)

Background on Bats at Camp Alonim

Bat populations across the United States have been declining. Several of these species have been recognized as Species of Special Concern (SSC) in California. In addition, the California Fish and Game Code (CFGF) and the California Code of Regulations (CCR) (CFGF §2126 & 4150; CCR §251.1) prohibit incidental or deliberate take of bats. Crevices between sheds, buildings, tree cavities, and lifted bark have become suitable areas for colonial roosting bat species. Bats need a dry and dark temperature-controlled environment in order to rest during the day and raise young. The small crevices and large cavernous areas found in building structures, sheds, and trees offer ideal areas for roosting. The most common areas on a building and shed where bats are often found roosting are within hinge joints, with crevices of a building and gutters, clapboards, and exterior A/C, water boiler, and heater units. In addition, bats will also use open and exposed areas on building structures to rest at night. These areas are considered their night roosts, which allow the bats to digest between their feedings. In addition to their night roosts, bats also have day roosts. These day roosts can be in the same building used for the night roosts, or in a different suitable location.

The most active time for bats is spring to late summer when insects are most available and temperatures at night are warm. It is during this active period when colonial roosting bats form maternity colonies and females give birth and raise their young (April 1 – August 31). During the late fall and winter, bats will go into torpor. Some bat species may migrate to warmer climates or locally to where temperatures are milder and are suitable for winter roosts. By understanding bat ecology, Endemic manages projects to avoid and minimize impacts to bats.

Based on observations recorded through the California Natural Diversity Database (CNDDB) (Appendix 1 Map 2 and Appendix 3 - Table 2), the project has potential to impact various sensitive species, including species of bats such as California leaf-nosed bat (*Macrotus californicus*; SSC), pallid bat (*Antrozous pallidus*; SSC), spotted bat (*Euderma maculatum*; SSC), California leaf-nosed bat (*Macrotus californicus*; SSC), Western small-footed myotis (*Myotis ciliolabrum*) and Western mastiff bat (*Eumops perotis californicus*; SSC). In general, bats seek out a variety of daytime retreats such as caves, rock crevices, old buildings, bridges, mines, and trees. Different species require different roost sites. Some species, such as the Mexican free-tailed and gray bats live in large colonies in caves. A few solitary species, such as the red bat, roost in trees. The species of bats recognized by Remington (2000) as being the most likely to roost in open areas and rocky canyons include the big brown (*Eptesicus fuscus*), Mexican free-tailed bat (*Tadarida brasiliensis*), yuma myotis (*Myotis yumanensis*), pallid bat (*Antrozous pallidus*), and Western Pipistrelle (*Parastrellus hesperus*). These bat species are known to roost in large colonies except from Canyon bats (which are usually solitary or mother and pups groups), and two of those species are Species of Special Concern (SSC). Yuma myotis was previously recognized to be a candidate species for listing under the Endangered Species Act (ESA) and is now recognized as a Federal SSC. The pallid bat is recognized as a California SSC.

Methods

A preliminary desktop review was conducted prior to the survey in order to review aerial imagery, as-built reports, habitat conservation and disturbance plans, arborist and vegetation report publicly available regional planning documents to provide context for potential habitat and bat activity in the project region. The habitat assessment survey was conducted using visual cues (i.e. seeing where/what species of trees and vegetation were present, the conditions of trees/vegetation, where this vegetation was present in regards to surrounding bodies of water, guano, staining) and a high-power flashlight to identify potential day and night roost locations. The survey was conducted by foot throughout the entire project site to the maximum extent practicable (Map 1). If any bat usage was detected, a sketch of the structure was included showing the locations of suitable habitat features and bat activity in each feature. A sketch supports the description of the habitat feature and planning for future surveys. If no habitat or sign of bats or potential roosting habitat was observed, no further surveys would be warranted.

Results

EES bat biologists, Luma Fowler and Kathya Argueta, conducted a field visit on March 12, 2024. The survey aimed to determine suitable habitat and presence/absence of bats within the project site. The potential bat species to occur underwent a desktop and literature review prior to the field assessment.

Table 1. Starting and ending conditions during the preconstruction bat habitat assessment and survey for March 12, 2024.

