
**BIOLOGICAL RESOURCE ASSESSMENT
WITH BOTANICAL and BAT HABITAT SURVEYS,
WOODLAND ASSESSMENT,
and
DELINEATION OF WATERS OF THE U.S.
for the
MAXVILLE WINERY & VINEYARD PROJECT
APNS 025-020-002, 008 & 023
Napa County, CA**

September 10, 2017

Updated May 6, 2022

Updated December 30, 2022

**Prepared by
Northwest Biosurvey**



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1.0 PROJECT DESCRIPTION

1.1 Proposed Project: This survey covers approximately 59 acres of proposed vineyards within three parcels totaling 1,032 acres, located in Chiles Valley, Napa County. The parcels currently contain commercial and agricultural uses, and ponds. The local permitting agency is requesting completion of a botanical survey and assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for development of a vineyard on the property.

The initial phase of this assessment evaluates the potential of the parcel to contain sensitive plant and wildlife habitat. The second phase consists of a floristic-level botanical survey listing all plant taxa¹ 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 for this project. The results of the survey are provided in Section 5.1.

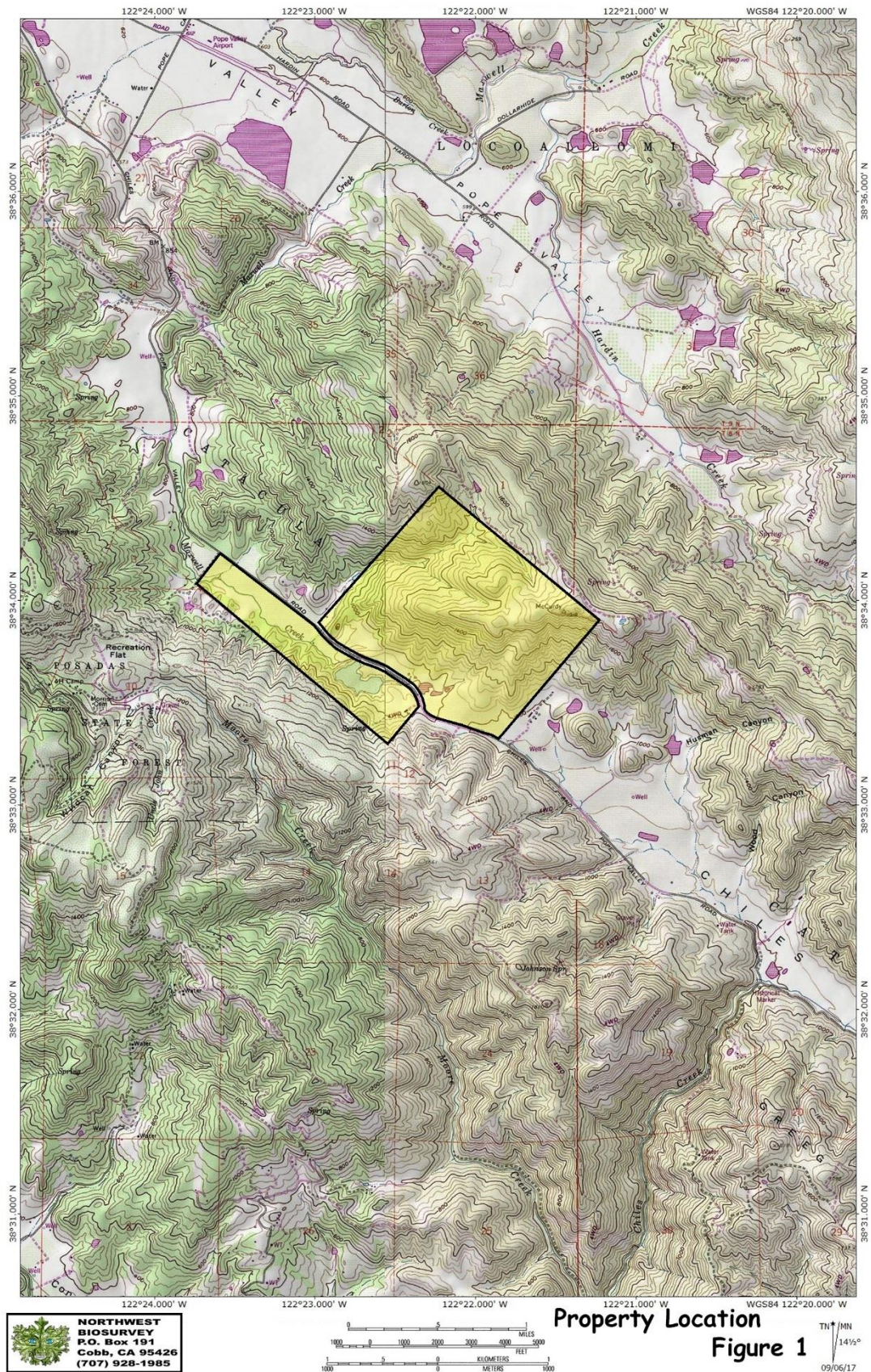
Due to the fact that wetland delineations are prepared with a standard format for U.S. Army Corps of Engineers review, the delineation is provided in its own section. The delineation and findings are provided in Section 6.0.

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 the Napa County Baseline Data Report" (Section 8.0).

Updated Report: Following completion of the original report in 2017, the proposed vineyard blocks were completely redesigned (significantly reducing impacts to woodlands) and making much of the original impact analysis obsolete. This updated version evaluates the new vineyard blocks. Additionally, a new early spring botanical survey was conducted in order to establish that site conditions had not changed since the time of the original surveys in 2017. New presurvey research was conducted using the current California natural diversity database (CNDDDB) and other databases as mentioned in this report.

¹ 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.

1.2 Location: The property is located at 4105 Chiles Pope Valley Road, Napa County, California (APNS 025-020-002, 008 & 023; T08N R05W, St. Helena, Calif. 7½' Topographic Map). A location map is provided in **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, 2017 & 2022
- California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (2017 and 2022)
- California Department of Fish and Wildlife, *California Wildlife Habitat Relationships System (CWHR)*, Version 9.0

The CNDDDB and RareFind 5 databases consist of maps and records of all known populations of sensitive plants and wildlife in California. This data is continually updated by the CDFW 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 CWHR 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 property. CNDDDB information and maps for the St. Helena quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer et al. 2009) as modified by the California Native Plant Society (CNPS) and mapped on a 1"=600' aerial photo. Vegetation community names are based on an assessment of dominant cover species.

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

2.2 Bat Habitat Survey Methods: Mature trees within the wooded portions of the vineyard blocks were assessed for their potential as habitat for sensitive bat species. These 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: The delineation was conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Arid West 2008 Supplement*. Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement*, 1973, and Mason's *Flora of the Marshes of California*, 1957, were used as supplemental texts.

2.4 Woodland Assessment Methods: The survey area contains six distinct woodland types which are discussed in Section 3.3, Vegetation Types. Blue Oak Woodland and Coast Live Oak Woodland occur within proposed vineyard areas. One study plot was selected within each community based on natural community structure and identifiable geographic references (woodland boundaries, etc.). Trees within the study plots 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 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 May 26², June 15, August 29, and September 3, 2017, and April 12, 2022. 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 35 years of experience as a biologist in the government and private sectors.

Field surveys, database review, and report preparation were conducted with the assistance of Danielle Zalusky, Northwest Biosurvey principal planner. Ms. Zalusky has 15 years of experience as a planner in local government and the private sector and over 17 years as a field biologist. She has a Bachelor of Arts Degree all course work toward an M.A. Degree in Rural and Town Planning from Chico State University.

² A late and heavy rainy season in 2017 delayed the blooming season of most species and required initiation of early surveys later in the spring.

3.0 SITE CHARACTERISTICS

3.1 Topography and Drainage: The Maxville Winery and Vineyard property extends down the northeast slope of Howell Mountain and crosses Chiles Valley, before ascending the southwest slope of a narrow ridge separating Chiles Valley from Pope Valley to the north. At this location, Chiles Valley drains northwest into Maxville Lake. Drainage continues northwest as Maxwell Creek through the narrow valley floor and then cuts through the intervening ridge to Pope Valley where it joins Pope Creek before entering Lake Berryessa. This lake drains east within the Putah Creek Drainage to the Sacramento River. Slightly southeast of the property, the valley drains southeast via Chiles Creek which then turns west to Lake Hennessey before entering the Napa River in the Napa Valley via Conn Creek. Elevations range from approximately 1,680 feet msl (mean sea level) on the ridgetop of the eastern property to approximately 920 feet msl in the valley. The topography is shown in **Figure 1**.

3.2 Soils: The property contains the following soil types:

- **Bressa-Dibble complex, 15-30% slopes:**

This unit occurs on the more level areas north of the road. This complex consists of moderately steep soils on narrow ridgetops that are on uplands. The Bressa series consists of well drained soils on uplands. The plant cover is mostly annual grasses and scattered oaks. Permeability is moderately slow. The Dibble series consists of well drained soils on uplands. All of these soils also formed in material weathered from sandstone and shale. The vegetation is mostly annual grasses and scattered oaks. Permeability is slow. Runoff for this complex is medium. The hazard of erosion is slight to moderate.

- **Bressa-Dibble complex, 30-50% slopes:**

This unit is on steep hills on either side of Chiles Pope Valley Road. This complex consists of steep soils on uplands at an elevation of 1,000 to 2,000 feet. These soils formed in material weathered from sandstone and shale. The plant cover is mostly annual grasses and scattered oaks. Permeability is moderately slow. The Dibble series consists of well drained soils on uplands. The vegetation is mostly annual grasses and scattered oaks. Permeability is slow. Runoff for this complex is rapid. The hazard of erosion is moderate to severe.

- **Haire clay loam, 2-9% slopes:**

This gently sloping to moderately sloping soil is on old terraces and alluvial fans. It occurs north of the road on the southern part of the project area. Runoff is slow to medium. This soil consists of moderately well drained soils on old terraces and alluvial fans. These soils formed from alluvium derived from sedimentary rock. The vegetation

in uncultivated areas consists of annual grasses and forbs. The hazard of erosion is slight. Permeability is very slow.

- **Henneke gravelly loam, 30-75% slopes:**

This steep and very steep soil is on uplands. It occurs on the steep ridge at the southwest side of the property. Included with this soil in mapping were small areas of Lodo, Maymen, and Montara soils. Also included were small areas of rock outcrop that make up about 10 percent of this unit and areas of soils that are similar to this Henneke soil but that are more than 20 inches to bedrock or are browner.

The Henneke series consists of excessively drained soils on uplands. These soils formed in material weathered from serpentine. The vegetation is scattered oak, foothill pine, scrub oak, manzanita, musk brush, toyon, MacNab cypress, and a few annual grasses. Runoff is rapid to very rapid. The hazard of erosion is moderate to high. Permeability is moderately slow.

- **Maxwell clay, 2-9% slopes:**

This soil unit is found along Chiles Pope Valley Road on the southern end of the property. This gently sloping to moderately sloping soil is on old alluvial fans and basin rims. The Maxwell series consists of somewhat poorly drained soils on old alluvial fans and basin rims. These soils formed in material derived from serpentinitic alluvium. The vegetation is a sparse growth of lupine, tarweed, wild oats, and other annuals. Runoff is slow. Permeability is very slow. The hazard of erosion is slight.

- **Tehama silt loam, 0-5% slopes:**

This nearly level to gently sloping soil is on old alluvial fans and terraces. It occurs in a small, level area near the large pond. The Tehama series consists of well drained soils on alluvial fans and terraces. These soils formed in alluvium from sandstone and shale. The plant cover is annual grasses, forbs, and scattered oak. Runoff is medium. The hazard of erosion is slight. Permeability is slow.

3.3 Vegetation Types: This project contains twelve natural plant communities or vegetation types 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 are listed below in **Table 1**. They are described below the tables and shown in the vegetation map provided in **Figure 2**.

TABLE 1. PLANT COMMUNITIES AND OTHER COVER TYPES PRESENT

COVER TYPE	Total Acres of Cover Type on Property	Percent of Property Supporting Cover Type	Acres of Cover Type in Potential Vineyard Blocks													Total Acres of Cover Types in Vineyard Blocks	Percent of Cover Types in Vineyard Blocks
			A	B	C	D	E	F	G	H	I	J	K	L	M		
Oregon White Oak Woodland	33.78	3.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coast Live Oak Woodland	111.27	10.79	-	0.04	-	0.28	-	-	-	0.06	0.29	2.16	0.13	0.11	0.10	3.17	9.38
Blue Oak Woodland	216.12	20.96	1.11	0.70	0.39	0.88	1.16	1.81	0.17	2.44	-	-	-	0.12	-	8.78	4.06
Mixed Oak Forest	121.43	11.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Douglas Fir Forest	25.42	2.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghost Pine Forest	33.04	3.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Red Willow Thicket	2.20	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interior Live Oak Shrubland	10.14	0.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leather Oak Chaparral	21.95	2.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baltic Rush Marsh	6.98	0.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardstem Bulrush Marsh	3.01	0.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wild Oat Grassland	301.65	29.24	0.79	0.46	9.91	5.74	2.64	0.45	1.23	1.70	1.41	12.58	1.17	1.58	5.30	44.96	14.90
Walnut Orchard	0.15	0.01	-	-	-	-	-	-	-	-	-	0.15	-	-	-	0.15	-
Existing Vineyard	100.59	9.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ruderal (Roads, Structures)	30.55	2.96	-	-	-	-	-	1.04	-	0.10	-	0.51	-	0.19	-	1.84	6.02
Open Water (pond, lake)	13.38	1.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Acres of Cover Type	1,031.66	100.00%	1.90	1.20	10.30	6.90	3.80	3.30	1.40	4.30	1.70	15.40	1.30	2.00	5.40	58.90	5.71*

* (Bottom Right Cell): Percent of Property occupied by proposed vineyard blocks

- **Oregon White Oak Woodland:**

Oregon white oak (*Quercus garryana* var. *garryana*) is primarily associated with drainages on the valley floor and is the main riparian tree in this community. Oregon ash (*Fraxinus latifolia*) and California black walnut (*Juglans hindsii*) are also present. The sub-canopy contains Oregon crabapple (*Malus fusca*) and California bay (*Umbellularia californica*), with small inclusions of California black oak (*Quercus kelloggii*). Channel banks support red willow (*Salix laevigata*). The shrub layer is mainly Himalayan blackberry (*Rubus armeniacus*), common snowberry (*Symphoricarpos albus* var. *laevigatus*), sugar bush (*Rhus ovata*), and poison oak (*Toxicodendron diversilobum*).

Ground cover here consists primarily of the more mesic members of wild oat grassland and includes grasses and forbs such as perennial ryegrass (*Festuca perennis*) blue wildrye (*Elymus glaucus* ssp. *glaucus*), hedgehog dogtail (*Cynosurus echinatus*) and woodland brome (*Bromus laevipes*). Along stream banks the ground cover includes mugwort (*Artemesia douglasiana*), Colorado rush (*Juncus confusus*), and two-toothed sedge (*Carex serratodens*).

- **Coast Live Oak Woodland:**

This woodland occurs both as relatively dense woodland and as scattered, open savanna over the steep, south-facing slopes north of Chiles Pope Valley Road. Much of the community consists of a homogenous tree cover of mature coast live oak (*Quercus agrifolia*), but lower down on the slopes ghost pine (*Pinus sabiniana*) can be sub-dominant. The shrub layer is sparse and often lacking. It consists primarily of common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*) and poison oak (*Toxicodendron diversilobum*). The ground cover is a continuation of the surrounding wild oat grassland but in denser stands of woodland, may be limited to leaf litter.

- **Blue Oak Woodland:**

This community is similar to the coast live oak woodland in location and structure. It occurs as both dense woodland and open savanna on the south-facing slopes north of Chiles Pope Valley Road. It is intermingled with the coast live oak woodland but with a slight preference for the steepest and most exposed (south and west-facing) slopes. The woodland is dominated by a mature blue oak (*Quercus douglasii*) woodland with up to 70% canopy cover. It generally lacks a shrub layer. Ground cover is wild oat grassland with a shift toward the more mesic species beneath the denser canopy cover.

- **Mixed Oak Forest:**

This complex, mature, multilayered forest dominates the more shaded north-facing slopes north of Chiles Pope Valley Road. It is dominated by California black oak, but this species does not meet the 50-percent dominance required to name this community. The upper canopy includes a sub-dominant mix of coast live oak, blue oak, California bay, and scattered big leaf maple (*Acer macrophyllum*). The community supports a sub-canopy of Oregon ash and California black walnut within areas of core habitat (deeper with community boundaries). More open areas support California buckeye (*Aesculus californica*) and ghost pine.

The shrub layer is sparse but includes common manzanita and toyon (*Heteromeles arbutifolia*). The ground cover is primarily wild oat grassland but includes a number of woodland forbs such as Ithuriel's spear (*Triteleia laxa*), blue-eyed grass (*Sisyrinchium bellum*), and Pacific blacksnakeroot (*Sanicula crassicaulis*).

- **Douglas Fir Forest:**

This forest dominates the steep, shaded, northeast-facing slopes above Maxville Lake. It has an upper canopy of Douglas fir (*Pseudotsuga menziesii* var. *menziesii*) with approximately 30% cover. The sub-canopy is dominated by California bay with up to 75% canopy cover. Coast live oak and Pacific madrone (*Arbutus menziesii*) are also present.

The shrub layer is open and is made up predominantly of younger members of the canopy species. Shrubs include toyon and dense clusters of sugar bush where drainages are present.

The ground cover consists of leaf litter, sub-arctic lady fern (*Athyrium filix-femina* var. *cyclosorum*), and poison oak. Lady fern is dominant, but other fern species are present and include gold-back fern (*Pentagramma triangularis* ssp. *triangularis*) and coastal wood fern (*Dryopteris arguta*). White-stem hedge nettle (*Stachys albens*) is also present.

- **Ghost Pine Forest:**

This forest occurs in two different settings with a resultant difference in shrub and ground cover layers. On the steep southeastern slopes south of Chile Pope Valley Road, the community occurs as a relatively open "woodland" on serpentine soils within a matrix of leather oak chaparral. In this location, the shrub and ground cover layers consist of a continuation of the surrounding leather oak community. In the northwestern quarter of the property the terrain consists of a final, south-facing ridge on deeper and more fertile soils. Here this forest occurs in dense stands of forest within

a surrounding matrix of mixed oak forest and blue oak woodland. In these locations, the shrub and ground cover consist of a continuation of these same layers from the surrounding forest and woodland communities.

