

Exhibit B-1

Biological Resources Assessment

1300 MOUNT VEEDER ROAD
NAPA COUNTY, CALIFORNIA

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TABLE OF CONTENTS

TABLE OF CONTENTS	iii
1.0 INTRODUCTION	1
2.0 REGULATORY BACKGROUND	1
2.1 Project Description	1
2.2 Special-Status Species	1
2.3 Sensitive Biological Communities	4
3.0 METHODS	5
3.1 Biological Communities	6
3.1.1 Non-Sensitive Biological Communities	6
3.1.2 Sensitive Biological Communities	6
3.2 Special-Status Species	7
3.2.1 Literature Review	7
3.2.2 Site Assessment	8
4.0 RESULTS	8
4.1 Biological Communities	9
4.1.1 Non-Sensitive Biological Communities	9
4.1.2 Sensitive Biological Communities	11
4.2 Special-Status Species	12
4.2.1 Special-Status Plants	12
4.2.2 Special-Status Wildlife	15
4.2.3 Wildlife Corridor Assessment	20
5.0 SUMMARY AND RECOMMENDATIONS	21
5.1 Biological Communities	21
5.2 Special-Status Plant Species	21
5.3 Special-Status Wildlife Species	21
6.0 REFERENCES	23

LIST OF TABLES

Table 1. Description of CNPS Ranks and Threat Codes	3
Table 2. Summary of Biological Communities in the Project Area	9

LIST OF FIGURES

Figure 1. Project Area Location Map	2
Figure 2. Biological Communities within the Project Area	10
Figure 3. Special-Status Plant Species within a 5-Mile Radius of the Project Area	14
Figure 4. Special-Status Wildlife Species within a 5-Mile Radius of the Project Area	16

LIST OF APPENDICES

Appendix A – Observed Plant and Wildlife Species List	
Appendix B – Potential for Special-Status Species to Occur in the Project Area	
Appendix C – Representative Photographs of the Project Area	

LIST OF ACRONYMS AND ABBREVIATIONS

CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
ESA	Federal Endangered Species Act
FAC	Facultative Plant Species
FACU	Facultative Upland Plant Species
FACW	Facultative Wetland Plant Species
Inventory	CNPS Inventory of Rare and Endangered Plants
MBTA	Migratory Bird Treaty Act of 1918
NWI	National Wetlands Inventory
OBL	Obligate Wetland Plant Species
NSOW	Northern spotted owl
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
USFWS	United States Fish and Wildlife Service
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WBWG	Western Bat Working Group Priority Species

1.0 INTRODUCTION

WRA, Inc. performed an assessment of biological resources at 1300 Mount Veeder Road (Property, APN 034-230-029) in unincorporated Napa County on June 6, 2016. Within the Property, four smaller and separated sections (Project Area; Figure 1) are proposed for development as vineyards (Project). The Project Area is predominantly composed of annual grasslands with small patches of mixed oak forest. Lands surrounding the Project Area are of similar composition with patches of cultivated vineyards between areas of forest habitat. The purpose of this study was to gather the information necessary to complete a review of biological resources to plan proposed activities within the Project Area.

This report describes the results of the site visit, which assessed the Project Area for the (1) potential to support special-status species; and (2) presence of other sensitive biological resources protected by local, state, and federal laws and regulations. All plant and wildlife species observed during the site visit were recorded and listed in Appendix A. Special-Status plant and wildlife species with the potential to occur within the Project Area are summarized in Appendix B. Representative photographs of the Project Area are included in Appendix C.

A biological resources assessment provides general information on the potential presence of sensitive species and habitats. The biological assessment is not an official protocol-level survey for jurisdictional wetlands/non-wetland waters or listed species that may be required for project approval by local, state, or federal agencies. However, this assessment included a protocol-level special-status plant species for plants that have a blooming period within the month of March. This assessment is based on information available at the time of the study and on site conditions that were observed on the date of the site visit.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Project Description

The proposed project would convert approximately 23 acres of grasslands into cultivated vineyard. Within the outlines of the Project Area are several patches of oak woodland. These areas would be avoided during conversion such that no trees or oak woodland would be removed following the completion of the project. Grassland would be tilled and leveled using basic farm equipment such as tractors, discs and plows. Once any target vegetation is removed from within the Project Area, farm laborers would install the infrastructure including supporting posts and wires to trellis vines, followed by planting of the vineyard. Once vineyard planting is completed, non-cultivated vegetation would be managed on a regular basis through mowing and tilling, and grounds would be maintained as agricultural operations.