Date: 1/19/23	Time	Surveyor	Temperature	Conditions
Starting	11:23am	Luma Fowler Kathya Argueta	59 F	2 % cc, 82 % humidity, 7 mph wind
Ending	1:02pm	Luma Fowler Kathya Argueta	61 F	0 % cc, 72 % humidity, 7 mph wind WNW

Habitat Assessment

Potential roosting bat habitat was found during the survey as well as potential foraging areas. The location where the welcome center will be built (Map 3 and Photo 2) consists of 3 housing trailers and two shipping containers used for storage. The parking area (Map 3, Photos 1 and 3), consists of disturbed California Sycamore-Coast Live Oak Woodland and disturbed Coast Live Oak-Annual Grass Woodland. Suitable roosting habitats for bats are present at the welcome center and parking area throughout the crevices and hinges of the housing trailer's gutters, clapboards, exterior A/C and water boiler unit and inside the shipping containers and the shipping container's hinges. Suitable roosting habitats for bats in the parking area are present throughout the tree cavities, lifted bark on trees, and even on the exterior part of the trees itself. Although both are suitable for night-roosting, the welcome center would mostly be used for day-roosting. Ephemeral creek area, referred to in Map 3 with the red outline, was identified as a suitable foraging area (Photos 5 and 6) which consists of a creek that is surrounded by disturbed Coast Live Oak Woodland-Annual Grass-Herb Woodland and disturbed California Sycamore-Coast Live Oak Woodland. Cabin development area (Photo 7), referred to in Map 3 with the red outline, was identified as a suitable foraging area. This area consists of an open field with Coast Live Oak-Scrub Oak Woodland, Black Mustard-Ripgut Brome, Ornamental Shrubland, California Sagebrush Shrubland, Catalina Mariposa Lilies, and exotic vegetation with surrounding mountains and hillsides. Although no bats were seen or heard during the daytime habitat assessment survey, potential species within this area are: Western yellow bat (*Lasiurus xanthinus*), big brown (*Eptesicus fuscus*), Mexican free-tailed bat (*Tadarida brasiliensis*),

yuma myotis (*Myotis yumanensis*), pallid bat (*Antrozous pallidus*) and Western Pipistrelle (*Parastrellus hesperus*).

Conclusions

The welcome center and parking area have been confirmed to be day and night bat roosting habitat while Cabin development area have been confirmed to be foraging areas. In order to identify which species are using the project site area, further nighttime visual and acoustics surveying methods, such as live units and passive detectors, will be needed. Once species are identified, appropriate mitigation and monitoring methods will be recommended, since these measures will be tailored for the detected bat species. In addition, with the maternity season approaching (starting in late March and early April), protective mitigation measures and disturbance minimization measures will need to be adjusted accordingly. In case there is loud equipment and vibrations emitted in the area, an exclusion plan must be considered and carried out at least 9 months before the start date of work. In addition, these exclusion devices should be maintained and remain in place until construction has been completed. Instructions for lighting and vegetation removal can be found below within the recommendations.

Recommendations

Given the positive results for potential bat habitat at the Project site, a night time survey is recommended in order to identify the bat species, habitat usage, and locations. The nighttime emergence survey should begin 30 minutes prior to the time of sunset and continue until one hour after sunset. Depending on the locations and number of roost exit points, multiple surveyors may be needed. Surveyors should each be assigned a specific area that does not overlap with other surveyors' locations. Surveyors should station themselves such that roost exit points are backlit with the sky. Passive detectors should be deployed for at least 7 nights and acoustics analyzed for species identification. Environmental conditions at the time of survey should be conducted on a warm night when nighttime lows are not less than 45°F and during dry weather conditions. High-quality (e.g., Generation 3+) night vision goggles can greatly increase the accuracy of some exit counts and, in many cases, aid in the identification of species as bats emerge.

Nighttime surveys and possible exclusion approaches for foliage roosting bats should be planned to begin within 2 months before any earthwork commences to ensure that any potential impacts on bats in trees will be addressed in the project. The following stepwise approach is recommended to confirm tree habitat for roosting bats.

1. If trees with potential bat roosting habitat are present within or near the project site, acoustic surveys and possibly roost emergence counts are recommended.

2. Bat Biologist will inspect each tree during the nighttime survey. All trees within the buffer zones should be examined and categorized on the basis of their suitability as day or maternity roosting habitat.
3. The Bat Biologist and team will proceed to conduct acoustic surveys. The length and extent of acoustic surveying depends on the time of year, spatial scale of the project, and target bat species (if any). Acoustic monitoring in the winter should encompass at least 10 days, but this period could be shortened to as few as 3 days during the summer.
4. Analysis of acoustic survey data. Bat Biologist will determine if the acoustic data suggests a pattern of bats leaving at the expected emergence time and returning at dawn. The timing of calls can generally help determine the distance between the acoustic detector and the roost. When analyzing acoustic data, the number of acoustic call files recorded per 10-minute intervals during the first hour and 15 minutes after sunset. Sites with five or more call files per 10-minute interval suggest that the monitored tree supports a bat roost. Fewer than five call files per 10-minute interval suggests that a bat was foraging or moving through the area rather than emerging from a nearby roost tree. If there are five or more calls per 10-minute intervals, there is likely an active bat roost at that tree, or from a nearby tree or roost. Bats could potentially be emerging from another tree but only passing by the bat detector, giving a false positive. In order to confirm a roost in a monitored tree, a visual emergence count must be conducted as described below.
5. Visual surveys should be conducted at the time of emergence with high-quality night vision goggles (Generation 3+) and bat detectors. Several surveyors at multiple vantage points may be needed to ensure adequate visual coverage, especially around large trees. For a thorough count, the visual survey should start at sunset and continue for an hour and 15 minutes because roosting bats do not emerge all at once.

