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## Biological Study

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**BIOLOGICAL RESOURCE ASSESSMENT WITH  
BOTANICAL & BAT HABITAT SURVEYS,  
WOODLAND ASSESSMENT,  
and  
DELINEATION OF WATERS OF THE U.S.  
for  
BEAUTIFUL DAY WINERY LLC  
APN 020-180-037  
YOUNTVILLE, CA**

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**June 26, 2015**

**Prepared by  
Northwest Biosurvey**



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**June 26, 2015**

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## 1.0 PROJECT DESCRIPTION

**1.1 Proposed Project:** This Biological Resource Assessment was conducted for a proposed winery at an existing vineyard south of Calistoga. The survey area is 28.67 acres. The local permitting agency is requesting completion of an assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for development of the property.

The initial phase of this assessment will evaluate the potential of the parcel to contain sensitive plant and wildlife habitat. The second phase will consist of a floristic-level botanical survey listing all plant taxa<sup>1</sup> on the property. The assessment will determine whether the property contains sensitive plants or potentially contains sensitive wildlife requiring mitigation under the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). As used here, the terms sensitive plant or wildlife includes all state or federal rare, threatened, or endangered species and all species listed in the California Natural Diversity Database (CNDDDB) list of "Special Status Plants, Animals, and Natural Communities".

A survey for sensitive bat habitat was also conducted in the mature trees in the area proposed for development. The results of the surveys are provided in Section 5.0.

Due to the fact that wetland delineations are prepared with a standard format for U.S. Army Corps of Engineers review, the delineation is provided in its own section. The delineation and findings are provided in Section 6.0.

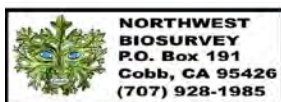
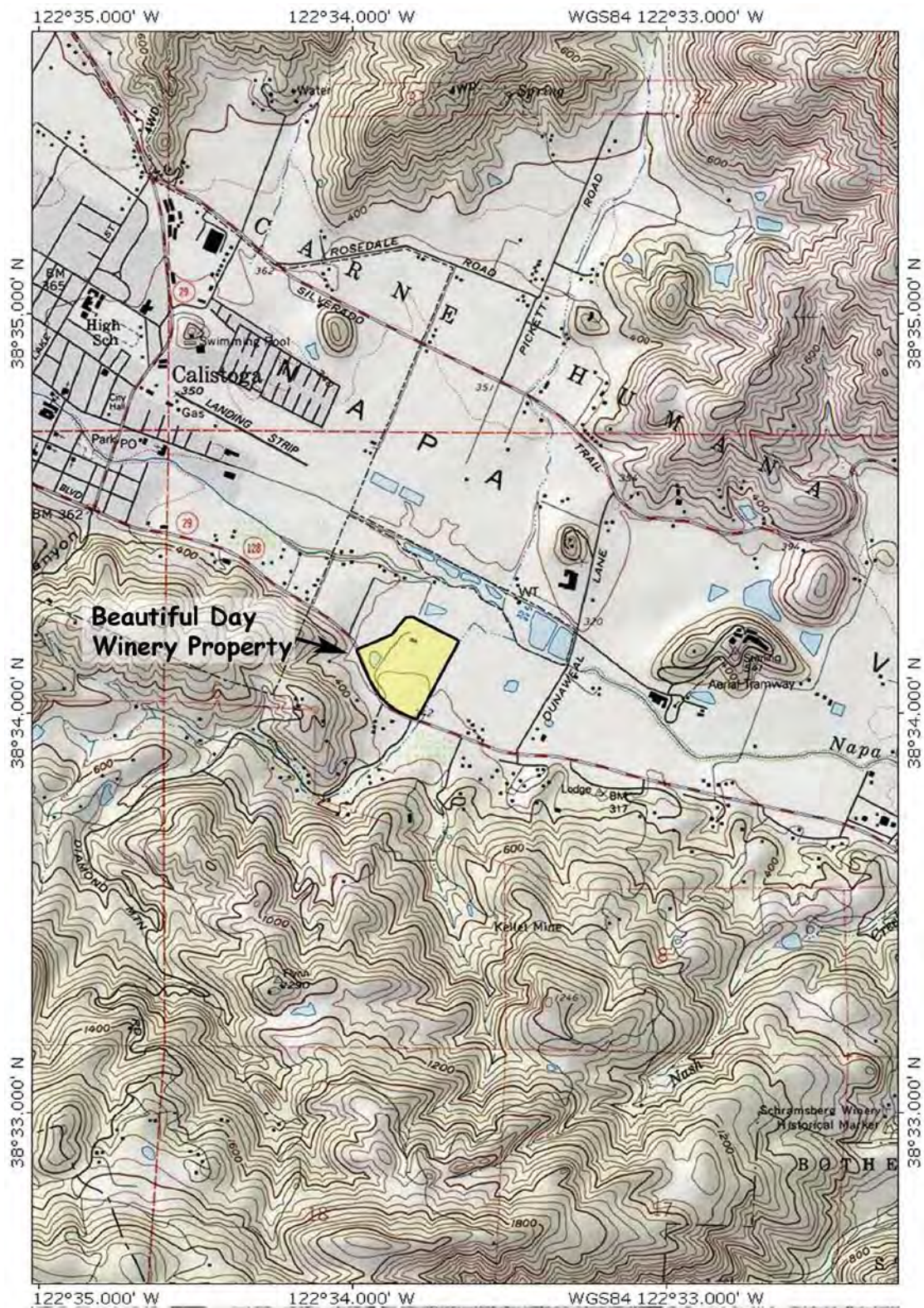
Two sections are added to this assessment to meet Napa County environmental review policy. These are the "Napa County Woodland Assessment" (Section 7.0) and "Conformance with Napa County Baseline Data Report" (Section 8.0).

**1.2 Location:** The property is located at 4500 North Street, St. Helena Hwy., Calistoga, California (APN 020-180-037, T08N-R06W, Calistoga, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.

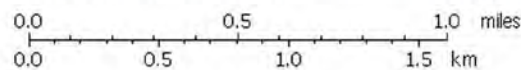
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<sup>1</sup> Many sensitive plants and wildlife are subspecies or varieties which are taxonomic subcategories of species. The term "taxa" refers to species and their sub-specific categories.





### LOCATION MAP



### Figure 1



## 2.0 ASSESSMENT METHODOLOGY

The basis of the biological resource assessment is a comparison of existing habitat conditions within the project boundaries to the geographic range and habitat requirements of sensitive plants and wildlife. It includes all sensitive species that occupy habitats similar to those found in the project area and whose known geographic ranges encompass it. The approach is conservative in that it tends to over-estimate the actual number of sensitive species potentially present. The analysis includes the following site characteristics:

- Location of the project area with regard to the geographic range of sensitive plant and wildlife species
- Location(s) of known populations of sensitive plant and wildlife species as mapped in the California Natural Diversity Database (CNDDDB)
- Soils of the project area
- Elevation
- Presence or absence of special habitat features such as vernal pools and serpentine soils
- Plant communities existing within the project area

In addition to knowledge of the local plants and wildlife, the following computer databases were used to analyze the suitability of the site for sensitive species:

- California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB); RareFind 5, 2015
- California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (2015 edition)
- California Department of Fish and Wildlife, California Wildlife Habitat Relationships System (WHR), Version 8.2
- Napa County Baseline Data Report (BDR), 2005

The **CNDDB database** consists of mapped overlays of all known populations of sensitive plants and wildlife. The database is continually updated with new sensitive species population data.

The **CNPS database** produces a list of sensitive plants potentially occurring at a site based on the various site characteristics listed above. While use of the CNPS inventory does not in itself eliminate the need for an in-season botanical survey, it can, when used in conjunction with other information, provide a very good indication of the suitability of a site as habitat for sensitive plant species



The **WHR database** operates on the same basis as the CNPS inventory. Input includes geographic area, plant community (including development stage), soil structure, and special features such as presence of water, snags, cover, and food (fruit, seeds, insects, etc.).

The **Baseline Data Report** was produced for Napa County as part of the technical background documentation for the county's general plan update. It defines biotic communities considered sensitive in Napa County, identifies wildlife movement corridors, and reproduces data contained in the CNDDDB.

**2.1 Botanical Survey Methods:** A full in-season floristic-level survey was conducted for the project. CNDDDB information and maps for the Calistoga quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evens, 2009), and mapped on a 1"=100' aerial photo. Vegetation type names are based on an assessment of dominant cover species.

Plants occurring on the site were identified using *The Jepson Manual, Higher Plants of California, 2012*. Where necessary, species names were updated based on the 6<sup>th</sup> edition, *Inventory of Rare and Endangered Plants of California*. A map of the vegetation types is provided in **Figure 2**.

**2.2 Bat and Raptor Habitat Survey Methods:** Mature trees within the wooded area proposed for development were assessed for their potential as habitat for sensitive bat species, or to see if they contained raptor nests. The bat habitat survey included searching for hollow trees, trees with open cavities, and trees with exfoliating bark. Any trees meeting habitat criteria described above would be photographed, have their GPS coordinates recorded, and then be mapped on an aerial photo.

**2.3 Delineation Methods:** A delineation has been conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2008*.

**2.4 Woodland Assessment Methods:** The survey area contains a single distinct woodland type which is discussed in Section 3.3, Vegetation Types. Trees were mapped with a GPS waypoint and a record was made of its species, diameter at breast height (DBH), and any unique characteristics (dead, hollow, acorn storage tree, etc.). The arborist report produced for this project by Atlas Tree Surgery Inc. was consulted – tree numbering used in the arborist report was used to avoid confusion. The methodology is discussed in detail in **Section 7.0** of this report.

**2.5 Survey Dates:** Site visits for botanical surveys, habitat assessments, the delineation, and mapping were made by Northwest Biosurvey staff on April 10 and June 19, 2015. All potentially present sensitive plant species in this area would have been identifiable on these dates.

**2.6 Biological Assessment Staff:** Field surveys, plant taxonomy, and the delineation were conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky has over 30 years of experience as a biologist in the government and private sectors. Wetland training was obtained under Terry Huffman of Huffman & Associates, Inc.

Field surveys, database review, and report preparation were conducted with the assistance of Danielle Zalusky, Northwest Biosurvey principal planner. Ms. Zalusky has over 20 years of experience as a planner in local government and the private sector. She has a Bachelor of Arts Degree and has completed all course work toward an M.A. Degree in Rural and Town Planning from Chico State University. Prior to joining Northwest Biosurvey in 2002, Ms. Zalusky served as a senior planner for the Lake County Community Development Department.

### **3.0 SITE CHARACTERISTICS**

**3.1 Topography and Drainage:** The Beautiful Day vineyard is located on the southwestern edge of the Napa Valley at an elevation of approximately 320 feet msl (mean sea level). The Mayacamas Range rises directly along the southeastern boundary onto the slopes of Diamond Mountain just opposite Highway 29. The site is relatively level but drains northeast as sheet flow to Kortum Canyon Creek along the eastern property boundary and north approximately 700 feet to the Napa River.

**3.2 Soils:** The property contains a single soil type:

- **Bale loam, 0-2% slopes (soil unit 103):** Included with this soil in mapping were small areas of Cole, Clear Lake, Cortina, and Yolo soils. The Bale series consists of somewhat poorly drained soils on alluvial fans, flood plains, and low terraces. Slope is 0 to 5 percent. These soils formed in alluvium derived from rhyolite and basic igneous rock. The plant cover is oak, blackberry, annual grasses, poison-oak, and willows.

Runoff is slow, and the hazard of erosion is slight. The water table is at a depth of more than 4 feet. Permeability is moderate. Temporary ponding is common during

periods of high rainfall. This soil is mainly used for vineyards, although a few small areas that have not been drained are in pasture.

**3.3 Plant Communities:** The site contains California Valley Oak Woodland occurring on the property as both a remnant stand of mature trees devoid of under-canopy, shrubs and ground cover, and as intact valley oak riparian woodland. Vegetation types are based on or derived from the "Standardized Classification" scheme described in the California Native Plant Society (CNPS) *A Manual of California Vegetation*. These vegetation types and other cover types present are listed in **Table 1**. They are described below the table and shown in the plant communities map provided in **Figure 2**.

**TABLE 1. VEGETATION TYPES PRESENT ON THE PROPERTY**

VEGETATION TYPE	TOTAL ACRES ON PROPERTY	PERCENT OF TOTAL ACRES ON PROPERTY
California Valley Oak Woodland	1.96	6.84
California Valley Oak Riparian Forest	1.48	5.16
Vineyard	21.91	76.42
Ruderal (disturbed areas)	2.25	7.85
Constructed Reservoir	1.07	3.73
<b>Total</b>	<b>28.67</b>	<b>100.00</b>

- **California Valley Oak Woodland (Remnant):** The canopy closure of this oak woodland is approximately 90 percent. The community consists of a nearly homogenous upper canopy of mature, very large valley oaks (*Quercus lobata*) with subdominant Oregon ash (*Fraxinus latifolia*). The entire subcanopy, shrub, and ground cover layers have been cleared, leaving this community in an open, park-like condition. This site is currently used as parking and open landscape space adjacent to an existing residence. Trees of four feet or more in diameter occur in this woodland.

A detailed assessment of this woodland's structure and composition is contained in the Napa County Woodland Assessment provided in Section 7.0.