- **Red Willow Thicket:**

This community occurs along the shoreline and small islands within Maxville Lake and along scattered drainages. It consists of mature red willow (*Salix laevigata*) with an 80% canopy cover. Fremont cottonwood (*Populus fremontii* var. *fremontii*) is also present but does not reach a level of sub-dominance. Community edges often support narrow-leaved willow (*Salix exigua*), which can dominate the edge of the lake shoreline. Where a shrub layer does occur, it consists of Himalayan blackberry. Groundcover on the shoreward side consists of a continuation of the sedge-rush community. On the lakeward side it consists of tule (*Schoenoplectus acutus* var. *occidentalis*).

- **Interior Live Oak Shrubland:**

This is a low-growing woodland/tall shrub community (10-20 feet in height). It consists of a co-dominant mix of small DBH (less than 6 inches) blue oak and similar-sized interior live oak (*Quercus wislizeni*)³ to a height of 20 feet. The community includes a sub-dominant mix of California bay, buckeye, and California ash (*Fraxinus dipetala*). The shrub layer consists of toyon, California coffeeberry (*Frangula californica* ssp. *californica*), and poison oak. Ground cover is mainly wild oat grassland with a shift toward more mesic woodland species including hedgehog dogtail (*Cynosurus echinatus*) and blue wildrye.

The shaded bottoms of the stream cuts contain coastal wood fern, sub-arctic lady fern, and California wild grape (*Vitis californica*).

- **Leather Oak Chaparral (Serpentine Chaparral):**

This is a diverse chaparral community. It consists of a heterogeneous mix of scrub oak (*Quercus berberidifolia*), leather oak (*Quercus durata* var. *durata*), Jepson's ceanothus (*Ceanothus jepsonii*), holly-leaf ceanothus (*Ceanothus purpureus*), toyon, white-leaf manzanita (*Arctostaphylos viscida* ssp. *pulchella*), and California bay. The community contains a scattered upper canopy of ghost pine. California bay occurs

³ The distinction between interior live oak trees (*Quercus wislizeni* var. *wislizeni*) and shrubs (*Q. wislizeni* var. *frutescens*) appears to be subjective, at least in field and lab identifications not involving genetic testing. Differences in plant height appear to be far more dependent on soil depth, soil moisture, aspect, and fire history than on genetic variation. The taxonomic distinction is no longer used in Northwest Biosurvey reports. We base the distinction between shrubland and woodland on community structure.

both as a widely distributed member of the shrub community and as sub-canopy in more shaded areas. Shaded ephemeral channels include sugar bush and western azalea (*Rhododendron occidentale*). In the bottoms of shaded canyons, there are small sub-mappable islands of Douglas fir and Pacific madrone.

The ground cover is an equally diverse mix of serpentine indicator forbs and grasses. These include flame butterweed (*Senecio Greenei*), parched fireweed (*Epilobium brachycarpum*), torrey melic (*Melica torreyana*), common woolly sunflower (*Eriophyllum lanatum* var. *arachnoideum*), Indian warrior (*Pedicularis densiflora*), and Martin's paintbrush (*Castilleja applegatei* ssp. *martini*). In some locations, Mt. Saint Helena morning glory (*Calystegia collina* ssp. *oxyphylla*) provides a dense ground cover. Jepson's leptosiphon (*Leptosiphon jepsonii*) and Diogenes lantern (*Calochortus amabilis*) also occur in this community.

- **Wild Oat Grassland:**

Wild oat grassland occurs throughout the property as open areas and as ground cover in the dryer woodlands (blue oak, coast live oak). Grasses include slender wild oat (*Avena barbata*), hedgehog dogtail, medusahead (*Elymus caput-medusae*), and silver European hairgrass (*Aira caryophyllaea*). The more shaded areas are often dominated by blue wildrye and perennial ryegrass (*Festuca perennis*). Forbs include English plantain (*Plantago lanceolata*), California poppy (*Eschscholzia californica*), rose clover (*Trifolium hirtum*), hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), and red-stem storksbill (*Erodium cicutarium*).

- **Baltic Rush Marsh:**

This community occurs in wide flat drainages in the valley bottom. It contains a co-dominant mix of Baltic rush (*Juncus arcticus* var. *balticus*), two-tooth sedge, and seep monkeyflower (*Mimulus guttatus*) in a mosaic distribution based on hydrology. The less mesic community edges include Kellogg's yampah (*Perideridia kelloggii*) and meadow barley (*Hordeum brachyantherum* ssp. *brachyantherum*). White brodiaea (*Triteleia hyacinthina*) is also present. The community transitions lakeward into pale spikerush (*Eleocharis palustris*) and hardstem bulrush-tule (*Schoenoplectus acutus* var. *occidentalis*).

- **Hardstem Bulrush marsh:**

This homogeneous community dominates the deeper shoreline areas of Maxville Lake and the numerous cattle ponds throughout the property. It generally transitions into Baltic rush on its shoreward margin and into open water on its lakeward edge.

- **Walnut Orchard:**

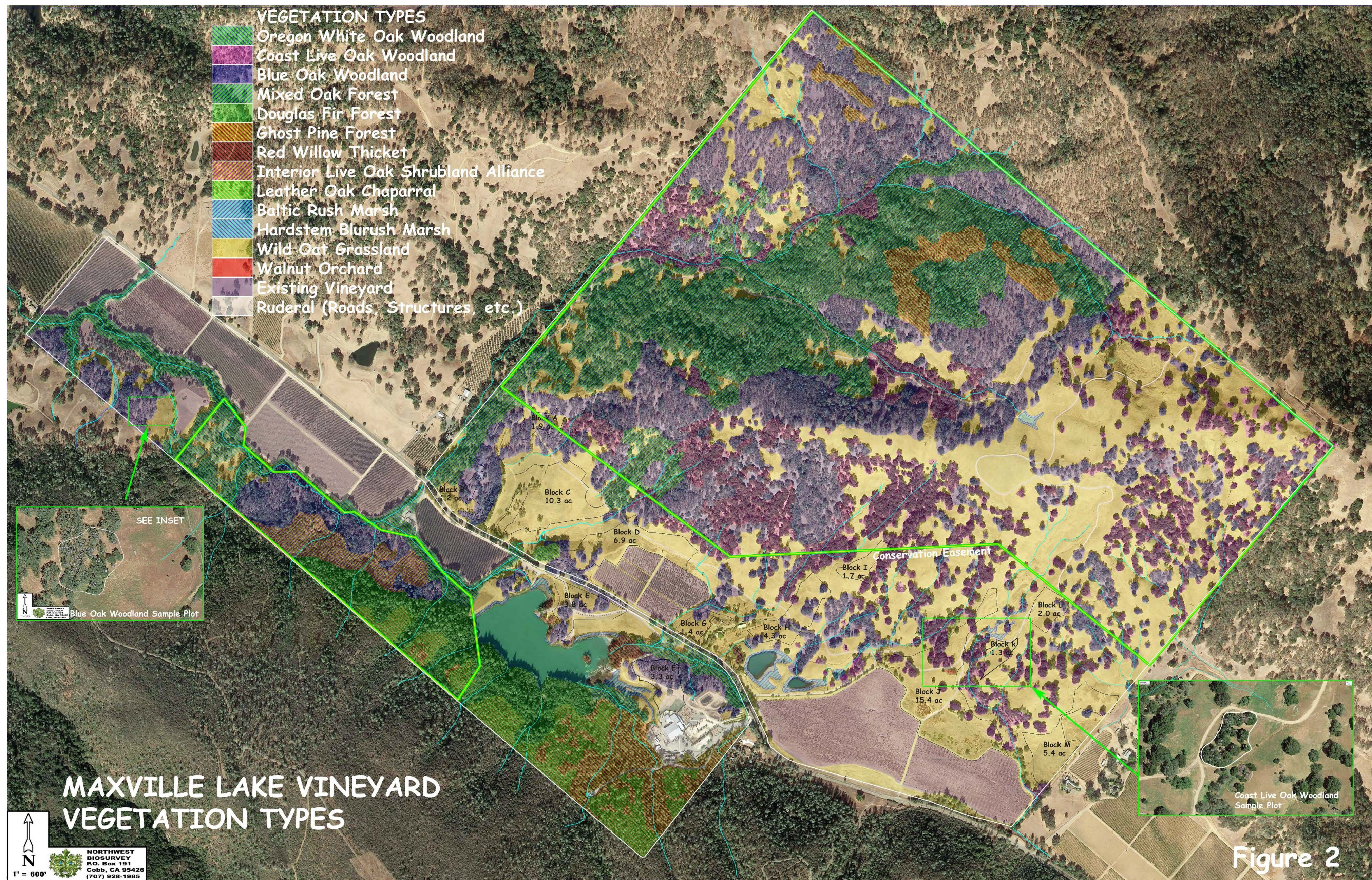
A small, abandoned walnut orchard is located on the steep south-facing slopes in the southeastern quarter of the property, north of Chiles Pope Valley Road. While it is clearly planted as orchard, it shows no indication of having been grafted with commercial English walnut stock. The site is therefore dominated by Northern California black walnut. Regardless, this species no longer has sensitive status under Section 15380(d) of the CEQA Guidelines.

- **Vineyard:**

Most of the valley floor along both sides of Chiles Pope Valley Road have been planted in vineyard.

- **Ruderal:**

Portions of the property are developed with a residence, parking area, driveway, and landscaping.



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). 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) and CDFW RareFind 5 data and maps for the St. Helena 7½' quadrangle map were 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:

Maxville Property

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	None	None	Apr-Jul	Broad-leaved upland forest (openings), Chaparral, Cismontane woodland
<i>Astragalus breweri</i>	Brewer's milk-vetch	Fabaceae	annual herb	4.2	None	None	Apr-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland (open, often gravelly)
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	Fabaceae	annual herb	1B.1	CT	FE	Mar-May	Chaparral (openings), Cismontane woodland, Valley and foothill grassland
<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	None	None	Jun-Sep	Chaparral, Cismontane woodland, Riparian forest
<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	None	None	May-Jul	Broad-leaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland
<i>Calamagrostis ophitidis</i>	serpentine reed grass	Poaceae	perennial herb	4.3	None	None	Apr-Jul	Chaparral (open, often north-facing slopes), Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	4.2	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest, Valley and foothill grassland
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	4.2	None	None	Mar-Aug	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools margins

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	None	None	Feb-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland
<i>Ceanothus divergens</i>	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	None	None	Feb-Apr	Chaparral (serpentine or volcanic, rocky)
<i>Ceanothus purpureus</i>	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	None	None	Feb-Jun	Chaparral, Cismontane woodland
<i>Collomia diversifolia</i>	serpentine collomia	Polemoniaceae	annual herb	4.3	None	None	May-Jun	Chaparral, Cismontane woodland
<i>Cordylanthus tenuis</i> <i>ssp. brunneus</i>	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	None	None	Jul-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland
<i>Delphinium uliginosum</i>	swamp larkspur	Ranunculaceae	perennial herb	4.2	None	None	May-Jun	Chaparral, Valley and foothill grassland
<i>Erigeron biolettii</i>	streamside daisy	Asteraceae	perennial herb	3	None	None	Jun-Oct	Broad-leaved upland forest, Cismontane woodland, North Coast coniferous forest
<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	Apiaceae	perennial herb	1B.2	None	None	Apr-Aug	Valley and foothill grassland, Vernal pools; clay
<i>Erythronium helenae</i>	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	4.2	None	None	Mar-May	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland; serpentine (sometimes), volcanic (sometimes)
<i>Harmonia nutans</i>	nodding harmonia	Asteraceae	annual herb	4.3	None	None	Mar-May	Chaparral, Cismontane woodland
<i>Helianthus exilis</i>	serpentine sunflower	Asteraceae	annual herb	4.2	None	None	Jun-Nov	Chaparral, Cismontane woodland; seeps, serpentine
<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	Linaceae	annual herb	1B.2	None	None	May-Jul	Chaparral (serpentine)
<i>Layia septentrionalis</i>	Colusa layia	Asteraceae	annual herb	1B.2	None	None	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	Polemoniaceae	annual herb	1B.2	None	None	Mar-May	Chaparral, Cismontane woodland, Valley and foothill grassland
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	Polemoniaceae	annual herb	4.3	None	None	Apr-Jun	Broad-leafed upland forest, Cismontane woodland
<i>Lomatium repostum</i>	Napa lomatium	Apiaceae	perennial herb	4.3	None	None	Mar-Jun	Chaparral, Cismontane woodland
<i>Lupinus sericatus</i>	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	None	None	Mar-Jun	Broad-leafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest
<i>Navarretia cotulifolia</i>	cotula navarretia	Polemoniaceae	annual herb	4.2	None	None	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	Polemoniaceae	annual herb	1B.1	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	4.2	None	None	Feb-May	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools
<i>Senecio clevelandii</i> var. <i>clevelandii</i>	Cleveland's ragwort	Asteraceae	perennial herb	4.3	None	None	Jun-Jul	Chaparral (serpentine seeps)
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	Malvaceae	perennial herb	1B.2	None	None	(Jun)Jul-Aug	Meadows and seeps, Riparian forest
<i>Streptanthus hesperidis</i>	green jewelflower	Brassicaceae	annual herb	1B.2	None	None	May-Jul	Chaparral (openings), Cismontane woodland
<i>Toxicoscordion fontanum</i>	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps
<i>Trichostema ruygtii</i>	Napa bluecurls	Lamiaceae	annual herb	1B.2	None	None	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools

Scientific Name	Common Name	Family	Lifefrom	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Triteleia lugens</i>	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	4.3	None	None	Apr-Jun	Broad-leaved upland forest, Chaparral, Coastal scrub, Lower montane coniferous forest

KEY FOR TABLE 2:

CNPS Rare Plant-Threat Rank Definitions:

CRPR= California Rare Plant Rank

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:

CESA = California Endangered Species Act

FESA = Federal Endangered Species Act

CT = California Threatened

FE = Federal Endangered

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

Habitat Type	Habitat Present
Northern Vernal Pool	No

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	Broadleaved upland forest, chaparral, cismontane woodland/openings; --/--/1B.2	April-July decid. shrub	yes
<i>Astragalus breweri</i>	Brewer's milk-vetch	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)/often serpentinite, volcanic; --/--/4.2	April-June ann. herb	yes
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	Chaparral, cismontane woodland, valley & foothill grassland/serpentinite or volcanic, rocky, clay; FE/ST/1B.1	March-May ann. herb	yes
<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	Chaparral, cismontane woodland, riparian forest/serpentinite seeps; --/--/4.3	June-Sept. per. herb	yes
<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	Broadleaved upland forest, chaparral, lower montane conif. forest, valley & foothill grassland/volcanic; --/--/1B.2	May-July per. herb	yes
<i>Calamagrostis ophitidis</i>	serpentine reed grass	Chaparral (open, often north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland /serpentinite, rocky; --/--/4.3	April-July per. herb	yes
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools (margins); --/--/4.2	March-Aug. ann. herb	no
<i>Ceanothus confusus</i>	Rincon ridge ceanothus	Closed cone conif. forest, chaparral, cismontane woodland; volcanic; --/--/1B.1	Feb.-April everg. shrub	moderate potential
<i>Ceanothus divergens</i>	Calistoga ceanothus	Chaparral, cismontane woodland/serpentine, volcanic, rocky; --/--/1B.2	Feb.-March ever. shrub	yes
<i>Ceanothus pinetorum</i>	Kern ceanothus	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest/rocky, granitic; --/--/4.3	May-July everg. shrub	no
<i>Ceanothus purpureus</i>	holly-leaved ceanothus	Chaparral, cismontane woodland/volcanic, rocky; --/--/1B.2	Feb.-June everg. shrub	yes

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
<i>Ceanothus sonomensis</i>	Sonoma ceanothus	Chaparral; sandy, serpentine, volcanic; --/--/1B.2	Feb.-April everg. shrub	yes
<i>Clarkia gracilis ssp. tracyi</i>	Tracy's clarkia	Chaparral (openings, usually serpentinite); --/--/4.2	April-June ann. herb	yes
<i>Collomia diversifolia</i>	serpentine collomia	Chaparral, cismontane woodland/serpentinite, rocky or gravelly; --/--/4.3	May-June ann. herb	yes
<i>Cordylanthus tenuis ssp. brunneus</i>	serpentine bird's-beak	Closed-cone coniferous forest, chaparral, cismontane woodland/usually serpentinite; --/--/4.3	July-Aug. ann. herb	yes
<i>Delphinium uliginosum</i>	swamp larkspur	Chaparral, valley and foothill grassland /serpentinite seeps; --/--/4.2	May-June per. herb	yes
<i>Erigeron biolettii</i>	streamside daisy	Broadleaved upland forest, cismontane woodland, North Coast coniferous forest /rocky, mesic; --/--/3	June-Oct. per. herb	poor habitat
<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	Chaparral/serpentine and volcanic, generally in shrubby vegetation; --/--/1B.2	May-Sept. per. herb	yes
<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	Valley & foothill grassland, vernal pools/clay; --/--/1B.2	April-August per herb	no
<i>Erythronium helenae</i>	St. Helena Fawn lily	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/ volcanic or serpentinite; --/--/4.2	Mar-May bulb. herb	yes
<i>Harmonia nutans</i>	nodding harmonia	Chaparral, cismontane woodland/rocky or gravelly, volcanic; --/--/4.3	March-May ann. herb	yes
<i>Helianthus exilis</i>	serpentine sunflower	Chaparral, cismontane woodland/serpentinite seeps; --/--/4.2	April-Nov. ann. herb	yes
<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	Chaparral, serpentinite; --/--/1B.2	May-July ann. herb	yes
<i>Layia septentrionalis</i>	Colusa layia	Chaparral, cismontane woodland, valley & foothill grassland/sandy, serpentinite; --/--/1B.2	April-May ann. herb	yes
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	Chaparral, cismontane woodland, grassy slopes/ volcanic or serpentine edge; --/--/1B.2	May-July ann. herb	yes
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	Broad-leaved upland forest, cismontane woodland; --/--/4.3	April-June ann. herb	yes
<i>Lomatium repostum</i>	Napa lomatium	Chaparral, cismontane woodland/serpentinite; --/--/4.3	March-July per. herb	yes