It is important to consider that different recommendations will be addressed if bats are confirmed to be using the Project area after a night time survey. For an instance, in order to minimize the potential for disturbing a maternity bat roost or impacting a non-flying juvenile bat during the maternity season, it is recommended that construction activity and vegetation removal (tree trimming and removal of snags, trees, and rock outcroppings) should be conducted outside of the maternity season (May 1–August 15) to the maximum extent possible. If it is not possible to avoid the maternity season with these activities, it is recommended that a biological monitor be present on-site during these activities to visually search for bats.

In addition, the following mitigation measures are recommended to further avoid impacts to bats:

- Contractor(s) shall ensure that before conducting construction activities all Proposed Project personnel shall participate in an educational training session conducted by a Qualified Biologist. All on-site personnel shall be informed about relevant special-status species and their habitat, conservation goals, identification, and procedures to follow in the event of a possible sighting. Personnel who miss the first training session or are hired later in the season must participate in a makeup session before conducting Project activities. A record of the personnel that attended the training shall be kept by the Qualified Biologist.
- Minimize Night Lighting. Contractor(s) shall minimize construction night lighting on adjacent habitats. Exterior lighting within the Proposed Project area adjacent to habitat shall be the lowest illumination allowed for human safety and security, selectively placed, shielded, and directed downward to the maximum extent practicable. Vehicle traffic associated with Proposed Project activities shall be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species.

Please feel free to contact me with any questions.

Sincerely,

Luma Fowler

Bat Biologist

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References

Pierson, E. D. 1993. Survey protocols for California bats. Wildlife Society, Monterey, California. 26 February 1993.

California Department of Fish and Wildlife, December 2023. Subject: Notice of preparation of an environmental impact report for the American Jewish University- Camp Alonim Project, SCH #2023110297

Johnston, D. S., G. A. Reyes, M. Rodriguez, and K. Briones. 2018. Mitigating for noise near roosts based on noise frequency and species of bats. Bat Research News 58(1):62.

Lewis, S. E. 1995. Roost fidelity of bats: A review. Journal of Mammalogy 76(2):481-496.

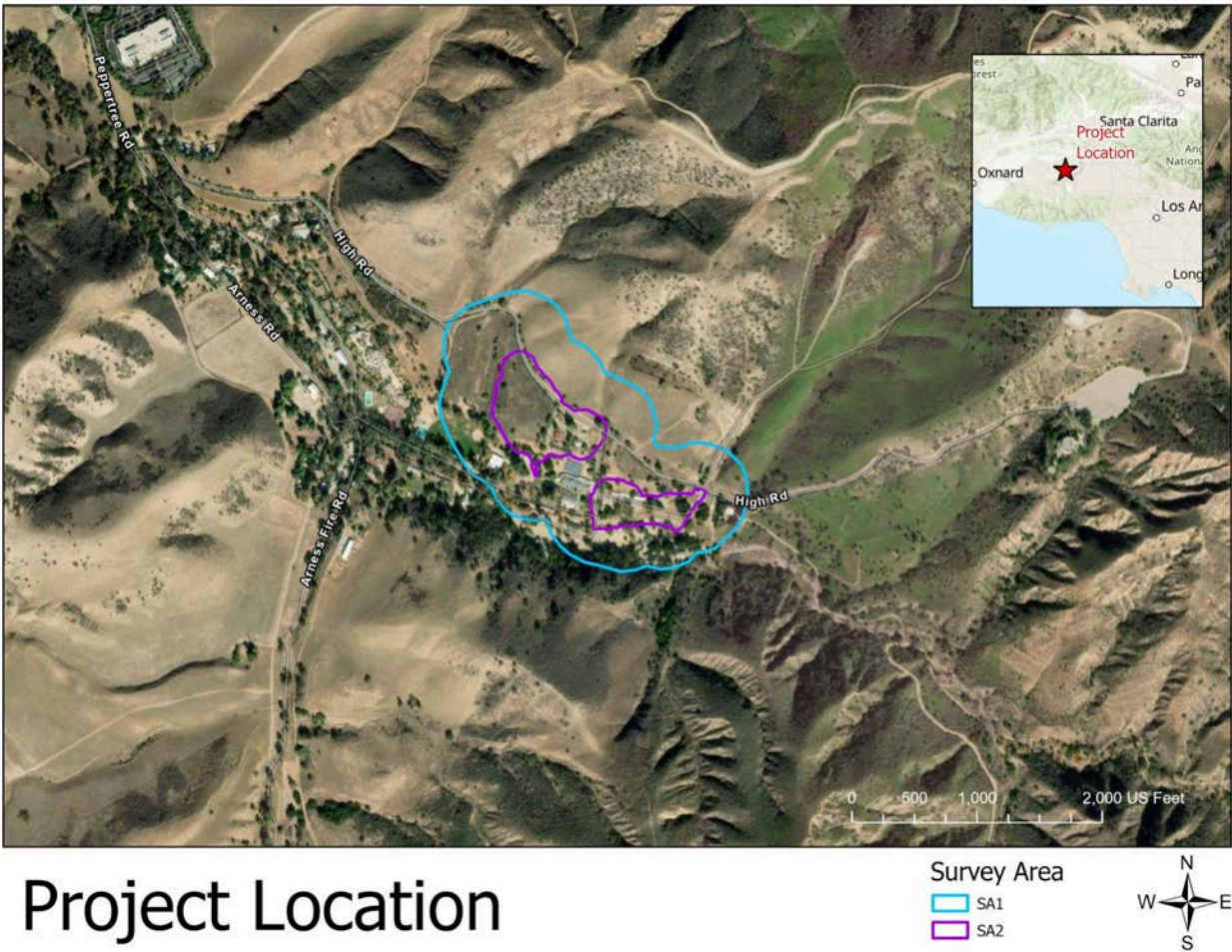
Pierson, E. D. 1993. Survey protocols for California bats. Wildlife Society, Monterey, California. 26 February 1993.