- **California Valley Oak Riparian Forest:** This oak community is restricted to a narrow strip not exceeding 50 feet in width along the banks of Kortum Canyon Creek. The upper canopy is dominated by California valley oak. The lower canopy includes smooth-leaf dogwood (*Cornus glabrata*), red willow (*Salix laevigata*), scattered coast live oak (*Quercus agrifolia*), California black oak (*Quercus kelloggii*), big-leaf

maple (*Acer macrophyllum*), California buckeye (*Aesculus californica*), and Northern California black walnut (*Juglans hindsii*). The Northern California black walnut trees occur in riparian habitat and should therefore be considered to have sensitive status (CNPS rank 1B.1) although they may be escaped root stock from prior walnut orchard development.

The shrub layer is dominated by poison oak (*Toxicodendron diversilobum*). Blue elderberry (*Sambucus nigra* ssp. *caerulea*) occasionally provides dominant shrub cover along some sections of the western creekbank within the property boundaries. Ground cover species include California figwort (*Scrophularia californica* ssp. *floribunda*), California manroot (*Marah fabaceus*), poison hemlock (*Conium maculatum*), and mugwort (*Artemisia douglasiana*).

- **Vineyard:** Most of the parcel is currently planted in vineyard.
- **Irrigation Pond:** An existing constructed irrigation pond is located on the southwest side of the property.
- **Ruderal:** These are areas where development has already occurred and consists of structures, driveways, and landscaping.





Figure 2



## 4.0 PRE-SURVEY RESEARCH RESULTS

**4.1 CNPS Electronic Inventory Analysis:** A California Native Plant Society (CNPS) analysis was conducted for all plants with federal and state regulatory status, and all non-status plants on the CNPS Rare Plant Ranks 1B through 4. The query included all plants within this area of Napa County occurring within the plant communities identified on the project site. The inventory lists species potentially occurring at the site; these are listed in **Table 2**. These species were included in the list of potentially sensitive species specifically searched for during field surveys.

**Note:** *The CNPS list is used to broaden the list of sensitive species considered during the subsequent field surveys; however, it must be used with discretion because the database search does not allow fine tuning for specific soil types or for many specific habitats required by sensitive plant taxa (e.g. vernal pools or serpentine soils). Consequently, the CNPS list generated for a site may include several taxa for which the required habitat is not present.*

**4.2 California Natural Diversity Database:** The California Natural Diversity Database (CNDDB) overlay for the Calistoga 7½' quadrangle map was reviewed for this project. **Table 3** presents a list of sensitive plant and wildlife species known to occur within the quadrangle. In addition to listing the species present within the quadrangle, the table provides a brief descriptor of the habitat requirements and blooming season, along with an assessment of whether the project area contains the necessary habitat requirements for each species. **Appendix A** at the end of this report lists the species within the nine quadrangles in the vicinity of this property.

**TABLE 2. CALIFORNIA NATIVE PLANT SOCIETY'S INVENTORY OF RARE AND ENDANGERED PLANTS****Selected CNPS Plants by Scientific Name*****Beautiful Day Winery***

<u>Species</u>	<u>Common Name</u>	<u>Family</u>	<u>Life Form</u>	<u>CNPS</u>	<u>State Status</u>	<u>Fed. Status</u>	<u>Blooming Season</u>
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	Fabaceae	per dec shrub	1B.2	na	na	Apr-Jul
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	Boraginaceae	ann herb	1B.2	na	na	Mar-Jun
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	Ericaceae	per everg shrub	1B.3	na	na	Jan-May(Jul)
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon Ridge manzanita	Ericaceae	per everg shrub	1B.1	na	na	Feb-Apr(May)
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	Fabaceae	ann herb	1B.1	Threat	End	Mar-May
<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	Fabaceae	ann herb	1B.2	na	na	Mar-Jun
<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	Asteraceae	per herb	1B.2	na	na	Mar-Jun
<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	Themidaceae	per bulb herb	1B.2	na	na	May-Jul
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	Rhamnaceae	per everg shrub	1B.1	na	na	Feb-Jun
<i>Ceanothus purpureus</i>	holly-leaved ceanothus	Rhamnaceae	per everg shrub	1B.2	na	na	Feb-Jun
<i>Erigeron biolettii</i>	streamside daisy	Asteraceae	per herb	3	na	na	Jun-Oct
<i>Fritillaria pluriflora</i>	adobe-lily	Liliaceae	per bulb herb	1B.2	na	na	Feb-Apr
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Asteraceae	ann herb	1B.1	na	End	Mar-Jun
<i>Layia septentrionalis</i>	Colusa layia	Asteraceae	ann herb	1B.2	na	na	Apr-May
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	Polemoniaceae	ann herb	1B.2	na	na	Mar-May
<i>Lupinus sericatus</i>	Cobb Mountain lupine	Fabaceae	per herb	1B.2	na	na	Mar-Jun
<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	Asteraceae	ann herb	3.2	na	na	Mar-May



<u>Species</u>	<u>Common Name</u>	<u>Family</u>	<u>Life Form</u>	<u>CNPS</u>	<u>State Status</u>	<u>Fed. Status</u>	<u>Blooming Season</u>
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	Polemoniaceae	ann herb	1B.1	na	na	Apr-Jul
<i>Streptanthus hesperidis</i>	green jewel-flower	Brassicaceae	ann herb	1B.2	na	na	May-Jul
<i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i>	Kruckeberg's jewel-flower	Brassicaceae	per herb	1B.2	na	na	Apr-Jul
<i>Trichostema ruygtii</i>	Napa bluecurls	Lamiaceae	ann herb	1B.2	na	na	Jun-Oct
<i>Viburnum ellipticum</i>	oval-leaved viburnum	Adoxaceae	per dec shrub	2B.3	na	na	May-Jun

#### KEY:

#### CNPS Rare Plant-Threat Rank Definitions:

- 1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California  
 1B.2 = Rare, threatened, or endangered in California and elsewhere; fairly threatened in California  
 1B.3 = Rare, threatened, or endangered in California and elsewhere; not very threatened in California  
 2A = Presumed extinct in California, but extant elsewhere  
 2B.1 = Rare, threatened, or endangered in Calif., but more common elsewhere; seriously threatened in Calif.  
 2B.2 = Rare, threatened, or endangered in Calif., but more common elsewhere; fairly threatened in Calif.  
 2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.  
 3 = Plants about which we need more information (Review List)  
 3.1 = Plants about which we need more information (Review List); seriously threatened in California  
 3.2 = Plants about which we need more information (Review List); fairly threatened in California  
 3.3 = Plants about which we need more information (Review List); not very threatened in California  
 4.2 = Plants of limited distribution (watch list); fairly threatened in California  
 4.3 = Plants of limited distribution (watch list); not very threatened in California

#### State and Federal Status:

Threat = Threatened  
 End = Endangered  
 Cand = Candidate

ann = annual  
 per = perennial  
 dec = deciduous  
 bulb = bulbiferous

**TABLE 3. CNDDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE CALISTOGA, CALIF. 7½' QUAD.**

Habitat Type	Habitat Present
<i>Coastal and Valley Freshwater Marsh</i>	no

Plant Species	Common Name	Habitat Requirements/ Fed/State/CNPS*/NatureServe Status	Blooming Season	Habitat Present
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	Broadleaved upland forest (openings), chaparral, cismontane woodland; --/--/1B.2/G4/S2	April-July shrub (decid)	no
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon Ridge manzanita	Chaparral, cismontane woodland; --/--/1B.1/G3/S1	Feb.-April everg. shrub	no
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	Chaparral (openings), cismontane woodland, valley & foothill grassland; serpentinite, volcanic, rock, clay; FE/ST/1B.1/G1/S1	March-May ann. herb	no
<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	Broadleaved upland forest, chaparral, lower montane conif. forest; --/--/1B.2/G3/S3	May-July per. herb (bulb)	no
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	Closed-cone conif. forest, chaparral, cismontane woodland; volcanic, serpentinite; --/--/1B.1/G1/S1	Feb-April shrub(everg.)	no
<i>Ceanothus divergens</i>	Calistoga ceanothus	Chaparral; serpentine or volcanic, rocky; --/--/1B.2/G2/S2	Feb.-March ever. shrub	no
<i>Centromadia parryi</i> var. <i>parryi</i>	pappose tarplant	Coastal prairie, meadows & seeps, marshes & swamps (coastal salt), valley & foothill grassland (vernally mesic); often alkaline; --/--/1B.2/G3/S1	May-Nov. ann. herb	no
<i>Eryngium constancei</i>	Loch Lomond button-celery	Vernal pools; FE/SE/1B.1/G1/S1	April-June ann./per. herb	no
<i>Lasthenia burkei</i>	Burke's goldfields	Meadows and seeps (mesic), vernal pools; FE/SE/1B.1/G1/S1	April-June ann. herb	no
<i>Leptisiphon jepsonii</i>	Jepson's leptisiphon	Chaparral, cismontane woodland; usu. volcanic; --/--/1B.2/G2/S2	April-May ann. herb	no
<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	Meadows and seeps, valley & foothill grassland, vernal pools/vernally mesic; FE/SE/1B.1/G1/S1	April-May ann. herb	no
<i>Lupinus sericatus</i>	Cobb Mountain lupine	Broadleaved upland forest, chaparral, cismontane woodland, lower montane conif. forest; --/--/1B.2/G2/S2	March-June per. herb	no

<b>Plant Species</b>	<b>Common Name</b>	<b>Habitat Requirements/ Fed/State/CNPS*/NatureServe Status</b>	<b>Blooming Season</b>	<b>Habitat Present</b>
<i>Navarretia leucocephala ssp. bakeri</i>	Baker's navarretia	Cismontane woodland, lower montane conif. forest, meadows & seeps, valley & foothill grassland, vernal pools; mesic; --/--/1B.1/G4/S2	May-July ann. herb	no
<i>Penstemon newberryi var. sonomensis</i>	Sonoma beardtongue	Chaparral; rocky; --/--/1B.3/G4/S2	April-Aug. per. herb	no
<i>Plagiobothrys strictus</i>	Calistoga popcorn-flower	Meadows & seeps, valley & foothill grassland, vernal pools; alkaline areas near thermal springs; FE/ST/1B.1/G1/S1	March-June ann. herb	no
<i>Sidalcea hickmanii ssp. napensis</i>	Napa checkerbloom	Chaparral/rhyolitic; --/--/1B.1/G3/S1	April-June per. herb	no
<i>Poa napensis</i>	Napa blue grass	Meadows & seeps, valley & foothill grassland; alkaline, near hot springs; FE/SE/1B.1/G1/S1	May-Aug per. herb	no
<i>Trifolium hydrophilum</i>	saline clover	Marshes & swamps, valley & foothill grassland (mesic, alkaline), vernal pools; --/--/1B.2/G2/S2	April-June ann. herb	no

<b>Wildlife Species</b>	<b>Common Name</b>	<b>Habitat Requirements/Status</b>	<b>Season Present</b>	<b>Habitat Present</b>
<i>Syncaris pacifica</i>	California freshwater shrimp	Vernal pools, pool in perennial streams; FE/SE/G1/S1	year-round	no
<i>Oncorhynchus mykiss irideus</i>	steelhead-Central California Coast ESU	Small cool fast-flowing tributary streams with gravel beds. Steelhead are anadromous species that require streams that are contiguous with the ocean; FT/G5/S2S3	April-June (summer), Nov- April (winter)	moderate in channel
<i>Emys marmorata</i>	western pond turtle	Aquatic turtle found in ponds, lakes, rivers, creeks, marshes & irrigation ditches with abundant vegetation and rocky or muddy bottoms; In woodland, forest, & grasslands; SSC/G3G4/S3	year-round	high, in channel
<i>Accipiter striatus</i>	sharp-shinned hawk	Cool, moist, well-shaded conifer forest; WL/G4/S4	May-July	poor

Wildlife Species	Common Name	Habitat Requirements/Status	Season Present	Habitat Present
<i>Falco peregrinus anatum</i>	American peregrine falcon	Volcanic cliffs, steep slopes covered by chaparral with open grassy areas; nesting sites on ledges; FD/SD/FP/G4/S3S4	year-round	no
<i>Myotis thysanodes</i>	fringed myotis	Caves, mines, buildings; sometimes redwood forests; G4/S3	year-round	no
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Roosts in open near relatively mesic sites, mainly montane forest habitats; SCT/SSC/G3/S2	year-round	poor
<i>Antrozous pallidus</i>	pallid bat	Open, dry habitats, forest habitats, in caves, tunnels, buildings, bridges; sensitive to human disturbance; SSC/G5/S3	local migrant	poor

\*See CNPS list for key

### Key:

#### State and Federal Status:

*SE/ST/SD*=State Endangered/Threatened/Delisted

*SC/SCD*=State Candidate for Listing/Delisting

*SSC*=CDFW Species of Special Concern

*SFP*=State Fully Protected

*WL*=CDFW Watch List

*FE/FT/FD*=Federal Endangered/Threatened/Delisted

*FPE/FPT/FPD/FP*=Federal Proposed Endangered/Threatened/Delisting

*FC*=Federal Candidate

*Threat.*=Threatened

*End.*=Endangered

*Cand.*=Candidate

#### NatureServe Conservation Status:

*G1/S1* = Global/State Critically Imperiled

*G2/S2* = Global/State Imperiled

*G3/S3* = Global/State Vulnerable

*G4/S4* = Global/State Apparently Secure

*G5/S5* = Global/State Secure

*T2* = Imperiled

*T4* = Apparently Secure

*SNR* = Not yet assessed

**4.3 Wildlife Habitat Analysis Results:** The Wildlife Habitat Relationships analysis lists two species as potentially occurring on the site based on the geographic location and wildlife habitats present. The WHR results are listed below in **Table 4**.