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
<i>Lupinus sericatus</i>	Cobb Mountain lupine	Broadleaved upland forest, chaparral, cismontane woodland, lower montane conif. forest/gravelly soils, sometimes serpentine; --/--/1B.2	March-June per. herb	yes
<i>Navarretia cotulifolia</i>	cotula navarretia	Chaparral, cismontane woodland, valley and foothill grassland/adobe; --/--/4.2	May-June ann. herb	yes
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	Cismontane woodland, lower montane conif. forest, meadows & seeps, valley & foothill grassland, vernal pools/mesic, adobe or alkaline soils; --/--/1B.1	May-July ann. herb	yes
<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	Chaparral, rocky; --/--/1B.3	April-Aug. per. herb	yes
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic; --/--/4.2	Feb.-May ann. herb (aquatic)	yes
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	Marshes & swamps; standing or slow-moving freshwater ponds, marshes, ditches; --/--/1B.2	May-Oct. rhizom. herb	yes
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	Marshes & seeps, riparian forest/wet soil of streambanks, meadows; --/--/1B.2	July-Aug. per. herb	yes
<i>Streptanthus hesperidis</i>	green jewel flower	Chaparral or cismontane woodland (openings)/serpentine, rocky; --/--/1B.2	May-July ann. herb	yes
<i>Toxicoscordion fontanum</i>	marsh zigadenus	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps/vernally mesic, often serpentinite; --/--/4.2	April-July bulb. herb	yes
<i>Trichostema ruygtii</i>	Napa bluecurls	Chaparral, cismontane woodland, lower montane conif. forest, valley & foothill grassland, vernal pools; --/--/1B.2	June-Oct. ann. herb	moderate potential
<i>Triteleia lugens</i>	dark-mouthed triteleia	Broadleaved upland forest, chaparral, coastal scrub, lower montane coniferous forest; --/--/4.3	April-June bulb. herb	moderate potential

*See CNPS list for key

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Bombus caliginosus</i>	obscure bumble bee	A black and yellow bee found in California, Oregon, Washington. Food plant genera: Baccharis, Cirsium, Lupinus, Lotus, Grindelia, Phacelia; G3G4/CA-SNR	year-round	yes

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Calasellus californica</i>	an isopod	Aquatic: freshwater wells & springs. Known from Lake, Napa, Marin, Santa Cruz, and Santa Clara counties. One occurrence from Kelseyville in 1931; G2/S2	year-round	no
<i>Margaritifera falcata</i>	western pearlshell	Freshwater mussel: prefers cold clean creeks and rivers that support salmonid populations. Sand, gravel, and cobble are preferred substrates; G5/S1S2	year-round	no
<i>Lavinia exilicauda exilicauda</i>	Sacramento hitch	Scattered populations are found in freshwater streams, lakes, and reservoirs in the Sacramento Valley. Spawns over gravel riffles; SSC/T3/S2S4	year-round	no
<i>Oncorhynchus mykiss irideus</i> pop. 8	steelhead-Central California Coast DPS	Small cool fast-flowing tributary streams with gravel beds. Steelhead are anadromous species that require streams that are contiguous with the ocean. Russian River so. to Soquel Creek and to no. of Pajaro River, San Francisco and San Pablo bay basins; FT/G5/S2S3	migratory	possible
<i>Dicamptodon ensatus</i>	California giant salamander	Cool, moist forest habitats associated with rocky streams; SSC/G3/SNR	year-round	yes
<i>Rana boylei</i>	foothill yellow-legged frog	Riparian/aquatic: partly-shaded, shallow streams & riffles with a rocky substrate in variety of habitats; SSC/SE/G3/S2S3	year-round	yes
<i>Rana draytonii</i>	California red-legged frog	Generally slow or ponded water, riparian; FT/SSC/G2G3/S2S3	year-round	yes
<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	yes
<i>Ardea herodias</i>	great blue heron	Shallow ponds and estuaries, & salt and fresh emergent wetlands; G5/S4	sometimes migratory	low potential
<i>Athene cunicularia</i>	burrowing owl	Valley & foothill grassland, coastal prairie and scrub: Nests are in abandoned burrows dug by ground squirrels, foxes, etc. in open short grasslands; SSC/G4/S3	sometimes migratory in winter	no
<i>Elanus leucurus</i>	white-tailed kite	Open areas near woodlands and water; SFP/G5/S3	year-round	yes

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Haliaeetus leucocephalus</i>	bald eagle	Large bodies of water with adjacent snags. Nests in large old-growth or dominant live tree (often ponderosa pine) with open branches; FD/SE/SFP/G5/S2	year-round	no
<i>Progne subis</i>	purple martin	Open woodland near water. Nests in old woodpecker cavities in isolated trees, sometimes in human-made structures; SSC/G5/S3	migratory in winter	yes
<i>Setophaga petechia</i>	yellow warbler	Riparian plant associations; prefers willows, cottonwoods, aspens, sycamores & alders for nesting & foraging; SSC/G5/S2	nesting migratory	yes
<i>Strix occidentalis caurina</i>	northern spotted owl	Old-growth forests or mixed stands of old-growth & mature trees; occasionally in younger forests with patches of big trees; FT/ST	year-round	yes
<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	yes
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Roosts in open near relatively mesic sites, mainly montane forest habitats; SSC/G3G4/S2	year-round	no
<i>Myotis evotis</i>	long-eared myotis	Hollow trees in mixed hardwood/conifer forest and montane conifer forest, sometimes caves, mines, buildings; G5/S3	year-round	yes
<i>Myotis thysanodes</i>	fringed myotis	Caves, mines, buildings; valley foothill hardwood or hardwood-conifer, sometimes redwood forests; G4/S3	local migrant	yes
<i>Myotis yumanensis</i>	Yuma myotis	Open conifer forests and riparian woodlands with nearby water. Roosts may be found in caves, mines, under bridges, and buildings; G5/S4	year-round	yes
<i>Erethizon dorsatum</i>	North American porcupine	Occurs in a wide variety of coniferous and mixed woodland habitats in Sierra Nevada, Cascade, and Coast Ranges; G5/S3	year-round	yes

KEY FOR TABLE 2:

SE/ST/SD=State Endangered/Threatened/Delisted
SC/SCT/SCE/SCD=State Candidate for Listing/Threatened/End/Delisting
SSC=CDFW Species of Special Concern
SFP=CDFW 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

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
SNR = Not yet assessed

4.3 Wildlife Habitat Analysis Results: The California Wildlife Habitat Relationships analysis listed a large number of species with sensitive status as potentially occurring on the site based on the geographic location and wildlife habitats present. This list is included as **Appendix B**.

4.4 Wildlife Assessment: Based on the pre-survey research conducted for this study, a total of 27 sensitive wildlife species need to be accounted for within the project area. These consist of the species identified as present within or adjacent to the St. Helena quadrangle by the CNDDDB and listed in Table 3. White-tailed kite, tri-colored blackbird, Lewis' woodpecker, loggerhead shrike, and Lawrence's gold finch were added based on the presence of potential habitat or because they are listed in Table 4-7 of the Napa County BDR. 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.

- **Obscure bumble bee (*Bombus oliginosus*):**

This is a bumblebee native to the west coast; in the Coast Range it inhabits meadows. It is similar in appearance and co-exists with the common *Bombus vosnesenskii* and may be mistaken for this bee. *B. oliginosus* is threatened by climate change and loss of habitat and does not thrive in developed urban or agricultural areas. This species of bee has been identified in the CNDDDB in the vicinity of Angwin and Pope Valley. It has a potential to occur in mesic grassland habitat adjacent to Baltic rush marsh on the east shore of Maxville Lake, and in similar habitat within this mapped habitat along drainages on the property.

- ***Calasellus californica*; Western pearlshell (*Margaritifera falcata*):**

Habitat for these invertebrates does not occur at the project site.

- **Clear Lake hitch (*Lavinia exilicauda chi*):**

Hitch are fish of lakes and slow-moving streams. They are most often found in Clear Lake, spawning March through July during which time the fish migrate up tributary streams from Clear Lake to lay their eggs in sandy to gravelly bottomed channels. This species is not present on the project site.

- **Steelhead-Central California Coast DPS (*Oncorhynchus mykiss irideus* pop. 8):**

Steelhead require cool perennial streams. The CNDDDB lists this species as occurring in a perennial stream northwest of the city of St. Helena. Steelhead have historically been found in the upper reaches of Maxwell Creek. Young steelhead may persist in shaded perennial segments of Maxwell Creek within the project boundaries.

- **California giant salamander (*Dicamptodon ensatus*):**

This is a CDFW species of special concern. The salamanders are found in damp forests in cool, rocky streams, and occasionally in ponds and lakes. They prefer humid coastal forests, including Douglas fir, redwood, montane and valley-foothill riparian habitats. Cold flowing water is necessary for egg-laying and maturing. Larvae and adults in their aquatic state hide between rocks in streambeds; on land they may be found under litter or underground. Food includes snails, slugs, small rodents and mammals, fish, and other amphibians. The salamanders are mostly nocturnal.

California giant salamanders have been found in a cool, spring-fed creek in the Las Posadas State Forest south of Angwin. The stream and forest habitats along the west shore of Maxville Lake and along shaded perennial segments of Maxwell Creek have a potential to support these salamanders.

- **Foothill yellow-legged frog (*Rana boylei*):**

These frogs are relatively common along the shaded banks of perennial headwater streams, and they are heavily dependent on the presence of perennial water and are seldom far from pools where they can seek shelter from predation. These frogs require either perennial or long-duration stream flows as successful breeding sites due to the lengthy period required for metamorphosis of larvae. Breeding begins between mid-March and May and lasts about two weeks. The larvae require three to four months to mature, making most ephemeral streams unsuitable as breeding sites. This stream channel has a good potential to provide habitat for this species. These frogs may be present within Maxwell Creek on the southern parcel.

- **California red-legged frog (*Rana draytonii*):**

These are typically pond frogs or frogs of slow-moving streams with dense bank vegetation and three or more feet of depth. The frogs may be found outside of these habitats during wet weather, but nearby ponded water is necessary. This frog is threatened by vineyard and other development, and predators. The CNDDDB records an occurrence from 1979 in a roadside channel along Howell Mtn. Road. Maxville Lake and the various livestock ponds on the property could provide suitable habitat for red-legged frogs.

- **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. There are several ponds within the project area that have adjacent cover vegetation that would provide good habitat for pond turtles. Potential habitat is enhanced by the large pond's proximity to a perennial stream (Maxwell Creek).

- **Great blue heron (*Ardea herodias*):**

These large wading birds are a federal Species of Concern while nesting. They hunt in shallow water along the shorelines of lakes and rivers. They prefer to nest in colonies in the tops of the very tallest trees in isolated locations. No nesting colonies were observed on the property during field surveys conducted for this assessment.

- **Burrowing owl (*Athene cunicularia hypugaea*):**

Burrowing owls nest and forage in open, dry grassland, and in grass, forb, and open shrub stages of ponderosa pine habitats. They generally nest in abandoned rodent burrows but may dig burrows in soft soil or occasionally use manmade objects such as small drain-pipes. They hunt from a nearby perch and eat mostly insects, but also take small birds, mammals, and reptiles. The owls' home range is limited to around four acres. The site does not contain habitat for this owl.

- **White-tailed kite (*Elanus leucurus*):**

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 grasslands and open woodlands and vineyards throughout the property may support hunting and nesting habitat for this species.

- **Bald eagle (*Haliaeetus leucocephalus*):**

This is a California Endangered species. It requires large bodies of water with abundant fish, and adjacent snags or perches. Nests are near water and consist of a stick platform on a large live tree, often the largest tree in a stand, usually with fairly open canopy. There is an occurrence of this species in the CNDDDB for this region near Lake Hennessey. No suitable nest sites or nests were observed during field surveys conducted for this assessment.

- **Purple martin (*Progne subis*):**

This passerine (perching) bird prefers open, old growth, multilayered woodlands and conifer forests with nearby water or riparian areas. It is a California Species of Special Concern while nesting. These birds may nest as pairs in old woodpecker cavities or in colonies in large hollow snags. There are CNDDDB accounts of purple martins nesting in burned Douglas fir snags east of Howell Mountain and Conn Valley Roads. Moderate habitat for this species is found in the cooler woodlands on this property, much of which is contained within the existing conservation easements.

- **Yellow warbler (*Dendroica petechia brewsteri*):**

These warblers require riparian woodland with a dense shrubby understory for nesting and cover. They arrive in these areas in April and are typically gone by October.

Fledging is usually completed by August. Nests are constructed in shrubs and small trees in the lower canopy of the woodland, and they forage for insects in the upper canopy. There is suitable habitat in the willow habitats around the ponds.

- **Northern spotted owl (*Strix caurina occidentalis*):**

These owls are usually found in dense, multi-layered old-growth conifer, redwood, and fir forests, although they may also be found in otherwise-suitable newer-growth forests in California. They are intolerant of high temperatures and inhabit cool, moist, well-shaded habitats. In summer, the owls roost in north-facing slopes in dense overhead canopy, while in winter they may roost in oak habitats. They nest in tree or snag cavities, or in broken tops of large trees. Mature multi-layered forests are required for breeding. Territories for this owl are very large. This species is threatened by habitat disturbance and destruction, predation by other birds, and low reproductive success. These habitat requirements may be met within the dense conifer forests on the north-facing slopes.

- **Tricolored blackbird (*Agelaius tricolor*):**

These blackbirds are colony nesters in fresh emergent wetland habitat (tule or cattail marsh) but may also occur in dense blackberry or willow shrub communities adjacent to water. Cover is required for nesting. Proximity to insects is preferred, although food includes seeds and grain. Breeding occurs April through June. The species is usually readily observed when present. The tule and rush communities near the ponds provide suitable habitat for the species. This species was not observed during the site visits.

- **Lewis' woodpecker (*Melanerpes lewis*):**

These woodpeckers nest in excavated cavities, often in dead trees and dead limbs of live trees in open woodlands. Open woodlands or forests with open perches are required in order to provide good visibility for catching flying insects, and a shrubby understory is preferred. Food is mainly insects which they catch in the air or glean from the ground or trees, but includes nuts from orchards, fruits, and berries throughout the spring and summer; they shift their diet to cached acorns and emerging insects in the fall and winter. Breeding occurs between early May and July. The open woodlands within the survey area and in some of the proposed vineyard blocks provide good quality habitat for this species.

- **Lawrence's gold finch (*Carduelis lawrencei*):**

These passerine (perching birds) prefer to nest in the dense foliage of oaks in open woodland. Their diet consists primarily of seeds but includes some insects. They frequently nest near other pairs during a breeding season that extends from late March through July, with birds migrating in August. The open oak woodlands within the property provide good quality habitat for this species.

- **Loggerhead shrike (*Lanius ludovicianus*):**

These passerines prefer open-canopied woodlands with grass groundcover, and grazed open pastures. Preferred habitats include valley-foothill woodlands and riparian. They build well-concealed nests in the dense foliage of oaks and shrubs. They eat large insects but are fairly unique for passerines in that they also eat small amphibians, reptiles, birds, and mammals which they may impale on thorns or barbed wire fences. Shrikes use fence posts or shrubs as observation posts. Nesting occurs between March and early July when the young are fully fledged. Potential habitat for this species may be found in the project area in the open areas adjacent to the road.

- **Townsend's western big-eared bat (*Corynorhinus townsendii* ssp. *townsendii*):**

The most restrictive resource required by this species is daytime roosting habitat, and this bat 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 may share roosting sites with other species. They may use separate roosting sites for day and night and prefer open roosting sites with complete darkness. They require cold sites for hibernation and warm sites for maternity roosts. These bats typically prefer relatively mesic (moist) habitat such as riparian. There is no suitable habitat for this bat species on this site.

- **Long-eared myotis (*Myotis evotis*);**

- **Fringed myotis (*Myotis thysanodes*);**

- **Yuma myotis (*Myotis yumanensis*);**

- **Pallid bat (*Antrozous pallidus*):**

All of these bat species prefer conifer and/or riparian woodland habitats with sources of water over which to feed. These species may roost in rocky outcrops, trees, and buildings or other manmade structures. Many of the bats, most notably pallid, are extremely sensitive to human disturbance. Long-eared myotis, fringed myotis, and Yuma myotis do not have state or federal sensitive status at this time.

Pallid bats, long-eared myotis, and Yuma myotis have been found in numerous locations and in varied habitats throughout the Napa, Pope, and Chiles Valleys. There is an account of pallid bats near Baldy Mountain and Hardin Creek, southeast of this property.

The Douglas fir forest and Oregon white oak woodland along Maxville Lake and Maxwell Creek provide suitable habitat for these bats and they may be present. Surveys were conducted in woodlands contained within proposed vineyard blocks for bat habitat with negative results. The survey results are discussed in more detail in Section 5.1.

- **North American porcupine (*Erethizon dorsatum*):**

This large, primarily nocturnal rodent prefers conifer and hardwood forests and woodlands but is also found in forested wetlands and chaparral. They can withstand extreme cold temperatures. Porcupines use downed logs and debris, as well as snags and tree hollows, as cover and dens. Food is vegetation including twigs, berries, roots, seeds, needles, and bark; porcupines commonly climb trees for food. The porcupine breeds from September to November or December, giving birth in the spring. Lifespan is relatively long. Porcupines do not have special state or federal status.

Note: *Even when lacking sensitive status, migratory passerines and birds of prey are protected under the Migratory Bird Treaty Act and California Fish and Game Code. Removal or trimming of trees has a potential to result in an incidental take of eggs, or nestlings if clearing of tree habitat occurs during the nesting season (February 1 through August 31).*

5.0 FIELD SURVEY RESULTS

5.1 Bat Habitat Survey Results: A survey for bat habitat was conducted for this project during the 2017 field surveys. A total of five trees within the original series of vineyard blocks were identified as providing potential bat habitat. These trees were inspected and no evidence of past or present bat use was found. These surveys are now obsolete. Prior to development of the new vineyard blocks proposed in this 2022 survey, it is recommended that new bat surveys be conducted if tree disturbance is done during the breeding season. This is discussed in detail in the mitigation section.

5.2 Botanical Field Survey Results: Table 4 presents the results of the floristic-level botanical survey of the property. Each of the sensitive plant taxa potentially occurring at the property and listed in Tables 2 and 3 was specifically searched for during the surveys. A total of 150 mostly-native plant taxa were identified.

Three plants with sensitive regulatory status were found on the property during the surveys:

- **Holly-leaf ceanothus (*Ceanothus purpureus*) and Jepson's leptosiphon (*Leptosiphon jepsonii*):** Both of these taxa are ranked by CNPS as 1B.2 plants. They were found within the leather oak chaparral community.
- **Mt. St. Helena morning glory (*Calystegia collina* ssp. *oxyphylla*)** is a CNPS Rank 4.2 taxon. It was also found within the leather oak chaparral community.

Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review.

The CNPS defines Rank 4.2 plants as "Limited distribution (watch list); fairly endangered in California". Rank 4.2 is a watch list of plants moderately threatened in California but lacking special status.

