Ponte Vista Bat Roost Technical Report

LOS ANGELES, COUNTY
CALIFORNIA

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1.0 INTRODUCTION

The purpose of this report is to document the potential of roosting bat habitat on the proposed Ponte Vista Master-Planned Community (Study Area). The Study Area is located within the City of Los Angeles, California, near the community of San Pedro (Figure 1). The goals of this study are to document the potential for existing buildings or features within the Study Area that may serve as habitat for roosting bat species and to identify studies needed to determine the presence or absence of roosting bats on site.

This report provides general information on the potential of each building within the Study Area to serve as habitat for roosting bats. Based on the results of this assessment, eleven (11) buildings were given a high potential to support roosting bats, fifty-nine (59) buildings were given a moderate potential to support roosting bats and fifty-five buildings are unlikely to support roosting bats.

2.0 BACKGROUND INFORMATION

2.1 Regulatory Setting

California Department of Fish and Game (CDFG) Species of Special Concern are species that face extirpation in California if current population and habitat trends continue. Although CDFG Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA).

Bat species designated as “High Priority” by the Western Bat Working Group (WBWG) qualify for legal protection under Section 15380(d) of the CEQA Guidelines. Species designated “High Priority” are defined as “imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats” (CDFG, 2006).

California Fish and Game Codes (CFGC) continue to protect non-listed bat species and their roosting habitat, including individual roosts and maternity colonies. Relevant regulations include CFGC Section 86; 2000; 2014; 3007; 4150, along with Title 14 of California Code of Regulations.