2.2 Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. In

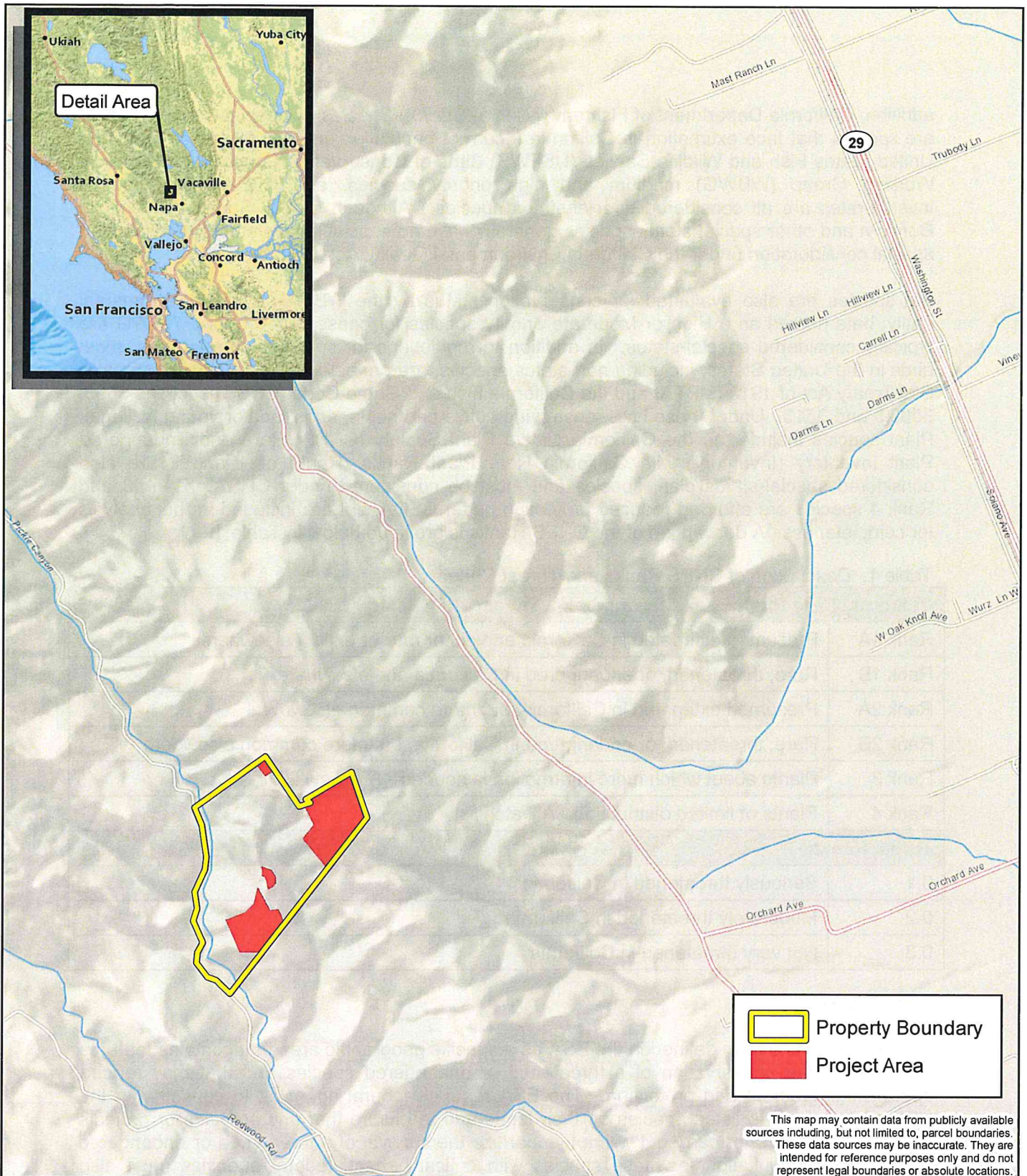


Figure 1. Project Area Location Map



Mount Veeder Vineyard Development
Napa County, California

0 750 1,500 3,000
Feet

Map Prepared Date: 6/28/2016
Map Prepared By: fhourigan
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA

addition, California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, United States Fish and Wildlife Service (USFWS) Birds of Conservation Concern, Western Bat Working Group (WBWG) medium and high priority species, and CDFW special-status invertebrates are all considered special-status species. Although CDFW Species of Special Concern and other special-status species generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA).

