

## EXHIBIT B-2



May 7, 2019

Kyra Purvis, Planner II  
County of Napa  
Planning, Building, and Environmental Services  
1195 Third Street, Suite 210  
Napa, California 94559

**RE: Response to Comments (Biology) – Hess Collection Vineyard Agricultural Erosion Control Plan Application File No. P18-00445-ECPA; 2847 Atlas Peak Road, Napa, APN 039-080-042**

Dear Ms. Purvis:

This letter provides a response to a request from Napa County for additional information/analysis regarding biological resources for the property located at 2847 Atlas Peak Road (APN 039-080-042) in Napa, Napa County, California. The request for additional information is outlined in a letter from the Planning, Building, and Environmental Services Department, *Application Review Determination – Hess Collection Vineyard Agricultural Erosion Control Plan (ECPA) File #P18-00445-ECPA*.

The proposed project is the installation of four vineyard blocks totaling 15.97 acres (20.46 acres including maximum clearing limits). WRA analyzed the potential impacts to sensitive biological resources. The following addresses the County of Napa's follow-up requests for additional information.

**Response to County Request – Letter**

The following section directly addresses the comments from the County point-by-point (with text from the County in *italics*); the relevant page from the County's letter is included as Attachment C.

**1. Agricultural Erosion Control Plan Application Completeness Items:**

**a. ECPA Application:**

*i. Include in your resubmission the number of trees planned for removal. Include a figure showing the location of trees proposed to be removed, and a table indicating species and DBH of each tree.*

Three hundred ninety-eight (398) trees will be removed, predominantly coast live oaks (*Quercus agrifolia*). See Attachment A.

**2. Supplemental Environmental Information:**

**a. Biological Resource Reconnaissance Survey Report:**

*i. Section 5.2.2 indicates that the trees within the project area may contain habitat appropriate for two special-status bat species. Please include in the report an evaluation of the individual trees proposed for removal, and whether or not they specifically provide bat habitat.*

Bats are typically considered during environmental review by Napa County and also protected by California Fish and Game Code, i.e., Sections 86, 2000, 2014, 3007, and 4150, along with Title 14 of California Code of Regulations. Bats are typically considered during environmental review by Napa County and also protected by California Fish and Game Code, i.e., Sections 86, 2000, 2014, 3007, and 4150, along with Title 14 of California Code of Regulations.

**Methods**

A daytime roost survey was performed on February 20, 2019. The survey assessed all trees and substrates within the proposed vineyard blocks to determine if bat roosting habitat was present. This survey was completed by walking the entire Project Area, and surveying each tree scheduled for removal. During the survey the biologist noted conditions that may be favorable or unfavorable for bat use such as thermal conditions, frequency of disturbance, and evidence of potential predators. All trees were also investigated for fissures, cracks, or hollows that could provide roosting substrate for bats.

**Results**

Most of the trees scheduled for removal have no potential to support bats. The majority of trees are small diameter coast live oak (*Quercus agrifolia*) with a few blue oak (*Quercus douglasii*) and Pacific madrone (*Arbutus menziesii*) which are healthy and did not provide suitable mass to maintain stable thermal conditions required by roosting bats.

One large tree located in the southwestern portion of the Project Area has the potential to support roosting bats. This tree has a large cavity which was investigated to the extent practical; however, there was no way to fully investigate the upper sections of the trunk which contained fissures and basal cavities that appear to be suitable for bat roosting. The tree is located in proposed vineyard block 4 which is illustrated in Attachment A and photographed in Attachment B.

**Recommendations**

The tree should be removed using a two-phase cut system described below to allow for bats to escape the tree.

- Day 1, Any surrounding trees should be removed, and any external limbs can also be removed. If any exfoliating bark has developed it may also be partially peeled off to cause disturbance to the tree.
- Day 2, The tree should be felled in sections and lowered to the ground under the observation of a bat biologist. The sections should be allowed to lie for 24 hours before being processed or off-hauled.

*ii. Section 6.2.1 indicates that isolating the seven Greene's narrow-leaved daisy within a vineyard block would lead to their collapse. Please discuss the potential effects on the population if it was bounded by vineyard to the east and west, but was connected to undeveloped land to the north and south (including the riparian corridor to the south).*

*1) Please clarify if the individual that lies on the western boundary of Block 1 is inside or outside the project development area.*

The individual that lies on the western boundary of Block 1 is within the project development area; therefore, it will be considered for translocation along with the other plants.

*2) The inclusion of transplantation in the Walt Ranch EIR mitigation measures does not necessarily provide documented success. The Walt Ranch EIR required successful test transplant prior to transplanting the remaining plants. Please provide other documented evidence of successful transplant of this species, or revise the recommendation to include a test transplant.*

Isolating the seven individuals within the proposed vineyard block and/or developing vineyard blocks up to the edge of these populations/individuals would likely lead to their collapse. Consequently, the translocation of these individuals would be preferable to development up to their edge.