Note: 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 any 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 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 4. FLORA OF THE MAXVILLE PROPERTY

Habit	Species	Common Name	Family	Origin
fern	<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	sub-arctic lady fern	Dryopteridaceae	N
fern	<i>Dryopteris arguta</i>	coastal wood fern	Dryopteridaceae	N
fern	<i>Polypodium glycyrrhiza</i>	licorice fern	Polypodiaceae	N
fern	<i>Aspidotus densa</i>	lace fern	Pteridaceae	N
fern	<i>Pellaea andromedifolia</i>	coffee fern	Pteridaceae	N
fern	<i>Pentagramma triangularis</i> ssp. <i>triangularis</i>	gold-back fern	Pteridaceae	N
forb	<i>Angelica tomentosa</i>	woolly angelica	Apiaceae	N
forb	<i>Daucus carota</i>	Queen Anne's lace	Apiaceae	A
forb	<i>Perideridia kelloggii</i>	Kellogg's yampah	Apiaceae	N
forb	<i>Petroselinum crispum</i>	parsley	Apiaceae	A
forb	<i>Sanicula crassicaulis</i>	Pacific sanicle, Pacific blacksnakeroot	Apiaceae	N
forb	<i>Torilis arvensis</i>	field hedge parsley	Apiaceae	A
forb	<i>Aralia californica</i>	elk clover	Araliaceae	N
forb	<i>Achillea millefolium</i>	common yarrow	Asteraceae	N
forb	<i>Achyrachaena mollis</i>	blow wives	Asteraceae	N
forb	<i>Agoseris heterophylla</i> var. <i>heterophylla</i>	annual agoseris, annual mountain dandelion	Asteraceae	N
forb	<i>Anthemis cotula</i>	dog-fennel	Asteraceae	A
forb	<i>Artemesia douglasiana</i>	mugwort	Asteraceae	N
forb	<i>Centaurea solstitialis</i>	yellow star thistle	Asteraceae	A
forb	<i>Chamomilla suaveolens</i>	pineapple weed	Asteraceae	A
forb	<i>Cichorium intybus</i>	blue sailors	Asteraceae	A
forb	<i>Cirsium brevistylum</i>	clustered thistle, Indian thistle	Asteraceae	N
forb	<i>Cirsium vulgare</i>	bull thistle	Asteraceae	A
forb	<i>Eriophyllum lanatum</i> var. <i>arachnoideum</i>	common woolly sunflower, spiderweb sunflower	Asteraceae	N

Habit	Species	Common Name	Family	Origin
forb	<i>Hemizonia congesta ssp. luzulifolia</i>	hayfield tarweed	Asteraceae	N
forb	<i>Hieracium bolanderi</i>	Bolander's hawkweed	Asteraceae	N
forb	<i>Logfia gallica</i>	daggerleaf cottonrose	Asteraceae	A
forb	<i>Madia gracilis</i>	gumweed, slender tarweed	Asteraceae	N
forb	<i>Micropus californicus</i>	cottontop	Asteraceae	N
forb	<i>Packera greenei</i>	flame ragwort	Asteraceae	N
forb	<i>Psilocarpus tenellus</i>	slender woolly marbles	Asteraceae	N
forb	<i>Senecio greenei</i>	flame butterweed	Asteraceae	N
forb	<i>Wyethia angustifolia</i>	narrow-leaved mule ears	Asteraceae	N
forb	<i>Brassica nigra</i>	black mustard	Brassicaceae	A
forb	<i>Silene lanciniata ssp. californica</i>	California Indian pink	Caryophyllaceae	N
forb	<i>Calystegia collina ssp. oxyphylla</i>	Mt. Saint Helena morning glory; CNPS Rank 4.2	Convolvulaceae	N
forb	<i>Convolvulus arvensis</i>	orchard morning-glory	Convolvulaceae	A
forb	<i>Carex serratodens</i>	two-toothed sedge	Cyperaceae	N
forb	<i>Cyperus eragrostis</i>	tall flat sedge	Cyperaceae	N
forb	<i>Eleocharis palustris (macrostachya)</i>	pale spikerush, common spikerush	Cyperaceae	N
forb	<i>Schoenoplectus acutus var. occidentalis</i>	tule, bulrush	Cyperaceae	N
forb	<i>Acmispon brachycarpus</i>	shortpodded lotus, hill lotus	Fabaceae	N
forb	<i>Lathyrus latifolius</i>	everlasting pea	Fabaceae	A
forb	<i>Lupinus bicolor</i>	miniature lupine	Fabaceae	N
forb	<i>Lupinus nanus</i>	sky lupine	Fabaceae	N
forb	<i>Melilotus indica</i>	sour clover	Fabaceae	A
forb	<i>Trifolium hirtum</i>	rose clover	Fabaceae	A
forb	<i>Vicia villosa ssp. villosa</i>	winter vetch, hairy vetch	Fabaceae	A
forb	<i>Erodium cicutarium</i>	red-stem storksbill	Geraniaceae	A
forb	<i>Sisyrinchium bellum</i>	blue-eyed grass, western blue-eyed grass	Iridaceae	N
forb	<i>Juncus arcticus var. balticus</i>	Baltic rush	Juncaceae	N

Habit	Species	Common Name	Family	Origin
forb	<i>Juncus confusus</i>	Colorado rush	Juncaceae	N
forb	<i>Juncus tenuis</i>	poverty rush	Juncaceae	N
forb	<i>Mentha pulegium</i>	pennyroyal	Lamiaceae	A
forb	<i>Stachys albens</i>	white-stem hedge nettle	Lamiaceae	N
forb	<i>Trichostema lanceolatum</i>	vinegar weed	Lamiaceae	N
forb	<i>Calochortus amabilis</i>	Diogenes lantern, golden fairy lantern	Liliaceae	N
forb	<i>Calochortus luteus</i>	yellow Mariposa lily	Liliaceae	N
forb	<i>Chlorogalum pomeridianum</i>	wavyleaf soap plant	Liliaceae	N
forb	<i>Smilacina racemosa</i>	fat Solomon's seal	Liliaceae	N
forb	<i>Triteleia laxa</i>	Ithuriel's spear	Liliaceae	N
forb	<i>Zigadenus fremontii</i>	small-flowered star lily	Liliaceae	N
forb	<i>Sidalcea hirsuta</i>	hairy checkerbloom	Malvaceae	N
forb	<i>Clarkia concinna ssp. concinna</i>	lovely clarkia, red ribbons	Onagraceae	N
forb	<i>Clarkia gracilis ssp. gracilis</i>	graceful clarkia	Onagraceae	N
forb	<i>Clarkia purpurea ssp. quadrivulnera</i>	winecup clarkia, four-spot	Onagraceae	N
forb	<i>Epilobium brachycarpum</i>	parched fireweed	Onagraceae	N
forb	<i>Epilobium minutum</i>	little willowherb	Onagraceae	N
forb	<i>Castilleja applegatei ssp. martini</i>	Martin's paintbrush	Orobanchaceae	N
forb	<i>Castilleja applegatei ssp. pinetorum</i>	wavy-leaved Indian paintbrush	Orobanchaceae	N
forb	<i>Castilleja attenuata</i>	valley tassels	Orobanchaceae	N
forb	<i>Castilleja rubicunda ssp. lithospermoides</i>	cream sacs	Orobanchaceae	N
forb	<i>Eschscholzia californica</i>	California poppy	Papaveraceae	N
forb	<i>Mimulus guttatus</i>	seep monkeyflower	Phrymaceae	N
forb	<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	A
forb	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon; CNPS Rank 1B.2	Polemoniaceae	N
forb	<i>Leptosiphon minimus</i>	true baby stars	Polemoniaceae	N
forb	<i>Polygala californica</i>	California milkwort	Polygalaceae	N
forb	<i>Rumex acetosella</i>	sheep sorrel	Polygonaceae	A

Habit	Species	Common Name	Family	Origin
forb	<i>Rumex crispus</i>	curly dock	Polygonaceae	A
forb	<i>Anagalis arvensis</i>	scarlet pimpernel	Primulaceae	A
forb	<i>Galium aparine</i>	goose grass, common bedstraw	Rubiaceae	N
forb	<i>Collinsia heterophylla</i>	purple Chinese houses	Scrophulariaceae	N
forb	<i>Pedicularis densiflora</i>	warrior's plume, Indian warrior	Scrophulariaceae	N
forb	<i>Verbascum thapsus</i>	woolly mullein	Scrophulariaceae	A
forb	<i>Triteleia hyacinthina</i>	white brodiaea	Themidaceae	N
forb	<i>Typha angustifolia</i>	narrow-leaf cattail	Typhaceae	N
grass	<i>Aegilops triuncialis</i>	barbed goatgrass	Poaceae	A
grass	<i>Agrostis stolonifera ssp. gigantea</i>	creeping bentgrass, redtop	Poaceae	A
grass	<i>Aira caryophyllea</i>	silver European hairgrass	Poaceae	A
grass	<i>Avena barbata</i>	slender wild oat	Poaceae	A
grass	<i>Briza minor</i>	small quaking grass	Poaceae	A
grass	<i>Bromus diandrus</i>	ripgut brome, ripgut grass	Poaceae	A
grass	<i>Bromus hordeaceus</i>	soft chess	Poaceae	A
grass	<i>Bromus laevipes</i>	woodland brome	Poaceae	N
grass	<i>Cynosurus echinatus</i>	hedgehog dogtail, annual dogtail	Poaceae	A
grass	<i>Deschampsia danthonioides</i>	annual hairgrass	Poaceae	N
grass	<i>Elymus caput-medusae</i>	medusahead	Poaceae	A
grass	<i>Elymus glaucus ssp. glaucus</i>	blue wildrye	Poaceae	N
grass	<i>Festuca microstachys</i>	desert fescue, small fescue	Poaceae	N
grass	<i>Festuca perennis</i>	Italian rye grass, perennial ryegrass	Poaceae	A
grass	<i>Festuca rubra</i>	red fescue	Poaceae	N
grass	<i>Holcus lanatus</i>	common velvet grass	Poaceae	A
grass	<i>Hordeum brachyantherum ssp. brachyantherum</i>	meadow barley, northern barley	Poaceae	N
grass	<i>Melica torreyana</i>	torrey melic	Poaceae	N
grass	<i>Phalaris aquatica</i>	Harding grass	Poaceae	A

Habit	Species	Common Name	Family	Origin
grass	<i>Polypogon monspeliensis</i>	rabbits-foot grass, annual beardgrass	Poaceae	A
grass	<i>Stipa (former: Nasella) pulchra</i>	purple needle-grass	Poaceae	N
shrub	<i>Rhus ovata</i>	sugar bush, sugar sumac	Anacardiaceae	N
shrub	<i>Toxicodendron diversilobum</i>	poison oak	Anacardiaceae	N
shrub	<i>Baccharis pilularis</i>	coyote brush, chaparral broom	Asteraceae	N
shrub	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	common snowberry	Caryophyllaceae	N
shrub	<i>Arctostaphylos viscida</i> ssp. <i>pulchella</i>	white-leaf manzanita	Ericaceae	N
shrub	<i>Rhododendron occidentale</i>	California azalea, western azalea	Ericaceae	N
shrub	<i>Rhododendron occidentale</i>	California azalea	Ericaceae	N
shrub	<i>Rupertia physodes</i>	California tea	Fabaceae	N
shrub	<i>Quercus berberidifolia</i>	California scrub oak	Fagaceae	N
shrub	<i>Quercus durata</i> var. <i>durata</i>	leather oak	Fagaceae	N
shrub	<i>Quercus wislizeni</i> var. <i>frutescens</i>	interior live oak	Fagaceae	N
shrub	<i>Eriodictyon californicum</i>	California yerba santa	Hydrophyllaceae	N
shrub	<i>Ceanothus jepsonii</i>	Jepson's ceanothus	Rhamnaceae	N
shrub	<i>Ceanothus jepsonii</i> var. <i>albiflorus</i>	white-flowered musk brush	Rhamnaceae	N
shrub	<i>Ceanothus purpureus</i>	hollyleaf ceanothus; CNPS Rank 1B.2	Rhamnaceae	N
shrub	<i>Frangula californica</i> ssp. <i>californica</i>	California coffeeberry	Rhamnaceae	N
shrub	<i>Frangula californica</i> ssp. <i>tomentosa</i>	hoary coffeeberry	Rhamnaceae	N
shrub	<i>Heteromeles arbutifolia</i>	toyon	Rosaceae	N
shrub	<i>Rosa californica</i>	California wild rose	Rosaceae	N
shrub	<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	A
tree	<i>Arbutus menziesii</i>	Pacific madrone	Ericaceae	N
tree	<i>Quercus agrifolia</i>	coast live oak	Fagaceae	N
tree	<i>Quercus douglasii</i>	blue oak	Fagaceae	N
tree	<i>Quercus garryana</i> var. <i>garryana</i>	Oregon white oak	Fagaceae	N
tree	<i>Quercus kelloggii</i>	California black oak	Fagaceae	N
tree	<i>Aesculus californica</i>	California buckeye	Hippocastanaceae	N

Habit	Species	Common Name	Family	Origin
tree	<i>Juglans hindsii</i>	Northern California black walnut	Juglandaceae	N
tree	<i>Umbellularia californica</i>	California bay	Lauraceae	N
tree	<i>Fraxinus dipetala</i>	California ash	Oleaceae	N
tree	<i>Fraxinus latifolia</i>	Oregon ash	Oleaceae	N
tree	<i>Pinus sabiniana</i>	ghost pine, foothill pine	Pinaceae	N
tree	<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas fir	Pinaceae	N
tree	<i>Malus fusca</i>	Oregon crabapple	Rosaceae	N
tree	<i>Populus fremontii</i> var. <i>fremontii</i>	Fremont cottonwood	Salicaceae	N
tree	<i>Salix exigua</i> var. <i>hindsiana</i>	narrow-leaved willow, sandbar willow	Salicaceae	N
tree	<i>Salix laevigata</i>	red willow	Salicaceae	N
tree	<i>Acer macrophyllum</i>	big-leaf maple	Sapindaceae	N
tree	<i>Aesculus californica</i>	California buckeye	Sapindaceae	N
vine	<i>Symphoricarpos mollis</i>	tripvine, creeping snowberry	Caprifoliaceae	N
vine	<i>Calystegia occidentalis</i> ssp. <i>occidentalis</i>	western morning-glory	Convolvulaceae	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.

6.2 Delineation Procedure: The delineation was 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. The survey included use of lidar mapped overlays and an extensive foot survey. Staff training was obtained under Terry Huffman of Huffman & Associates, Inc. Possible waters of the U.S. are defined as wetlands and "other waters" consisting of ephemeral stream channels.

In addition to standard field surveys conducted during the vegetation mapping and botanical survey work, all areas showing potential wetland signatures in the current aerial photo base map were surveyed in the field. This approach verified the field surveys. Wetland habitat is limited to Maxville Lake and cattle pond shorelines and to two areas occupying broadened segments of stream channels that have been classified here as "other waters" rather than called out separately as wetlands. Other areas with potential wetland signatures in the aerial photo did not support hydrophytic vegetation.

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 (Soils) in the biological resource assessment report in which this delineation is included.

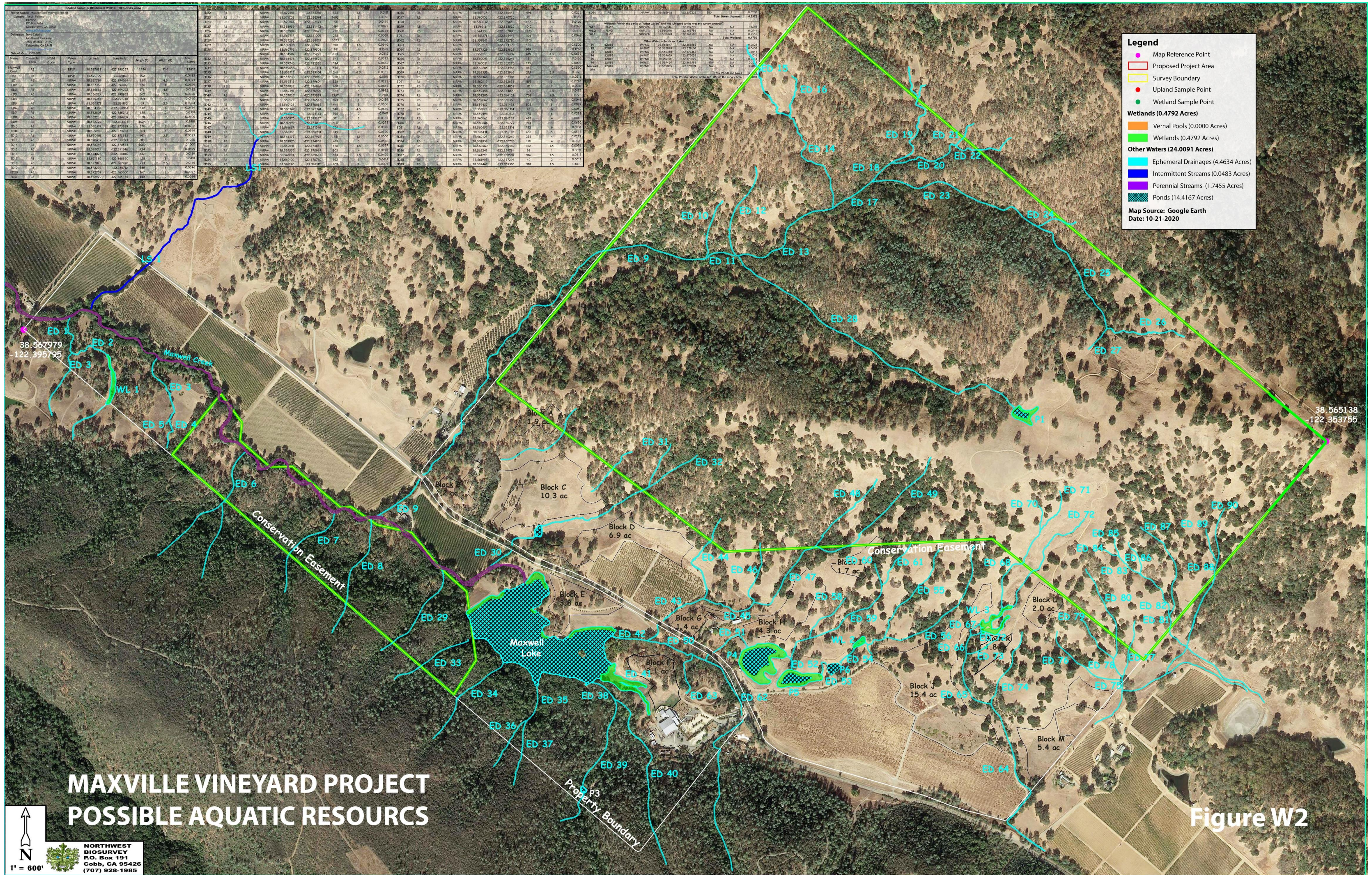
6.4 Waters of the U.S: The delineated boundaries of the possible Waters of the U.S are mapped in **Figure W2**. The total area of delineated waters, including drainages and ponds, is 24.488 acres. The delineation results are shown in **Table 5**.