**TABLE 4. WILDLIFE SPECIES IDENTIFIED BY THE WHR DATABASE**

Species	Common Name	Habitat	Status
<i>Emys marmorata</i>	western pond turtle	Ponds, lakes, rivers, creeks, marshes & irrigation ditches with abundant vegetation and rocky or muddy bottoms	SSC
<i>Elanus leucurus</i>	white-tailed kite	Open areas near woodlands and water	FP

SSC=Species of Special Concern

FP=California Fully Protected

**4.4 Wildlife Assessment:** Based on the pre-survey research conducted for this study, a total of nine sensitive wildlife species need to be accounted for within the project area. These consist of the species selected by the CNDDDB for the Calistoga quadrangle and by the WHR analysis. Accepted protocol requires that all CNDDDB species in the surrounding U.S.G.S. quadrangle be discussed even though suitable habitat may not occur on the site. The small proposed development area of mature trees has habitat value mainly for bird species.

- **California freshwater shrimp (*Syncaris pacifica*):** This species occurs in low gradient, low elevation, perennial streams among exposed roots or alders or willows, in pool areas or beneath undercut banks with overhanging vegetation. It has been found in the Napa River and tributary streams to the river. The California freshwater shrimp is listed as both a state and federally endangered species, which gives it in the most highly protected status. Kortum Canyon Creek, which is separated from the project site by a vineyard, is a short-duration ephemeral stream within its Napa Valley segment and is unlikely to provide suitable habitat for this species within or near the Beautiful Day property.
- **Steelhead-Central California Coast DPS (*Oncorhynchus mykiss irideus*):** Steelhead (including rainbow trout) breeding in California streams between the Pajaro River south to the Santa Maria River are categorized as a “distinct population segment” with federally threatened status. This fish occurs in parts of the Napa River but there are no streams within the development area that would support this species.

- **Western pond turtle (*Emys marmorata*):** These turtles prefer slow or ponded water but will range widely through less suitable habitat in search of these sites. The CNDDDB lists occurrences of this species in the Napa Valley. The species is likely to occasionally use Kortum Canyon Creek as a movement corridor when the channel contains water. Additionally there is a pond on the property that may provide habitat for the species if it can be accessed via the small drainage channel extending from Kortum Canyon Creek around the northern and western property boundaries. Regardless, the species is unlikely to be present within the project area. Surveys for turtles were beyond the scope of this assessment.
  
- **Sharp-shinned hawk (*Accipiter striatus*):** This species has been included because it is shown in the CNDDDB for the Calistoga quadrangle and is listed in Table 4-7 of the BDR. It breeds in the following woodland and forest habitats: ponderosa pine, black oak, riparian deciduous woodland, mixed conifer, and Jeffrey pine. It prefers riparian habitats and requires north-facing slopes with plucking perches. There is no preferred habitat for this species within the project area itself. The California Department of Fish and Wildlife has removed this species from the list of California Bird Species of Special Concern and it is now on the Watch List; however, it remains on the Napa County Baseline Data Report Table 4-7 as a sensitive species. As with all raptors, it remains protected under the Migratory Bird Treaty Act and Fish and Game Code.
  
- **White-tailed kite (*Elanus leucurus*):** This species is classified as a California fully protected species. Usually found near agricultural areas, the kite prefers open terrain near woodlands and water. These raptors hunt over open country and prefer large, deciduous trees surrounded by expanses of grassland, meadows, farmland, and/or wetlands for nesting and roosting sites. The proposed development area contains large trees that would provide good nesting habitat for this species, and the open agricultural land in the valley contains suitable hunting territory. The large trees were surveyed at the time of the site visits and no raptor nests were observed. Consequently, this raptor is not present within the property in its sensitive nesting state during the 2015 breeding season.
  
- **American peregrine falcon (*Falco peregrinus anatum*):** This species requires protected cliffs and ledges in canyons for cover. The falcons prefer woodland and forest habitats near water for breeding, and will remain year-long in riparian areas. Population decline has been mostly due to pesticide use. Suitable nesting sites do not occur within the project area. The protected status of this species is applied to active nest sites.

- **Fringed myotis bat (*Myotis thysanodes*):** This bat is a Federal Special Concern species. Along the west coast, this bat is found at low elevations and is associated with redwood forests. Maternity colonies are large, with up to 300 individuals, and are located in caves, mines, and buildings. Day and night roosts may also be in redwood hollows. Suitable habitat for this species does not occur on the property.
- **Townsend's western big-eared bat (*Corynorhinus townsendii ssp. townsendii*):** This species is often readily observable due to its large ears and preference for open roosting sites. It is extremely sensitive to disturbance of roosting sites. This relatively sedentary species refers caves and mines but will use tunnels, bridges or other human-made structures, or hollow trees, for roosting. They require cold sites for hibernation and warm sites for maternity roosts, and typically prefer relatively mesic (moist) habitat such as riparian. They feed mostly on moths and may forage with other species. While this species may occur in parts of the valley and adjacent hills, it is unlikely to roost within the property boundaries.
- **Pallid bat (*Antrozous pallidus*):** Optimal habitat for these bats consists of open forest and woodlands with sources of water over which to feed. They are dependent on riparian or open water sites for both feeding and drinking. These bats require the cool summer temperatures of caves, crevices, and mines as roosting sites but may also use buildings and hollow trees. Foraging occurs over open country. Maternity colonies tend to be in the more protected, isolated locations and may consist of more than 100 individuals. These bats have a home range of 1 to 3 miles and are known to roost with other bat species. This species is extremely sensitive to human disturbance of roosting sites.

This species is included in the CNDDDB in the valley around Calistoga. Suitable nesting structures for this species may occur in the oak community within the project area. A bat habitat survey was conducted for this project, and no bat sign was observed. The results of this survey are discussed in detail in **Section 5.1**.

## 5.0 FIELD SURVEY RESULTS

**5.1 Bat and Raptor Habitat Survey Results:** A survey for bat and raptor habitat was conducted for this project. All mature trees within the proposed development area were assessed individually for raptor nests or for potential as roosting sites for sensitive bat species. These potential bat habitat sites included hollow trees, trees with open cavities, and trees with exfoliating bark. The results are shown in **Table 5**.

Results of raptor nest survey: All of the large trees within the project area were surveyed with binoculars for raptor nests. No raptor nests were found.



Results of bat habitat survey: Three trees were considered to have suitable bat habitat based on the presence of hollows, peeling bark, and broken branches; these are numbered as follows: Trees #49, #50, and #74 (numbers are those on tags installed by the arborist and shown in **Figure 2**). No bat sign was observed; however, Tree #49 is an acorn storage tree used by California acorn woodpeckers (see photos 1 through 3 in **Appendix C**). These trees are maintained by colonies of presumably related woodpeckers over decades and provide essential winter food storage.

The bat survey results are shown in the table below. The trees are mapped in **Figures 2&4**.

**TABLE 5. BAT HABITAT SURVEY RESULTS**

Tree #	Waypoint #	Photo #	Habitat Description	Bat Survey Results
49	14	1,2,3	Valley oak Broken branches; cavities – acorn storage tree	Negative
50	15	4	Valley oak Hollow	Negative
74	38	5	Valley oak Hollows, peeling bark	Negative

**5.2 Botanical Field Survey Results:** Table 6 presents the results of the floristic-level botanical survey of the survey corridor. Each of the sensitive plant taxa potentially occurring at the site and listed in Tables 2 and 3 was specifically searched for during the surveys. A total of 45 native and introduced plant taxa were identified within the survey areas. This relatively low diversity is due to the limited area containing natural vegetation on the property.

One plant taxon with sensitive regulatory status, Northern California black walnut (*Juglans hindsii*), is present on the property along the creek. Due to the widespread loss of these natural populations throughout Northern California, Northern California black walnut is listed as a CNPS rank 1B.1 species. While these trees appear to be growing in a natural state, they may be escapees from a walnut orchard. Regardless, these trees will not be impacted by development activities.

**Note on botanical surveys:** *Even when a site meets the generalized habitat description for a sensitive plant taxon, this is not a guarantee that it is present. The precise habitat requirements for a species cannot be known in most cases. Plants with sensitive regulatory status are rare because they have a narrow band of habitat criteria that must be met. These may include a wide range of factors including microclimate,*

*seasonal soil moisture, soil chemistry and texture, and presence or absence of specific pests or competitors.*

*At present, the specifics of these factors are not known for the vast majority of plant taxa. This issue is understood by regulatory biologists and is dealt with through the requirement that a floristic-level botanical survey be conducted which lists all plants occurring at a site throughout the full range of blooming seasons. Ultimately, the botanical survey determines whether a taxon is present or not present.*

**TABLE 6. FLORA OF THE BEAUTIFUL WINERY PROPERTY**

Habit	Species	Common Name	Family	Origin
forb	<i>Conium maculatum</i>	poison hemlock	Apiaceae	A
forb	<i>Vinca major</i>	greater periwinkle	Apocynaceae	A
forb	<i>Anthemis cotula</i>	dog-fennel	Asteraceae	A
forb	<i>Artemisia douglasiana</i>	mugwort	Asteraceae	N
forb	<i>Cirsium occidentale</i> var. <i>candidissimum</i>	snowy thistle	Asteraceae	N
forb	<i>Picris echoides</i>	bristly ox-tongue	Asteraceae	A
forb	<i>Barbarea orthoceras</i>	American wintercress	Brassicaceae	N
forb	<i>Brassica nigra</i>	black mustard	Brassicaceae	A
forb	<i>Cardamine breweri</i>	Brewer's bittercress	Brassicaceae	N
forb	<i>Euphorbia oblongata</i>	eggleaf spurge	Euphorbiaceae	A
forb	<i>Lupinus nanus</i>	sky lupine	Fabaceae	N
forb	<i>Melilotus indica</i>	sour clover	Fabaceae	A
forb	<i>Trifolium repens</i>	white lawn clover	Fabaceae	A
forb	<i>Vicia villosa</i>	winter vetch	Fabaceae	A
forb	<i>Erodium cicutarium</i>	red-stem storksbill	Geraniaceae	A
forb	<i>Juncus bufonius</i> var. <i>occidentalis</i>	western toad rush	Juncaceae	N
forb	<i>Rumex crispus</i>	curly dock	Polygonaceae	A
forb	<i>Anagalis arvensis</i>	scarlet pimpernel	Primulaceae	A
forb	<i>Ranunculus muricatus</i>	spiny-fruit buttercup	Ranunculaceae	A
forb	<i>Galium aparine</i>	common bedstraw, goose grass	Rubiaceae	N
forb	<i>Scrophularia californica</i> ssp. <i>floribunda</i>	California figwort	Scrophulariaceae	N
forb	<i>Verbascum thapsus</i>	woolly mullein	Scrophulariaceae	A
forb	<i>Veronica anagalis-aquatica</i>	water speedwell	Scrophulariaceae	A
grass	<i>Avena barbata</i>	slender wild oat	Poaceae	A
grass	<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome	Poaceae	N

Habit	Species	Common Name	Family	Origin
grass	<i>Bromus diandrus</i>	ripgut brome, ripgut grass	Poaceae	A
grass	<i>Bromus hordeaceus</i>	soft chess	Poaceae	A
grass	<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	Poaceae	A
shrub	<i>Toxicodendron diversilobum</i>	poison oak	Anacardiaceae	N
shrub	<i>Sambucus nigra ssp. caerulea</i>	blue elderberry	Caprifoliaceae	N
shrub	<i>Rubus armeniacus (discolor)</i>	Himalayan blackberry	Rosaceae	A
shrub	<i>Rubus ursinus</i>	California blackberry	Rosaceae	N
tree	<i>Cornus glabrata</i>	smooth-leaf dogwood	Cornaceae	N
tree	<i>Quercus agrifolia</i>	coast live oak	Fagaceae	N
tree	<i>Quercus kelloggii</i>	California black oak	Fagaceae	N
tree	<i>Quercus lobata</i>	California valley oak	Fagaceae	N
tree	<i>Aesculus californica</i>	California buckeye	Hippocastanaceae	N
<b>tree</b>	<b><i>Juglans hindsii</i></b>	<b>Northern California black walnut; CNPS Rank 1B.1</b>	<b>Juglandaceae</b>	<b>N</b>
tree	<i>Fraxinus latifolia</i>	Oregon ash	Oleaceae	N
tree	<i>Salix laevigata</i>	red willow	Salicaceae	N
tree	<i>Acer macrophyllum</i>	big-leaf maple	Sapindaceae (Aceraceae)	N
tree	<i>Ailanthus altissima</i>	tree of heaven	Simeroubaceae	A
vine	<i>Marah fabaceus</i>	California manroot	Cucurbitaceae	N
vine	<i>Vitis californica</i>	California wild grape	Vitaceae	N

**Origin:** N = Native, A = Alien

## 6.0 DELINEATION OF WATERS OF THE U.S.

**6.1 Purpose of Delineation:** This delineation has been conducted at the request of the local permitting agency in order to determine the extent of possible waters of the U.S. on the property. Measurements were taken using GIS mapping methods<sup>2</sup> verified in the field.