Whole removal of each of the plants with a sizable soil, intact soil plug is recommended for the transplanting. The removal should be conducted by a backhoe or similar mechanical equipment to remove the entire rooting area and associated soil. Keeping the soil intact should preserve the roots, soil microbial community, and mycorrhizae increasing the likelihood of transplant survival.

If feasible the translocation should occur after seed set where qualified biologists could collect and store seed. If feasible, one individual should be translocated and monitored by a qualified biologist to evaluate the success of translocation for other individuals. The donor site should be composed of similar slope, aspect, and substrate. The translocation should be conducted under the guidance of habitat mitigation and monitoring plan (HMMP) to be drafted by a qualified biologist.

Success of transplanting was documented for the Walt Ranch project as required by that CEQA document. We have no additional documentation at this time. If the County requires a test transplant be conducted for this project, that should be added as part of the mitigation measure that is adopted during CEQA review.

*iii. Figure A-4 shows the annual grassland vegetation alliance as appearing to contain some trees. Please revise Section 5.1.1 to clarify the presence of trees within the grassland, and define the percent cover necessary to qualify as coast live oak woodland.*

Oak woodlands were defined by the absolute cover of trees in the stand, and followed the breakdown given in *A Manual of California Vegetation, 2<sup>nd</sup> Edition* (Sawyer et al. 2009), which calls areas with greater than 10 percent absolute cover of trees a "woodland" or "forest". Per Sawyer et al. (2009), the following dichotomy is given to differentiate woodlands/forests and grasslands/herblands:

"I. Trees evenly distributed and conspicuous throughout stand. In areas where vegetation cover is greater than about 20 percent, tree canopy may be as low as 10 percent cover or denser layers of shrubs and herbaceous species . . . See Forests and Woodlands, page 53." (Sawyer et al. 2009)

And:

"III. Non-woody herbaceous vegetation, including graminoid and forb species, dominant throughout stand. When total vegetation cover is greater than about 20 percent, the layers for shrubs, subshrubs, and trees, if present, are of lower cover than herbs and less than 10 percent . . . See Herbaceous Vegetation, page 735." (Sawyer et al. 2009)

The mapped grasslands within the property support intermittent trees with a total absolute cover of less than 10 percent, i.e., herbaceous dominated stands.

*iv. Please provide scientific justification for any wetland buffer less than 100 feet. See item 1.b.ii above for additional information. This justification should describe how the buffer will protect the aquatic resource based on proposed agricultural practices, soils, slope, vegetation etc.*

The slope near the seasonal wetlands is low gradient and thickly vegetated with herbs and occasional coast live oaks (*Quercus agrifolia*). The buffer proposed in the ECP (24-foot vegetated filter strip/26-foot no-touch) should be sufficient to provide protections for the on-site seasonal wetlands. Several studies demonstrate that a filter strip is effective at removing sediments, nutrients, and herbicides within less than 50 feet. Colquhoun et al. (2008) cite research findings where the first 8 to 12 feet are the most effective at removing sediments. Schultz and Cruse (1993) found that the initial 15 feet of a filter strip eliminated 70% to 80% of sediments, increasing to 85% within the initial 30 feet. Similarly, according to Gharabaghi et al. (2006), "more than 95% of the aggregates larger than 40 µm in diameter were trapped within the first five meters [16.4 feet] of the filter strip. The installation of the filter strip (vegetated avenue) combined with the remnant vegetation should be sufficient to filter out sediments and nutrients before surface flows enter the seasonal wetland.

### **Response to County Request – Email**

The following section directly addresses the comments from the County point-by-point per an email from Ms. Kyra Purvis of Napa County to Mr. Jim Bushey of PPI Engineering dated February 5, 2019 (with text from the County in *italics*).

*2. Please provide an addendum or update to the Biological Resource Reconnaissance Survey Report that includes or clarifies the following information:*

*a. Section 5.1.1 describes coast live oak woodland as having the potential to support several special-status species. Nodding harmonia and Greene's narrow-leaved daisy appear to occur in annual grassland (Figure A-4), 78.2 percent of which is proposed for removal. Napa County General Plan Policy CON-13(d) requires discretionary project provide protection for habitat supporting special-status species. Please provide an assessment and impact analysis associated with potential cumulative impacts associated with the loss of special-status plant habitat.*

Neither nodding harmonia nor Greene's narrow-leaved daisy are known from grasslands according to the CNPS. However, both species have been documented from grasslands underlain by rocky substrates; including in the subject property. WRA has documented both species from numerous grasslands, open woodlands, and open chaparrals, particularly in disturbed chaparral in Napa County. The surrounding properties contain contiguous rocky grasslands and open rocky woodlands that support the same or similar suite of herbaceous species, presumably including nodding harmonia and Greene's narrow-leaved daisy.