Bat species are also evaluated for conservation status by the WBWG, a non-governmental entity; bats named as a High or Moderate priority species for conservation by the WBWG are typically considered special-status. In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGF) sections 3503, 3503.5 and 3513. Under these laws, destroying active bird nests, eggs, and/or young is illegal. Plant species included in the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1 and 2 are also considered special-status plant species and must be considered under CEQA. Rank 3 and Rank 4 species are afforded reduced protection under CEQA, but are included in this analysis for completeness. A description of the CNPS Ranks is provided below in Table 1.

Table 1. Description of CNPS Ranks and Threat Codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

Critical Habitat

Critical habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are

currently unoccupied by the species but which are needed for the species' recovery are protected by the prohibition against adverse modification of critical habitat.

2.3 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act (CWA); state regulations such as the Porter-Cologne Act, the CDFW Streambed Alteration Program, and CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

Waters of the United States

The United States Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the CWA. Waters of the United States are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the United States generally requires an individual or nationwide permit from the Corps under Section 404 of the CWA.

Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of CFGC. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as "a

body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). "Riparian" is defined as "on, or pertaining to, the banks of a stream." Riparian vegetation is defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Oak forest

Under the California Oak Woodlands Conservation Act (State of California Resources Agency 2001), impacts to oak forest composed of native oak species receive consideration under CEQA regardless of whether the woodland is composed of oak (*Quercus* spp.) vegetation types considered to be sensitive by the CDFW. However, the Act does not apply to agricultural conversions. Oak forest observed within the Project Area is described in Section 3.1.2 below.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB; CDFW 2016). Sensitive plant communities are also identified by CDFG (2010). CNDDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2013) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or USFWS must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

California Environmental Quality Act

The California Environmental Quality Act requires assessment of the effects of a project on species that are "threatened, rare, or endangered"; such species are typically described as "special-status species". For planning purposes and for assessment of potential impacts, special-status species have been defined above in Section 2.2. Impacts to these species are regulated by some of the federal, state, and local laws and ordinances described under "Regulatory Setting" above.

3.0 METHODS

On June 6, 2016, the Project Area was traversed on foot to determine (1) plant communities present within the Project Area, (2) if existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive habitats including jurisdictional wetlands and/or non-wetland waters are present. All plant and wildlife species encountered were recorded, and are listed in Appendix A. Plant nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2016), except where noted. For cases in

which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities.

3.1 Biological Communities

Prior to the site visit, the Soil Survey for Napa County (USDA 1978), was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Project Area. In addition, the National Wetlands Inventory (NWI; USFWS 2016a) was reviewed to determine whether any wetland features had been previously mapped in the Project Area. Wherever possible, biological communities present in the Project Area were classified based on existing plant community descriptions provided in *A Manual of California Vegetation* (Sawyer et.al. 2009) or the online edition (CNPS 2016a). However, in some cases it was necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 Non-Sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under the CEQA, or other state, federal, or local laws, regulations, or ordinances. These communities may, however, provide suitable habitat for some special-status plant or wildlife species. Non-sensitive biological communities observed in the Project Area are described in Section 4.1.1, below.

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are afforded special protection under the CEQA or other applicable federal, state, or local laws, regulations or ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below. Descriptions of sensitive biological communities observed in the Project Area are provided in Section 4.1.2.

Wetlands and Waters

The Project Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. The assessment was based primarily on the presence of wetland plant indicators, but also included observations of indicators of wetland hydrology and/or hydric soils. If present, potential wetland areas were identified as areas dominated by plant species with a wetland indicator status¹ of OBL, FACW, or FAC as given on the Corps' National Wetlands Plant List (Lichvar et al. 2016). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, algal mats, and oxidized root channels, or indirect (secondary) indicators, such as a water table within two feet of the soil surface during the dry season. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined by the Corps Manual (Environmental Laboratory 1987) and Field Indicators of Hydric Soils in the United States (NRCS 2010).

¹ OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

The preliminary waters assessment was based primarily on field observations of ordinary high water mark indicators and aerial photograph interpretation. Collection of additional data will be necessary to prepare a delineation report suitable for submission to the Corps to support a jurisdictional determination.

Oak Woodland/Forest

The Project Area was surveyed to determine if any native oak woodland/forest was present in the Project Area. Oak woodland/forest was mapped using a combination of field observations and aerial imagery and is described in Section 4.1.2 below.

Other Sensitive Biological Communities

The Project Area was evaluated for the presence of other sensitive biological communities, including sensitive plant communities recognized by CDFW. Prior to the site visit, aerial photographs, Soil Survey data (USDA 1978), the CDFW's *List of Vegetation Alliances and Associations* (CDFG 2010), and *A Manual of California Vegetation, Online Edition* (CNPS 2016a) were reviewed to assess the potential for sensitive biological communities to occur in the Project Area. All alliances within the Project Area with a ranking of 1 through 3 were considered sensitive biological communities. If present, sensitive biological communities identified in the Project Area are described in Section 4.1.2 below.