Pierson, E. D. 1998. Tall trees, deep holes, and scarred landscapes. Conservation Biology of North American bats. Pp. 309-325, in Bat biology and conservation (T. H. Kunz and P. A. Racey eds.). Smithsonian Institution Press, Washington and London.

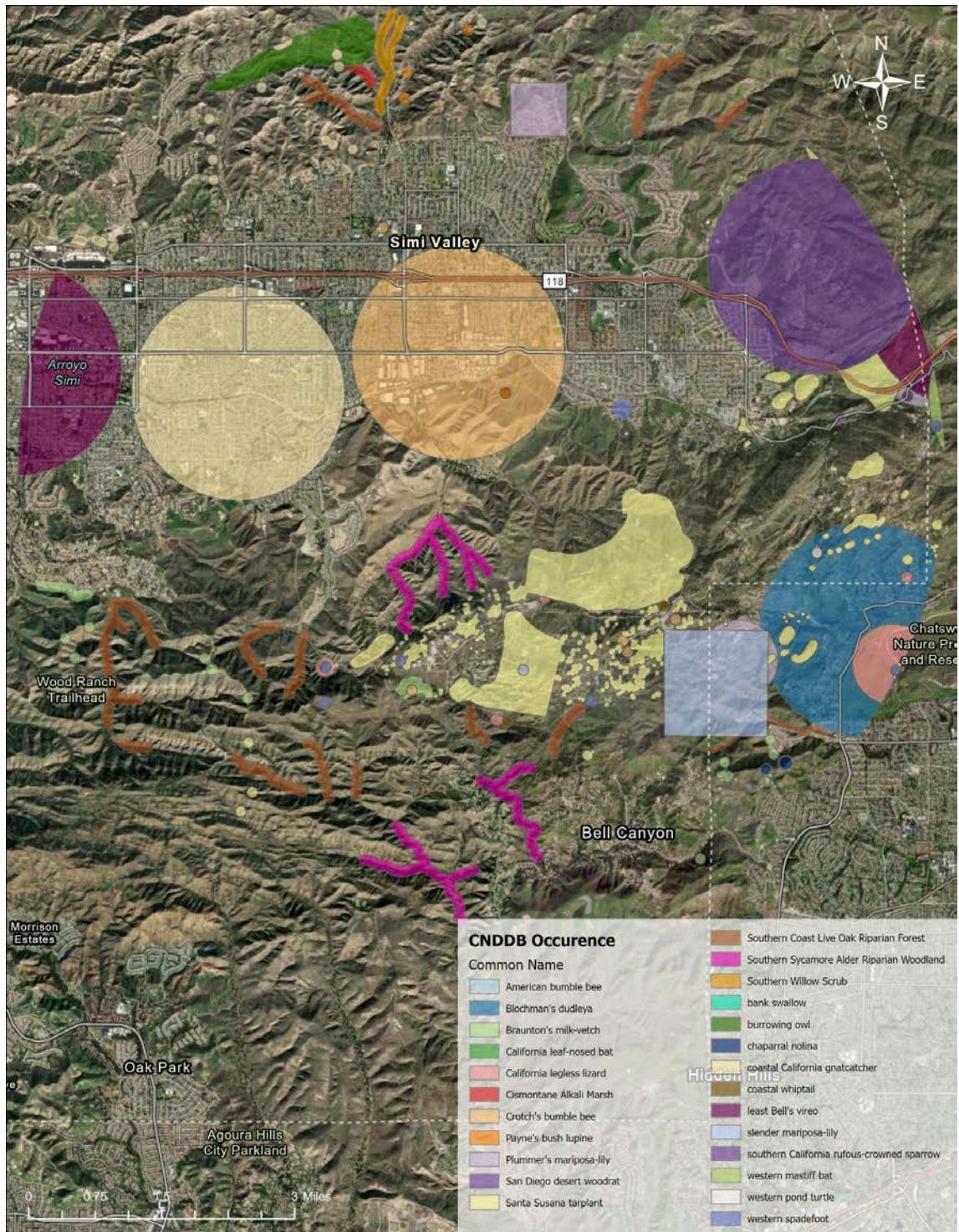
Remington, S. 2000. The distribution and diversity of bats in Orange County, California. Pomona, CA: California State Polytechnic University; 114 p. M.S. thesis.

