



# Bat Habitat Assessment

Ladera Vineyards Winery  
Minor Modification P21-00294-MOD and Viewshed P22-00109  
Planning Commission Hearing June 7, 2023



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**Subject: Bat habitat assessment results for Ladera Winery, Calistoga, Napa County, California**

Mr. Artley:

This report documents the findings of a bat habitat assessment of the Ladera Winery, located at 3942 Silverado Trail (APN 021-030-047) near Calistoga in Napa County, California. The property currently features an operational winery and vineyard on which redevelopment is proposed. Two areas were the focus of this assessment: 1) The portion of the property where construction of new winery facilities are planned, requiring demolition of some existing structures, tree removal, and other associated activities; and, 2) an on-site area proposed to house new water tanks. A buffer of approximately 100-feet around these disturbance footprints was also assessed, with the total assessment area hereafter referred to as the Study Area (Figure 1, Attachment A).

At the time of the assessment the vineyard and tasting room were operational, and all buildings were currently occupied. The woodland found across most of the property was recently burned and many trees which had burned were now collapsed. The general area surrounding the Study Area includes other vineyards, undeveloped land (mostly woodland) and rural residences.

**Background**

It is WRA's understanding that an assessment of potential bat roosting habitat was requested (via email) by Napa County as a component of reviewing and approving the proposed action. As such, no precise measure is cited herein. The methodology of the assessment is described below and is a typical level of assessment and effort performed for similar Napa County development projects with potential effects to bat roosting habitat.

**Methods**

A daytime roost assessment was performed on February 9, 2022 by WRA wildlife biologist Nick Brinton (author). The survey assessed any trees or buildings proposed for removal as well as adjacent trees and other substrates within the Study Area for their potential to support bat roosts, and specifically bat maternity (breeding) roosts. This survey was completed by walking throughout the entire Study Area and noting features or conditions that may be favorable or unfavorable for bat use, including the size/extent of features, apparent thermal exposure and conditions, frequency of disturbance, and evidence of potential predators. Trees within the Study Area (especially those scheduled for removal) were observed

from multiples angles and distances, and investigated for fissures, large cracks, or basal cavities that may provide roosting substrates. Observations were made with binoculars and the naked eye. All sections of buildings scheduled for demolition were searched including any interstitial or secluded spaces, such as attics or crawl spaces.

## Results

No bats or evidence of bat roosting were observed within the Study Area, which does not appear to contain features/substrates with the potential to support bat roosting. Representative photographs taken within the Study Area are included in Attachment B.

Three buildings are proposed for removal including a greenhouse, a workshop, and a wine tasting/wine storage building. The greenhouse is entirely of glass and does not contain secluded, dark areas to support roosting bats. The workshop is entirely open inside with no attic or interstitial spaces that might be used by roosting bats. In addition, vineyard workers were continually within the building causing disturbances that would dissuade bats from occupying any internal areas of the workshop that were also open to light and air movement. The tasting room/wine storage building was investigated but no signs of bat occupation were observed, including in the small attic space. The roof of the workshop and wine tasting/wine storage buildings were comprised of sheet metal, with a vented peak. Roofs of this design do not maintain thermal stability and fluctuate in temperature with ambient conditions throughout the day. As such these buildings are unsuitable for bat maternity roosting or hibernation as stable thermal conditions are absent. The wine tasting/wine storage building is also regularly cleaned and maintained to maintain sanitary conditions for serving and storing wine, making all areas subject to regular disturbance and unlikely to support roosting bats.

Many of the trees within the Study Area are small (< 8 inch DBH) and not scheduled for removal. Trees of this size do not have suitable mass to provide the stable thermal conditions that support bat roosting. Larger trees are also present, some of which were fire scarred, but did not appear to be severely burned to the point at which basal cavities had been exposed or formed. As such, none of the larger oaks (*Quercus* spp.), California bays (*Umbellularia californica*) or conifers appeared to contain suitable bat roosting habitat. Remaining trees scheduled for removal include ornamental species, i.e., a single magnolia (*Magnolia* sp.) as well as numerous small olives (*Olea* sp.) which line the entrance driveway. None of these trees contained large diameter trunks that would support basal cavities, or cracks/crevices that might support bats. Additionally, all of the trees are in close proximity to developed parking lots, adding a level of anthropogenic disturbance which is generally non-conducive to bat occupation.

In the portion of the Study Area around the proposed water tank location, most of the vegetation consists of previously burned oaks or larger shrubs (e.g., manzanita [*Arctostaphylos* spp.]). These trees and shrubs do not have suitable mass to support interstitial cavities. Additionally, no large rock outcrops with vertical cracks, caves or similar subterranean features were observed in the area that might currently support roosting bats. As such this area is also unlikely to support bat roosting.

## Conclusion

No suitable bat roosting substrates were observed within the Study Area during the site investigation. None of the trees examined contained suitable cracks, fissures or basal cavities that might support bat roosting. No sign of historic or current bat roosting was observed in either the trees or in buildings proposed for demolition, and it is unlikely that any such features would develop suitable roosting features in the near future. No large rock outcrops, caves or other subterranean features were observed that might support cave dwelling species. Because no bat roost habitat was observed, nor is any likely to form in the near future, additional actions or avoidance is not necessary at this time. If the design shifts substantially a follow-up assessment is recommended to assess any newly-proposed areas for development outside of the Study Area as current defined..

Please contact me if you have any questions.

Sincerely,



Nick Brinton  
Wildlife Biologist

**Enclosures:** Attachment A - Figure 1  
Attachment B – Site Photographs

**Ec:** Christina Nicholson and Vincent Hart-Tinsley, Sherwood Engineers









Photo 1: Looking at a typical section of roof inside the workshop. Insulation is held tight against the roof, eliminating interstitial spaces that might be occupied by bats. The workshop is also open with barn doors on either end that let in ample light and the area is regularly disturbed by workers.



Photo 2: External roof and siding of the wine tasting/wine storage building. The metal roof is vented (see example marked by arrow) which eliminates any stable air traps that are necessary for bat roosting. The building is also sealed and regularly maintained for hygienic conditions to serve and store wine.





Photo 3: The greenhouse has no secluded and dark areas that may be used by bats.



Photo 4: A typically-sized oak tree in the vicinity of the tasting room. Such trees are too small to support interstitial spaces for bat roosting.





Photo 5: Larger trees like the oak shown here appeared to be healthy and showed no signs of rot. Those that showed signs of fire damage did not appear severely burned to the point at which fire might have created internal cavities.





Photo 6: Area surrounding the proposed location of the new water tanks. Most of the vegetation consists of previously burned shrubs and small oaks. Rocks on the hillslope showed no signs of crevices or large vertical cracks that might be occupied by bats.



Photo 7: Area surrounding the proposed location of the new water tanks. Oaks and other trees in the vicinity of the water tank site are mostly burned, but not large enough to provide hollows/cavities suitable for bat roosting.