**6.2 Delineation Procedure:** This delineation has been conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, 2008. Waters of the U.S. on this property are defined as “other waters” consisting of small ephemeral stream channels. The delineated boundaries of waters of the U.S. within the survey buffers of the channels are mapped in **Figure 3**. The area of these waters is provided in **Table 7**.

**6.3 Location, Drainage, and Soil Type:** These subjects are discussed in detail in Section 1.2 (Location), Section 3.1 (Topography and Drainage), and Section 3.2 (Soil map) in the biological resource assessment report in which this delineation is included.

**6.4 Delineation Results:** The waterway within the survey area consists of several ephemeral drainage channels and an existing pond, shown in **Figure 3** in light blue. Many of these drainages as well as the pond are outside of the proposed vineyard blocks. The entire property contains **a total of 0.21 acres of waters of the U.S.**

**TABLE 7. POSSIBLE WATERS OF THE U.S.**

<b>POSSIBLE WATERS OF THE U.S. Within the Property Boundaries</b>			
<b>Stream Segment</b>	<b>Length (ft)</b>	<b>Average Width (ft)</b>	<b>Area (acres)</b>
A	171	24	0.09
B	1,064	4.75	0.12
<b>Total Possible Waters of U.S. Within Survey Area</b>			<b>0.21</b>

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<sup>2</sup> ((Pixels/feature)/(dpi of image)) x (map scale in acres/square inch).





Figure 3



## 7.0 NAPA COUNTY WOODLAND ASSESSMENT

The Beautiful Day Vineyard property contains remnants of the California valley oak woodlands that once dominated the Napa Valley. This community is present on the property in two forms. The northwest quarter of the property contains an isolated stand of mature California valley oak and Oregon ash that has been transformed into landscaping via the removal of all understory trees, shrubs, and ground cover. The eastern property boundary follows Kortum Canyon Creek and supports a narrow but intact California valley oak riparian woodland.

These communities are discussed in detail in Section 3.3 of this report. Only the isolated stand of mature valley oaks is analyzed in detail here because it is within the proposed project area. The riparian community is separated from the project area by a vineyard and will not be affected.

**7.1 Procedure:** This woodland analysis follows a protocol reviewed and approved by Napa County planning staff in January 2008.

All of the native trees within the proposed development area were sampled. The trees are mapped in **Figure 4**. All trees were mapped with a GPS waypoint and a record was made of its species, diameter at breast height (DBH), and any unique characteristics (dead, hollow, acorn storage tree, etc.). Multi-trunk trees were calculated based on cumulative cross-sectional area of the trunks and converted to cumulative diameter. The field data for this plot is provided in **Appendix D**.

All trees were independently mapped and assessed for value as wildlife habitat. The tree survey data provided in Appendix D shows both the Northwest Biosurvey GPS waypoint number and the Arborist's tree tag number. To avoid confusion, all tables and mapping in this report use the tree tag number which also appears on project design plans.

**Note on Arborist Evaluation vs. Wildlife Habitat Evaluation:** *It is important to note that the wildlife value of a tree does not relate to the health and form criteria used by arborists, whose principal concerns relate to landscape value and safety. Wildlife value emphasizes the utility of a tree to wildlife, which ranges in the larger scale from providing continuous, un-fragmented habitat, to sit-specific criteria such as cover and habitat value, and potential nesting (both birds and small mammals) or roosting sites.*

*For example, a hollow tree rates high in wildlife value (small mammal dens or colony nesting birds or bat roosts) while rating very low with regard to the values assessed by an arborist. As noted in Section 5.1, an acorn storage tree is essential to the winter*



survival of a colony of California acorn woodpeckers while this same use may significantly decrease its rating to an arborist.

The field data collected for the oak woodland study plot was statistically analyzed to provide the following information:

- Woodland species composition
- Average diameter at base height (DBH) for each species
- Average canopy size within woodland
- Average distance between trunks
- Percent of canopy closure

This data is provided below in **Table 8**.

**TABLE 8. TREE SURVEY DATA SUMMARY – VALLEY OAK WOODLAND**

SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (IN.)	AVERAGE # OF TRUNKS PER ACRE <sup>4</sup>
VOW	28	36.71	13.21
ASH	8	17.50	3.77
TOTAL	36	32.44	<b>16.98</b>
Total area of sample plot (woodland in proposed construction area)		92,349 ft <sup>2</sup>	
Average canopy size <sup>1</sup>		2,309 ft <sup>2</sup> (54 ft diameter)	
Average distance between trunks <sup>2</sup>		50.65 ft	
Canopy closure <sup>3</sup>		90%	

Key:

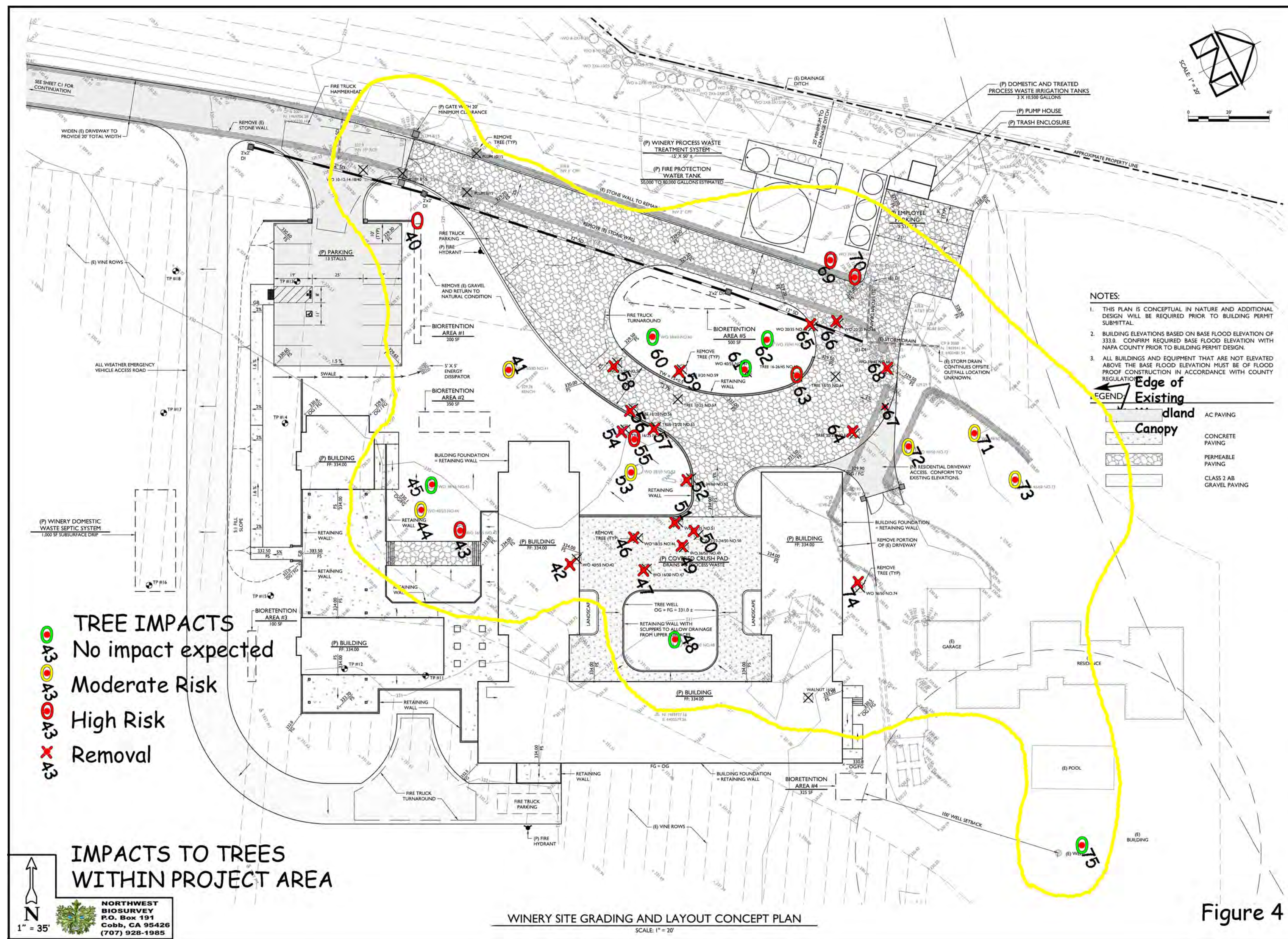
VO=valley oak; OA = Oregon Ash

GPS waypoint for each tree is indicated on the vegetation map provided in Figure 2.

1. Average canopy size per tree/trunk = (area of test plot X percent canopy closure)/combined # of trees in test plots
2. Average distance between trunks = square root of (sample area/total number of trunks)
3. Total area of canopy in community/total area of community
4. Total number of trunks per acre = ((ft<sup>2</sup>/acre)/area of test plot) X number of trunks in test plot

**Table 9** provides an assessment of project-related impacts to the valley oak woodland based on the proposed project design. The design is shown in **Figure 4** along with a graphic depiction of tree location and potential for impact based on factors known to affect oak survival, such as excavation, placement of fill, paving, or compaction within the dripline. The design also calls for the removal of several trees: these are indicated in the table and shown in **Figure 4**.







**TABLE 9. PROJECT-RELATED IMPACTS TO TREES**

<b>TREE TAG #</b>	<b>SPECIES</b>	<b>DIAMETER AT BREAST HEIGHT (DBH) (in.)</b>	<b>PROJECT IMPACT</b>	<b>REASON FOR IMPACT</b>
40	VO	44	At High Risk	Paved and filled beneath dripline
41	VO	65	At Risk	Filled beneath dripline
42	VO	43	Removed	Removed
43	VO	41	At High Risk	Excavation and fill beneath dripline
44	VO	43	At Risk	Excavation and fill beneath dripline
45	VO	44	None	Substrate beneath dripline unmodified
46	VO	19	Removed	Removed
47	VO	17	Removed	Removed
48	VO	49	None	Tree well and permeable surface
49	VO	38	Removed	Removed
50	VO	28,18 (multi-stem)	Removed	Removed
51	VO	17	Removed	Removed
52	VO	38	Removed	Removed
53	VO	39	At Risk	Filled beneath dripline
54	ASH	18	Removed	Removed
55	ASH	10	At High Risk	Paved and filled beneath dripline
56	ASH	10	Removed	Removed
57	ASH	9	Removed	Removed
58	VO	12	Removed	Removed
59	ASH	9	Removed	Removed
60	VO	43	None	Substrate beneath dripline unmodified
61	VO	42	None	Substrate beneath dripline unmodified
62	VO	34	None	Substrate beneath dripline unmodified
63	ASH	27,16 (multi-stem)	At High Risk	Substrate beneath dripline unmodified
64	ASH	20	Removed	Removed
65	VO	21	Removed	Removed
66	VO	19	Removed	Removed
67	ASH	21	Removed	Removed
68	VO	38	Removed	Removed
69	VO	36	At High Risk	Fill and paving beneath dripline

TREE TAG #	SPECIES	DIAMETER AT BREAST HEIGHT (DBH) (in.)	PROJECT IMPACT	REASON FOR IMPACT	
70	VO	30	At High Risk	Fill and paving beneath dripline	
71	VO	48	At Risk	Fill and roadway beneath dripline	
72	VO	38	At Risk	Fill and roadway beneath dripline	
73	VO	46	At Risk	Fill and roadway beneath dripline	
74	VO	42	Removed	Removed	
75	VO	36	None	Substrate beneath dripline unmodified	
IMPACT SUMMARY (Species and Number of Trees)					
Species	Number of Trees Present	No Impact	At Moderate Risk of Loss	At High Risk of Loss	Removed
California Valley Oak	28	6	5	5	12
Oregon Ash	8	1	0	1	6
Total Trees	36	6	6	6	18

**7.2 Regional Setting and Continuity with Surrounding Woodlands and Other Habitat:** This is shown in the regional aerial photo provided in **Figure 5** and in the topographic location map provided in **Figure 1**. As shown in Figure 5, the Beautiful Day Vineyard is located within the floor of the Napa Valley, a site now in heavy use for agriculture and residential use. Vineyards throughout the valley floor are surrounded with deer fence specifically intended to prevent the passage of deer and other large mammals. State Highway 29 along the western edge of the property provides an additional major obstacle to the movement of wildlife. Consequently, use of the Napa Valley floor as a wildlife movement corridor is greatly restricted from historic patterns. Wildlife corridors are now primarily limited to the narrow riparian corridors such as the Napa River and its small, usually ephemeral tributaries stretching west to the Mayacamas Mountains and east to the Howell Mountains along the eastern edge of the Napa Valley.

Wildlife movement through the Beautiful Day property would be largely restricted to the Kortum Canyon Creek riparian corridor, which provides access from the forested foothills of Diamond Mountain to the west to the larger riparian corridor of the Napa River to the East. From the Napa River east, movement would be largely restricted to

the riparian corridor of Simons Canyon Creek, which would provide access to the woodlands and forests of High Point Ridge and the rest of the Howell Mountains. To the extent that deer fencing may extend across these narrow riparian corridors within the Napa Valley, the movement of larger mammals may be prevented from effectively crossing the valley. Wildlife movement through the valley oak woodland in the northwest corner of the property (the proposed project site) would be limited to use by birds due to the loss of its shrub and ground cover layers, its regular use by humans, and its isolation from surrounding woodland habitat.