3.2 Special-Status Species

3.2.1 Literature Review

The potential for special-status plant and wildlife species to occur in the Project Area was evaluated by first determining which special-status species have been documented from within the vicinity of the Project Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Napa, Sonoma, Rutherford, and Yountville, 7.5-minute United States Geological Survey (USGS) quadrangles. The following sources were reviewed to determine which special-status plant and wildlife species have been documented from the referenced quadrangles:

- CNDDDB records (CDFW 2016)
- USFWS Information for Planning and Conservation Website (USFWS 2016b)
- CNPS Rare Plant Inventory records (CNPS 2016b)
- CDFW publication *California's Wildlife, Volumes I-III* (Zeiner et al. 1990)
- CDFW publication, *An Annotated Checklist of Amphibians and Reptile Species of California and Adjacent Waters, third revised edition* (Jennings 2004)
- *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California.* (Shuford and Gardali 2008)
- A field guide to western reptiles and amphibians (Stebbins 2003).
- Napa County Breeding Bird Atlas (Berner et al 2003)
- eBird: An online database of bird distribution and abundance (eBird 2016)

3.2.2 Site Assessment

Following the database and literature review, a site visit was made to the Project Area to identify the biological communities present and to assess their condition. Habitat conditions observed in the Project Area were used to evaluate the potential for special-status plant or wildlife species to occur there. This assessment is based on conditions observed at the site, the results of the database and literature review, and the professional expertise of the investigating qualified biologists. The potential for each special-status species to occur in the Project Area was ranked based on the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species was observed during the site visit or has been recently recorded from the site.

The site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity of the Project Area. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species. However, a protocol-level survey was conducted for species with a moderate or high potential that have blooming period within the month of March.

For some species, a site assessment visit at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies. In these cases, a species may be assumed to be present or further protocol-level special-status species surveys may be necessary. Special-status species which require further protocol-level surveys are described below in Section 4.2.

4.0 RESULTS

The Property occupies approximately 118 acres of land in Napa County, California. However, the Project Area occupies approximately 30 acres, only 23 of which will be converted to vineyard. The remaining seven acres are oak woodlands which will not be converted. The Project Area is primarily bordered to the north, and south by vineyards while the west and east are bordered by undeveloped forested lands. Topography within the Project Area is fairly steep with 15-30 percent slopes. Elevations within the Project Area range from 590 to 970 feet above mean sea level. Soils underlying the Project Area are predominantly Felton gravelly loam, 30 to 50 percent slopes and Fagan clay loam, 30 to 50 percent slopes. Soils in the Felton series are

a gravelly loam weathered from sandstone or shale. Soils are well drained and contain subsoil that may be gravel or clay; permeability is moderate and runoff is high. Soils in the Fagan series are a clay loam also weathered from sandstone or shale. Soils are well drained and contain subsoil that may be loam, clay or sand; permeability is low and runoff is very high. The majority of the site is currently dominated by mixed annual grassland.

The following sections present the results of the biological resources assessment within the Project Area. Plant and wildlife species observed in the Project Area during the site visit are listed in Appendix A. Special-status plant and wildlife species with the potential to occur within the Project Area are summarized in Appendix B. Representative photographs of the Project Area are provided in Appendix C.

4.1 Biological Communities

Table 2 summarizes the area of each biological community type observed in the Project Area. The Project Area is dominated by mixed annual grassland and mixed oak forest, but also contains a likely jurisdictional wetland. Descriptions for each biological community are contained in the following sections. Biological communities within the Project Area are shown in Figure 2.

Table 2. Summary of Biological Communities in the Project Area

Vegetation Alliance (Sawyer 2009)	Area (acres)
Non-sensitive	
Wild Oats Grassland (<i>Avena</i> spp. Semi-Natural Herbaceous Stand)	22.34
Sensitive	
Mixed oak forest (<i>Quercus</i> spp. Forest Alliance)	7.43
Purple needle grass grassland (<i>Nassella pulchra</i> Herbaceous Alliance)	0.63
Seasonal wetland*	0.12
Total Project Area	30.52

*not described in literature

4.1.1 Non-Sensitive Biological Communities

Wild Oats Grassland

Wild Oats Grassland (*Avena* spp. Semi-Natural Herbaceous Stand) is dominated by the non-native wild oats and occurs in waste places, rangelands and openings in woodlands throughout California (Sawyer et.al. 2009). In wild oats grasslands either slim oat (*Avena barbata*) or wild oat (*Avena fatua*) are dominant with emergent trees and shrubs at low cover. Several species of non-native and native grasses and forbs can also be present, sometimes characteristically so.