Stantec Consulting Services, 2022. Arborist Report. American Jewish University, Brandeis Bardin Campus Facilities Upgrade Project

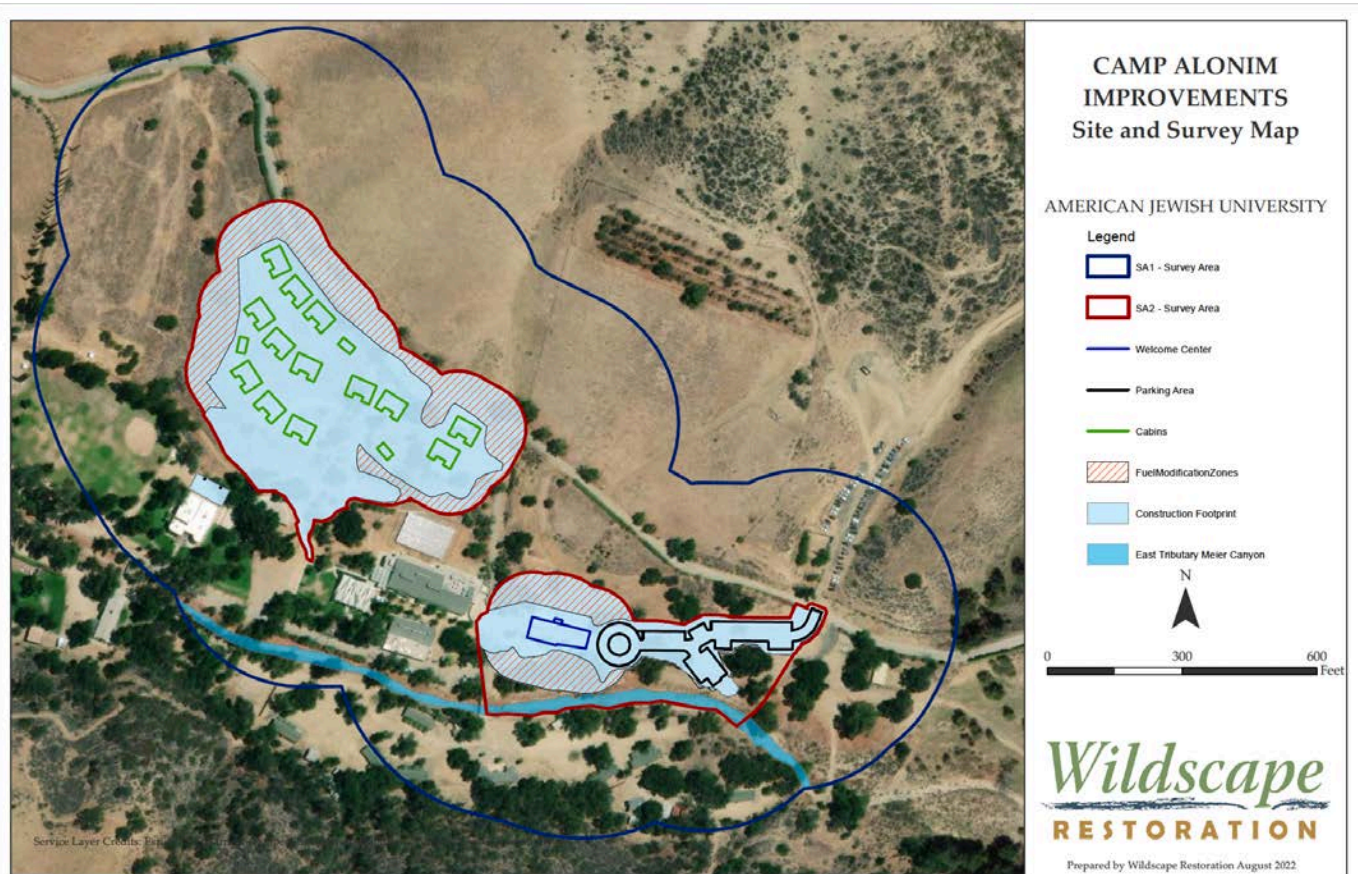
APPENDIX 1 - Maps



Map 1. Project Location.



Map 2. CNDDDB species occurrence map



Map 3. Project boundaries with bat habitat locations mentioned in this report

APPENDIX 2 - Photos