The proposed project will not permanently impact the entirety of either population observed within the Study Area. The southerly population carries across the property line into contiguous grassland habitat. Greene's narrow-leaved daisy will be preserved through translocation into grassland and/or open woodland habitats on-site that will remain intact.

*i. Discuss potential appropriate locations for the proposed transplant of Greene's narrow-leaved daisy.*

Most rocky areas within grassland or open woodland within the Study Area should provide suitable site(s) for translocation of Greene's narrow-leaved daisy. Potential sites are illustrated in Attachment A.

*b. Recommended buffers, including rationale, from special-status plants and populations. Buffers should be large enough to maintain the viability of these special-status plant populations.*

Any buffer applied to special-status plants should be of a sufficient distance to prevent ancillary impacts from vineyard management, primarily herbicide treatments. A buffer of at least 50 feet should be applied to the translocation site(s) for Greene's narrow-leaved daisy. The existing/remnant nodding harmonia populations will front on the edge of the proposed vineyards.

Please contact us if you have questions or require additional information.

Sincerely,



Aaron Arthur  
Associate Plant Biologist  
Certified California Consulting Botanist #0016  
[arthur@wra-ca.com](mailto:arthur@wra-ca.com)

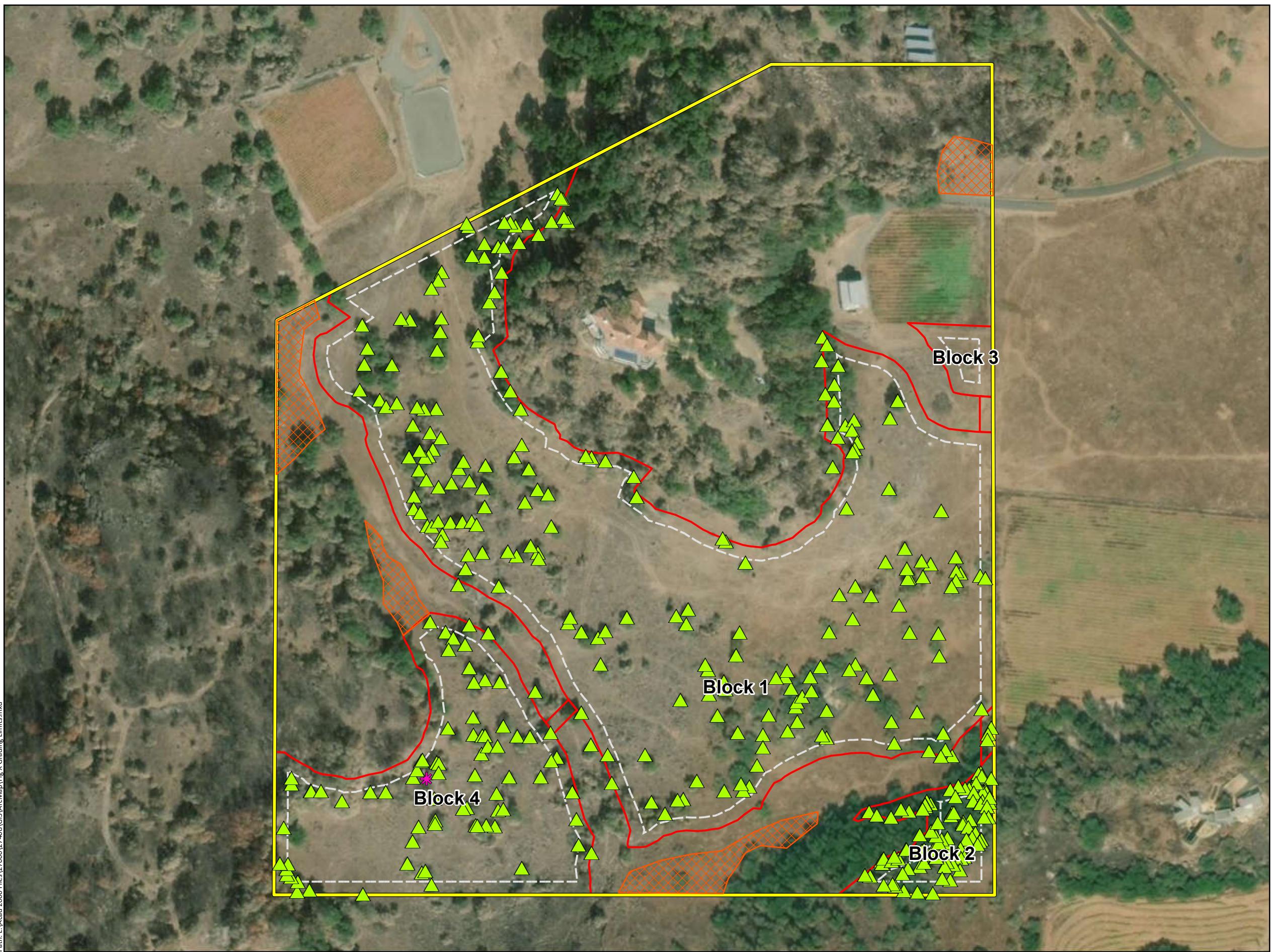
**ENCLOSURES:** Attachment A – Tree Figure and Table  
Attachment B – Photographs