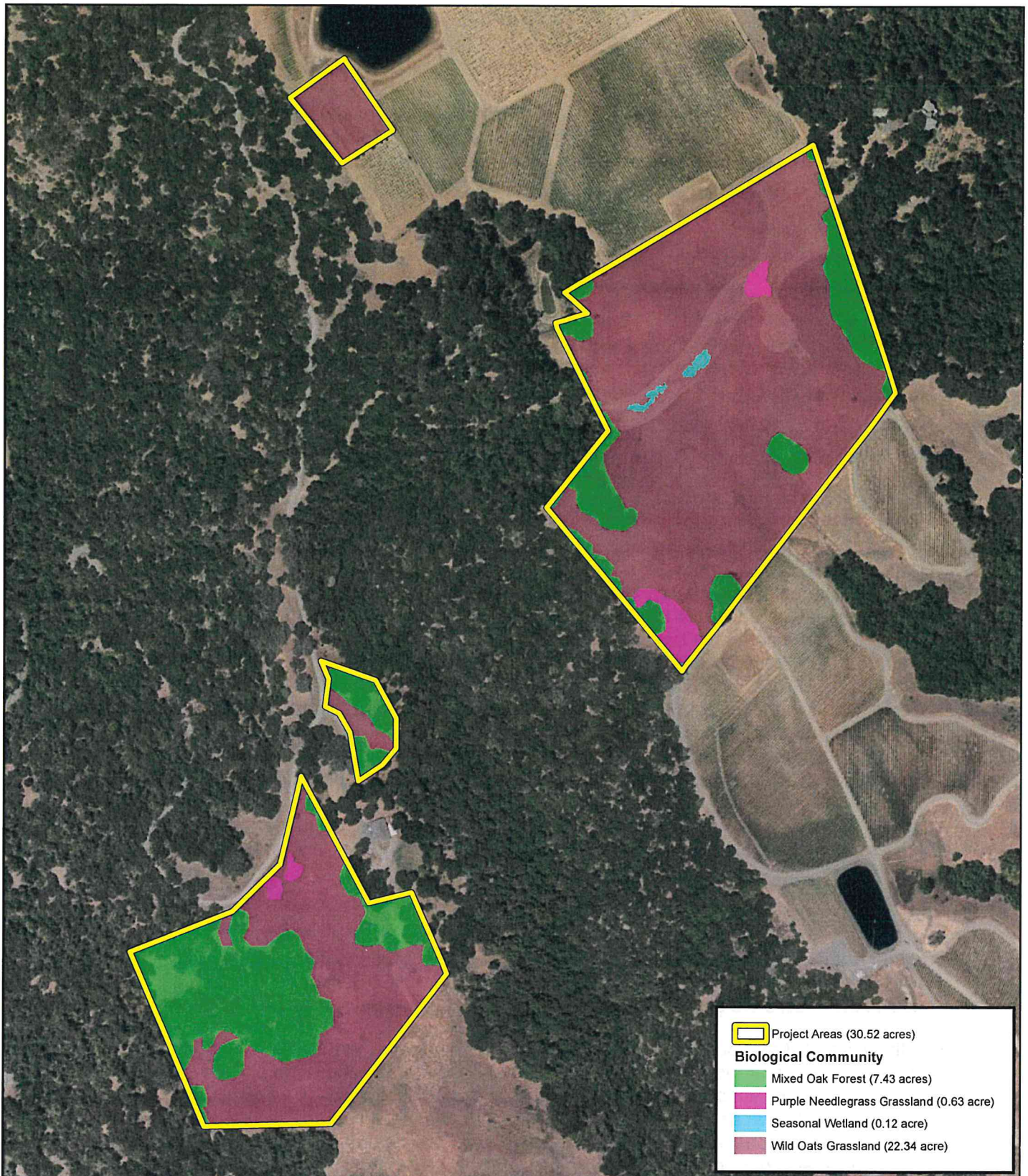


Figure 2. Biological Communities



Mount Veeder Vineyard Development
Napa County, California

0 125 250 500
Feet

Map Prepared Date: 6/23/2016
Map Prepared By: pkobylarz
Base Source: Esri Streaming - NAIP 2014
Data Source(s): WRA

In the Project Area, both slim and wild oats dominate the herbaceous layer; non-native grass species which are also characteristically present includes purple false brome (*Brachypodium distachyon*), dogtail grass (*Cynosurus echinatus*), and ripgut brome (*Bromus diandrus*). While predominantly occupied by non-native forbs, several native forbs were present, including lthuriel's spear (*Triteleia laxa*), yellow mariposa (*Calochortus luteus*), California poppy (*Eschscholzia californica*), western lupine (*Lupinus formosus* var. *formosus*), and narrow-leaved mules ears (*Wyethia angustifolia*). The areas of wild oats grasslands are regularly disturbed through disking as seen in satellite imagery and field observation. Wild oats grassland occupies 22.34 acres of the Project Area.