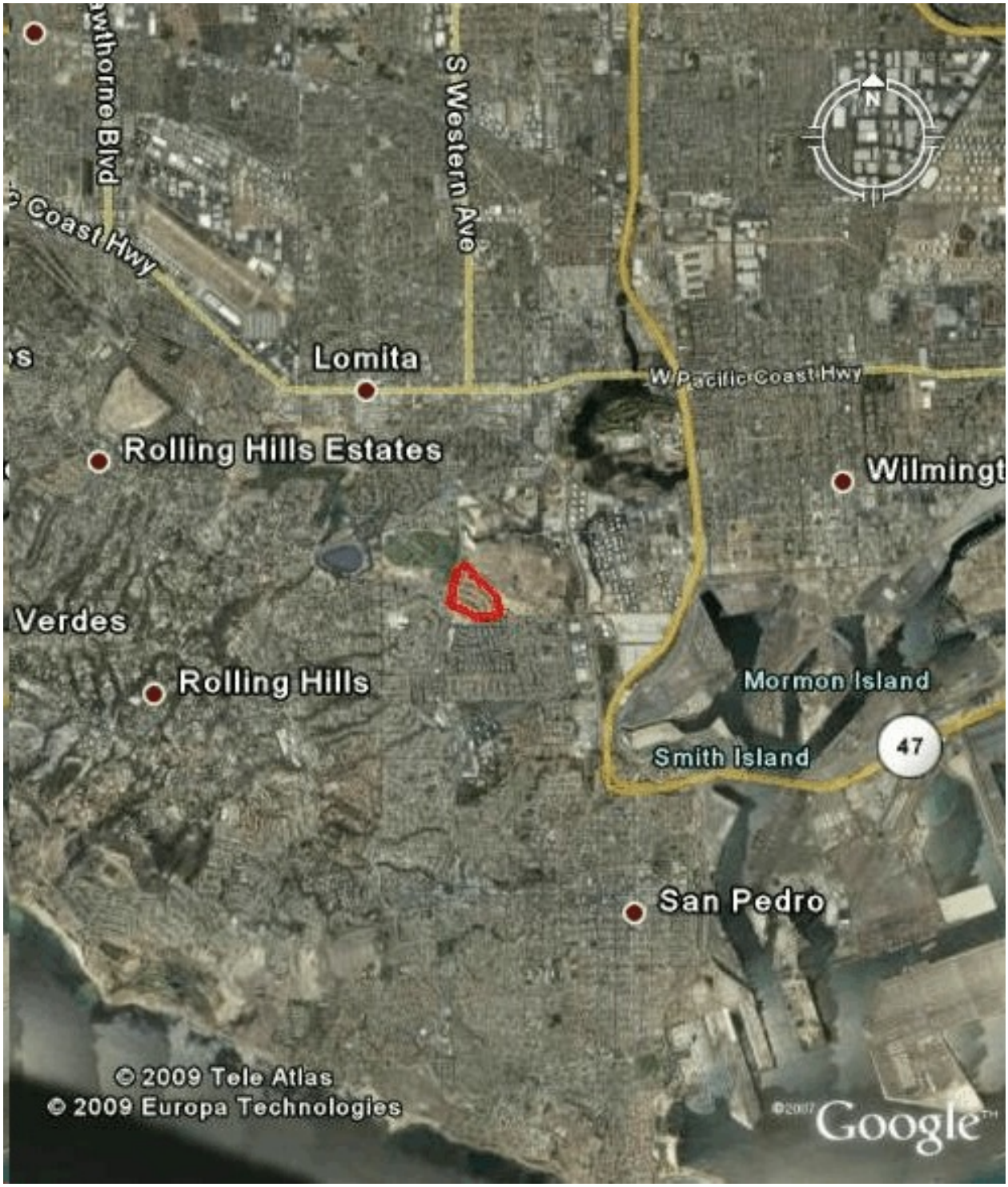
2.2 Bat Biology

Roosts are a critical component in the ecology and survival of many bat species and reflect the unique ecology of flying mammals (Kunz and Fenton 2005). Associations between bats and roosts range from obligatory to opportunistic and represent an ecological compromise resulting from the ability to fly, nocturnal ecology, small body size, predator pressure, energetics and variations in the physical environment (Kunz and Fenton 2005). Bats that use temporary roosts such as a tree cavities or exfoliating bark exhibit less fidelity to a particular roost than bats that utilize more permanent structures such and caves, mines or buildings (Kunz and Fenton 2005). Roost types are described in detail below.

2.2.1 Maternity Roost

Maternity roosts host colonies (or smaller groups, depending on species) of breeding female bats that congregate during spring and summer months to give birth and nurse their young. Maternity roosts are generally active from April to August. Maternity roosts tend to support localized

Figure 1. Study Area Location



concentration of reproductive effort over a large geographic area. Maternity roosts are generally sensitive to disturbance, especially when flightless young are present. Impacts to maternity roosts are considered significant by resource agencies because their loss would not only impact an entire year of recruitment, but could substantially reduce the breeding population of a particular species over a large area for many years.

2.2.2 Hibernation Roost

Most bats spend winter hibernating. Hibernation roosts provide habitat to congregate and overwinter; these roosts are typically active from November to March. Bats that do not migrate to locations with warm winter temperatures employ two strategies to over-winter. One strategy is to locate a roost to an area with relatively warm temperatures, such as buildings or caves and mines with geothermal influence. This strategy is advantageous for remaining energetically active, allowing them to forage and avoid predation. A second strategy is to utilize roosts where low, but above-freezing temperatures are consistent throughout the winter. Bats utilizing low temperature roosts suppress their metabolic rate to conserve energy. Bats are particularly susceptible to predation and disturbance during this time; therefore hibernation roosts are important for bat survival and reproduction.

2.2.3 Day Roost

Day roosts provide daytime protection and refuge from predation for non-reproductive females and non-hibernating males and females. Depending on the species and local climate, some bats will enter a shallow daily torpor in these roosts. Males typically occupy day roosts singly or in small groups separately from nursing females. Day roosts occupied by males separate from maternity roosts are known as bachelor roosts.

2.2.4 Night Roost

Night roosts are important for actively foraging bats. Night roosts provide a place to rest between foraging flights, protection from predators and inclement weather, and are important for energy conservation (Kunz and Fenton 2005). Night roosts are often separate from day roosts and are usually located in areas of local food abundance and relative proximity to water (Kunz and Fenton 2005). Since the suitability of night roosts are subject to factors such as prey availability, weather conditions, and predation, bats do not tend to exhibit fidelity toward specific night roosts.

2.2.5 Interim Roosts

Interim roosts are those used in the spring, before young are born, and in the fall, before moving to hibernation roosts. Interim roosts are also utilized as stop-over habitat for migrating bats during the same periods.

2.4 Environmental Setting

The Study Area is an approximately 63.0 acre property located in the City of Los Angeles, near the community of San Pedro. The Study Area is locates at the corner of John Montgomery Drive and Western Avenue, south of the Defense Fuel Support Point (DFSP), in the Torrance, California 7.5 Minute Series USGS Topographic Quadrangle.

The site is mostly comprised of 124 abandoned, duplex-style military housing units. Two additional buildings are present in the southeast corner of the property. One building appears to have been a market and the other, a fitness center. Buildings within the Study Area have been present since at least 1965. Additionally, the Study Area supports a number of tall, mature palm trees with untended "skirts" of dead palm fronds. According to the Conceptual Site Plan, all 126 buildings are to be demolished and replaced with high-density residential housing.

3.0 METHODS

The assessment of the survey area was approached in two phases:

- The Phase 1 literature search examined occurrence records, such as the California Natural Diversity Data Base (CNDDB), Western Bat Working Group (WBWG), and Bat Conservation International (BCI) to determine which bat species may have the potential to roost within the Study Area based on distribution, habitat, and roosting requirements.