## CITATIONS

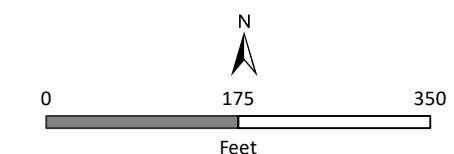
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- Gharabaghi, B, R.P. Rudra, and P.K. Goel. 2006. Effectiveness of Vegetative Filter Strips in Removal of Sediments from Overland Flow. *Water Qual. Res. J. Canada.* Vol. 41(3): 275-282.
- Grismer, M.E., A.T. O'Geen, and D. Lewis. 2006. Vegetative Filter Strips for Nonpoint Source Pollution Control in Agriculture. U.C. Agriculture and Natural Resources Publication 8195.
- Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation*, 2<sup>nd</sup> Edition. California Native Plant Society in collaboration with California Department of Fish and Game. Sacramento, CA. 1300 pp.
- Schultz, J. and R. Cruse. 1993. Effectiveness of vegetative filter strips. Competitive Grant Report 90-09 for Leopold Center for Sustainable Agriculture.

**Figure A-1.**  
**Proposed Grading Limits**

Hess  
Napa County, California



- ▲ Trees within Grading Limits
- \* Potential Bat Roost
- ▨ Potential Translocation Sites
- Study Area (40.12 ac.)
- Outer Grading Limits (20.61 ac.)
- - Extent of Vineyards (15.98 ac.)



SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	17.50	
<i>Quercus agrifolia</i>	coast live oak	23.50	
<i>Quercus agrifolia</i>	coast live oak	10.20	
<i>Quercus agrifolia</i>	coast live oak	14.20	
<i>Quercus agrifolia</i>	coast live oak	12.10	
<i>Arctostaphylos sp.</i>	manzanita	10.00	5 stem
<i>Quercus agrifolia</i>	coast live oak	17.00	2 stem
<i>Arctostaphylos sp.</i>	manzanita	5.00	2 stem
<i>Arctostaphylos sp.</i>	manzanita	4.80	
<i>Quercus agrifolia</i>	coast live oak	6.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	10.20	
<i>Quercus agrifolia</i>	coast live oak	11.30	
<i>Quercus agrifolia</i>	coast live oak	15.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	3.50	
<i>Quercus agrifolia</i>	coast live oak	8.80	
<i>Quercus agrifolia</i>	coast live oak	7.90	
<i>Quercus agrifolia</i>	coast live oak	6.80	poor condition
<i>Quercus agrifolia</i>	coast live oak	14.50	
<i>Quercus agrifolia</i>	coast live oak	25.00	4 stem
<i>Quercus agrifolia</i>	coast live oak	17.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	12.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	14.30	
<i>Quercus agrifolia</i>	coast live oak	12.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.00	
<i>Quercus agrifolia</i>	coast live oak	13.50	
<i>Quercus agrifolia</i>	coast live oak	48.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	5.00	
<i>Quercus agrifolia</i>	coast live oak	28.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	33.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	9.50	
<i>Quercus agrifolia</i>	coast live oak	21.50	
<i>Quercus agrifolia</i>	coast live oak	18.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	16.80	2 stem
<i>Quercus agrifolia</i>	coast live oak	33.00	
<i>Quercus agrifolia</i>	coast live oak	5.10	
<i>Quercus agrifolia</i>	coast live oak	11.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	7.60	
<i>Quercus agrifolia</i>	coast live oak	11.00	
<i>Quercus agrifolia</i>	coast live oak	37.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	26.00	4 stem
<i>Quercus agrifolia</i>	coast live oak	9.40	
<i>Quercus agrifolia</i>	coast live oak	32.00	7 stem
<i>Quercus agrifolia</i>	coast live oak	6.70	
<i>Quercus agrifolia</i>	coast live oak	11.50	
<i>Quercus agrifolia</i>	coast live oak	15.00	
<i>Quercus agrifolia</i>	coast live oak	10.10	

SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	15.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	5.80	
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Quercus agrifolia</i>	coast live oak	7.30	1 failed stem
<i>Quercus agrifolia</i>	coast live oak	7.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	10.20	
<i>Quercus agrifolia</i>	coast live oak	33.00	7 stem
<i>Quercus agrifolia</i>	coast live oak	12.30	
<i>Quercus agrifolia</i>	coast live oak	10.30	3 stem
<i>Quercus agrifolia</i>	coast live oak	14.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	2.50	
<i>Quercus agrifolia</i>	coast live oak	19.00	
<i>Quercus agrifolia</i>	coast live oak	7.10	
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	48.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	13.80	
<i>Quercus agrifolia</i>	coast live oak	14.50	
<i>Quercus agrifolia</i>	coast live oak	8.10	
<i>Quercus agrifolia</i>	coast live oak	20.00	
<i>Quercus agrifolia</i>	coast live oak	21.00	
<i>Quercus agrifolia</i>	coast live oak	12.00	
<i>Quercus agrifolia</i>	coast live oak	10.50	
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	39.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	13.00	
<i>Quercus agrifolia</i>	coast live oak	12.00	
<i>Quercus agrifolia</i>	coast live oak	22.00	
<i>Quercus agrifolia</i>	coast live oak	37.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	12.00	
<i>Quercus agrifolia</i>	coast live oak	15.00	
<i>Quercus agrifolia</i>	coast live oak	10.40	
<i>Quercus agrifolia</i>	coast live oak	10.00	
<i>Quercus agrifolia</i>	coast live oak	20.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	6.20	3 stem
<i>Quercus agrifolia</i>	coast live oak	2.10	
<i>Quercus agrifolia</i>	coast live oak	25.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	22.60	
<i>Quercus agrifolia</i>	coast live oak	8.70	
<i>Quercus agrifolia</i>	coast live oak	31.00	4 stem
<i>Quercus agrifolia</i>	coast live oak	9.50	
<i>Quercus agrifolia</i>	coast live oak	7.80	
<i>Quercus agrifolia</i>	coast live oak	27.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	8.00	
<i>Quercus agrifolia</i>	coast live oak	7.90	
<i>Quercus agrifolia</i>	coast live oak	8.20	

SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	23.60	
<i>Quercus agrifolia</i>	coast live oak	23.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.50	
<i>Quercus agrifolia</i>	coast live oak	9.50	
<i>Quercus agrifolia</i>	coast live oak	7.90	
<i>Quercus agrifolia</i>	coast live oak	23.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	9.10	
<i>Quercus agrifolia</i>	coast live oak	6.90	
<i>Quercus agrifolia</i>	coast live oak	13.80	
<i>Quercus agrifolia</i>	coast live oak	24.00	
<i>Quercus agrifolia</i>	coast live oak	30.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	13.60	
<i>Quercus agrifolia</i>	coast live oak	9.80	
<i>Quercus agrifolia</i>	coast live oak	2.00	
<i>Quercus agrifolia</i>	coast live oak	21.00	
<i>Quercus agrifolia</i>	coast live oak	29.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	25.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	10.50	
<i>Quercus agrifolia</i>	coast live oak	19.00	
<i>Quercus agrifolia</i>	coast live oak	20.80	
<i>Quercus agrifolia</i>	coast live oak	18.10	
<i>Quercus agrifolia</i>	coast live oak	23.50	
<i>Quercus agrifolia</i>	coast live oak	19.80	
<i>Quercus agrifolia</i>	coast live oak	9.60	
<i>Quercus agrifolia</i>	coast live oak	16.90	
<i>Quercus agrifolia</i>	coast live oak	39.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	9.40	
<i>Quercus agrifolia</i>	coast live oak	23.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	9.20	
<i>Quercus agrifolia</i>	coast live oak	9.70	
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Quercus agrifolia</i>	coast live oak	12.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	4.20	
<i>Quercus agrifolia</i>	coast live oak	31.00	
<i>Quercus agrifolia</i>	coast live oak	6.10	
<i>Quercus agrifolia</i>	coast live oak	14.50	
<i>Quercus agrifolia</i>	coast live oak	3.00	
<i>Quercus agrifolia</i>	coast live oak	11.00	
<i>Quercus agrifolia</i>	coast live oak	16.00	
<i>Quercus agrifolia</i>	coast live oak	28.60	
<i>Quercus agrifolia</i>	coast live oak	21.50	3 stem
<i>Quercus agrifolia</i>	coast live oak	7.00	
<i>Quercus agrifolia</i>	coast live oak	14.30	
<i>Quercus agrifolia</i>	coast live oak	9.90	
<i>Quercus agrifolia</i>	coast live oak	21.00	
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SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	8.50	
<i>Quercus agrifolia</i>	coast live oak	24.30	2 stem
<i>Quercus agrifolia</i>	coast live oak	12.00	
<i>Quercus agrifolia</i>	coast live oak	11.00	
<i>Quercus agrifolia</i>	coast live oak	8.50	
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	6.80	
<i>Arbutus menziesii</i>	Pacific madrone	7.20	
<i>Quercus agrifolia</i>	coast live oak	3.00	
<i>Quercus agrifolia</i>	coast live oak	5.00	
<i>Quercus agrifolia</i>	coast live oak	28.50	
<i>Quercus agrifolia</i>	coast live oak	33.00	
<i>Quercus agrifolia</i>	coast live oak	42.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	63.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	61.00	5 stem
<i>Quercus agrifolia</i>	coast live oak	13.80	
<i>Quercus agrifolia</i>	coast live oak	19.80	
<i>Quercus agrifolia</i>	coast live oak	36.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	11.00	4 stem, in fence line
<i>Quercus agrifolia</i>	coast live oak	9.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	16.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	9.70	
<i>Quercus agrifolia</i>	coast live oak	4.10	
<i>Quercus agrifolia</i>	coast live oak	18.80	
<i>Quercus agrifolia</i>	coast live oak	28.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	11.10	
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<i>Quercus agrifolia</i>	coast live oak	13.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.10	
<i>Quercus agrifolia</i>	coast live oak	5.30	
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<i>Quercus agrifolia</i>	coast live oak	7.50	
<i>Quercus agrifolia</i>	coast live oak	33.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	18.00	
<i>Quercus agrifolia</i>	coast live oak	2.40	