Photo 1. Large oak tree at parking area that will not be removed; however, it is potential habitat for day/night bat roosting.

South East Elevation

☉ 305°NW (T) LAT: 34.255462 LON: -118.704252 ±13ft ▲ 993ft



Photo 2. Location where the Welcome Center will be built- housing trailers (Day roosting habitat for bats)



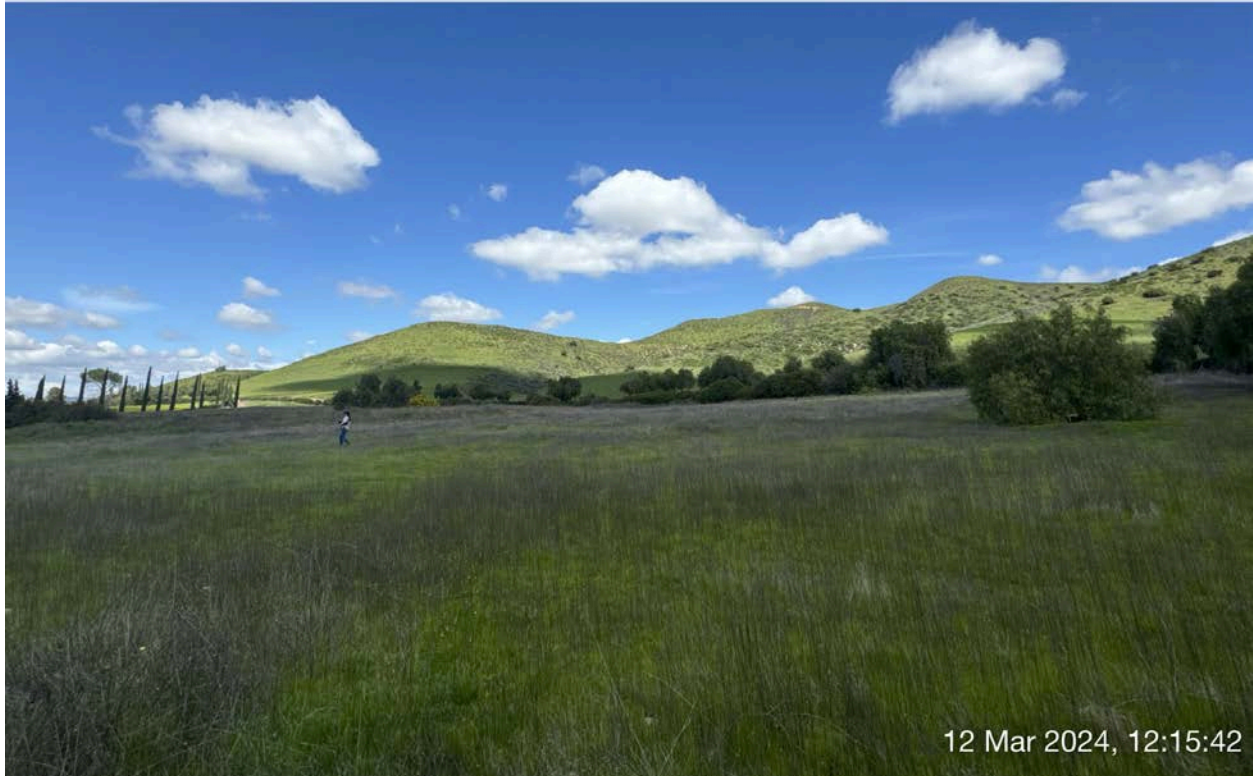
Photo 3. Parking area- Roosting and foraging habitat for bats



Photo 4. Foraging habitat for bats along the creek.