- The Phase 2 study was conducted on site on June 19, 2009. This phase consisted of two biologists examining all 126 buildings to determine the potential of each building collectively to be used by roosting bats. This survey was completed by walking around the outside of each building and noting conditions that may be favorable or unfavorable for bat use. The number of ancillary buildings were recorded, as well as potential ingress/egress points to primary and ancillary buildings. Additionally any evidence of bat usage was also noted.

  When feasible, the condition of the interior of the structures were recorded along with those subjected to recent or ongoing disturbance.

4.0 RESULTS

4.1 Phase 1 Results

Based on the results of the literature search, fourteen (14) species of bats were determined to have potential to roost within the buildings or trees of the Study Area. A table with the species, special status designations and brief natural history descriptions can be found in Appendix A of this report.

4.2 Phase 2 Results

Based on the results of this assessment, eleven (11) buildings (8.7%) were given a high potential to support roosting bats, fifty-nine (59) buildings (46.8%) were given a moderate potential to support roosting bats and fifty-five (55) buildings (43.7%) are unlikely to support roosting bats. The raw data collected on each building is attached to this report at Appendix B.

On site residential buildings were built in the early 1960's using modern construction methods and materials. Building materials consist of lumber, sheet materials (dry-wall), paint, fiberglass insulation, tar paper, composite roofing materials and concrete. The exclusive use of drywall and paint to finish the inside of the living areas of the primary residences excludes these portions of the residential buildings as roosting habitat for bats. The smooth texture of the paint and lack of crevices precludes bats from clinging to such surfaces.

The attics of the residential buildings, along with the garages (either attached, or separate), are mainly wooden construction and lacking the sheet materials of the primary residences. Within the Study Area, attics of the residential building provide the greatest potential habitat for maternity roosting bats, while the garages may support hibernation roosting or night roosting bats.

The attics of the buildings are not uniform in structure. Thirty-nine (39) of the 126 buildings (31%) have attics with higher pitched roofs than the other buildings. These buildings have greater volume than other attics within the Study Area, providing greater thermal buffering and space for roost occupancy. The buildings with higher-pitched attics offer greater habitat value as maternity roosting sites, than buildings with lower-pitched attics.

The garages within the Study Area are not finished with sheet materials. They are predominantly wooden construction with tar-paper between external siding and composite roofs. Both attached and detached garages lack insulation and therefore provide poor thermal buffering from external temperatures. The garages that were examined were cool in the morning and very warm in the afternoon, suggesting that they are subject to large thermal fluctuations. Several of the garages, at the time of the survey, were being used as storage for landscaping equipment. Others, were either fully or partially demolished with open doors, broken windows or otherwise exposed to outside weather. While it is possible that these structures may be used as hibernation roosts or as night roosts, it is unlikely that any of the garages within the Study Area provide suitable habitat for maternity roosting bats.

The Study Area contains several dozen ornamental palm trees. These palm trees have been left untended for many years resulting in substantial “skirts” of dead, layered, palm fronds. The spaces between the layered, dead, fronds may serve as roosting habitat for the Southwestern Yellow Bat (*Lasiurus xanthinus*), a WBWG high priority species.

Eleven (11) buildings (8.7%) have a high potential to support roosting bats. These buildings generally have high-pitched roofs (8 of 11) with several direct ingress/egress points from the exterior of the building. Four types of ingress/egress points were generally present; small circular vents (~2 inches in diameter) at the attic line located under the eves where screens are removed or otherwise damaged; wall louvers (1 foot square) located at the gable ends of the attics where screens are removed or otherwise damaged; gaps formed where two major roofing surfaces join (generally under an eve) caused by dry rot, animals, or other means; and larger, irregular holes in walls or roofs caused by mechanical damage. The mechanical damage seemed to be associated with large scale disturbance and not considered valuable for bats as the other three types of egress. Similarly, large irregular holes in the roof let in light and compromise the thermal buffering capabilities of the attic. Therefore, buildings with these features were considered to be poor quality roosting habitat. Three (3) buildings with lower-pitched roofs are considered to have a high potential for supporting roosting bats based on the presence of staining surrounding ingress/egress points. It is not known whether the staining necessarily indicates usage by bats, as cavity nesting birds, such as European Starlings (*Sterna vulgaris*), are known to access attics by such means as well.

Fifty-nine (59) buildings (46.8%) were determined to have a moderate potential to support roosting bats. Buildings were determined to have a moderate potential if the building did not exhibit a severe level of disturbance, nor had any indication of bat occupancy. These buildings warrant further investigation which will be discussed in Section 5, below.