### **7.3 Wildlife Value of Forest and Woodlands in the Survey Area:**

- **Core Habitat Value:** Core habitat is habitat provided by a plant community in its pure form without the direct influence of surrounding plant communities and intermediate, overlapping edge habitat (edge effect). While many wildlife species can use a wide range of habitats and may even need a mix of habitats to meet their needs, some species are limited to core habitat within a plant community or at least require the presence of core habitat within their home range. This typically requires that the patch size (overall aerial extent) of the habitat be large enough to exclude the edge effect from the surrounding habitats.

Wildlife dependent on core woodland and forest habitat consists primarily of species using trees as shelter or whose food sources are associated with trees. This includes amphibians and reptiles using downed woody debris for cover and whose food consists of insects associated with woody debris. Woodpeckers are obviously associated with woodlands, but many other passerines (perching birds) also depend on woodland insects and plant material or are dependent on dense woodland for nesting sites and cover. Larger mammals such as deer and their predators typically require sites providing dense cover not provided by more open woodlands and grasslands.

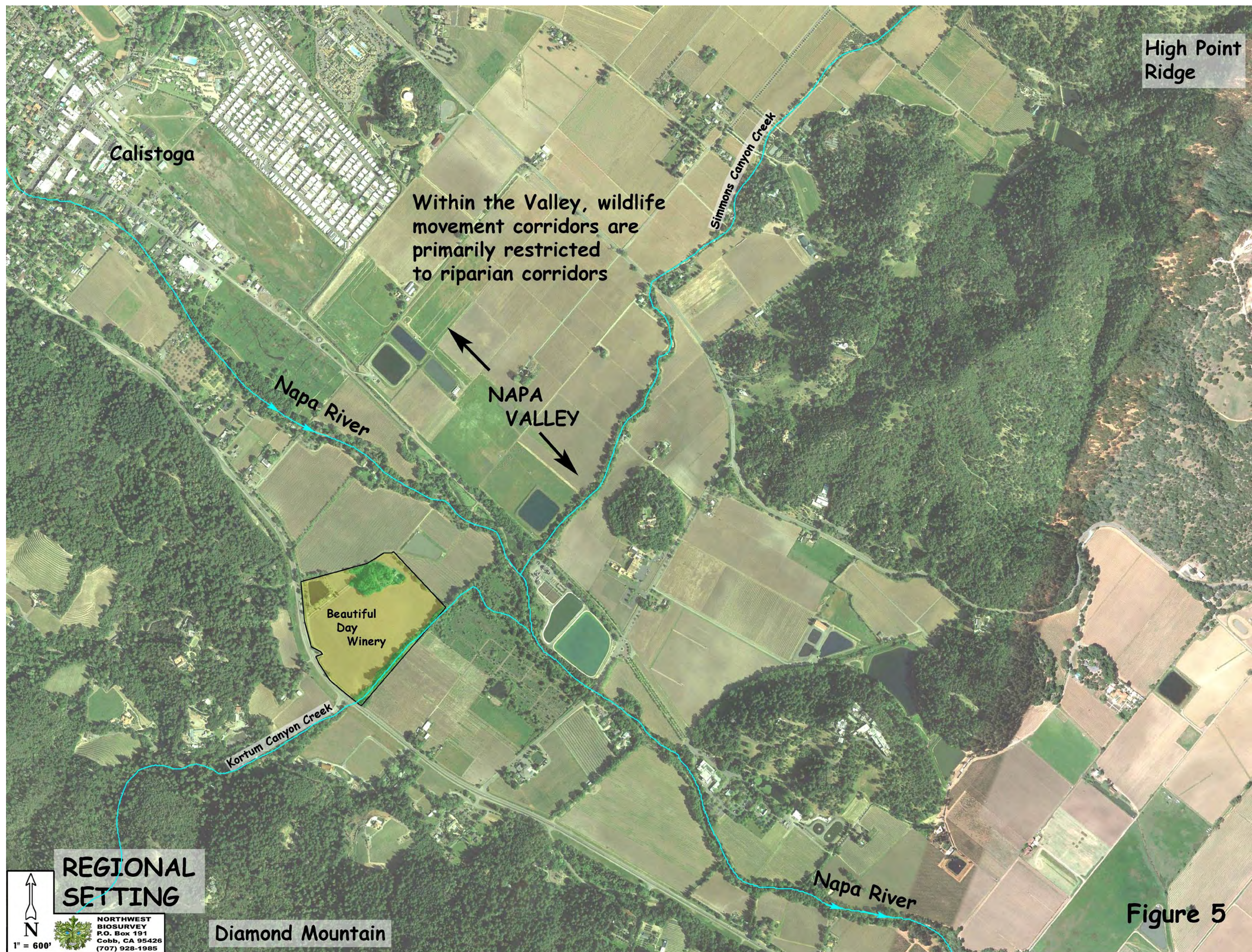
**Table 10** provides a list of wildlife species that use the valley oak woodlands of the surrounding region as core habitat. This list is not intended to be comprehensive. This list focuses on some of the species most likely to depend on these sites as core habitat. The oak woodland within the project site in the northeastern corner of the property would lack virtually all wildlife species dependent on intact woodlands since only the mature oaks and Oregon ash remain here, and the site is now regularly subject to human activity. Additionally, the site is fragmented from surrounding woodland and the remaining patch size is too small to provide anything but edge habitat. The continuous riparian corridor along Kortum Canyon Creek would maintain many of these species and is connected to other such habitats.

**TABLE 10. EXAMPLES OF LOCAL WOODLAND SPECIES POTENTIALLY USING CORE VALLEY OAK WOODLAND HABITATS**

**(Species in yellow would not be present in the project site due to loss of shrub and ground cover layer)**

Common name	Species Name (specific epithet)
COMMON ENSATINA	<i>Ensatina eschscholtzii ssp. oregonensis</i>
CALIFORNIA SLENDER SALAMANDER	<i>Batrachoseps attenuatus</i>
SPECKLED BLACK SALAMANDER	<i>Aneides flavipunctatus</i>
WESTERN FENCE LIZARD	<i>Sceloporus occidentalis</i>
WESTERN SKINK	<i>Eumeces skiltonianus</i>
SOUTHERN ALLIGATOR LIZARD	<i>Elgaria multicarinata</i>
COMMON KINGSNAKE	<i>Lampropeltis getula</i>
CALIFORNIA MOUNTAIN KINGSNAKE	<i>Lampropeltis zonata</i>
WESTERN RATTLESNAKE	<i>Crotalis viridis</i>
BAND-TAILED PIGEON	<i>Columba fasciata</i>
NORTHERN PYGMY OWL	<i>Glaucidium gnoma</i>
NORTHERN SAW-WHET OWL	<i>Aegolius acadicus</i>
ACORN WOODPECKER	<i>Melanerpes formicivorus</i>
RED-BREASTED SAPSUCKER	<i>Sphyrapicus ruber</i>
NUTTALL'S WOODPECKER	<i>Picoides nuttallii</i>
NORTHERN FLICKER	<i>Colaptes auratus</i>
WESTERN WOOD-PEWEE	<i>Contopus sordidulus</i>
PACIFIC-SLOPE FLYCATCHER	<i>Empidonax difficilis</i>
VIOLET-GREEN SWALLOW	<i>Tachycineta thalassina</i>
WESTERN SCRUB JAY	<i>Aphelocoma californica</i>
CHESTNUT-BACKED CHICKADEE	<i>Parus rufescens</i>
OAK TITMOUSE	<i>Parus inornatus</i>
BUSHTIT	<i>Psaltiriparus minimus</i>
WHITE-BREASTED NUTHATCH	<i>Sitta carolinensis</i>
HERMIT THRUSH	<i>Catharus guttatus</i>
HUTTON'S VIREO	<i>Vireo huttoni</i>
WARBLING VIREO	<i>Vireo gilvus</i>
TOWNSEND'S WARBLER	<i>Dendroica townsendi</i>
HERMIT WARBLER	<i>Dendroica occidentalis</i>
BLACK-HEADED GROSBEAK	<i>Pheucticus melanocephalus</i>
DARK-EYED JUNCO	<i>Junco hyemalis</i>
BULLOCK'S ORIOLE	<i>Icterus galbula</i>
PALLID BAT	<i>Antrozous pallidus</i>
FRINGED MYOTIS	<i>Myotis thysanodes</i>
LONG-LEGGED MYOTIS	<i>Myotis volans</i>
WESTERN RED BAT	<i>Lasiurus borealis</i>
BRAZILIAN FREE-TAILED BAT	<i>Tadarida brasiliensis</i>
DUSKY-FOOTED WOODRAT	<i>Neotoma fuscipes</i>
RACCOON	<i>Procyon lotor</i>
OPOSSUM	<i>Didelphis virginiana</i>







- **Value as a Wildlife Corridor:** The project area does not occur within any of the wildlife corridors identified as a *CalWild Linkage* shown in Map 4-2 of the Napa County BDR. However, it is directly connected to the Napa River riparian corridor by Kortum Canyon Creek along the property's eastern edge. The Napa River is the principal remaining north-to-south wildlife corridor in Napa County. Continuity with this corridor and surrounding regions is discussed in more detail above in Section 7.2 – Regional Setting.
- **Cover and Edge Habitat for Surrounding Communities:** The value of woodlands on this property as core habitat is discussed in detail above in Section 7.3. The edge value of the Kortum Canyon Creek riparian habitat is high primarily for birds capable of using adjacent vineyards for hunting and foraging (primarily granivorous and insectivorous passerines and raptors hunting over vineyard properties). This may also be said for the valley oak woodland in the northwest quarter of the property; however, the species richness would be substantially reduced due to the loss of the shrub and ground cover layers. These trees would be expected to provide excellent nesting habitat for raptors due to their very large size and open view of surrounding properties, however, no raptor nests were present during the 2015 survey season and no old nests from previous years were observed (raptors typically reuse the same nest year after year).
- **Presence of Critical Plant Community or Wildlife Resources:**

Critical Plant Communities: The property does not contain vegetation types qualifying as "Sensitive Biotic Communities" listed in the Napa County Baseline Data Report.

Critical Wildlife Resources: A survey for bat habitat was conducted as part of the field surveys for this project. The survey is discussed in **Section 5.1** of this report. A total of 3 trees with qualifying habitat (hollows, peeling bark, etc.) were identified within the project area. No sign of bat use in these trees was found.

Tree #49 (**Figure 2** and photos in **Appendix C**) is an acorn woodpecker storage tree in heavy use by this species. As discussed in Section 5.1, these trees provide critical winter food storage for colonies of California acorn woodpeckers.

- **Woodland Age Class and Size:** The California valley oak riparian woodland along Kortum Canyon Creek contains a broad mix of age classes and appears to have successful regeneration. The California valley oak woodland within the project site is limited to large mature trees due to the removal of all other plant material. It is not possible to determine whether this woodland was in a healthy, regenerating state prior to removal of the subcanopy.

## 8.0 CONFORMANCE WITH NAPA COUNTY BASELINE DATA REPORT (BDR)

Each of the pertinent sections of the Napa County Baseline Data Report was reviewed to determine whether the issues and biological resources with special status in Napa County have been addressed in this biological assessment.

**8.1 Sensitive Biotic Communities:** As discussed in Section 7.3, the property does not contain plant communities qualifying as sensitive biotic communities as listed in the Napa County Baseline Data Report.

**8.2 Special Status Plants and Wildlife:** As noted in Section 2 (Assessment Methodology), the pre-survey research conducted for this project included systematic reviews of the California Natural Diversity Database (CNDDDB), California Native Plant Society Electronic Inventory, and California Department of Fish and Wildlife's Wildlife Habitat Relationships Program. The list of special status plants and wildlife used in the BDR is derived from the CNDDDB. Additionally, Tables 4-6 and 4-7 of the Special Status Plants and Wildlife sections of the BDR were reviewed to assure consistency between the lists. All species listed in the CNDDDB are subject to CEQA review pursuant to Section 15380 (d) of the CEQA Guidelines.

A total of 45 plant taxa were identified within the property. This is a relatively low number but is due to the small amount of undeveloped acreage on the property and loss of the shrub and ground cover layers within the construction area. One taxon with sensitive regulatory status in California was found within the California valley oak riparian forest along Kortum Canyon Creek: Northern California black walnut (*Juglans hindsii*). This is a CNPS rank 1B.1 plant; however, it does not occur within the proposed project area and will not be affected.

As noted in **Section 5.1**, a survey conducted for bat habitat identified 3 trees providing potential habitat (peeling bark, hollows, etc.) for bats. However, there was no sign present indicating that these trees are being used or have been used by bats. No further bat surveys are recommended.

**8.3 Potential Wildlife Movement Corridors:** The CalWild Linkage Map presented in Map 4-2 of the BDR was reviewed with respect to this project. The project area is not within a movement area as defined by the CalWild database. The site does directly connect to the Napa River wildlife corridor via Kortum Canyon Creek. Local wildlife movement is discussed in detail in the Woodland Assessment, Section 7.3.