South Elevation

☉ 356°N (T) LAT: 34.256686 LON: -118.706496 ±13ft ▲ 1020ft



12 Mar 2024, 12:15:42

Photo 5. Cabin development area. Foraging habitat for bats

South East Elevation

☼ 294°NW (T) LAT: 34.256934 LON: -118.706214 ±13ft ▲ 1025ft



Photo 6. Cabin development area. Foraging habitat for bats

South Elevation

☉ 346°N (T) LAT: 34.257202 LON: -118.707319 ±13ft ▲ 1008ft



12 Mar 2024, 12:21:07

Photo 7. Cabin development area. Foraging habitat for bats alongside the creek/canyon

APPENDIX 3 - CNDDDB Table

SciName	ComName	TaxonGroup	OthrStatus
Anaxyrus californicus	arroyo toad	Amphibians	CDFW_SSC-Species of Special Concern IUCN_EN-Endangered
Rana boylei pop. 6	foothill yellow-legged frog - south coast DPS	Amphibians	BLM_S-Sensitive USFS_S-Sensitive
Rana draytonii	California red-legged frog	Amphibians	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
Spea hammondi	western spadefoot	Amphibians	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened
Taricha torosa	Coast Range newt	Amphibians	CDFW_SSC-Species of Special Concern
Socalchemmis gertschi	Gertsch's socalchemmis spider	Arachnids	
Accipiter cooperii	Cooper's hawk	Birds	CDFW_WL-Watch List IUCN_LC-Least Concern
Agelaius tricolor	tricolored blackbird	Birds	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered USFWS_BCC-Birds of Conservation Concern
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	Birds	CDFW_WL-Watch List
Ammodramus savannarum	grasshopper sparrow	Birds	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
Aquila chrysaetos	golden eagle	Birds	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern
Artemisospiza belli belli	Bell's sparrow	Birds	CDFW_WL-Watch List
Athene cunicularia	burrowing owl	Birds	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern
Buteo swainsoni	Swainson's hawk	Birds	BLM_S-Sensitive IUCN_LC-Least Concern
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	BLM_S-Sensitive USFS_S-Sensitive
Elanus leucurus	white-tailed kite	Birds	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern
Eremophila alpestris actia	California horned lark	Birds	CDFW_WL-Watch List IUCN_LC-Least Concern
Gymnogyps californianus	California condor	Birds	CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_CR-Critically Endangered

<i>Icteria virens</i>	yellow-breasted chat	Birds	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
<i>Lanius ludovicianus</i>	loggerhead shrike	Birds	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened
<i>Polioptila californica californica</i>	coastal California gnatcatcher	Birds	CDFW_SSC-Species of Special Concern
<i>Riparia riparia</i>	bank swallow	Birds	BLM_S-Sensitive IUCN_LC-Least Concern
<i>Setophaga petechia</i>	yellow warbler	Birds	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
<i>Vireo bellii pusillus</i>	least Bell's vireo	Birds	
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	Crustaceans	IUCN_EN-Endangered
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden
<i>Baccharis malibuensis</i>	Malibu baccharis	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
<i>Berberis nevinii</i>	Nevin's barberry	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden
<i>Calystegia peirsonii</i>	Peirson's morning-glory	Dicots	
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Dicots	BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
<i>Deinandra minthornii</i>	Santa Susana tarplant	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	dune larkspur	Dicots	
<i>Dodecahema leptoceras</i>	slender-horned spineflower	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
<i>Dudleya cymosa</i> ssp. <i>agouensis</i>	Agoura Hills dudleya	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden
<i>Dudleya multicaulis</i>	many-stemmed dudleya	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
<i>Dudleya parva</i>	Conejo dudleya	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden


Eriogonum crocatum	conejo buckwheat	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
Harpagonella palmeri	Palmer's grapplinghook	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank
Helianthus inexpectatus	Newhall sunflower	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
Horkelia cuneata var. puberula	mesa horkelia	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden
Lupinus paynei	Payne's bush lupine	Dicots	
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	Dicots	SB_SBBG-Santa Barbara Botanic Garden
Navarretia ojaiensis	Ojai navarretia	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
Opuntia basilaris var. brachyclada	short-joint beavertail	Dicots	BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
Pentachaeta lyonii	Lyon's pentachaeta	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
Pseudognaphalium leucocephalum	white rabbit-tobacco	Dicots	
Senecio aphanactis	chaparral ragwort	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank
Symphyotrichum greatae	Greata's aster	Dicots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
Catostomus santaanae	Santa Ana sucker	Fish	AFS_TH-Threatened IUCN_EN-Endangered
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	Fish	AFS_EN-Endangered CDFW_FP-Fully Protected
Gila orcuttii	arroyo chub	Fish	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive
Mainland Cherry Forest	Mainland Cherry Forest	Forest	
Walnut Forest	Walnut Forest	Forest	
Valley Needlegrass Grassland	Valley Needlegrass Grassland	Herbaceous	
Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream		Inland Waters