All buildings within the Study Area have been subject to some level of disturbance since becoming uninhabited. Some buildings in the Study Area are used regularly by Law Enforcement agencies to train for urban operations as evidenced by the presence of paint bullet casings, large rubber bullets, discharged flash bangs and gas grenades scattered about the Study Area. Buildings in the southern portion of the Study Area along John Montgomery Drive and John Sloat Place have been subject to explosions, which have caused damage to doors, windows, walls and ceilings. Additionally several buildings were noted to have large openings in the roofs. This type of disturbance is not tolerated by roosting bats. The fifteen (15) buildings (11.9%) that exhibited severe levels of disturbance were considered to have a low potential of supporting roosting bats. One building with severe damage was given a moderate potential to support roosting bats due to the proximity of the building to a large palm tree. Fourteen (14) other buildings with severe damage are unlikely to support roosting bats. Thirty-eight (38) buildings (30.2%) were classified as having a high level of disturbance. Eleven (11) of these buildings were given a moderate potential of supporting roosting bats based on the building having a high-pitched attic, or being in close proximity to palm tree(s). The remaining twenty-seven (27) buildings with high levels of disturbance are unlikely to support roosting bats.

One (1) building was not surveyed due to the presence of an aggressive dog tied up in the front yard, a bee hive in the walls, and goats in the backyard. The potential of this building to support bats could not be determined because of these factors.

5.0 RECOMMENDATIONS

Buildings that have been determined to have a low potential to support roosting bats do not warrant any further investigation. It is recommended that these buildings be further made uninhabitable for bats through daylighting. Daylighting includes removal of substantial portions of the roof in order to create a well lit, well ventilated attic preventing bats from establishing in these buildings. Daylighting should occur at least 48 hours prior to building demolition. If bats are encountered during daylighting, all disturbance activities within the structure and within 200 feet should be halted remain halted until (a) the roost is vacated, or (b) a WRA has coordinated with CDFG to develop alternative measures.

Buildings that have been determined to have a medium or high potential to support roosting bats warrant further investigation. It is recommended that WRA conduct Phase 3 entry surveys of the interior of these buildings, including accessing the attic to look for bats of evidence of bats. These surveys include utilizing heterodyne style bat detectors to acoustically aid in the detection of bats during the Phase 3 surveys. If bats or bat sign is not encountered during the Phase 3 surveys, it is recommended that the buildings be daylighted and demolished in the same manner as described above. If bats or bat sign is encountered during Phase 3 Surveys, the surveying biologists should leave the building immediately and conduct an emergence survey. Emergence surveys should be conducted to determine the ingress/egress location, the approximate number of bats using the roost and by utilizing a ultrasonic bat detector, the species occupying the roost. Demolition of occupied roosts should be postponed and consultation with CDFG should be initiated to determine appropriate exclusion and mitigation measures.

Palm trees within the Study Area should have the dead frond skirts removed between October 1 and March 31 before being felled to avoid impacts to roosting Southwestern Yellow Bats. This species is known to migrate south during winter months, however this species has also been

documented to overwinter as well. Palm frond skirts should be removed by a qualified arborist in a systematic manner beginning with the top fronds and working towards the base of the tree. If bats are encountered during this process, trimming should halt and remain halted until the roost(a) the roost is vacated, or (b) a WRA has coordinated with CDFG to develop alternative measures.

At present, there are no CDFG or USFWS standard guidelines for the mitigation and removal of bat species. Bat guidelines specific for the Study Area would be prepared by WRA in collaboration with CDFG and Western Bat Working Group biologists. .

6.0 REFERENCES

California Department of Fish and Game (CDFG), 2009. Special Animals. Available online at: www.dfg.ca.gov/bdb/pdfs/SPAnimals.pdf, Accessed: 6/17/2009.

California Department of Fish and Game (CDFG). June 2009. Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. Sacramento, California.

California Fish and Game Commission, 2009. California Fish and Game Code Division 0.5, Division 3 and 4. California Code of Regulations, Title 14, Chapter 1. Sacramento, CA. Available http://www.fgc.ca.gov/html/regs.html. Accessed: 6/16/2009

Kays R.W. and D.E. Wilson. 2002. Mammals of North America. Princeton Field Guides. Princeton University Press. Princeton, New Jersey.

Kunz, T.H., and M.B. Fenton (eds.). 2003. Bat Ecology. University of Chicago Press, Chicago.

Western Bat Working Group (WBWG). 2009. Species Accounts. Available online at: http://www.wbwg.org/speciesinfo/species_accounts/species_accounts.html. Accessed: 6/17/2009.

Appendix A.
Bat Species with Potential to Roost within the Study Area

Appendix B.
Field Data Collected from Phase 2 Surveys