4.1.2 Sensitive Biological Communities

Mixed Oak Forest

Mixed oak forest (*Quercus* spp.: Forest Alliance) occurs in valleys and gentle to steep slopes in moderately deep soils from Sonoma and Napa County south to Santa Barbara County (Sawyer et.al. 2009). In mixed oak forests, several oak species are co-dominant in the canopy layer, which can also contain Douglas fir (*Pseudotsuga menziesii*), madrone (*Arbutus menziesii*), and California bay (*Umbellularia californica*).

In the Project Area, Oregon oak (*Quercus garryana*), California black oak (*Quercus kelloggii*), and coast live oak (*Quercus agrifolia*) are the oak species which comprise the majority of the tree canopy layer; California bay, madrone, and California buckeye (*Acslesus californica*) are also present in the canopy layer. The shrub and herbaceous layer of the mixed oak forest is either sparse, consisting primarily of leaf litter and scattered herbs or dense with a vertically heterogeneous layering of shrubs and herbs. Species observed within the mixed oak woodlands includes poison oak (*Toxicodendron diversilobum*), field hedge parsley (*Torilis arvensis*), cranesbill geranium (*Geranium molle*), purple sanicle (*Sanicula bipinnatifida*), split awn sedge (*Carex tumulicola*), purple false brome, blue wildrye (*Elymus glaucus*), yampah (*Perideridia* sp.), honeysuckle (*Lonicera hispidula*), wild strawberry (*Fragaria vesca*), toyon (*Heteromeles arbutifolia*), and several non-native grass species. The Project Area contains approximately 7.43 acres of mixed oak forest. While this habitat exists within the Project Area outlines no mixed oak forest will be converted to vineyard during the implementation of the proposed Project.

Purple Needle Grass Grassland

Purple Needle Grass Grassland (*Nassella pulchra*: Herbaceous Alliance) typically occur in valley and foothill areas on all topographic locations throughout cismontane California; Where it occurs inland, soils are generally deep with high clay content (Sawyer et. al. 2009).

In the Project Area purple needle grass grassland occurs in patches within the wild oat grassland. These areas are dominated by purple needle grass and generally located on south facing slopes. Additional species present within this community include wild oats, ripgut brome, garden vetch (*Vicia sativa*), soft chess (*Bromus hordeaceus*), ltherial's spear, Italian thistle (*Carduus pycnocephala*), coastal heron's bill (*Erodium cicutarium*), and narrow-leaved mules ears. There are four small patches of purple needle grass grassland within the Project Area, consisting of 0.63 acres.

Seasonal wetland (Potential Jurisdictional Wetland)

Seasonal wetlands are areas where the soil is saturated for duration sufficient to promote hydrophytic vegetation. Within the Project Area, the seasonal wetland occurs within a swale in the topography in the southeast section of the parcel. The swale containing the seasonal wetland has a low portion which is dominated primarily by OBL or FACW plant species including pennyroyal (*Mentha pulegium*), tall Cyperus (*Cyperus eragrostis*), sedge (*Carex densa*), slender willow herb (*Epilobium densiflorum*), rush (*Juncus patens*), and hyssop loosestrife (*Lythrum hyssopifolia*). The higher portions of the swale are dominated FAC plants, including fiddleneck dock (*Rumex pulcher*), little rattlesnake grass (*Briza minor*), California oat grass, and bristly ox tongue (*Helminthotheca echioides*). The upland edge of the wetland is indicated by the FACU grass species Hardings grass (*Phalaris aquatica*). The seasonal wetland occupies 0.12 acres of the Project Area.

4.2 Special-Status Species

4.2.1 Special-Status Plants

Based upon a review of the resources and databases listed in Section 3.2.1 for the Napa, Sonoma, Rutherford, and Yountville USGS 7.5-minute quadrangles, it was determined that 53 special-status plant species have been documented from the vicinity of the Project Area. Of the 53 species occurring within the vicinity of the Project Area 47 were determined to not have a high or moderate potential to occur based on the following:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Project Area;
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Project Area;
- Topographic conditions (e.g., north-facing slope, montane) necessary to support the special-status plant species are not present in the Project Area;
- Unique pH conditions (e.g., alkali scalds) necessary to support the special-status plant species are not present in the Project Area;
- Associated vegetation communities (e.g., interior chaparral, tidal marsh) necessary to support the special-status plant species are not present in the Project Area;
- The Project Area is geographically isolated (e.g., below elevation, coastal environ) from the documented range of the special-status plant species.