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<i>Quercus agrifolia</i>	coast live oak	12.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	10.80	2 stem
<i>Quercus agrifolia</i>	coast live oak	4.50	
<i>Quercus agrifolia</i>	coast live oak	12.30	
<i>Quercus agrifolia</i>	coast live oak	9.80	
<i>Quercus agrifolia</i>	coast live oak	20.00	
<i>Quercus agrifolia</i>	coast live oak	6.20	
<i>Quercus agrifolia</i>	coast live oak	5.40	
<i>Quercus agrifolia</i>	coast live oak	3.50	
<i>Quercus agrifolia</i>	coast live oak	9.00	
<i>Quercus agrifolia</i>	coast live oak	14.60	
<i>Quercus agrifolia</i>	coast live oak	41.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.60	
<i>Quercus agrifolia</i>	coast live oak	8.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	4.00	
<i>Quercus agrifolia</i>	coast live oak	9.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	9.50	
<i>Quercus agrifolia</i>	coast live oak	17.00	
<i>Quercus agrifolia</i>	coast live oak	17.00	
<i>Quercus agrifolia</i>	coast live oak	9.80	
<i>Quercus agrifolia</i>	coast live oak	17.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	6.00	
<i>Quercus agrifolia</i>	coast live oak	15.60	
<i>Quercus agrifolia</i>	coast live oak	4.00	
<i>Quercus agrifolia</i>	coast live oak	29.00	
<i>Quercus agrifolia</i>	coast live oak	6.40	
<i>Quercus kelloggii</i>	California black oak	19.50	
<i>Quercus agrifolia</i>	coast live oak	15.50	
<i>Quercus agrifolia</i>	coast live oak	11.60	
<i>Quercus agrifolia</i>	coast live oak	13.80	
<i>Quercus agrifolia</i>	coast live oak	9.10	
<i>Arctostaphylos sp.</i>	manzanita	6.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	22.00	
<i>Quercus agrifolia</i>	coast live oak	15.50	
<i>Quercus agrifolia</i>	coast live oak	6.00	
<i>Quercus agrifolia</i>	coast live oak	12.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	15.20	2 stem
<i>Quercus agrifolia</i>	coast live oak	9.20	
<i>Quercus agrifolia</i>	coast live oak	3.20	2 stem
<i>Arctostaphylos sp.</i>	manzanita	16.00	5 stem
<i>Quercus agrifolia</i>	coast live oak	9.80	
<i>Quercus agrifolia</i>	coast live oak	11.50	
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Quercus agrifolia</i>	coast live oak	8.90	

SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	23.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	32.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.00	
<i>Quercus agrifolia</i>	coast live oak	13.00	
<i>Quercus agrifolia</i>	coast live oak	7.10	
<i>Quercus agrifolia</i>	coast live oak	12.00	
<i>Quercus agrifolia</i>	coast live oak	10.40	
<i>Quercus agrifolia</i>	coast live oak	34.00	one dead stem failure
<i>Quercus agrifolia</i>	coast live oak	20.80	
<i>Quercus agrifolia</i>	coast live oak	13.90	
<i>Quercus agrifolia</i>	coast live oak	4.50	
<i>Quercus agrifolia</i>	coast live oak	2.50	3 stem
<i>Quercus agrifolia</i>	coast live oak	8.00	
<i>Quercus agrifolia</i>	coast live oak	29.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	12.50	
<i>Quercus agrifolia</i>	coast live oak	25.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	28.00	6 stem
<i>Quercus agrifolia</i>	coast live oak	8.80	
<i>Quercus agrifolia</i>	coast live oak	17.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	17.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	6.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	18.80	
<i>Quercus agrifolia</i>	coast live oak	9.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	6.90	
<i>Quercus agrifolia</i>	coast live oak	9.90	
<i>Quercus agrifolia</i>	coast live oak	9.80	
<i>Quercus agrifolia</i>	coast live oak	9.60	
<i>Quercus agrifolia</i>	coast live oak	6.70	
<i>Quercus agrifolia</i>	coast live oak	16.20	
<i>Quercus agrifolia</i>	coast live oak	7.60	
<i>Quercus agrifolia</i>	coast live oak	6.90	
<i>Quercus agrifolia</i>	coast live oak	6.80	
<i>Quercus agrifolia</i>	coast live oak	46.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	37.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	11.90	
<i>Quercus agrifolia</i>	coast live oak	51.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	16.80	
<i>Quercus agrifolia</i>	coast live oak	15.20	
<i>Quercus agrifolia</i>	coast live oak	23.00	
<i>Quercus agrifolia</i>	coast live oak	48.00	
<i>Quercus agrifolia</i>	coast live oak	19.00	
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	34.00	
<i>Quercus agrifolia</i>	coast live oak	20.00	
<i>Quercus agrifolia</i>	coast live oak	30.00	

SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	18.00	
<i>Quercus agrifolia</i>	coast live oak	17.00	
<i>Quercus agrifolia</i>	coast live oak	34.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	19.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	14.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	15.00	2 stem
<i>Arctostaphylos sp.</i>	manzanita	6.30	
<i>Quercus agrifolia</i>	coast live oak	110.00	7 stem
<i>Quercus agrifolia</i>	coast live oak	64.00	5 stem
<i>Quercus agrifolia</i>	coast live oak	24.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	30.00	
<i>Quercus agrifolia</i>	coast live oak	21.00	
<i>Quercus agrifolia</i>	coast live oak	35.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	21.50	3 stem
<i>Quercus agrifolia</i>	coast live oak	8.10	
<i>Quercus agrifolia</i>	coast live oak	10.40	
<i>Quercus agrifolia</i>	coast live oak	22.50	
<i>Quercus agrifolia</i>	coast live oak	20.50	
<i>Quercus agrifolia</i>	coast live oak	10.00	
<i>Quercus agrifolia</i>	coast live oak	28.00	
<i>Quercus agrifolia</i>	coast live oak	23.50	
<i>Quercus agrifolia</i>	coast live oak	12.60	
<i>Quercus agrifolia</i>	coast live oak	8.80	
<i>Quercus agrifolia</i>	coast live oak	7.00	
<i>Quercus agrifolia</i>	coast live oak	27.80	
<i>Quercus agrifolia</i>	coast live oak	9.00	
<i>Quercus agrifolia</i>	coast live oak	13.50	
<i>Quercus agrifolia</i>	coast live oak	9.70	
<i>Quercus agrifolia</i>	coast live oak	8.60	
<i>Quercus agrifolia</i>	coast live oak	21.00	
<i>Quercus agrifolia</i>	coast live oak	25.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	18.40	2 stem
<i>Quercus agrifolia</i>	coast live oak	21.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	11.00	
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Quercus agrifolia</i>	coast live oak	7.10	
<i>Quercus agrifolia</i>	coast live oak	19.00	
<i>Quercus agrifolia</i>	coast live oak	27.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	20.50	
<i>Quercus agrifolia</i>	coast live oak	14.60	
<i>Quercus agrifolia</i>	coast live oak	14.00	
<i>Quercus agrifolia</i>	coast live oak	4.00	
<i>Quercus agrifolia</i>	coast live oak	8.60	
<i>Quercus agrifolia</i>	coast live oak	7.30	
<i>Quercus agrifolia</i>	coast live oak	18.50	
<i>Quercus agrifolia</i>	coast live oak	14.00	

SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	19.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	10.20	
<i>Quercus agrifolia</i>	coast live oak	13.40	
<i>Quercus agrifolia</i>	coast live oak	12.50	
<i>Quercus agrifolia</i>	coast live oak	2.20	
<i>Quercus agrifolia</i>	coast live oak	27.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	14.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	38.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	13.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	11.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	20.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Quercus agrifolia</i>	coast live oak	11.50	
<i>Quercus agrifolia</i>	coast live oak	13.00	
<i>Quercus agrifolia</i>	coast live oak	8.00	
<i>Quercus agrifolia</i>	coast live oak	6.00	
<i>Quercus agrifolia</i>	coast live oak	11.00	
<i>Quercus agrifolia</i>	coast live oak	4.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	29.50	
<i>Quercus agrifolia</i>	coast live oak	31.00	
<i>Quercus agrifolia</i>	coast live oak	7.00	
<i>Quercus agrifolia</i>	coast live oak	27.80	
<i>Quercus agrifolia</i>	coast live oak	65.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	12.60	
<i>Quercus agrifolia</i>	coast live oak	10.20	
<i>Quercus agrifolia</i>	coast live oak	11.90	
<i>Arctostaphylos sp.</i>	manzanita	23.00	6 stem
<i>Quercus agrifolia</i>	coast live oak	13.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Arbutus menziesii</i>	Pacific madrone	22.00	
<i>Quercus agrifolia</i>	coast live oak	6.00	
<i>Quercus agrifolia</i>	coast live oak	14.60	2 stem
<i>Quercus agrifolia</i>	coast live oak	7.50	
<i>Quercus agrifolia</i>	coast live oak	9.80	
<i>Quercus agrifolia</i>	coast live oak	8.10	
<i>Quercus agrifolia</i>	coast live oak	31.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	40.00	5 stem
<i>Quercus agrifolia</i>	coast live oak	19.20	2 stem
<i>Quercus agrifolia</i>	coast live oak	13.50	
<i>Quercus agrifolia</i>	coast live oak	14.80	
<i>Quercus agrifolia</i>	coast live oak	19.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	9.70	
<i>Quercus agrifolia</i>	coast live oak	8.50	
<i>Quercus agrifolia</i>	coast live oak	7.80	
<i>Quercus agrifolia</i>	coast live oak	68.00	6 stem

SCIENTIFIC NAME	COMMON NAME	DBH (in.)	COMMENTS
<i>Quercus agrifolia</i>	coast live oak	9.70	
<i>Arbutus menziesii</i>	Pacific madrone	32.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	9.60	
<i>Quercus agrifolia</i>	coast live oak	6.90	
<i>Quercus agrifolia</i>	coast live oak	11.50	
<i>Quercus agrifolia</i>	coast live oak	24.50	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.80	
<i>Quercus agrifolia</i>	coast live oak	44.00	3 stem
<i>Quercus agrifolia</i>	coast live oak	13.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	11.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	41.00	6 stem
<i>Quercus agrifolia</i>	coast live oak	16.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	8.90	
<i>Quercus agrifolia</i>	coast live oak	8.50	
<i>Quercus agrifolia</i>	coast live oak	5.00	
<i>Quercus agrifolia</i>	coast live oak	16.50	
<i>Quercus agrifolia</i>	coast live oak	6.00	
<i>Quercus agrifolia</i>	coast live oak	7.60	
<i>Quercus agrifolia</i>	coast live oak	15.00	2 stem
<i>Quercus agrifolia</i>	coast live oak	6.50	
<i>Quercus agrifolia</i>	coast live oak	5.00	
<i>Quercus agrifolia</i>	coast live oak	10.10	
<i>Quercus agrifolia</i>	coast live oak	17.90	
<i>Quercus agrifolia</i>	coast live oak	16.50	
<i>Quercus agrifolia</i>	coast live oak	16.90	
<i>Arctostaphylos sp.</i>	manzanita	21.00	6 stem
<i>Quercus agrifolia</i>	coast live oak	5.00	
<i>Arctostaphylos sp.</i>	manzanita	11.00	3 stem
<i>Arctostaphylos sp.</i>	manzanita	8.50	2 stem
<i>Arctostaphylos sp.</i>	manzanita	13.00	3 stem



Typical size and structure tree within the Project Area; too small and healthy to provide the thermal support for bats



Typical sizes and structures of trees within the Project Area; too small and healthy to provide the thermal support for bats



Short hollow and exit hole; too small to support bat maternity roost



Frequent hollows too small to support maternity roosts for bats



Secondary exit in large cavity of large coast live oak  
(*Quercus agrifolia*)



Secondary exit in large cavity of large coast live oak  
(*Quercus agrifolia*)



Exit in large cavity of large coast live oak (*Quercus agrifolia*)



Exit in large cavity of large coast live oak (*Quercus agrifolia*)