TABLE 5. POSSIBLE AQUATIC RESOURCES

Name	Cowardin Code	HGM Code	Waters Type	Latitude	Longitude	Length (ft)	Width (ft)	Area (acres)
Maxwell Creek	R2		RPW	38.567038	-122.390257	6,336	12.0	1.7455
IS1	R4	-	RPW	38.570109	-122.391163	702	3	0.0483
ED1	R6	-	NRPW	38.567794	-122.394099	380	4.5	0.0393
ED2	R6	-	NRPW	38.567368	-122.393046	576	4	0.0529
ED3	R6	-	NRPW	38.566868	-122.394292	176	4.5	0.0182
ED3	R6	-	NRPW	38.566327	-122.390962	662	2.5	0.0380
ED4	R6	-	NRPW	38.565353	-122.391038	304	2	0.0140
ED5	R6	-	NRPW	38.565571	-122.391182	59	2.5	0.0034
ED6	R6	-	NRPW	38.564368	-122.388961	532	4	0.0489
ED7	R6	-	NRPW	38.562805	-122.386242	655	2	0.0301
ED8	R6	-	NRPW	38.562233	-122.384709	878	3	0.0605
ED9	R6	-	NRPW	38.562722	-122.383331	1024	8	0.1881
ED10	R6	-	NRPW	38.570519	-122.373689	570	2	0.0262
ED11	R6	-	NRPW	38.569908	-122.373262	304	5	0.0349
ED12	R6	-	NRPW	38.570901	-122.373833	911	2.5	0.0523
ED13	R6	-	NRPW	38.570437	-122.371093	1115	5	0.1280
ED14	R6	-	NRPW	38.572347	-122.370535	1089	4	0.1000
ED15	R6	-	NRPW	38.574015	-122.371846	724	3	0.0499
ED16	R6	-	NRPW	38.574026	-122.370816	412	2	0.0189
ED17	R6	-	NRPW	38.571360	-122.368890	428	5	0.0491
ED18	R6	-	NRPW	38.572025	-122.367970	253	2.5	0.0145
ED19	R6	-	NRPW	38.572298	-122.366712	865	3	0.0596
ED20	R6	-	NRPW	38.572759	-122.365500	167	2	0.0077
ED21	R6	-	NRPW	38.572929	-122.365355	140	2	0.0064
ED22	R6	-	NRPW	38.572551	-122.365216	323	1.5	0.0111
ED23	R6	-	NRPW	38.571702	-122.366361	1693	3	0.1166
ED24	R6	-	NRPW	38.570761	-122.362474	390	2	0.0179
ED25	R6	-	NRPW	38.568939	-122.361492	1194	3	0.0822
ED26	R6	-	NRPW	38.567904	-122.359677	772	2	0.0354
ED27	R6	-	NRPW	38.567717	-122.361009	258	1	0.0059
ED28	R6	-	NRPW	38.567282	-122.368018	3073	4	0.2822
ED29	R6	-	NRPW	38.560938	-122.382878	910	4.5	0.0940
ED30	R6	-	NRPW	38.562716	-122.379508	1741	4	0.1599
ED31	R6	-	NRPW	38.564587	-122.375223	453	3	0.0312
ED32	R6	-	NRPW	38.564478	-122.374525	541	3	0.0373
ED33	R6	-	NRPW	38.559746	-122.382326	524	5.5	0.0662
ED34	R6	-	NRPW	38.559058	-122.381084	558	4	0.0512
ED35	R6	-	NRPW	38.558515	-122.379104	341	4.5	0.0352
ED36	R6	-	NRPW	38.557748	-122.379946	278	3	0.0191
ED37	R6	-	NRPW	38.557518	-122.379604	323	3	0.0222
ED38	R6	-	NRPW	38.558832	-122.376944	468	6	0.0645
ED39	R6	-	NRPW	38.557391	-122.376996	1015	4	0.0932
ED40	R6	-	NRPW	38.557037	-122.375589	1357	7	0.2181
ED41	R6	-	NRPW	38.559125	-122.376546	693	1	0.0159
ED42	R6	-	NRPW	38.560125	-122.376088	441	5	0.0506

Name	Cowardin Code	HGM Code	Waters Type	Latitude	Longitude	Length (ft)	Width (ft)	Area (acres)
ED43	R6	-	NRPW	38.560342	-122.375341	648	4.5	0.0669
ED44	R6	-	NRPW	38.561999	-122.374133	895	2	0.0411
ED45	R6	-	NRPW	38.560975	-122.373157	511	3	0.0352
ED46	R6	-	NRPW	38.560992	-122.373003	606	2	0.0278
ED47	R6	-	NRPW	38.561667	-122.371246	866	2	0.0398
ED48	R6	-	NRPW	38.563316	-122.369231	849	2	0.0390
ED49	R6	-	NRPW	38.563377	-122.367976	1451	1.5	0.0500
ED50	R6	-	NRPW	38.559970	-122.374858	469	5	0.0538
ED51	R6	-	NRPW	38.559641	-122.373856	578	4.5	0.0597
ED52	R6	-	NRPW	38.559552	-122.370967	303	4	0.0278
ED53	R6	-	NRPW	38.560811	-122.369633	523	3.5	0.0420
ED54	R6	-	NRPW	38.560120	-122.370780	892	3	0.0614
ED55	R6	-	NRPW	38.561290	-122.367112	202	2	0.0093
ED56	R6	-	NRPW	38.561197	-122.365445	491	2	0.0225
ED57	R6	-	NRPW	38.560102	-122.370720	511	3	0.0352
ED58	R6	-	NRPW	38.560832	-122.369648	177	2.5	0.0102
ED59	R6	-	NRPW	38.56918	-122.368822	1012	4	0.0929
ED60	R6	-	NRPW	38.561303	-122.367080	1373	4.5	0.1418
ED61	R6	-	NRPW	38.561271	-122.365446	104	2	0.0048
ED62	R6	-	NRPW	38.558861	-122.372785	1201	4	0.1103
ED63	R6	-	NRPW	38.559314	-122.374399	438	3	0.0302
ED64	R6	-	NRPW	38.577329	-122.363829	919	6	0.1266
ED65	R6	-	NRPW	38.559143	-122.365402	619	4.5	0.0639
ED66	R6	-	NRPW	38.560093	-122.365245	181	4	0.0166
ED67	R6	-	NRPW	38.560021	-122.365270	135	3	0.0093
ED68	R6	-	NRPW	38.562205	-122.363466	856	3	0.0590
ED69	R6	-	NRPW	38.563353	-122.362968	215	2.5	0.0123
ED70	R6	-	NRPW	38.563364	-122.362384	470	2	0.0216
ED71	R6	-	NRPW	38.562412	-122.362836	1153	3	0.0794
ED72	R6	-	NRPW	38.560332	-122.364859	111	2	0.0051
ED73	R6	-	NRPW	38.559356	-122.364090	305	2.5	0.0175
ED74	R6	-	NRPW	38.559285	-122.364103	751	4.5	0.0776
ED75	R6	-	NRPW	38.559062	-122.360369	33	6	0.0045
ED76	R6	-	NRPW	38.559437	-122.361493	808	5	0.0927
ED77	R6	-	NRPW	38.559173	-122.360314	43	6	0.0059
ED78	R6	-	NRPW	38.559498	-122.360612	173	6	0.0238
ED79	R6	-	NRPW	38.560145	-122.361269	488	4	0.0448
ED80	R6	-	NRPW	38.560886	-122.360777	944	3	0.0650
ED81	R6	-	NRPW	38.560653	-122.358814	182	6	0.0251
ED82	R6	-	NRPW	38.561431	-122.359132	468	5	0.0537
ED83	R6	-	NRPW	38.562103	-122.360269	258	4	0.0237
ED84	R6	-	NRPW	38.562353	-122.360726	118	4	0.0108
ED85	R6	-	NRPW	38.562569	-122.360489	162	1.5	0.0056
ED86	R6	-	NRPW	38.562243	-122.359784	93	1	0.0021
ED87	R6	-	NRPW	38.561785	-122.358587	916	1.5	0.0315
ED88	R6	-	NRPW	38.561997	-122.357296	40	2	0.0018
ED89	R6	-	NRPW	38.562462	-122.357510	318	1.5	0.0110

Name	Cowardin Code	HGM Code	Waters Type	Latitude	Longitude	Length (ft)	Width (ft)	Area (acres)
ED90	R6	-	NRPW	38.562978	-122.357228	580	1.5	0.0200
Total Stream Segments								6.2572
Wetlands (within the banks of "other waters" and not subjected to the wetland survey protocol)								
WL 1	PEM2	-	NRPW\W	38.566516	-122.392795	NA	NA	0.1693
WL 2	PEM2	-	NRPW\W	38.560096	-122.368755	NA	NA	0.0544
WL3	PEM2	-	NRPW\W	38.560498	-122.364580	NA	NA	0.2555
Total Wetlands								0.4792
Other Waters – Ponds and Lakes								
P1	L2UB3	-	IMPND	38.565847	-122.363588	NA	NA	0.2025
P2	L2UB3	-	IMPND	38.562878	-122.379130	NA	NA	0.0608
P3	L2UB3	-	IMPND	38.556358	-122.377368	NA	NA	0.0144
P4	L2UB3	-	IMPND	38.559659	-122.372038	NA	NA	2.1016
P5	L2UB3	-	IMPND	38.559158	-122.370829	NA	NA	0.7344
P6	L2UB3	-	IMPND	38.559424	-122.369588	NA	NA	0.2215
Maxwell Lake	L2UB4	-	IMPND	38.559885	-122.379021	NA	NA	14.4167
Total Ponds and Lakes								17.7519
Total Possible Waters of the U.S. Within the Survey Area								24.4883



7.0 NAPA COUNTY WOODLAND ASSESSMENT

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

7.1 Procedure: The Maxville property contains six distinct native woodland and forest communities. However, only two of these would be impacted by the proposed vineyard project. These are Blue Oak Woodland and Coast Live Oak Woodland. These two communities are described in detail in Section 3.3 along with the other vegetation types on the property and are mapped in **Figure 2**.

The sample plots for these two woodlands were selected to best represent the structure and density of this woodland that would be impacted by vineyard development. The size was based on the need to include enough trees to provide a meaningful statistical sample. The plots are mapped in **Figure 2**.

Within the study plot, each tree was 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 field data for each plot is provided in **Appendix C**.

The data collected for the study plot was then statistically analyzed to provide the following information:

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

This data is provided below in **Tables 6 and 7**.

TABLE 6. TREE SURVEY DATA SUMMARY – COAST LIVE OAK WOODLAND

SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)	AVERAGE # OF TRUNKS PER ACRE ⁴
CLO	23	28.84	21
GP	5	11.8	5
TOTAL	28	25.8	26
Total area of sample plot		40,076ft ²	
Average canopy size ¹		1,217ft ²	
Average distance between trunks ²		38ft	
Canopy closure ³		85%	

TABLE 7. TREE SURVEY DATA SUMMARY – BLUE OAK WOODLAND

SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)	AVERAGE # OF TRUNKS PER ACRE ⁴
BLU	37	13.69	27
TOTAL	37	13.69	27
Total area of sample plot		60,779ft ²	
Average canopy size ¹		1,478ft ²	
Average distance between trunks ²		40ft	
Canopy closure ³		90%	

Key:

CLO=Coast Live Oak

MAD=Madrone

PP=Ponderosa Pine

BLU=Blue Oak

BAY=Bay

BLK=Black Oak

BLM=Big-leaf Maple

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 = ((ft²/acre)/area of test plot)) X number of trunks in test plot
5. Following completion of field work it was determined that canopy closure and hence # of trees per acre was unusually dense within the test plot compared to the rest of this community throughout the property. In order to compensate and make this plot more representative, the # of trees/acre calculation was modified by multiplying the number of trees in the test plot by the percent canopy closure common throughout the rest of the blue oak community (77% vs. ~100%). This reduced the estimated # of trees per acre from 160 to 124; a more realistic number based on average canopy closure of blue oak woodland on the property.

Estimates of potential tree loss within proposed vineyard blocks will be provided once the final vineyard block design is determined during the review process. However, as shown in **Table 1**, the current vineyard block design would result in the loss of 9.38-percent of

Coast Live Oak woodland and 4.06-percent of Blue Oak Woodland. These percentages are well below the 30-percent impact allowed under current Napa County policy.

7.2 Regional Setting:

The Maxville property extends down the northeast slope of Howell Mountain and crosses Chiles Valley, before ascending the southwest slope of a narrow ridge separating Chiles Valley from Pope Valley to the north. At this location, Chiles Valley drains northwest into Maxville Lake. Drainage continues northwest as Maxwell Creek along the narrow valley floor and then cuts through the intervening ridge to the Pope Valley, where it joins Pope Creek before entering Lake Berryessa. This lake drains east within the Putah Creek Drainage to the Sacramento River. Slightly southeast of the property, the valley drains southeast via Chiles Creek, which then turns west to Lake Hennessey before entering the Napa River in the Napa Valley via Conn Creek. An overview map of the region is provided in **Figure 4**.

Chiles Valley is characteristic of the steeply folded transverse ridges and deep, narrow intervening valleys of the Northern Interior Coast Range. Vegetation here is determined by aspect (steepness and direction of slope relative to the noonday sun) and the mosaic of soils which range from fertile shale and sandstone loams to comparatively sterile serpentines. The deeply shaded north-facing slopes above Maxville Lake support Douglas fir forest while just to the south along the same ridge, serpentine soils give rise to low leather oak chaparral and rocky barrens. The shale and sandstone derived southwest-facing slopes on the opposite side of the valley support a mix of oak woodlands and open grassland.

7.3 Wildlife Value of 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.

The Maxville Lake property contains extensive tracts of pristine forest and woodland, most of which is in existing conservation easements. These are mapped in **Figure 2** and include Douglas fir forest, coast live oak woodland, blue oak woodland, ghost pine forest, and mixed oak forest. Due to their large patch size and continuity with similar adjacent habitat, most of these woodlands provide excellent core habitat for the wildlife dependent on them.

The Oregon white oak woodland generally lacks the core habitat value of the other woodlands on the property. This riparian community extends along the valley floor and due to its narrow, linear structure (following Maxwell Creek) and proximity to fenced and developed vineyard, it is subject to continuous edge effect from agricultural land. Regardless, as a relatively intact and continuous riparian corridor through the valley floor, it serves as a critical wildlife movement corridor as will be discussed below.

Appendix B provides a list of wildlife species that use core woodland habitats in this region of the Coast Range. The list contains 254 wildlife species, not all of which would specifically occupy the Maxville property but are likely to occur within this region of continuous forest habitat.

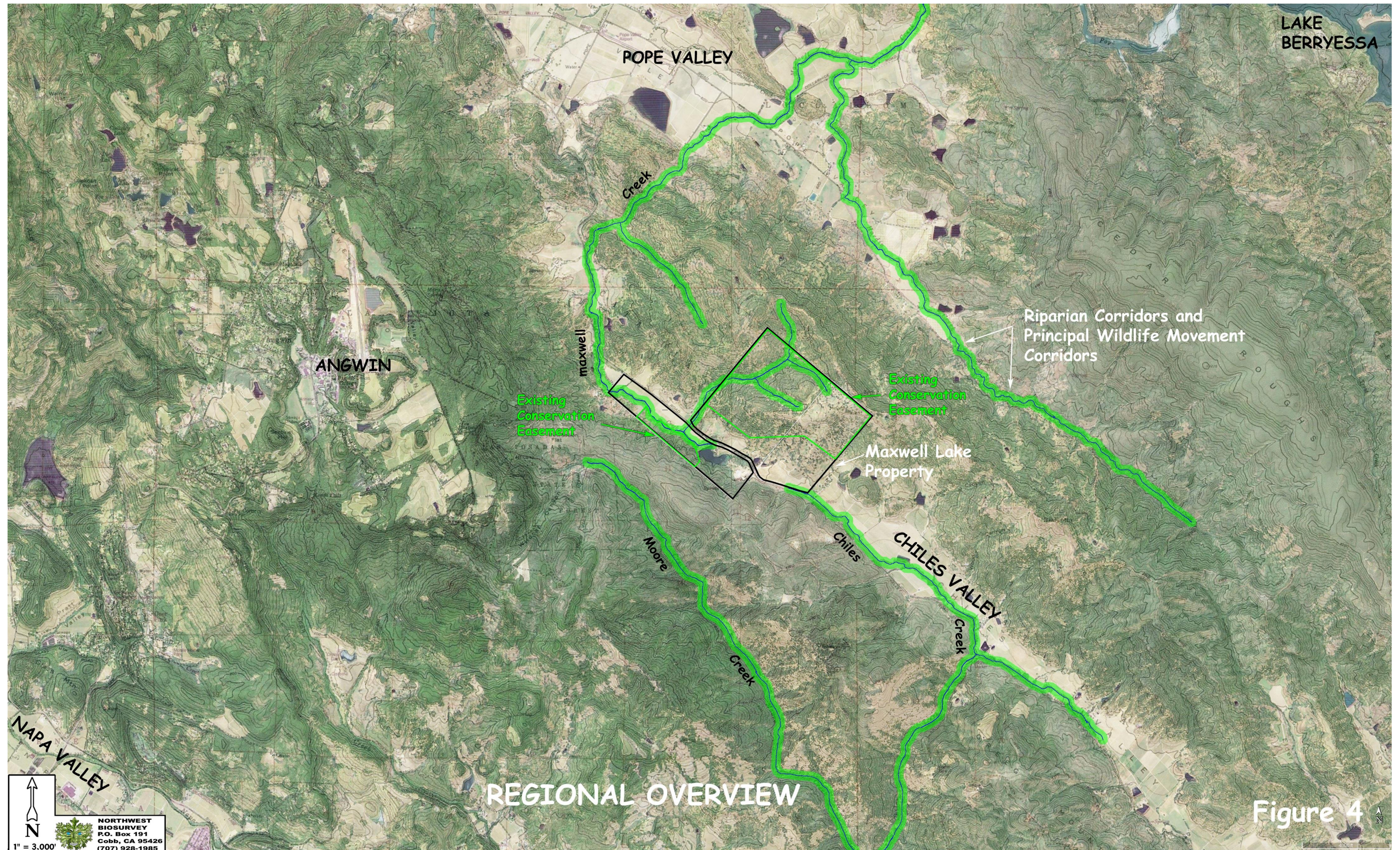
- **Value as a Wildlife Corridor:** The project area does not occur within any of the wildlife corridors identified as a *CalWild Linkage* shown in Map 4-2 of the Napa County BDR. Historically, the valley grasslands and adjacent riparian habitats of the Chiles Valley would have served as an important wildlife movement corridor through this region of the Howell Mountain Range. It stretches for nine miles through an area of steep ridges, connecting the Pope Valley to the Capell, Wooden, and Suisun Valleys to the south.