Bombus crotchii	Crotch's bumble bee	Insects	IUCN_EN-Endangered
Bombus pensylvanicus	American bumble bee	Insects	IUCN_VU-Vulnerable
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	Insects	IUCN_EN-Endangered USFS_S-Sensitive
Trimerotropis occidentiloides	Santa Monica grasshopper	Insects	IUCN_EN-Endangered
Antrozous pallidus	pallid bat	Mammals	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive
Euderma maculatum	spotted bat	Mammals	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
Eumops perotis californicus	western mastiff bat	Mammals	BLM_S-Sensitive CDFW_SSC-Species of Special Concern
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Mammals	
Macrotus californicus	California leaf-nosed bat	Mammals	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
Myotis ciliolabrum	western small-footed myotis	Mammals	BLM_S-Sensitive IUCN_LC-Least Concern
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	CDFW_SSC-Species of Special Concern
Taxidea taxus	American badger	Mammals	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
Cismontane Alkali Marsh	Cismontane Alkali Marsh	Marsh	
Gonidea angulata	western ridged mussel	Mollusks	IUCN_VU-Vulnerable
Helminthoglypta fontiphila	Soledad shoulderband	Mollusks	
Helminthoglypta traskii pacoinensis	Pacoima shoulderband	Mollusks	
Calochortus clavatus var. gracilis	slender mariposa-lily	Monocots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive
Calochortus fimbriatus	late-flowered mariposa-lily	Monocots	SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	Monocots	BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive
Calochortus plummerae	Plummer's mariposa-lily	Monocots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden
Nolina cismontana	chaparral nolina	Monocots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive

Orcuttia californica	California Orcutt grass	Monocots	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank
Anniella spp.	California legless lizard	Reptiles	CDFW_SSC-Species of Special Concern
Anniella stebbinsi	Southern California legless lizard	Reptiles	CDFW_SSC-Species of Special Concern USFS_S-Sensitive
Arizona elegans occidentalis	California glossy snake	Reptiles	CDFW_SSC-Species of Special Concern
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	CDFW_SSC-Species of Special Concern
Emys marmorata	western pond turtle	Reptiles	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive
Phrynosoma blainvillii	coast horned lizard	Reptiles	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern
Salvadora hexalepis virgulata	coast patch-nosed snake	Reptiles	CDFW_SSC-Species of Special Concern
Thamnophis hammondi	two-striped gartersnake	Reptiles	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	
Southern Cottonwood Willow Riparian Forest	Southern Cottonwood Willow Riparian Forest	Riparian	
Southern Mixed Riparian Forest	Southern Mixed Riparian Forest	Riparian	
Southern Riparian Scrub	Southern Riparian Scrub	Riparian	
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	
Southern Willow Scrub	Southern Willow Scrub	Riparian	
Riversidian Alluvial Fan Sage Scrub	Riversidian Alluvial Fan Sage Scrub	Scrub	
California Walnut Woodland	California Walnut Woodland	Woodland	
Valley Oak Woodland	Valley Oak Woodland	Woodland	

Table 2. CNDDb list within 5 miles of the site

APPENDIX 4 - Survey Datasheet


Endemic
 Environmental Services

PHASE I HABITAT ASSESSMENT DATA SHEET

Location Sim Valley - Camp Monam.

Observers Mary Logan, Lima Fowler, Katya Armenta

Latitude 34.2552434 Longitude -118.7039303

Date 03/12/24 Time 11:26 am Temp (outside) 59°F

River area Grassland oaks

	Opening #1	Opening #2	Opening #3	Opening #4
Opening Type (e.g., cave, quarry, shaft)				
Opening vertical or horizontal	both	both		
Opening Size: Height x Width (or Diameter)	odd narrow	odd narrow		
Internal Dimensions: Height x Width				
Slope (up or down from entrance)	no	yes	no	
Entrance Stable?	—	yes	no	
Direction of Airflow (In or out?)	both	both	both	
Amount of Airflow (e.g., none, slight, heavy)	heavy	heavy	low	
Internal air warmer or cooler than outside temp.	—	—	—	
Evidence of collapse?	—	—	—	
Ceiling Condition Amount of water in opening	—	—	—	
Evidence of past flooding?	yes	—	—	
Observed length of internal passage	—	—	—	
Distance to nearest water source	2 mi	2 mi	2 mi	
% Canopy Cover at portal entrance	50%	0%	100%	
Foraging Signs? (e.g., moth wings)	NO	NO	NO	
Comments				

Are any portals suspected or known to be connected? Which ones? *Canyon formation*

Any observable side passages? *Border*

Additional comments: *river (A) providing habitat. Large oak trees day/night roost habitat. grassland for camp area.*