The remaining six species are considered to have moderate potential to occur in the Project Area and are discussed below. The Project Area is dominated by mixed annual grasslands and mixed oak forest; the grasslands are primarily non-native dominated, while the existing mixed oak forests appear to be somewhat undisturbed, though have a dominance of non-native herbs within the understory.

The species with a moderate potential for occurrence include:

- Napa false indigo (*Amorpha californica* var. *napensis*) CRPR 1B.2
- Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) CRPR 1B.2
- Redwood lily (*Lilium rubescens*) CRPR 4.2
- Green Monardella (*Monardella viridis*) CRPR 4.3
- Dark-Mouthed Tritoleia (*Triteleia lugens*) CRPR 4.3
- Oval-leaved Viburnum (*Viburnum ellipticum*) CRPR 2B.3

Appendix B summarizes the potential for these species to occur in the Project Area. Of the species with moderate potential to occur in the Project Area, Napa false indigo and congested-headed hayfield tarplant have a listing status that would require additional analysis under CEQA. The remaining species have a limited distribution or are infrequent throughout California and are possibly locally significant; however they are not required to be evaluated under CEQA. While reconnaissance-level surveys are not adequate to determine absence, each of these species has a blooming period in June and were not observed within the Project Area during the site assessment. Special-status plant species that have been documented within a 5-mile radius of the Project Area are depicted in Figure 3.

Napa false indigo (*Amorpha californica* var. *napensis*) CRPR 1B.2. Moderate Potential. Napa false indigo is a small deciduous tree in the pea family (Fabaceae) that blooms from April to July, with identifiable vegetative structures remaining into early fall. It typically occurs on north-facing aspects in openings in broadleaf upland forest, chaparral, and cismontane woodland habitat at elevations ranging from 395 to 6,560 feet (CDFW 2016, CNPS 2016b). Soil survey data at known locations suggest that this species is typically located on moderately acid (pH 5.6) to neutral (pH 6.7) loams, often mixed with larger textures derived from a variety of orogeny (CDFW 2016, CSRL 2016). Known associated species include California bay, black oak, coast live oak, Douglas fir, tanoak (*Notholithocarpus densiflorus*), Pacific madrone (*Arbutus menziesii*), California hazelnut (*Corylus cornuta* var. *californica*), ocean spray (*Holodiscus discolor*), poison oak, wood fern (*Dryopteris arguta*), bracken fern (*Pteridium aquilinum*), wood rose (*Rosa gymnocarpa*), and rein orchid (*Piperia transversa*) (CDFW 2016). Napa false indigo has a moderate potential to occur within the Project Area due to the presence of associated species and vegetation types.

Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) CRPR 1B.2. Congested-headed hayfield tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from April to November. It typically occurs in grassy areas and fallow fields in coastal scrub, and valley and foothill grassland at elevations ranging from 65 to 1,840 feet (CDFW 2016, CNPS 2016b). Observed associated species include coast live oak, white hyacinth (*Triteleia hyacinthina*), Italian rye grass (*Festuca perennis*), little rattlesnake grass, pennyroyal, and spiny-fruited buttercup (*Ranunculus muricatus*) (CDFW 2016). This species has a moderate potential due to the presence of associated species and vegetation as well as a nearby occurrence near Mount Veeder Road (CalFlora 2016, CCH 2016).

Redwood lily (*Lilium rubescens*). CNPS Rank 4.2. Moderate Potential. Redwood lily is a bulbiferous perennial forb in the lily family (Liliaceae) that blooms from April through September. It typically occurs in openings, roadsides, and trails, often on serpentine and volcanic substrates in broadleaf upland forest, chaparral, lower montane coniferous forest, upper montane coniferous forest, and North Coast coniferous forest habitat at elevations ranging from 95 to 6,210 feet (CNPS 2016b.) Known associated species include California bay, coast redwood (*Sequoia sempervirens*), Douglas fir, knobcone pine (*Pinus attenuata*), canyon live oak (*Quercus chrysolepis*), Sargent cypress (*Hesperocyparis sargentii*), MacNab cypress (*H. macnabiana*), chamise (*Adenostoma fasciculatum*), hoary manzanita (*Arctostaphylos canescens*), bush poppy (*Dendromecon rigida*), yerba santa (*Eriodictyon californicum*), and Sonoma sage (*Salvia sonomensis*). Redwood lily has a moderate potential to occur within the Project Area due to the presence of associated species and vegetation types.