As can be seen in **Figures 2** and **4**, the valley floor now supports extensive, fenced vineyard development which has substantially reduced movement of large and medium-sized mammals through this area. Wildlife movement through the valley is now heavily dependent on the remaining narrow riparian corridors of Maxwell and Chiles Creeks. These corridors are fenced from adjacent vineyards but largely maintain their mature riparian tree canopy and shrub layers. Additionally, the ephemeral drainage from the northern conservation easement provides the principal access to the Maxwell Creek corridor from the ridge east of the valley. This channel passes beneath Chiles Pope Valley Road through a 4½-foot high x 6-foot-wide box

culvert with a natural stream channel bottom. This culvert provides suitable access for herptiles (reptiles and amphibians) and all size classes of mammals. The riparian woodland extends up to the roadway edge from both directions.

Cover and Edge Habitat for Surrounding Communities: Edge habitat consists of boundaries between structurally different vegetation types with particular emphasis on boundaries between woodland or forest and open habitats such as grasslands or shrublands. Edge areas often support an increased density and diversity of wildlife species due to the overlap of two different plant communities and the unique assemblages of wildlife they support. Many species such as raptors require edge. Raptors use tree canopies as perches from which they can scan adjacent grasslands for prey. Deer will feed in open grassland if nearby tree cover is available.

As can be seen in **Figure 2**, edge on the Maxville Lake property is extensive, particularly between the edges of the deep core areas of forest and woodland and adjacent grasslands north of Chiles Pope Valley Road. Along these boundaries between these core habitat forests and woodlands and the adjacent grasslands, edge enhances the value of both habitats. However, the continuous and excessive edge along the narrow riparian Oregon white oak corridor of Maxwell Creek on the valley floor is sufficient to eliminate core habitat from most of this riparian woodland.



- **Presence of Critical Plant Community or Wildlife Resources:**

Critical Plant Communities: The property contains two Sensitive Biotic Communities listed in the Napa County Baseline Data Report. These consist of Douglas fir forest and leather oak (serpentine) chaparral. In particular, the leather oak chaparral community contains populations of three plant communities with sensitive regulatory status: Mt. St. Helena morning glory, Jepson's leptosiphon, and hollyleaf ceanothus.

Critical Wildlife Resources: Three features on the Maxville property serve as important wildlife resources. These are:

- **Riparian corridor of Maxwell Creek and its unnamed tributary** from the northern conservation area (due to their function as the remaining wildlife corridors in the valley);
- **Maxville Lake** as a high value lacustrine (lake and open water) habitat with a shoreline supporting native plant communities, and its source of perennial upland summer water;
- **Conservation easements**, due to their large size, pristine condition, incorporation of core woodland and forest habitat, and protected status.

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. While five trees were identified as containing potential bat habitat (hollow trunks, broken branches), these trees showed no indications of current use by bats. However, if tree disturbance or clearing occurs within the breeding season of 2022, further surveys are recommended.

- **Woodland Age Class and Size:** Based on the woodland assessment conducted for this project (Section 7.0), these woodlands are dominated by mature trees. Oak regeneration on lands north of Chiles Pope Valley Road has been suppressed by a history of cattle grazing. However, the majority of trees are healthy, and regeneration should resume in the absence of grazing at any time during the next 50 years.

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 contains two plant communities listed as sensitive biotic communities in the Napa County Baseline Data Report. These are Douglas fir forest and leather oak chaparral.

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 150 plant taxa were identified on the property. Three plant taxa with sensitive regulatory status are present within the serpentine chaparral community: Mt. Saint Helena morning glory (CNPS Rank 4.2), Jepson's leptosiphon (1B.2), and hollyleaf ceanothus (1B.2). The proposed vineyard blocks are not located within the serpentine habitats occupied by these sensitive species.

Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review. List 4 is a watch list of plants about which not enough is known to qualify them as "rare, threatened, or endangered" and consequently placed on List 1B. Should development be proposed in the serpentine chaparral or within the woodland along Maxwell Creek, a determination as to whether impacts to this population requires mitigation is up to the local permitting agency in consultation with the Department of Fish and Wildlife.

As noted in Section 5.1, a survey conducted in 2017 for bat habitat indicated the presence of five trees providing potential habitat within the blue oak and coast live oak woodlands. No sign of actual use by bats was found. These surveys are now obsolete and will need to be repeated within the final proposed vineyard blocks if development is to occur during the breeding or roosting season in any year.

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. Local wildlife movement is discussed in detail in the Woodland Assessment, Section 7.3. The Maxwell Creek riparian corridor (Oregon white oak woodland) and the riparian corridor of its unnamed tributary draining the northern conservation area are important wildlife movement corridors within this region.

8.4. Fisheries Resources: Maxwell Creek provides a potential fisheries resource for Central California Coast DPS steelhead. However, while historic populations may exist here, the Lake Berryessa dam precludes passage of anadromous fish, and this population would not be contiguous with the rest of the Central California Coast DPS population.

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.
- 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 150 native and introduced plant taxa were identified on the property during the in-season, floristic-level botanical survey. 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.

Three plant taxa with sensitive regulatory status are present within the serpentine chaparral community: Mt. Saint Helena morning glory (CNPS Rank 4.2), Jepson's leptosiphon (1B.2), and hollyleaf ceanothus (1B.2).

Plants ranked 1B are considered by regulatory agencies to qualify as rare under Section 15380(d) of the California Environmental Quality Act (CEQA) and thus require consideration and subsequent mitigation during CEQA review. List 4 is a watch list of plants about which not enough is known to qualify them as "rare, threatened, or endangered" and consequently placed on List 1B. Should development be proposed in the serpentine chaparral or within the woodland along Maxwell Creek, a determination

as to whether impacts to this population requires mitigation is up to the local permitting agency in consultation with the Department of Fish and Wildlife.

Sensitive Wildlife: A total of 27 sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDDB database for the quadrangle, inclusion in the CWHR analysis, or were added based on local knowledge of the survey staff.

The property contains potential habitat for the following sixteen wildlife species with sensitive regulatory status:

- Obscure bumble bee
- Steelhead – (not contiguous with Central California Coast DPS)
- California giant salamander
- Foothill yellow-legged frog
- California red-legged frog
- Western pond turtle
- White-tailed kite
- Purple martin
- Yellow warbler
- Northern spotted owl
- Tri-colored blackbird
- Lewis' woodpecker
- Lawrence's goldfinch
- Loggerhead shrike
- Long-eared myotis
- Fringed myotis
- Yuma myotis
- Pallid bat

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 six woodland and forest types comprising a total of 541 acres of the 1,032-acre property. Two of these woodland communities – blue oak woodland and coast live oak woodland – would be impacted by the proposed vineyard development. A total of 11.95 acres of these woodlands occur within the potential vineyard block sites.

Possible Waters of U.S.: A total of **24.4883 acres** of possible waters of the U.S. have been delineated as ponds, lakes, and other waters (stream channels) on the property.

9.2 Potential Impacts and Proposed Mitigation: Prior to assessing potential impacts and recommending mitigation, it is important to note that this assessment is subject to two relatively unique conditions. First, more than half of this property (577 out of 1,032 acres – 56%) is within existing conservation easements which will not be included in the proposed project. Second, it is our understanding that the final design of “potential vineyard areas” may be modified based to some extent on the results of this biological resource assessment. It is assumed therefore that this assessment will be used as a design tool for the establishment of proposed vineyard blocks either prior to application submittal or as part of the application review process.

As a design tool, the following suggestions are made:

- a. Focus vineyard block design on Figure 2 which shows the vegetation types and vineyard areas.
- b. Review Figure 3 which shows mapped waters of the U.S. and proposed vineyard areas. Setbacks as required by Napa County are recommended. These setbacks were a major factor in the layout of vineyard blocks between the 2017 and 2022 vineyard designs.
- c. Incorporate the recommendations presented in this section as design elements.

1. Habitat Fragmentation:

Potential Impact: The existing core forest and woodland habitats on the Maxville property are already well protected within extensive existing conservation easements. However, connectivity between these habitats and with remaining wildlife movement corridors through the Chiles Valley and onto adjacent slopes has a potential to be significantly, adversely impacted by vineyard development. Use of fencing, removal of native vegetation, and channel crossings are principal among the sources of potential habitat fragmentation.

Proposed Mitigation: The following measure should be incorporated into project design:

- a. Maxwell Creek and Maxwell Lake:** As noted, Maxwell Creek is a critical remaining wildlife corridor within the Chiles Valley. Project related development should be excluded from this riparian corridor outside of the existing vineyard fencing. Maxville Lake and the remaining portion of Maxwell Creek east of the lake (draining into it) are both parts of the critical wildlife corridor and important wildlife resources in themselves as natural lacustrine habitat and a source of upland summer water.

As an offset to habitat loss associated with proposed vineyard blocks, It is recommended that a 50-foot development exclusion buffer be established around Maxville Lake and include the mixed oak forest along Maxwell Creek. The lake buffer should allow all current vineyard uses of the lake to continue but should allow natural development of native vegetation within the constraints of local fire codes. Based on current project design, this easement should have a minimal or no effect on the proposed project or ongoing vineyard use of the property.

2. Woodland and Forest Resources:

Potential Impact: As listed in Table 1 and mapped in Figure 2, the Maxville property contains 541 acres of forest and woodland. A total of 11.95 acres of these woodlands occur within the potential vineyard areas. The significance of this impact must be determined by County staff in conformance with *Napa County General Plan policy CON-22*. However, the potential project related loss of woodland and forest represents approximately 2-percent of this habitat on the property; a percentage well below the 30-percent threshold allowed under current Napa County policy.

Proposed Mitigation: As noted in the preamble to this section, final vineyard block design should consider the following guideline which will minimize impacts to woodlands. This approach should be coordinated with mitigation for waters of the U.S. provided in item 4 below.

- a. Focus vineyard block design on Figure 2 which shows the vegetation types and vineyard areas. This focus was employed in the vineyard 2022 redesign updating the originally proposed 2017 layout.

3. Sensitive Plants and Wildlife:

Potential Impacts: A full floristic-level botanical survey was conducted within the proposed vineyard blocks. Three plant populations with sensitive regulatory status have been identified on the property. All three (Mt. St. Helena morning glory, Jepson's leptosiphon, and hollyleaf ceanothus) occur within the leather oak chaparral community which is not within the proposed project area.

Sixteen wildlife species are potentially present within the project area and have a potential to be impacted through loss of habitat continuity, or habitat loss. Mitigation for potential impacts to these species is provided below.

Proposed Mitigation:

Obscure bumble bee: This bee is potentially present within mesic grasslands adjacent to Baltic rush marsh communities on the property. These communities surround ponds, are in expanded areas within stream channel banks, and occur along the shores of Maxville Lake.

- a. Consistent with recommended setbacks from waterways discussed in item 4 below, it is recommended that a minimum 20-foot buffer (or greater as may be determined by reviewing agencies) extend around all Baltic rush communities and waterways.

Steelhead, California giant salamander, California red-legged frog, foothill yellow-legged frog, western pond turtle: These fish and aquatic herptiles are dependent on lakes, ponds, and waterways as habitat and movement corridors. Mitigation will be achieved through implementation of habitat fragmentation measures **1a**, and **1b** and waterway setback measure **4a**.

- b. In addition, use of pesticides and other agricultural chemicals should comply with all federal, state, and local regulations.
- c. All vineyard construction and project-related vegetation clearing and grading shall comply with state and local erosion control regulations.

White-tailed kite, Lewis's woodpecker, Lawrence's goldfinch, Loggerhead shrike, and purple martin: Work within blue oak or coast live oak woodland:

- d. To the extent feasible, vegetation removal and grading shall occur outside of the nesting season (February 15 through August 31). If construction during the nesting season cannot be avoided, any required vegetation removal should be the minimal amount necessary for construction and should be completed prior to the nesting season. In the event that vegetation removal is necessary during the nesting season, the work shall be preceded by a pre-construction nest survey conducted by a qualified biologist within two weeks prior to the disturbance. If an active nest of a sensitive bird species is found, a construction buffer shall be established around it in consultation with CDFW staff and shall remain in place until fledging is completed or until it is determined that the nesting effort has failed as determined by the qualified biologist.

Yellow warble, Tri-colored blackbird: Yellow warblers nest in willows and shrubby riparian vegetation along creeks and tri-colored blackbirds nest in tules and cattails adjacent to ponds and streams.

- e. Mitigation will be achieved through implementation of habitat fragmentation measures **1a** and **1b** and waterway setback measure **4a**.

Long-eared myotis, fringed myotis, Yuma myotis: These bats prefer cool forest and riparian habitats near water. Potential habitat exists within the Douglas fir forest west of Maxville Lake and within the Oregon white oak riparian forest along Maxwell Creek.

- f. Douglas fir forest habitat is outside of the project area. Potential habitat within Oregon white oak riparian woodland will be protected through implementation of habitat fragmentation measures **1a** and **1b** and waterway setback measure **4a**.

Pallid bat: Pallid bats prefer roosting habitat in dry woodlands such as blue oak and coast live oak woodlands.

- g. Surveys for pallid bat within the proposed vineyard areas have been conducted with negative results. If work is completed during 2017, no further surveys are recommended. If work, including vegetation clearing, is to be conducted during subsequent years, a survey for pallid bats within affected blue oak or coast live oak woodland should be conducted within 14 days prior to the commencement of work.

If pallid bats or other bats with sensitive regulatory status are discovered during the surveys, a buffer of 50 feet should be established depending on recommendations of the surveying biologist. Removal of these roost trees shall be restricted to between September 15 and October 15, when young of the year are capable of flying, or between February 15 and April 1 to avoid hibernating bats and prior to formation of maternity sites. Following the felling of any tree or snag, it should be allowed to remain on the ground for 24 hours prior to chipping or removal to allow any bats to escape.

4. Waters of the U.S.:

Potential Impacts: As listed in **Table 5** and mapped in **Figure W2**, the Maxville property contains a total of 24.4883 acres of possible waters of the U.S. These waterways extend through many of the proposed vineyard areas and would potentially be impacted by vineyard development.

Proposed Mitigation:

- a.** Final vineyard block design should include a review of Figure W2 which shows mapped waters of the U.S. and proposed vineyard areas. Setbacks of 20 feet or as otherwise required by Napa County are recommended. These setbacks were implemented in the current vineyard block design.
- b.** Placement of fill within Waters of the U.S. may require a Nationwide permit by the Corps of Engineers (possibly a non-reporting permit under the Nationwide Permit Program), along with a 401 Water Quality Certification from the Regional Water Quality Control Board, and 1604 Stream Alteration Agreement from the California Department of Fish and Wildlife.

10.0 BIBLIOGRAPHY

Adams, Lowell W., and Louise E. Dove. 1989. *Wildlife Reserves and Corridors in the Urban Environment*. National Institute for Urban Wildlife.

Baldwin, Bruce G. et al. 2012. *The Jepson Manual, Higher Plants of California*. University of California Press, 2nd Edition.

Bennett, Andrew F. *Linkages in the Landscape: The Role of Corridors and Connectivity in Wildlife Conservation*. IUCN Forest Conservation Programme, 2003.

The Birds of North America Online. Cornell Lab of Ornithology. Internet site – www.bna.birds.cornell.edu.

Calflora Database. 2017. Internet site - www.calflora.org.

California Native Plant Society. 2001. *California Native Plant Society's Inventory of Rare and Endangered Plants of California*. (6th Edition Updated).

California Native Plant Society. 2017, 2022. Internet site – “Inventory of Rare and Endangered Plants (online edition, 8th Edition)”, Sacramento, CA; <http://www.cnps.org/inventory>.

California Department of Fish and Wildlife. California Interagency Wildlife Task Group. 2008. CWHR version 9.0. Sacramento, CA

California Department of Fish and Wildlife. 2017, 2022. *California Natural Diversity Database, RareFind 5*, Internet site - <https://map.dfg.ca.gov/rarefind>.

Clark, William S. et al. 2001. *Hawks of North America*. Peterson Field Guide Series.

County of Napa. Aerial photos of Napa County.

Crampton, Beecher. 1974. *Grasses in California*. Berkeley, California. University of California Press.

Erich, Paul R. et al. 1988. *The Birder's Handbook: A Field Guide to the Natural History of North American Birds*. Simon and Shuster, New York, New York, 785 pp.

Fiedler, Peggy L. 1996. *Common Wetland Plants of Central California*. Army Corps of Engineers.

Grillos, Steve L. 1996. *Ferns and Fern Allies*. University of California Press.

International Union for Conservation of Nature and Natural Resources. Internet site – “The IUCN Red List of Threatened Species”; <http://www.iucnredlist.org>.

Internet site. www.owling.com.

Mason, Herbert L. 1957. *A Flora of the Marshes of California*. University of California Press.

McMinn, Howard E. 1939. *An Illustrated Manual of California Shrubs*. University of California Press.

Moyle, Peter B. 1976; Revised 2002. *Inland Fishes of California*, University of California Press.

Morey, S. 2002. *California Wildlife Habitat Relationships, Version 7.0*.

Munsell Soil Color Charts, 1994.

Munz, Philip A. & David D. Keck. 1973. *A California Flora and Supplement*. University of California Press.

NatureServe Explorer. 2017. Internet site - <http://explorer.natureserve.org>.

Northern California Bats (NorCalBats). Internet site – www.norcalbats.org.

Sawyer, John O., Keeler-Wolf, Todd, Evens, Julie M. 2009. *A Manual of California Vegetation, Second Edition*. California Native Plant Society Press.

Shuford, W. David and Gardali, Thomas, Editors. Feb. 2008. *Studies of Western Birds No. 1: California Bird Species of Special Concern*. Western Field Ornithologists and California Department of Fish and Game.

Sibley, David A. 2000. *The Sibley Guide to Birds*. National Audubon Society. Alfred A. Knopf, New York, 545 pp.

Stebbins, Robert C. 2003. *Peterson Field Guides: Reptiles and Amphibians, Third Edition*. The Peterson Field Guide Series. Houghton Mifflin Company.