**8.4. Fisheries Resources:** There are no fisheries resources within the project area.

## 9.0 SUMMARY, IMPACT ANALYSIS, AND RECOMMENDATIONS

**9.1 Summary:** This biological resource assessment involved the following analyses and surveys for sensitive plants and wildlife potentially occurring in the vicinity of the project:

- Review of current California Natural Diversity Database (CNDDDB) mapping of known sensitive plant and wildlife populations within the region.
- An analysis of the suitability of the site for sensitive plants and wildlife using the California Native Plant Society *Electronic Inventory of Rare and Endangered Vascular Plants of California*, and the California Department of Fish and Wildlife's *Wildlife Habitat Relationships System*.
- A California Department of Fish and Wildlife protocol, floristic-level field survey of the plants occurring within and in the immediate vicinity of the project.
- Surveys for sensitive bat habitat and raptor nests.
- A delineation of waters of the U.S. conducted according to the *Corps of Engineers Wetlands Delineation Manual, January 1987* as updated by the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2008*.
- A woodland assessment conducted in conformance with Napa County policy.
- Review of the Napa County Baseline Data Report (BDR), 2005.

**Sensitive Plants:** A total of 45 native and introduced plant taxa were identified on the property during the in-season, floristic-level botanical survey. No sensitive plant species were identified. As used here, the term sensitive includes species having state or federal regulatory status, defined as Rare Plant Ranks 1B through 4 by the California Native Plant Society, or otherwise listed in the California Natural Diversity Database.

One plant taxon with sensitive regulatory status, Northern California black walnut (*Juglans hindsii*), is present on the property. While they appear to be growing in a natural state they may be escapees from a walnut orchard. Regardless, these trees are located along the creek and will not be impacted by development activities.

**Sensitive Wildlife:** A total of nine sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDDB database for the quadrangle or due to selection by the WHR database. Potential habitat is not

present for any of the assessed species. However, numerous avian species currently use the mature woodland as habitat.

Surveys were conducted for bat habitat within the woodland in the project area but no bat sign was found, although potential habitat was found in three trees (trees that had hollows or peeling bark). Based on the survey results, there is no evidence to indicate that this habitat is currently used by any bat species and no further surveys for them are recommended if development or tree removal occurs in the next few months.

**Woodland Resources:** A Napa County Woodland Assessment was conducted for this project and is provided in Section 7.0. As shown in Table 1, the property contains 3.44 combined acres of California valley oak woodland (1.96 acres) and California valley oak riparian woodland (1.48 acres). The 1.96 acre California valley oak woodland occurs within the proposed project area. Potential impacts to this woodland are discussed in detail in Section 7.1. They are listed in Table 9 and shown in Figure 4. Woodland along the riparian corridor of Kortum Creek will not be affected.

**Possible Waters of U.S.:** A total of 0.21 acres of possible waters of the U.S. has been delineated in ephemeral drainages and a pond on the parcel. Some of these possible waters of the U.S. occur within the proposed vineyard blocks.

## **9.2 Potential Impacts to Biological Resources:**

- 1. Potential Habitat Fragmentation:** The Napa County Baseline Data Report emphasizes preservation of wildlife corridors and prevention of habitat fragmentation. As discussed in Section 7.2 "Regional Setting" and 7.3 "Value as a Wildlife Corridor", the Kortum Canyon Creek riparian corridor serves as an important west-east corridor from woodlands of the Mayacamas Range with the Napa River riparian corridor which is the primary north-south wildlife corridor in Napa County. This important corridor is separated from the project area by vineyard development and should not be impacted by the proposed project.

The two-acre California valley oak woodland that is the subject of the proposed winery development in the northwestern quarter of the property is isolated from other woodlands by extensive vineyard development and associated deer fencing. While it is no longer suitable habitat for most wildlife, it remains as habitat for a number of woodland bird species and exists as one of the isolated woodland "islands" within

the Napa Valley. With regard to birds, the question of habitat fragmentation becomes more abstract due to the obvious fact that they can fly between acceptable woodland habitats. It is likely that the separation of this closed canopy woodland into isolated trees would add to ongoing habitat fragmentation within the Napa Valley but to an extent that is difficult to quantify.

It is possible to offset some of these less definable impacts with direct improvements to the valuable Kortum Canyon Creek wildlife corridor. These will be discussed below under "Recommended Mitigation".

- 2. Woodland and Forest Resources:** Impacts to woodland and forest resources within the project area are discussed in detail in Section 7.1 of the Woodland Analysis, and are quantified in Table 9 and depicted in Figure 4. Of 36 trees within the project area, 18 will be removed, 6 are at high risk of subsequent loss, 5 are at moderate risk of subsequent loss, and 7 are unlikely to be affected.

The significance of this impact must be determined by County staff in conformance with *Napa County General Plan policy CON-22*. Mitigation for this impact may include project design incorporating oak preservation practices as discussed below under "Recommended Mitigation".

- 3. Potential Impacts to Sensitive Plants and Wildlife:** A full floristic-level botanical survey was conducted within the property boundaries. A single species with sensitive regulatory status in California was identified. Northern California black walnut (*Juglans hindsii*), a CNPS rank 1B.1 species occurs within the riparian corridor of Kortum Canyon Creek along the eastern property boundary. The Kortum Canyon Creek riparian corridor is not included within the proposed project and is isolated from it by vineyard development. Northern California black walnut will not be impacted by the proposed project.

Potential habitat for pallid bat was identified in 3 trees occurring within proposed project area; however, there is no indication that these trees are being used or have been used in the past by bats, and no further surveys are recommended. Additionally, California valley oaks within the project area provide suitable potential habitat for nesting raptors. An in-season survey was conducted for nesting raptors and none were found.

Raptors reuse nests and the absence of raptor nests indicates that these trees have not been used for nesting by raptors in the recent past.

Tree #49 (mapped in Figure 2) is an acorn woodpecker storage tree in current heavy use. These trees provide critical winter food storage for colonies of acorn woodpeckers and consideration should be given to preserving this tree. California acorn woodpeckers do not have sensitive regulatory status.

Additionally, pursuant to the Migratory Bird Act, any nesting migratory birds (including a wide range of common passerines) must be allowed to complete their nesting and fledging period (cumulatively February 15 through August 30) unmolested. This is generally enforced as a “no-cut” period for trees containing nesting migratory birds unless surveys determine that no nesting migratory birds are present (a generally impractical task in a woodland).

- 4. Potential Impacts to Waters of the U.S.:** A total of 0.21 acre of waters of the U.S. occurs on the property as portions of Kortum Canyon Creek extending into the property boundaries and as a small constructed drainage channel along the western and northern edges of the property. These waters are outside of the project boundaries and should not be impacted.

**9.3 Recommended Mitigation:** For all recommended measures accepted as mitigation for this project, declarative language should be used (all “shoulds” should be replaced by “shalls”, etc.).

- 1. Woodland Habitat Fragmentation:** Habitat fragmentation resulting from tree removal and loss within the California Valley Oak Woodland in the northwest quarter of the property should be mitigated through two approaches:
  - a) Reduce tree loss by incorporating oak preservation practices into the project design (discussed below under “woodland Habitat Loss”).
    - 1) Offset fragmentation impacts through enhancement of the Kortum Creek wildlife corridor. These should include: Avoidance and/or removal of fences and other obstacles to wildlife movement within the banks and riparian canopy of Kortum Creek.

- 2) To the extent practical and as an available mitigation trade-off, increase the riparian buffer along Kortum Creek to provide additional wildlife cover and to allow expansion of the riparian community here.

**2. Woodland Habitat Loss:** To mitigate and offset impacts to woodland resources within the California Valley Oak Woodland in the project area, the project design should incorporate the recommendations of a qualified arborist. The design should emphasize oak preservation and may incorporate the following considerations based on the recommendations of the arborist:

- a) Where possible, place structures outside of the dripline of trees.
- b) Avoid trenching, placement of fill, or paving within the dripline of trees.
- c) Where surfacing or walkways are required beneath trees, use permeable surfacing, raised decks, or surface vented, subsurface aeration lines as may be recommended by the arborist.
- d) Project design should emphasize preservation of groupings of trees in order to maintain continuous shaded canopy.
- e) Incorporate intact woodland into the design as a project asset for patrons.

*As a general consideration, 90-percent of the root mass of an oak occurs within one-and-a-half times the width of the dripline and within 3 feet of the ground surface. As a rule of thumb, disruption of roots within one-half the distance between the trunk and outer edge of the dripline results in a 50-percent chance of survival.*

**3. Potential Impacts to Sensitive Wildlife:** In the event that construction occurs between February 15 and August 31, the work should be preceded by a survey by a qualified biologist for nesting migratory birds. In the event that nesting birds meeting this criterion are found, construction should be delayed until fledging is complete as determined by a qualified biologist or until after August 31. Otherwise, tree removal should be restricted to dates outside of the nesting season. Construction in subsequent years 2016 and after should include surveys for nesting



raptors. Based on the arborist report for this project the California acorn woodpecker storage tree (tree #49) is in unsafe condition and would pose a threat to the public and structures. In the event that this tree must be removed for safety or other reasons, this should be done in the late winter just prior to the beginning of the nesting season (February 15) to allow maximum use of the season's food storage. Removal can and should be done later (mid-May) if the above requirements for nesting migratory birds can be met.

- 4. Potential Impacts to Waters of the U.S.:** Fill or grading within the ephemeral channels marked as waters of the U.S. in Figure 3 will require approval of a Nationwide Permit (or non-reporting permit) from the U.S. Army Corps of Engineers, a Water Quality Certification 401 permit from the Regional Water Quality Control Board, and a 1603 Stream Alteration Agreement from the California Department of Fish and Wildlife.

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# ***APPENDIX A***

## **CNDDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE SURROUNDING CALIF. 7½' QUADS.**

### Surrounding 9-Quad List: Calistoga Quadrangle

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Aetna Springs	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Aetna Springs	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Aetna Springs	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Aetna Springs	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Aetna Springs	<i>Agelaius tricolor</i>	tricolored blackbird	None	End	SSC	-
Aetna Springs	<i>Vandykea tuberculata</i>	serpentine cypress long-horned beetle	None	None	-	-
Aetna Springs	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Aetna Springs	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	Cand Threat	SSC	-
Aetna Springs	<i>Lasionycteris noctivagans</i>	silver-haired bat	None	None	-	-
Aetna Springs	<i>Lasiurus blossevillii</i>	western red bat	None	None	SSC	-
Aetna Springs	<i>Lasiurus cinereus</i>	hoary bat	None	None	-	-
Aetna Springs	<i>Myotis ciliolabrum</i>	western small-footed myotis	None	None	-	-
Aetna Springs	<i>Myotis evotis</i>	long-eared myotis	None	None	-	-
Aetna Springs	<i>Myotis thysanodes</i>	fringed myotis	None	None	-	-
Aetna Springs	<i>Myotis volans</i>	long-legged myotis	None	None	-	-
Aetna Springs	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Aetna Springs	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Aetna Springs	<i>Serpentine Bunchgrass</i>	Serpentine Bunchgrass	None	None	-	-
Aetna Springs	<i>Wildflower Field</i>	Wildflower Field	None	None	-	-
Aetna Springs	<i>Centromadia parryi ssp. parryi</i>	pappose tarplant	None	None	-	1B.2
Aetna Springs	<i>Harmonia hallii</i>	Hall's harmonia	None	None	-	1B.2
Aetna Springs	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Aetna Springs	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
Aetna Springs	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Aetna Springs	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	-	1B.2
Aetna Springs	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2
Aetna Springs	<i>Streptanthus morrisonii ssp. elatus</i>	Three Peaks jewelflower	None	None	-	1B.2
Aetna Springs	<i>Calystegia collina ssp. oxyphylla</i>	Mt. Saint Helena morning-glory	None	None	-	4.2
Aetna Springs	<i>Amorpha californica var. napensis</i>	Napa false indigo	None	None	-	1B.2
Aetna Springs	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
Aetna Springs	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Aetna Springs	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Aetna Springs	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
Aetna Springs	<i>Fritillaria pluriflora</i>	adobe-lily	None	None	-	1B.2
Aetna Springs	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Aetna Springs	<i>Lilium bolanderi</i>	Bolander's lily	None	None	-	4.2
Aetna Springs	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	None	None	-	1B.2
Aetna Springs	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Aetna Springs	Toxicoscordion fontanum	marsh zigadenus	None	None	-	4.2
Aetna Springs	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
Aetna Springs	Cypripedium montanum	mountain lady's-slipper	None	None	-	4.2
Aetna Springs	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Aetna Springs	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
Aetna Springs	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
Aetna Springs	Collomia diversifolia	serpentine collomia	None	None	-	4.3
Aetna Springs	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Aetna Springs	Navarretia cotulifolia	cotula navarretia	None	None	-	4.2
Aetna Springs	Navarretia jepsonii	Jepson's navarretia	None	None	-	4.3
Aetna Springs	Navarretia rosulata	Marin County navarretia	None	None	-	1B.2
Aetna Springs	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
Aetna Springs	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Aetna Springs	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Calistoga	Accipiter striatus	sharp-shinned hawk	None	None	WL	-
Calistoga	Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	-
Calistoga	Syncaris pacifica	California freshwater shrimp	End	End	-	-
Calistoga	Hysterocarpus traski pomo	Russian River tule perch	None	None	SSC	-
Calistoga	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Calistoga	Antrozous pallidus	pallid bat	None	None	SSC	-
Calistoga	Corynorhinus townsendii	Townsend's big-eared bat	None	Cand Threat	SSC	-
Calistoga	Myotis evotis	long-eared myotis	None	None	-	-
Calistoga	Myotis thysanodes	fringed myotis	None	None	-	-
Calistoga	Myotis yumanensis	Yuma myotis	None	None	-	-
Calistoga	Emys marmorata	western pond turtle	None	None	SSC	-
Calistoga	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	-	-
Calistoga	Eryngium constancei	Loch Lomond button-celery	End	End	-	1B.1
Calistoga	Lomatium repostum	Napa lomatium	None	None	-	4.3
Calistoga	Centromadia parryi ssp. parryi	pappose tarplant	None	None	-	1B.2
Calistoga	Erigeron biolettii	streamside daisy	None	None	-	3
Calistoga	Harmonia nutans	nodding harmonia	None	None	-	4.3
Calistoga	Lasthenia burkei	Burke's goldfields	End	End	-	1B.1
Calistoga	Lessingia hololeuca	woolly-headed lessingia	None	None	-	3
Calistoga	Plagiobothrys strictus	Calistoga popcornflower	End	Threat	-	1B.1
Calistoga	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	-	1B.1
Calistoga	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Calistoga	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Calistoga	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Calistoga	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2



QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Calistoga	Trifolium hydrophilum	saline clover	None	None	-	1B.2
Calistoga	Monardella viridis	green monardella	None	None	-	4.3
Calistoga	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Calistoga	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Calistoga	Limnanthes vinculans	Sebastopol meadowfoam	End	End	-	1B.1
Calistoga	Sidalcea hickmanii ssp. napensis	Napa checkerbloom	None	None	-	1B.1
Calistoga	Clarkia breweri	Brewer's clarkia	None	None	-	4.2
Calistoga	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
Calistoga	Poa napensis	Napa blue grass	End	End	-	1B.1
Calistoga	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Calistoga	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Calistoga	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Calistoga	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Calistoga	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Calistoga	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Calistoga	Triteleia lugens	dark-mouthed triteleia	None	None	-	4.3
Detert Reservoir	Rana boylei	foothill yellow-legged frog	None	None	SSC	-
Detert Reservoir	Falco mexicanus	prairie falcon	None	None	WL	-
Detert Reservoir	Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	-
Detert Reservoir	Progne subis	purple martin	None	None	SSC	-
Detert Reservoir	Agelaius tricolor	tricolored blackbird	None	End	SSC	-
Detert Reservoir	Trachykele hartmani	serpentine cypress wood-boring beetle	None	None	-	-
Detert Reservoir	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	None	None	-	-
Detert Reservoir	Antrozous pallidus	pallid bat	None	None	SSC	-
Detert Reservoir	Corynorhinus townsendii	Townsend's big-eared bat	None	Cand Threat	SSC	-
Detert Reservoir	Lasionycteris noctivagans	silver-haired bat	None	None	-	-
Detert Reservoir	Lasiurus blossevillii	western red bat	None	None	SSC	-
Detert Reservoir	Lasiurus cinereus	hoary bat	None	None	-	-
Detert Reservoir	Myotis ciliolabrum	western small-footed myotis	None	None	-	-
Detert Reservoir	Myotis evotis	long-eared myotis	None	None	-	-
Detert Reservoir	Myotis yumanensis	Yuma myotis	None	None	-	-
Detert Reservoir	Emys marmorata	western pond turtle	None	None	SSC	-
Detert Reservoir	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
Detert Reservoir	Asclepias solanoana	serpentine milkweed	None	None	-	4.2
Detert Reservoir	Erigeron biolettii	streamside daisy	None	None	-	3
Detert Reservoir	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Detert Reservoir	Harmonia hallii	Hall's harmonia	None	None	-	1B.2
Detert Reservoir	Harmonia nutans	nodding harmonia	None	None	-	4.3
Detert Reservoir	Layia septentrionalis	Colusa layia	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Detert Reservoir	Cryptantha dissita	serpentine cryptantha	None	None	-	1B.2
Detert Reservoir	Streptanthus batrachopus	Tamalpais jewelflower	None	None	-	1B.3
Detert Reservoir	Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewelflower	None	None	-	1B.2
Detert Reservoir	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
Detert Reservoir	Streptanthus morrisonii ssp. elatus	Three Peaks jewelflower	None	None	-	1B.2
Detert Reservoir	Streptanthus vernalis	early jewelflower	None	None	-	1B.2
Detert Reservoir	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	-	4.2
Detert Reservoir	Calystegia collina ssp. venusta	South Coast Range morning-glory	None	None	-	4.3
Detert Reservoir	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Detert Reservoir	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Detert Reservoir	Astragalus clevelandii	Cleveland's milk-vetch	None	None	-	4.3
Detert Reservoir	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	None	None	-	1B.2
Detert Reservoir	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
Detert Reservoir	Ribes victoris	Victor's gooseberry	None	None	-	4.3
Detert Reservoir	Juncus luciensis	Santa Lucia dwarf rush	None	None	-	1B.2
Detert Reservoir	Trichostema ruygtii	Napa bluecurls	None	None	-	1B.2
Detert Reservoir	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Detert Reservoir	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Detert Reservoir	Limnanthes floccosa ssp. floccosa	woolly meadowfoam	None	None	-	4.2
Detert Reservoir	Hesperolinon bicarpellatum	two-carpellate western flax	None	None	-	1B.2
Detert Reservoir	Hesperolinon sharsmithiae	Sharsmith's western flax	None	None	-	1B.2
Detert Reservoir	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
Detert Reservoir	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Detert Reservoir	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Detert Reservoir	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
Detert Reservoir	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
Detert Reservoir	Collomia diversifolia	serpentine collomia	None	None	-	4.3
Detert Reservoir	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Detert Reservoir	Navarretia myersii ssp. deminuta	small pincushion navarretia	None	None	-	1B.1
Detert Reservoir	Eriogonum umbellatum var. bahiiforme	bay buckwheat	None	None	-	4.2
Detert Reservoir	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
Detert Reservoir	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Detert Reservoir	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Detert Reservoir	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Detert Reservoir	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Kenwood	Rana boylei	foothill yellow-legged frog	None	None	SSC	-
Kenwood	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Kenwood	Taricha torosa	Coast Range newt	None	None	SSC	-
Kenwood	Strix occidentalis caurina	northern spotted owl	Threat	Cand Threat	SSC	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Kenwood	<i>Syncaris pacifica</i>	California freshwater shrimp	End	End	-	-
Kenwood	<i>Hysterocarpus traski</i> pomo	Russian River tule perch	None	None	SSC	-
Kenwood	<i>Oncorhynchus mykiss</i> irideus	steelhead - central California coast DPS	Threat	None	-	-
Kenwood	<i>Hydroporus leechi</i>	Leech's skyline diving beetle	None	None	-	-
Kenwood	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Kenwood	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Kenwood	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
Kenwood	Valley Needlegrass Grassland	Valley Needlegrass Grassland	None	None	-	-
Kenwood	<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	None	None	-	1B.2
Kenwood	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3
Kenwood	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Kenwood	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Kenwood	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Kenwood	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Kenwood	<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None	-	2B.3
Kenwood	<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon Ridge manzanita	None	None	-	1B.1
Kenwood	<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None	-	1B.2
Kenwood	<i>Trifolium amoenum</i>	showy rancheria clover	End	None	-	1B.1
Kenwood	<i>Calochortus uniflorus</i>	pink star-tulip	None	None	-	4.2
Kenwood	<i>Sidalcea oregana</i> ssp. <i>valida</i>	Kenwood Marsh checkerbloom	End	End	-	1B.1
Kenwood	<i>Calandrinia breweri</i>	Brewer's calandrinia	None	None	-	4.2
Kenwood	<i>Clarkia breweri</i>	Brewer's clarkia	None	None	-	4.2
Kenwood	<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	None	None	-	4.2
Kenwood	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Kenwood	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Kenwood	<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	Sonoma alopecurus	End	None	-	1B.1
Kenwood	<i>Calamagrostis ophitidis</i>	serpentine reed grass	None	None	-	4.3
Kenwood	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Kenwood	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Kenwood	<i>Navarretia heterandra</i>	Tehama navarretia	None	None	-	4.3
Kenwood	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	-	1B.1
Kenwood	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Kenwood	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Kenwood	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Kenwood	<i>Ceanothus gloriosus</i> var. <i>exaltatus</i>	glory brush	None	None	-	4.3
Kenwood	<i>Ceanothus purpureus</i>	holly-leaved ceanothus	None	None	-	1B.2
Kenwood	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Kenwood	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Mark West Springs	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-



QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Mark West Springs	<i>Syncaris pacifica</i>	California freshwater shrimp	End	End	-	-
Mark West Springs	<i>Lavinia symmetricus navarroensis</i>	Navarro roach	None	None	SSC	-
Mark West Springs	<i>Hysterocarpus traski pomo</i>	Russian River tule perch	None	None	SSC	-
Mark West Springs	<i>Lampetra ayresii</i>	river lamprey	None	None	SSC	-
Mark West Springs	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Mark West Springs	<i>Taxidea taxus</i>	American badger	None	None	SSC	-
Mark West Springs	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Mark West Springs	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	Cand Threat	SSC	-
Mark West Springs	<i>Myotis thysanodes</i>	fringed myotis	None	None	-	-
Mark West Springs	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Mark West Springs	<i>Anomobryum julaceum</i>	slender silver moss	None	None	-	4.2
Mark West Springs	<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	None	None	-	1B.2
Mark West Springs	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Mark West Springs	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Mark West Springs	<i>Microseris paludosa</i>	marsh microseris	None	None	-	1B.2
Mark West Springs	<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None	-	2B.3
Mark West Springs	<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Mt. Saint Helena morning-glory	None	None	-	4.2
Mark West Springs	<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None	-	1B.2
Mark West Springs	<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Mark West Springs	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Mark West Springs	<i>Lilium rubescens</i>	redwood lily	None	None	-	4.2
Mark West Springs	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	None	End	-	1B.2
Mark West Springs	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Mark West Springs	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	-	1B.1
Mark West Springs	<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	many-flowered navarretia	End	End	-	1B.2
Mark West Springs	<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i>	bay buckwheat	None	None	-	4.2
Mark West Springs	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Mark West Springs	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Mark West Springs	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Mark West Springs	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Mount St. Helena	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Mount St. Helena	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Mount St. Helena	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Mount St. Helena	<i>Stygobromus cherylae</i>	Barr's amphipod	None	None	-	-
Mount St. Helena	<i>Hysterocarpus traski pomo</i>	Russian River tule perch	None	None	SSC	-
Mount St. Helena	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Mount St. Helena	<i>Trachykele hartmani</i>	serpentine cypress wood-boring beetle	None	None	-	-
Mount St. Helena	<i>Pekania pennanti</i>	fisher - West Coast DPS	Prop Threat	Cand Threat	SSC	-
Mount St. Helena	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Mount St. Helena	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	Cand Threat	SSC	-
Mount St. Helena	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Mount St. Helena	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3
Mount St. Helena	<i>Erigeron greenii</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Mount St. Helena	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Mount St. Helena	<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i>	Freed's jewelflower	None	None	-	1B.2
Mount St. Helena	<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	None	None	-	1B.3
Mount St. Helena	<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None	-	1B.2
Mount St. Helena	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Mount St. Helena	<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	None	None	-	1B.2
Mount St. Helena	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Mount St. Helena	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
Mount St. Helena	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Mount St. Helena	<i>Limnanthes vincularis</i>	Sebastopol meadowfoam	End	End	-	1B.1
Mount St. Helena	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	None	None	-	1B.2
Mount St. Helena	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	None	None	-	1B.2
Mount St. Helena	<i>Sidalcea oregana</i> ssp. <i>valida</i>	Kenwood Marsh checkerbloom	End	End	-	1B.1
Mount St. Helena	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Mount St. Helena	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Mount St. Helena	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Mount St. Helena	<i>Navarretia cotulifolia</i>	cotula navarretia	None	None	-	4.2
Mount St. Helena	<i>Eriogonum nervulosum</i>	Snow Mountain buckwheat	None	None	-	1B.2
Mount St. Helena	<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	slender-leaved pondweed	None	None	-	2B.2
Mount St. Helena	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Mount St. Helena	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Mount St. Helena	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Mount St. Helena	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Rutherford	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Rutherford	<i>Buteo swainsoni</i>	Swainson's hawk	None	Threat	-	-
Rutherford	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Rutherford	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Rutherford	<i>Cypseloides niger</i>	black swift	None	None	SSC	-
Rutherford	<i>Icteria virens</i>	yellow-breasted chat	None	None	SSC	-
Rutherford	<i>Setophaga petechia</i>	yellow warbler	None	None	SSC	-
Rutherford	<i>Oncorhynchus mykiss</i> <i>irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Rutherford	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Rutherford	<i>Gonidea angulata</i>	western ridged mussel	None	None	-	-
Rutherford	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Rutherford	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Rutherford	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Rutherford	Harmonia nutans	nodding harmonia	None	None	-	4.3
Rutherford	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
Rutherford	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	-	1B.1
Rutherford	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Rutherford	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Rutherford	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
Rutherford	Clarkia breweri	Brewer's clarkia	None	None	-	4.2
Rutherford	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Rutherford	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Rutherford	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Rutherford	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Rutherford	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Rutherford	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Santa Rosa	Ambystoma californiense	California tiger salamander	Threat	Threat	SSC	-
Santa Rosa	Rana boylei	foothill yellow-legged frog	None	None	SSC	-
Santa Rosa	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Santa Rosa	Accipiter cooperii	Cooper's hawk	None	None	WL	-
Santa Rosa	Elanus leucurus	white-tailed kite	None	None	FP	-
Santa Rosa	Linderiella occidentalis	California linderiella	None	None	-	-
Santa Rosa	Lavinia symmetricus navarroensis	Navarro roach	None	None	SSC	-
Santa Rosa	Hysterotheca traski pomom	Russian River tule perch	None	None	SSC	-
Santa Rosa	Entosphenus tridentatus	Pacific lamprey	None	None	-	-
Santa Rosa	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Santa Rosa	Oncorhynchus tshawytscha	chinook salmon - California coastal ESU	Threat	None	-	-
Santa Rosa	Andrena blennospermatis	Blennosperma vernal pool andrenid bee	None	None	-	-
Santa Rosa	Taxidea taxus	American badger	None	None	SSC	-
Santa Rosa	Antrozous pallidus	pallid bat	None	None	SSC	-
Santa Rosa	Emys marmorata	western pond turtle	None	None	SSC	-
Santa Rosa	Valley Needlegrass Grassland	Valley Needlegrass Grassland	None	None	-	-
Santa Rosa	Triquetrella californica	coastal triquetrella	None	None	-	1B.2
Santa Rosa	Balsamorhiza macrolepis	big-scale balsamroot	None	None	-	1B.2
Santa Rosa	Blennosperma bakeri	Sonoma sunshine	End	End	-	1B.1
Santa Rosa	Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	None	None	-	1B.2
Santa Rosa	Lasthenia burkei	Burke's goldfields	End	End	-	1B.1
Santa Rosa	Amsinckia lunaris	bent-flowered fiddleneck	None	None	-	1B.2
Santa Rosa	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	-	1B.1
Santa Rosa	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Santa Rosa	Trifolium amoenum	showy rancheria clover	End	None	-	1B.1



QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFG	CNPS
Santa Rosa	Trifolium hydrophilum	saline clover	None	None	-	1B.2
Santa Rosa	Calochortus uniflorus	pink star-tulip	None	None	-	4.2
Santa Rosa	Fritillaria liliacea	fragrant fritillary	None	None	-	1B.2
Santa Rosa	Limnanthes vincularis	Sebastopol meadowfoam	End	End	-	1B.1
Santa Rosa	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Santa Rosa	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Santa Rosa	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Santa Rosa	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Santa Rosa	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Santa Rosa	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Santa Rosa	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
St. Helena	Rana boylei	foothill yellow-legged frog	None	None	SSC	-
St. Helena	Rana draytonii	California red-legged frog	Threat	None	SSC	-
St. Helena	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
St. Helena	Ardea herodias	great blue heron	None	None	-	-
St. Helena	Progne subis	purple martin	None	None	SSC	-
St. Helena	Athene cunicularia	burrowing owl	None	None	SSC	-
St. Helena	Otus flammeolus	flamulated owl	None	None	-	-
St. Helena	Strix occidentalis caurina	northern spotted owl	Threat	Cand Threat	SSC	-
St. Helena	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
St. Helena	Antrozous pallidus	pallid bat	None	None	SSC	-
St. Helena	Corynorhinus townsendii	Townsend's big-eared bat	None	Cand Threat	SSC	-
St. Helena	Myotis evotis	long-eared myotis	None	None	-	-
St. Helena	Myotis thysanodes	fringed myotis	None	None	-	-
St. Helena	Myotis yumanensis	Yuma myotis	None	None	-	-
St. Helena	Emys marmorata	western pond turtle	None	None	SSC	-
St. Helena	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
St. Helena	Lomatium repostum	Napa lomatium	None	None	-	4.3
St. Helena	Erigeron biolettii	streamside daisy	None	None	-	3
St. Helena	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
St. Helena	Harmonia nutans	nodding harmonia	None	None	-	4.3
St. Helena	Layia septentrionalis	Colusa layia	None	None	-	1B.2
St. Helena	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
St. Helena	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
St. Helena	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
St. Helena	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
St. Helena	Astragalus clevelandii	Cleveland's milk-vetch	None	None	-	4.3
St. Helena	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
St. Helena	Trichostema ruygtii	Napa bluecurls	None	None	-	1B.2
St. Helena	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2

St. Helena	Hesperolinon sharsmithiae	Sharsmith's western flax	None	None	-	1B.2
St. Helena	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
St. Helena	Toxicoscordion fontanum	marsh zigadenus	None	None	-	4.2
St. Helena	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
St. Helena	Castilleja ambigua var. ambigua	johnny-nip	None	None	-	4.2
St. Helena	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
St. Helena	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
St. Helena	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
St. Helena	Collomia diversifolia	serpentine collomia	None	None	-	4.3
St. Helena	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
St. Helena	Navarretia cotulifolia	cotula navarretia	None	None	-	4.2
St. Helena	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
St. Helena	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
St. Helena	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
St. Helena	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
St. Helena	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
St. Helena	Ceanothus pinetorum	Kern ceanothus	None	None	-	4.3
St. Helena	Ceanothus purpureus	holly-leaved ceanothus	None	None	-	1B.2
St. Helena	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
St. Helena	Triteleia lugens	dark-mouthed triteleia	None	None	-	4.3

## Key for 9 Quad List:

- 1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California*  
*1B.2 = Rare, threatened, or endangered in California and elsewhere; fairly threatened in California*  
*1B.3 = Rare, threatened, or endangered in California and elsewhere; not very threatened in California*  
*2A = Presumed extinct in California, but extant elsewhere*  
*2B.1 = Rare, threatened, or endangered in Calif., but more common elsewhere; seriously threatened in Calif.*  
*2B.2 = Rare, threatened, or endangered in Calif., but more common elsewhere; fairly threatened in Calif.*  
*2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.*  
*3 = Plants about which we need more information (Review List)*  
*3.1 = Plants about which we need more information (Review List); seriously threatened in California*  
*3.2 = Plants about which we need more information (Review List); fairly threatened in California*  
*3.3 = Plants about which we need more information (Review List); not very threatened in California*  
*4.2 = Plants of limited distribution (watch list); fairly threatened in California*  
*4.3 = Plants of limited distribution (watch list); not very threatened in California*

*SE/ST/SD=State Endangered/Threatened/Delisted*

*SC/SCD=State Candidate for Listing/Delisting*

*SSC=CDFW Species of Special Concern*

*SFP=State Fully Protected*

*WL=CDFW Watch List*

*FE/FT/FD=Federal Endangered/Threatened/Delisted*

*FPE/FPT/FPD/FP=Federal Proposed Endangered/Threatened/Delisting*

*FC=Federal Candidate*

*Threat=Threatened*

*End=Endangered*

*Cand=Candidate*

*Prop=Proposed*

# ***APPENDIX B***

## **INCIDENTAL WILDLIFE OBSERVATIONS**

This list is provided at the request of Napa County planning staff.

This brief list represents incidental observations of wildlife made during field work. Northwest Biosurvey did not conduct species-specific surveys for sensitive animal species for this project other than as described in the report, but regularly conducts species-specific surveys for sensitive wildlife for projects in this region. Generic wildlife surveys are generally not recommended due to their potential to mislead lay reviewers into believing that the list of observed species is comprehensive and represents all species occurring within a project's boundaries. Each wildlife species has behavior and seasonal movement patterns unique to that species and may or may not be present or observable during any one site visit. Consequently, it is unlikely that a generic survey for wildlife will reveal more than a small fraction of the species actually present on the property.

### **Species**

Tachycineta bicolor  
Melanerpes formicivorus  
Turdus migratorius  
Zenaida macroura  
Sphyrapicus ruber  
Aphelocoma coerulescens  
Contopus cooperi  
Sialia mexicana  
Tachycineta bicolor  
Cathartes aura

### **Common Name**

tree swallow  
acorn woodpecker  
American robin  
mourning dove  
red-breasted sapsucker  
scrub jay  
olive-sided flycatcher  
western bluebird  
tree swallow  
turkey vulture



## ***APPENDIX C***

### **PHOTOGRAPHS OF TREES WITH POTENTIAL BAT HABITAT**



Photo 1, Acorn storage tree (Tree 49)



Photo 2, Acorn storage tree (Tree #49)



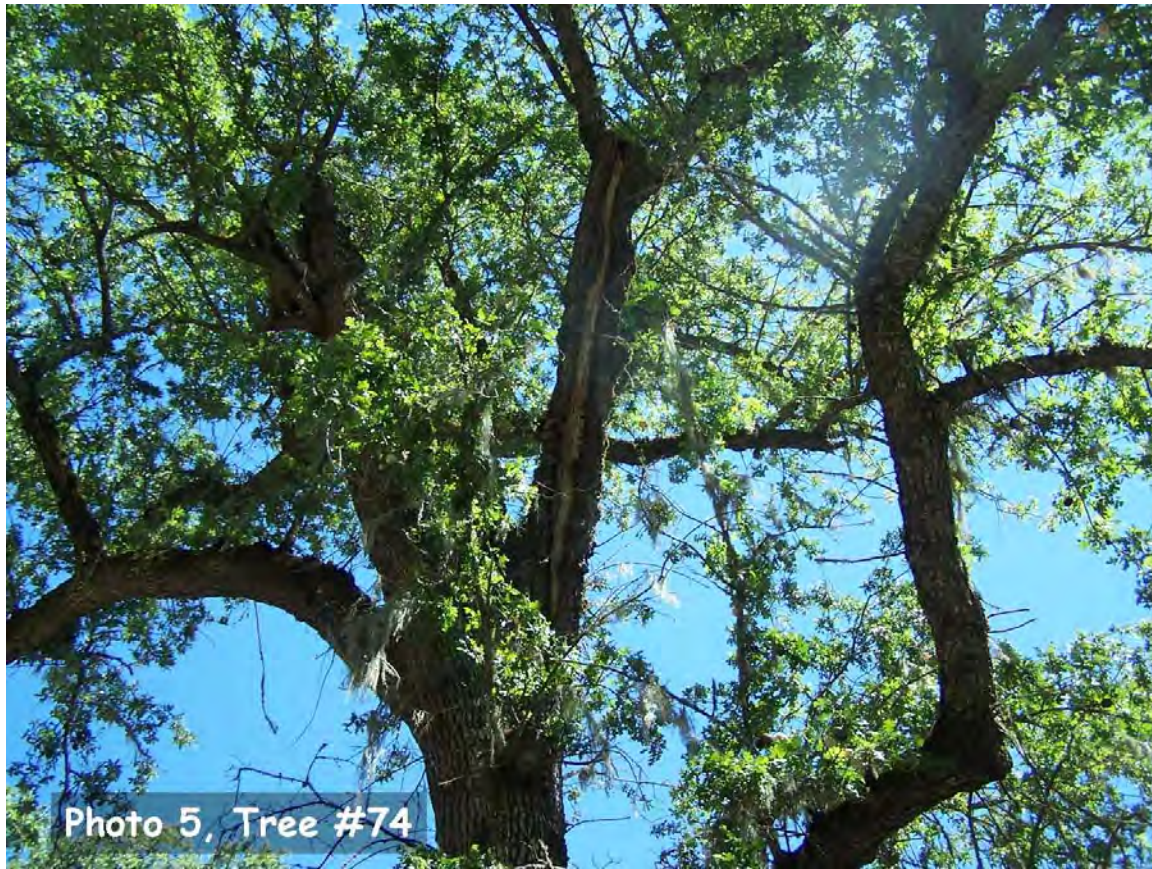


Photo 3, Acorn storage tree (#49)



Photo 4, Tree #50







# ***APPENDIX D***

## **TREE SURVEY DATA**

<b>TREE SURVEY DATA – Valley Oak Woodland</b>			
WAYPOINT	TREE TAG #	SPECIES	DIAMETER AT BREAST HEIGHT (DBH) (in.)
<b>5</b>	NA	VO	44
<b>6</b>	41	VO	65
<b>7</b>	45	VO	44
<b>8</b>	44	VO	43
<b>9</b>	43	VO	41
<b>10</b>	42	VO	43
<b>11</b>	48	VO	49
<b>12</b>	47	VO	17
<b>13</b>	46	VO	19
<b>14</b>	49	VO	38
<b>15,16</b>	50	VO	28,18 (multi-stem)
<b>17</b>	51	VO	17
<b>18</b>	52	VO	38
<b>19</b>	53	VO	39
<b>20</b>	54	ASH	18
<b>21</b>	56	ASH	10
<b>22</b>	55	ASH	10
<b>23</b>	57	ASH	9
<b>24</b>	59	ASH	9
<b>25</b>	58	VO	12
<b>26</b>	60	VO	43
<b>27</b>	61	VO	42
<b>28</b>	62	VO	34
<b>29,30</b>	63	ASH	27,16 (multi-stem)
<b>31</b>	65	VO	21
<b>32</b>	66	VO	19
<b>33</b>	64	ASH	20
<b>34</b>	68	VO	38
<b>35</b>	67	ASH	21
<b>36</b>	70	VO	30
<b>37</b>	69	VO	36
<b>38</b>	74	VO	42
<b>39</b>	72	VO	38
<b>40</b>	71	VO	48
<b>41</b>	73	VO	46
<b>42</b>	75	VO	36

SPECIES		NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)
VO		28 (29 trunks)	35.4
ASH		8 (9 trunks)	15.5
<b>TOTAL</b>		36	31

**Key:**

VO = Valley Oaks, ASH=American Ash

GPS waypoint for each tree is indicated on the vegetation map provided in Figure 2.