U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Ver. 2.0, 2008.*

U.S. Department of Agriculture, Natural Resources Conservation Service. *Soil Survey for Napa County, California.*

U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. 2017. Internet site – websoilsurvey.nrcs.usda.gov.

U.S. Fish and Wildlife Service. 2012. *National List of Plant Species that Occur in Wetlands: Arid West; California.*

Western Bat Working Group. 2017. Internet site – www.wbwg.org.

APPENDIX A

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

Surrounding 9-Quad List: St. Helena Quadrangle

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	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 alba</i>	great egret	None	None	-	-
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	Cand End	SSC	-
Aetna Springs	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
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	None	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>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
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>Monardella viridis</i>	green monardella	None	None	-	4.3
Aetna Springs	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
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
Aetna Springs	<i>Toxicoscordion fontanum</i>	marsh zigadenus	None	None	-	4.2
Aetna Springs	<i>Clarkia gracilis ssp. tracyi</i>	Tracy's clarkia	None	None	-	4.2
Aetna Springs	<i>Cypripedium montanum</i>	mountain lady's-slipper	None	None	-	4.2
Aetna Springs	<i>Cordylanthus tenuis ssp. brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Aetna Springs	<i>Erythranthe nudata</i>	bare monkeyflower	None	None	-	4.3
Aetna Springs	<i>Antirrhinum virga</i>	twig-like snapdragon	None	None	-	4.3
Aetna Springs	<i>Penstemon newberryi var. sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Aetna Springs	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
Aetna Springs	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Aetna Springs	<i>Navarretia cotulifolia</i>	cotula navarretia	None	None	-	4.2
Aetna Springs	<i>Navarretia jepsonii</i>	Jepson's navarretia	None	None	-	4.3
Aetna Springs	<i>Navarretia paradoxinota</i>	Porter's navarretia	None	None	-	1B.3
Aetna Springs	<i>Navarretia rosulata</i>	Marin County navarretia	None	None	-	1B.2
Aetna Springs	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Aetna Springs	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Aetna Springs	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Calistoga	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Calistoga	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Calistoga	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Calistoga	<i>Taricha rivularis</i>	red-bellied newt	None	None	SSC	-
Calistoga	<i>Accipiter striatus</i>	sharp-shinned hawk	None	None	WL	-
Calistoga	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Calistoga	<i>Syncaris pacifica</i>	California freshwater shrimp	End	End	-	-
Calistoga	<i>Hysterothecium traski</i>	Russian River tule perch	None	None	SSC	-
Calistoga	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Calistoga	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Calistoga	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Calistoga	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Calistoga	<i>Myotis evotis</i>	long-eared myotis	None	None	-	-
Calistoga	<i>Myotis thysanodes</i>	fringed myotis	None	None	-	-
Calistoga	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Calistoga	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Calistoga	<i>Coastal and Valley Freshwater Marsh</i>	Coastal and Valley Freshwater Marsh	None	None	-	-
Calistoga	<i>Eryngium constancei</i>	Loch Lomond button-celery	End	End	-	1B.1
Calistoga	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Calistoga	<i>Centromadia parryi ssp. parryi</i>	pappose tarplant	None	None	-	1B.2
Calistoga	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Calistoga	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Calistoga	<i>Lasthenia burkei</i>	Burke's goldfields	End	End	-	1B.1
Calistoga	<i>Lessingia hololeuca</i>	woolly-headed lessingia	None	None	-	3
Calistoga	<i>Plagiobothrys strictus</i>	Calistoga popcornflower	End	Threat	-	1B.1
Calistoga	<i>Arctostaphylos stanfordiana ssp. decumbens</i>	Rincon Ridge manzanita	None	None	-	1B.1
Calistoga	<i>Amorpha californica var. napensis</i>	Napa false indigo	None	None	-	1B.2
Calistoga	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
Calistoga	<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Calistoga	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Calistoga	<i>Trifolium hydrophilum</i>	saline clover	None	None	-	1B.2
Calistoga	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Calistoga	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
Calistoga	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Calistoga	<i>Limnanthes vincularis</i>	Sebastopol meadowfoam	End	End	-	1B.1
Calistoga	<i>Sidalcea hickmanii ssp. napensis</i>	Napa checkerbloom	None	None	-	1B.1
Calistoga	<i>Clarkia breweri</i>	Brewer's clarkia	None	None	-	4.2
Calistoga	<i>Penstemon newberryi var. sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Calistoga	<i>Poa napensis</i>	Napa blue grass	End	End	-	1B.1
Calistoga	<i>Puccinellia simplex</i>	California alkali grass	None	None	-	1B.2
Calistoga	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Calistoga	<i>Navarretia leucocephala ssp. bakeri</i>	Baker's navarretia	None	None	-	1B.1
Calistoga	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Calistoga	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Calistoga	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Calistoga	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Calistoga	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Calistoga	<i>Triteleia lugens</i>	dark-mouthed triteleia	None	None	-	4.3
Chiles Valley	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Chiles Valley	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Chiles Valley	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Chiles Valley	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Chiles Valley	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Chiles Valley	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Chiles Valley	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Chiles Valley	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
Chiles Valley	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Chiles Valley	<i>Myotis evotis</i>	long-eared myotis	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Chiles Valley	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Chiles Valley	<i>Anodonta californiensis</i>	California floater	None	None	-	-
Chiles Valley	<i>Anodonta oregonensis</i>	Oregon floater	None	None	-	-
Chiles Valley	<i>Gonidea angulata</i>	western ridged mussel	None	None	-	-
Chiles Valley	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Chiles Valley	<i>Northern Vernal Pool</i>	Northern Vernal Pool	None	None	-	-
Chiles Valley	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Chiles Valley	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
Chiles Valley	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Chiles Valley	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2
Chiles Valley	<i>Calystegia collina ssp. oxyphylla</i>	Mt. Saint Helena morning-glory	None	None	-	4.2
Chiles Valley	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
Chiles Valley	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Chiles Valley	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2
Chiles Valley	<i>Clarkia gracilis ssp. tracyi</i>	Tracy's clarkia	None	None	-	4.2
Chiles Valley	<i>Cordylanthus tenuis ssp. brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Chiles Valley	<i>Calamagrostis ophitidis</i>	serpentine reed grass	None	None	-	4.3
Chiles Valley	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
Chiles Valley	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Chiles Valley	<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	None	None	-	4.3
Chiles Valley	<i>Navarretia rosulata</i>	Marin County navarretia	None	None	-	1B.2
Chiles Valley	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Chiles Valley	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Chiles Valley	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Chiles Valley	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Detert Reservoir	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Detert Reservoir	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Detert Reservoir	<i>Falco mexicanus</i>	prairie falcon	None	None	WL	-
Detert Reservoir	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Detert Reservoir	<i>Progne subis</i>	purple martin	None	None	SSC	-
Detert Reservoir	<i>Agelaius tricolor</i>	tricolored blackbird	None	Cand End	SSC	-
Detert Reservoir	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
Detert Reservoir	<i>Trachykele hartmani</i>	serpentine cypress wood-boring beetle	None	None	-	-
Detert Reservoir	<i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	None	None	-	-
Detert Reservoir	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Detert Reservoir	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Detert Reservoir	<i>Lasionycteris noctivagans</i>	silver-haired bat	None	None	-	-
Detert Reservoir	<i>Lasiurus blossevillii</i>	western red bat	None	None	SSC	-
Detert Reservoir	<i>Lasiurus cinereus</i>	hoary bat	None	None	-	-
Detert Reservoir	<i>Myotis ciliolabrum</i>	western small-footed myotis	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Detert Reservoir	<i>Myotis evotis</i>	long-eared myotis	None	None	-	-
Detert Reservoir	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Detert Reservoir	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Detert Reservoir	<i>Northern Vernal Pool</i>	Northern Vernal Pool	None	None	-	-
Detert Reservoir	<i>Asclepias solanoana</i>	serpentine milkweed	None	None	-	4.2
Detert Reservoir	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Detert Reservoir	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Detert Reservoir	<i>Harmonia hallii</i>	Hall's harmonia	None	None	-	1B.2
Detert Reservoir	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Detert Reservoir	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
Detert Reservoir	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Detert Reservoir	<i>Cryptantha dissita</i>	serpentine cryptantha	None	None	-	1B.2
Detert Reservoir	<i>Streptanthus brachiatus ssp. brachiatus</i>	Socrates Mine jewelflower	None	None	-	1B.2
Detert Reservoir	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2
Detert Reservoir	<i>Streptanthus morrisonii ssp. elatus</i>	Three Peaks jewelflower	None	None	-	1B.2
Detert Reservoir	<i>Streptanthus vernalis</i>	early jewelflower	None	None	-	1B.2
Detert Reservoir	<i>Calystegia collina ssp. oxyphylla</i>	Mt. Saint Helena morning-glory	None	None	-	4.2
Detert Reservoir	<i>Calystegia collina ssp. venusta</i>	South Coast Range morning-glory	None	None	-	4.3
Detert Reservoir	<i>Arctostaphylos manzanita ssp. elegans</i>	Konocti manzanita	None	None	-	1B.3
Detert Reservoir	<i>Amorpha californica var. napensis</i>	Napa false indigo	None	None	-	1B.2
Detert Reservoir	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Detert Reservoir	<i>Astragalus rattanii var. jepsonianus</i>	Jepson's milk-vetch	None	None	-	1B.2
Detert Reservoir	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Detert Reservoir	<i>Ribes victoris</i>	Victor's gooseberry	None	None	-	4.3
Detert Reservoir	<i>Juncus luciensis</i>	Santa Lucia dwarf rush	None	None	-	1B.2
Detert Reservoir	<i>Trichostema ruygtii</i>	Napa bluecurls	None	None	-	1B.2
Detert Reservoir	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
Detert Reservoir	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Detert Reservoir	<i>Limnanthes floccosa ssp. floccosa</i>	woolly meadowfoam	None	None	-	4.2
Detert Reservoir	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	None	None	-	1B.2
Detert Reservoir	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2
Detert Reservoir	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	None	None	-	4.3
Detert Reservoir	<i>Cordylanthus tenuis ssp. brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Detert Reservoir	<i>Antirrhinum virga</i>	twig-like snapdragon	None	None	-	4.3
Detert Reservoir	<i>Penstemon newberryi var. sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Detert Reservoir	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
Detert Reservoir	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Detert Reservoir	<i>Navarretia myersii ssp. deminuta</i>	small pincushion navarretia	None	None	-	1B.1
Detert Reservoir	<i>Eriogonum umbellatum var. bahiiforme</i>	bay buckwheat	None	None	-	4.2

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Detert Reservoir	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Detert Reservoir	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Detert Reservoir	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Detert Reservoir	<i>Ceanothus purpureus</i>	holly-leaved ceanothus	None	None	-	1B.2
Detert Reservoir	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Detert Reservoir	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
Kenwood	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Kenwood	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Kenwood	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Kenwood	<i>Taricha rivularis</i>	red-bellied newt	None	None	SSC	-
Kenwood	<i>Taricha torosa</i>	Coast Range newt	None	None	SSC	-
Kenwood	<i>Accipiter cooperii</i>	Cooper's hawk	None	None	WL	-
Kenwood	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Kenwood	<i>Strix occidentalis caurina</i>	northern spotted owl	Threat	Threat	SSC	-
Kenwood	<i>Syncaris pacifica</i>	California freshwater shrimp	End	End	-	-
Kenwood	<i>Hysterocarpus traski</i>	Russian River tule perch	None	None	SSC	-
Kenwood	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Kenwood	<i>Oncorhynchus tshawytscha</i>	chinook salmon - California coastal ESU	Threat	None	-	-
Kenwood	<i>Bombus occidentalis</i>	western bumble bee	None	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	<i>Northern Vernal Pool</i>	Northern Vernal Pool	None	None	-	-
Kenwood	<i>Valley Needlegrass Grassland</i>	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>Hosackia gracilis</i>	harlequin lotus	None	None	-	4.2
Kenwood	<i>Trifolium amoenum</i>	two-fork clover	End	None	-	1B.1
Kenwood	<i>Iris longipetala</i>	coast iris	None	None	-	4.2
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

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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
Rutherford	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Rutherford	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Rutherford	<i>Taricha rivularis</i>	red-bellied newt	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>Ardea herodias</i>	great blue heron	None	None	-	-
Rutherford	<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	-	-
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 irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Rutherford	<i>Bombus caliginosus</i>	obscure bumble bee	None	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>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
Rutherford	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
Rutherford	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Rutherford	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Rutherford	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
Rutherford	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2
Rutherford	<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rincon Ridge manzanita	None	None	-	1B.1
Rutherford	<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None	-	1B.2
Rutherford	<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Rutherford	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Rutherford	<i>Clarkia breweri</i>	Brewer's clarkia	None	None	-	4.2
Rutherford	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Rutherford	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Rutherford	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Rutherford	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Rutherford	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Rutherford	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
St. Helena	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
St. Helena	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
St. Helena	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
St. Helena	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
St. Helena	<i>Ardea herodias</i>	great blue heron	None	None	-	-
St. Helena	<i>Progne subis</i>	purple martin	None	None	SSC	-
St. Helena	<i>Setophaga petechia</i>	yellow warbler	None	None	SSC	-
St. Helena	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
St. Helena	<i>Strix occidentalis caurina</i>	northern spotted owl	Threat	Threat	SSC	-
St. Helena	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
St. Helena	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
St. Helena	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
St. Helena	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
St. Helena	<i>Myotis evotis</i>	long-eared myotis	None	None	-	-
St. Helena	<i>Myotis thysanodes</i>	fringed myotis	None	None	-	-
St. Helena	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
St. Helena	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
St. Helena	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
St. Helena	<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
St. Helena	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3
St. Helena	<i>Erigeron biolettii</i>	streamside daisy	None	None	-	3
St. Helena	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
St. Helena	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
St. Helena	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
St. Helena	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
St. Helena	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
St. Helena	<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None	-	1B.2
St. Helena	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
St. Helena	<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	End	Threat	-	1B.1
St. Helena	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
St. Helena	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
St. Helena	<i>Trichostema ruygtii</i>	Napa bluecurls	None	None	-	1B.2
St. Helena	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
St. Helena	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2
St. Helena	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	None	None	-	1B.2
St. Helena	<i>Toxicoscordion fontanum</i>	marsh zigadenus	None	None	-	4.2
St. Helena	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	None	None	-	4.2
St. Helena	<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	None	None	-	4.2
St. Helena	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
St. Helena	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
St. Helena	<i>Calamagrostis ophitidis</i>	serpentine reed grass	None	None	-	4.3
St. Helena	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
St. Helena	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
St. Helena	<i>Navarretia cotulifolia</i>	cotula navarretia	None	None	-	4.2
St. Helena	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	-	1B.1
St. Helena	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
St. Helena	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
St. Helena	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
St. Helena	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
St. Helena	<i>Ceanothus pinetorum</i>	Kern ceanothus	None	None	-	4.3
St. Helena	<i>Ceanothus purpureus</i>	holly-leaved ceanothus	None	None	-	1B.2
St. Helena	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
St. Helena	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2
St. Helena	<i>Triteleia lugens</i>	dark-mouthed triteleia	None	None	-	4.3
Walter Springs	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Walter Springs	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Walter Springs	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Walter Springs	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Walter Springs	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Walter Springs	<i>Falco mexicanus</i>	prairie falcon	None	None	WL	-
Walter Springs	<i>Athene cunicularia</i>	burrowing owl	None	None	SSC	-
Walter Springs	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Walter Springs	<i>Anodonta californiensis</i>	California floater	None	None	-	-
Walter Springs	<i>Anodonta oregonensis</i>	Oregon floater	None	None	-	-
Walter Springs	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Walter Springs	<i>Northern Vernal Pool</i>	Northern Vernal Pool	None	None	-	-
Walter Springs	<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
Walter Springs	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
Walter Springs	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Walter Springs	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2
Walter Springs	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
Walter Springs	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Walter Springs	<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	None	None	-	1B.2
Walter Springs	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Walter Springs	<i>Fritillaria pluriflora</i>	adobe-lily	None	None	-	1B.2
Walter Springs	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Walter Springs	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2
Walter Springs	<i>Malacothamnus helleri</i>	Heller's bush-mallow	None	None	-	3.3
Walter Springs	<i>Toxicoscordion fontanum</i>	marsh zigadenus	None	None	-	4.2
Walter Springs	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
Walter Springs	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Walter Springs	<i>Navarretia cotulifolia</i>	cotula navarretia	None	None	-	4.2
Walter Springs	<i>Navarretia jepsonii</i>	Jepson's navarretia	None	None	-	4.3
Walter Springs	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Walter Springs	<i>Ceanothus sonomensis</i>	Sonoma ceanothus	None	None	-	1B.2
Yountville	<i>Rana boylei</i>	foothill yellow-legged frog	None	None	SSC	-
Yountville	<i>Elanus leucurus</i>	white-tailed kite	None	None	FP	-
Yountville	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Yountville	<i>Ardea alba</i>	great egret	None	None	-	-
Yountville	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Yountville	<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted	FP	-
Yountville	<i>Icteria virens</i>	yellow-breasted chat	None	None	SSC	-
Yountville	<i>Setophaga petechia</i>	yellow warbler	None	None	SSC	-
Yountville	<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	WL	-
Yountville	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	Threat	None	-	-
Yountville	<i>Bombus caliginosus</i>	obscure bumble bee	None	None	-	-
Yountville	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Yountville	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Yountville	<i>Sagittaria sanfordii</i>	Sanford's arrowhead	None	None	-	1B.2
Yountville	<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	None	None	-	1B.2
Yountville	<i>Lomatium repostum</i>	Napa lomatium	None	None	-	4.3
Yountville	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Yountville	<i>Harmonia nutans</i>	nodding harmonia	None	None	-	4.3
Yountville	<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	None	None	-	3.2
Yountville	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Yountville	<i>Downingia pusilla</i>	dwarf downingia	None	None	-	2B.2
Yountville	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Yountville	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Yountville	<i>Trichostema ruygtii</i>	Napa bluecurls	None	None	-	1B.2
Yountville	<i>Limnanthes vincularis</i>	Sebastopol meadowfoam	End	End	-	1B.1
Yountville	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2
Yountville	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	None	None	-	4.2
Yountville	<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	None	None	-	4.2
Yountville	<i>Castilleja ambigua</i> var. <i>meadii</i>	Mead's owls-clover	None	None	-	1B.1
Yountville	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Yountville	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Yountville	<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	None	None	-	4.3
Yountville	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	End	Threat	-	1B.1
Yountville	<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	None	None	-	4.2
Yountville	<i>Ceanothus purpureus</i>	holly-leaved ceanothus	None	None	-	1B.2
Yountville	<i>Brodiaea leptandra</i>	narrow-anthered brodiaea	None	None	-	1B.2

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

Threat=Threatened
 End=Endangered
 Cand=Candidate
 Prop=Proposed

APPENDIX B

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM RESULTS



CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM
 supported by the
CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP
 and maintained by the
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
Database Version: 9.0

SPECIES SUMMARY REPORT

FE = Federal Endangered CF = California Fully Protected PT = Federally-Proposed Threatened CD = CDF Sensitive
 FT = Federal Threatened CP = California Protected FC = Federal Candidate HA = Harvest
 CE = California Endangered SC = California Species of Special Concern BL = BLM Sensitive
 CT = California Threatened PE = Federally-Proposed Endangered FS = USFS Sensitive
 Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	Species Name	Status			Native/Introduced		
A001	CALIFORNIA TIGER SALAMANDER	FE FT	CT	SC			NATIVE
A004	CALIFORNIA GIANT SALAMANDER						NATIVE
A006	ROUGH-SKINNED NEWT						NATIVE
A007	CALIFORNIA NEWT			SC			NATIVE
A012	COMMON ENSATINA			SC	BL FS		NATIVE
A014	CALIFORNIA SLENDER SALAMANDER						NATIVE
A020	SPECKLED BLACK SALAMANDER						NATIVE
A022	ARBOREAL SALAMANDER						NATIVE
A028	WESTERN SPADEFOOT			SC	BL		NATIVE
A032	WESTERN TOAD						NATIVE
A039	PACIFIC TREEFROG						NATIVE
A043	FOOTHILL YELLOW-LEGGED FROG			SC	BL FS		NATIVE
A071	CALIFORNIA RED-LEGGED FROG	FT		SC			NATIVE
B044	DOUBLE-CRESTED CORMORANT						NATIVE
B051	GREAT BLUE HERON				CD		NATIVE
B052	GREAT EGRET				CD		NATIVE
B053	SNOWY EGRET						NATIVE
B057	CATTLE EGRET						NATIVE
B058	GREEN HERON						NATIVE
B059	BLACK-CROWNED NIGHT HERON						NATIVE
B076	WOOD DUCK				HA		NATIVE
B079	MALLARD				HA		NATIVE
B083	CINNAMON TEAL				HA		NATIVE
B101	COMMON GOLDENEYE				HA		NATIVE
B103	BUFFLEHEAD				HA		NATIVE
B104	HOODED MERGANSER				HA		NATIVE
B105	COMMON MERGANSER				HA		NATIVE
B107	RUDDY DUCK				HA		NATIVE
B108	TURKEY VULTURE						NATIVE
B110	OSPREY				CD		NATIVE
B111	WHITE-TAILED KITE		CF		BL		NATIVE
B113	BALD EAGLE	CE	CF		BL FS CD		NATIVE
B114	NORTHERN HARRIER			SC			NATIVE
B115	SHARP-SHINNED HAWK						NATIVE
B116	COOPER'S HAWK						NATIVE
B119	RED-SHOULDERED HAWK						NATIVE
B123	RED-TAILED HAWK						NATIVE
B124	FERRUGINOUS HAWK						NATIVE
B125	ROUGH-LEGGED HAWK						NATIVE
B126	GOLDEN EAGLE		CF		BL	CD	NATIVE
B127	AMERICAN KESTREL						NATIVE
B128	MERLIN						NATIVE
B129	PEREGRINE FALCON		CF			CD	NATIVE
B131	PRAIRIE FALCON						NATIVE

ID	Species Name	Status			Native/Introduced
B140	CALIFORNIA QUAIL		SC	HA	NATIVE
B141	MOUNTAIN QUAIL			HA	NATIVE
B145	VIRGINIA RAIL				NATIVE
B158	KILLDEER				NATIVE
B165	GREATER YELLOWLEGS				NATIVE
B170	SPOTTED SANDPIPER				NATIVE
B173	LONG-BILLED CURLEW				NATIVE
B199	WILSON'S SNIFE				NATIVE
B227	CASPIAN TERN				NATIVE
B233	FORSTER'S TERN				NATIVE
B251	BAND-TAILED PIGEON			HA	NATIVE
B255	MOURNING DOVE			HA	NATIVE
B260	GREATER ROADRUNNER				NATIVE
B262	BARN OWL				NATIVE
B264	WESTERN SCREECH OWL				NATIVE
B265	GREAT HORNED OWL				NATIVE
B267	NORTHERN PYGMY OWL				NATIVE
B269	BURROWING OWL		SC	BL	NATIVE
B270	SPOTTED OWL	FT	SC	BL FS CD	NATIVE
B272	LONG-EARED OWL		SC		NATIVE
B273	SHORT-EARED OWL		SC		NATIVE
B274	NORTHERN SAW-WHET OWL				NATIVE
B277	COMMON POORWILL				NATIVE
B282	WHITE-THROATED SWIFT				NATIVE
B286	BLACK-CHINNED HUMMINGBIRD				NATIVE
B287	ANNA'S HUMMINGBIRD				NATIVE
B289	CALLIOPE HUMMINGBIRD				NATIVE
B291	RUFIOUS HUMMINGBIRD				NATIVE
B292	ALLEN'S HUMMINGBIRD				NATIVE
B293	BELTED KINGFISHER				NATIVE
B294	LEWIS' S WOODPECKER				NATIVE
B296	ACORN WOODPECKER				NATIVE
B299	RED-BREASTED SAPSUCKER				NATIVE
B302	NUTTALL'S WOODPECKER				NATIVE
B303	DOWNY WOODPECKER				NATIVE
B304	HAIRY WOODPECKER				NATIVE
B307	NORTHERN FLICKER				NATIVE
B308	PILEATED WOODPECKER				NATIVE
B309	OLIVE-SIDED FLYCATCHER		SC		NATIVE
B311	WESTERN WOOD-PEWEE				NATIVE
B318	DUSKY FLYCATCHER				NATIVE
B320	PACIFIC-SLOPE FLYCATCHER				NATIVE
B321	BLACK PHOEBE				NATIVE
B323	SAY'S PHOEBE				NATIVE
B326	ASH-THROATED FLYCATCHER				NATIVE
B333	WESTERN KINGBIRD				NATIVE
B337	HORNED LARK				NATIVE
B338	PURPLE MARTIN		SC		NATIVE
B339	TREE SWALLOW				NATIVE
B340	VIOLET-GREEN SWALLOW				NATIVE
B341	NORTHERN ROUGH-WINGED SWALLOW				NATIVE
B342	BANK SWALLOW	CT		BL	NATIVE
B343	CLIFF SWALLOW				NATIVE
B344	BARN SWALLOW				NATIVE
B346	STELLER'S JAY				NATIVE
B348	WESTERN SCRUB-JAY				NATIVE
B352	YELLOW-BILLED MAGPIE				NATIVE
B353	AMERICAN CROW			HA	NATIVE
B354	COMMON RAVEN				NATIVE
B357	CHESTNUT-BACKED CHICKADEE				NATIVE
B358	OAK TITMOUSE				NATIVE
B360	BUSHTIT				NATIVE
B361	RED-BREASTED NUTHATCH				NATIVE
B362	WHITE-BREASTED NUTHATCH				NATIVE
B364	BROWN CREEPER				NATIVE

ID	Species Name	Status		Native/Introduced
B366	ROCK WREN			NATIVE
B367	CANYON WREN			NATIVE
B368	BEWICK'S WREN		SC	NATIVE
B369	HOUSE WREN			NATIVE
B370	WINTER WREN			NATIVE
B372	MARSH WREN		SC	NATIVE
B373	AMERICAN DIPPER			NATIVE
B375	GOLDEN-CROWNED KINGLET			NATIVE
B376	RUBY-CROWNED KINGLET			NATIVE
B377	BLUE-GRAY GNATCATCHER			NATIVE
B380	WESTERN BLUEBIRD			NATIVE
B381	MOUNTAIN BLUEBIRD			NATIVE
B382	TOWNSEND'S SOLITAIRE			NATIVE
B385	SWAINSON'S THRUSH			NATIVE
B386	HERMIT THRUSH			NATIVE
B389	AMERICAN ROBIN			NATIVE
B390	VARIED THRUSH			NATIVE
B391	WRENTIT			NATIVE
B393	NORTHERN MOCKINGBIRD			NATIVE
B398	CALIFORNIA THRASHER			NATIVE
B404	AMERICAN PIPIT			NATIVE
B407	CEDAR WAXWING			NATIVE
B408	PHAINOPEPLA			NATIVE
B410	LOGGERHEAD SHRIKE	FE	SC	NATIVE
B415	CASSIN'S VIREO			NATIVE
B417	HUTTON'S VIREO		SC	NATIVE
B418	WARBLING VIREO			NATIVE
B425	ORANGE-CROWNED WARBLER			NATIVE
B426	NASHVILLE WARBLER			NATIVE
B430	YELLOW WARBLER		SC	NATIVE
B435	YELLOW-RUMPED WARBLER			NATIVE
B436	BLACK-THROATED GRAY WARBLER			NATIVE
B437	TOWNSEND'S WARBLER			NATIVE
B438	HERMIT WARBLER			NATIVE
B460	MACGILLIVRAY'S WARBLER			NATIVE
B461	COMMON YELLOWTHROAT		SC	NATIVE
B463	WILSON'S WARBLER			NATIVE
B467	YELLOW-BREASTED CHAT		SC	NATIVE
B471	WESTERN TANAGER			NATIVE
B475	BLACK-HEADED GROSBEAK			NATIVE
B477	LAZULI BUNTING			NATIVE
B483	SPOTTED TOWHEE		SC	NATIVE
B484	CALIFORNIA TOWHEE	FT CE		NATIVE
B487	RUFIOUS-CROWNED SPARROW		SC	NATIVE
B489	CHIPPING SPARROW			NATIVE
B494	VESPER SPARROW		SC	NATIVE
B495	LARK SPARROW			NATIVE
B499	SAVANNAH SPARROW	CE	SC	NATIVE
B504	FOX SPARROW			NATIVE
B505	SONG SPARROW		SC	NATIVE
B506	LINCOLN'S SPARROW			NATIVE
B509	GOLDEN-CROWNED SPARROW			NATIVE
B510	WHITE-CROWNED SPARROW			NATIVE
B512	DARK-EYED JUNCO			NATIVE
B519	RED-WINGED BLACKBIRD		SC	NATIVE
B520	TRICOLORED BLACKBIRD		SC	NATIVE
B521	WESTERN MEADOWLARK			NATIVE
B524	BREWER'S BLACKBIRD			NATIVE
B528	BROWN-HEADED COWBIRD			NATIVE
B530	HOODED ORIOLE			NATIVE
B532	BULLOCK'S ORIOLE			NATIVE
B536	PURPLE FINCH			NATIVE
B538	HOUSE FINCH			NATIVE
B539	RED CROSSBILL			NATIVE
B542	PINE SISKIN			NATIVE

ID	Species Name	Status		Native/Introduced	
B543	LESSER GOLDFINCH				NATIVE
B544	LAWRENCE'S GOLDFINCH				NATIVE
B545	AMERICAN GOLDFINCH				NATIVE
B546	EVENING GROSBEAK				NATIVE
B554	PLUMBEOUS VIREO				NATIVE
B699	BARRED OWL				NATIVE
B773	AMERICAN REDSTART				NATIVE
B798	WHITE-THROATED SPARROW				NATIVE
B799	HARRIS'S SPARROW				NATIVE
B809	INDIGO BUNTING				NATIVE
M006	ORNATE SHREW	FE	SC		NATIVE
M012	TROWBRIDGE'S SHREW				NATIVE
M015	SHREW-MOLE				NATIVE
M018	BROAD-FOOTED MOLE		SC		NATIVE
M021	LITTLE BROWN BAT				NATIVE
M023	YUMA MYOTIS			BL	NATIVE
M025	LONG-EARED MYOTIS			BL	NATIVE
M026	FRINGED MYOTIS			BL	NATIVE
M027	LONG-LEGGED MYOTIS				NATIVE
M028	CALIFORNIA MYOTIS				NATIVE
M031	CANYON BAT				NATIVE
M032	BIG BROWN BAT				NATIVE
M033	WESTERN RED BAT		SC	FS	NATIVE
M034	HOARY BAT				NATIVE
M037	TOWNSEND'S BIG-EARED BAT		SC	BL FS	NATIVE
M038	PALLID BAT		SC	BL FS	NATIVE
M039	BRAZILIAN FREE-TAILED BAT				NATIVE
M045	BRUSH RABBIT	FE	CE		HA NATIVE
M047	AUDUBON'S COTTONTAIL				HA NATIVE
M051	BLACK-TAILED JACKRABBIT		SC		HA NATIVE
M059	SONOMA CHIPMUNK				NATIVE
M072	CALIFORNIA GROUND SQUIRREL				NATIVE
M077	WESTERN GRAY SQUIRREL				HA NATIVE
M081	BOTTA'S POCKET GOPHER				NATIVE
M087	SAN JOAQUIN POCKET MOUSE		SC	BL	NATIVE
M105	CALIFORNIA KANGAROO RAT		SC		NATIVE
M112	AMERICAN BEAVER				HA NATIVE
M113	WESTERN HARVEST MOUSE				NATIVE
M116	CALIFORNIA MOUSE				NATIVE
M117	DEER MOUSE		SC		NATIVE
M119	BRUSH MOUSE				NATIVE
M120	PINYON MOUSE				NATIVE
M127	DUSKY-FOOTED WOODRAT	FE	SC		NATIVE
M134	CALIFORNIA VOLE	FE	CE	SC	BL NATIVE
M139	COMMON MUSKRAT				HA NATIVE
M145	COMMON PORCUPINE				NATIVE
M146	COYOTE				HA NATIVE
M149	GRAY FOX				HA NATIVE
M151	BLACK BEAR				HA NATIVE
M152	RINGTAIL		CF		NATIVE
M153	RACCOON				HA NATIVE
M157	LONG-TAILED WEASEL				HA NATIVE
M158	AMERICAN MINK				HA NATIVE
M160	AMERICAN BADGER		SC		HA NATIVE
M161	WESTERN SPOTTED SKUNK		SC		HA NATIVE
M162	STRIPED SKUNK				HA NATIVE
M165	MOUNTAIN LION		SC		NATIVE
M166	BOBCAT				HA NATIVE
M181	MULE DEER				HA NATIVE
R004	WESTERN POND TURTLE		SC	BL FS	NATIVE
R022	WESTERN FENCE LIZARD				NATIVE
R023	COMMON SAGEBRUSH LIZARD			BL	NATIVE
R036	WESTERN SKINK		SC	BL	NATIVE
R039	TIGER WHIPTAIL				NATIVE
R040	SOUTHERN ALLIGATOR LIZARD				NATIVE

ID	Species Name	Status				Native/Introduced	
R042	NORTHERN ALLIGATOR LIZARD						NATIVE
R046	NORTHERN RUBBER BOA		CT			FS	NATIVE
R048	RING-NECKED SNAKE					FS	NATIVE
R049	COMMON SHARP-TAILED SNAKE						NATIVE
R051	NORTH AMERICAN RACER						NATIVE
R053	STRIPED RACER	FT	CT				NATIVE
R057	GOPHERSNAKE			SC			NATIVE
R058	EASTERN KINGSNAKE						NATIVE
R059	CALIFORNIA MOUNTAIN KINGSNAKE			SC		BL FS	NATIVE
R060	LONG-NOSED SNAKE						NATIVE
R061	COMMON GARTERSNAKE	FE	CE	CF		SC	NATIVE
R062	TERRESTRIAL GARTERSNAKE						NATIVE
R071	DESERT NIGHTSNAKE						NATIVE
R076	WESTERN RATTLESNAKE						NATIVE
R078	AQUATIC GARTERSNAKE						NATIVE

Total Number of Species: 254

Query Parameters

Included Locations

Napa Co

Included Location

Seasons Migrant,
Summer, Winter,
Yearlong

Included Habitats & (Stages)

Blue Oak Woodland, Douglas-fir, Montane Hardwood, Valley Foothill Riparian

Habitat Suitability Threshold

Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons

Migrant, Summer,
Winter, Yearlong

Included Species All Species Included

Included Special Statuses Native

APPENDIX C

TREE SURVEY DATA

TREE SURVEY DATA - Blue Oak Woodland		
WAYPOINT	SPECIES	DIAMETER AT BREAST HEIGHT (DBH; inches)
2	BLU	21
3	BLU	19
4	BLU	18
5	BLU	28
6	BLU	9
7	BLU	12
8	BLU	19
9	BLU	13
10	BLU	20
11	BLU	9
12	BLU	22
13	BLU	8
14	BLU	7,7,7,7 (multi-trunk)=14
15	BLU	9
16	BLU	9
17	BLU	18
18	BLU	10
19	BLU	11
20	BLU	14
21	BLU	8
22	BLU	10
23	BLU	9
24	BLU	10
25	BLU	13
26	BLU	5
27	BLU	8,8,8=13.86
28	BLU	12
29	BLU	13
30	BLU	10
31	BLU	17
32	BLU	21
33	BLU	13
34	BLU	11
35	BLU	9,9,9=15.6
36	BLU	5
37	BLU	9
SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)
BLU	37	13.69
TOTAL	37	NA

TREE SURVEY DATA - Coast Live Oak Woodland		
WAYPOINT	SPECIES	DIAMETER AT BREAST HEIGHT (DBH; inches)
11	CLO	52
12	CLO	50
13	CLO	40
14	CLO	48
15	CLO	20
16	CLO	32
17	CLO	24
18	CLO	22
19	CLO	46
20	CLO	18
21	CLO	36
22	CLO	21
23	CLO	26
24	CLO	12, 14 (multi-trunk)=18.44
25	CLO	8
26	CLO	14, 23, 12, 16=32.76
27	CLO	35
28	CLO	40
29	CLO	34
30	GP	5
31	GP	3
32	CLO	16
33	CLO	23
34	GP	22
35	GP	7
36	CLO	53
37	GP	22
38	CLO	16, 16, 15, 16, 13, 12=36.14
SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)
CLO	23	28.84
GP	5	11.8
TOTAL	28	NA

Key:

BLU=Blue Oak

CLO=Coast Live Oak

GP=Ghost Pine

1. Average canopy size per tree = (area of test plot X percent canopy closure)/combined # of trees in test plot
 2. Total number of trees = Total area of this community in block/(average canopy size per tree/percent canopy closure)
 3. Average distance between trunks = square root of (combined area of this community in all vineyard blocks/total number of trunks)
 4. Total number of trees in block/total number of acres in block.
- GPS waypoint for each tree is indicated on the vegetation map provided in Figure 2.