Green Monardella (*Monardella viridis*). CNPS Rank 4.3. Moderate Potential. Green Monardella is a perennial forb in the mint family (Lamiaceae) that blooms from June through September. It typically occurs on serpentine substrates in chaparral, cismontane woodland, and

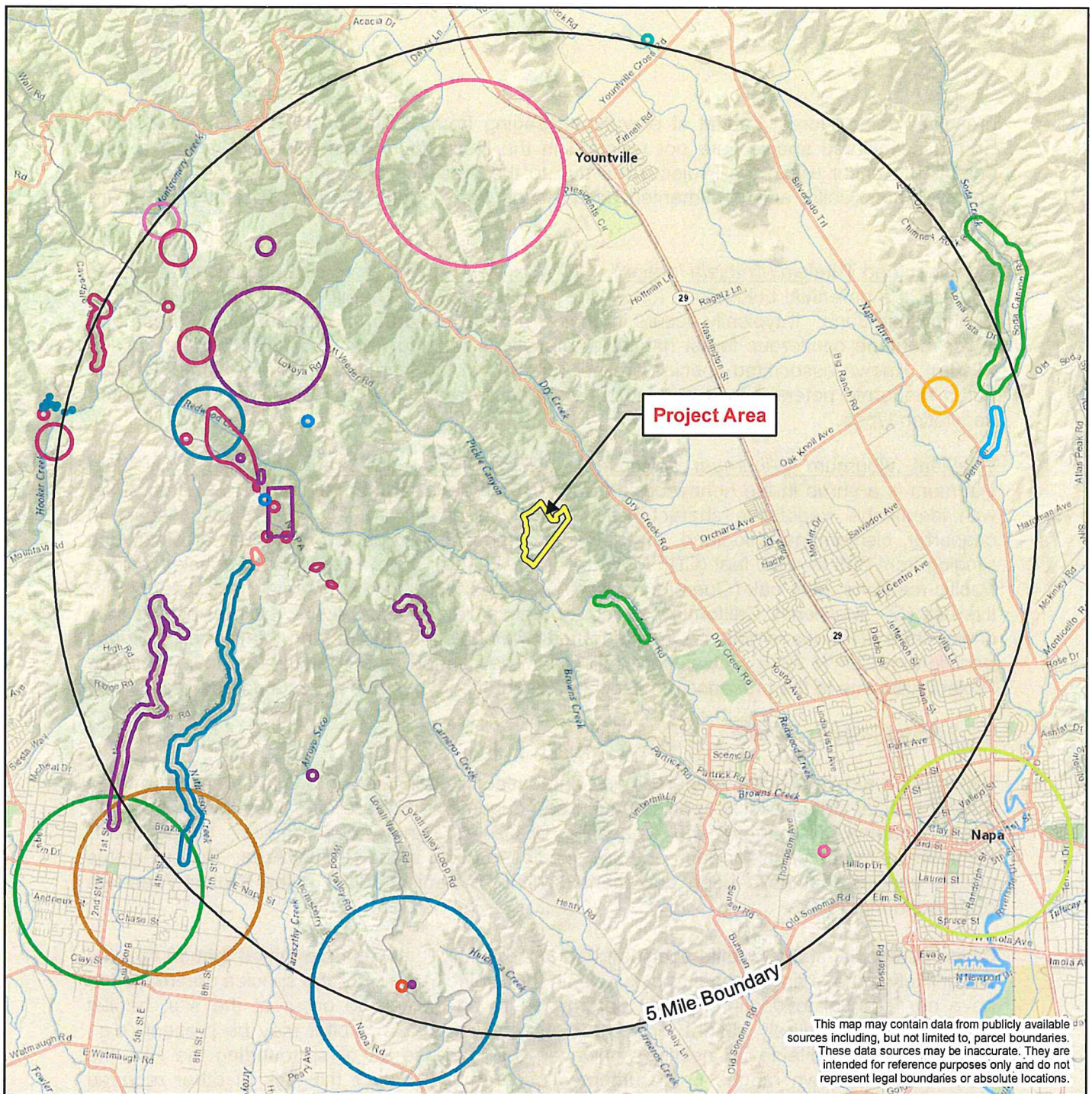


Figure 3. Special Status Plant Species within 5 Miles of the Project Area

**Mount Veeder Vineyard Development
Napa County, California**

0 0.5 1 2
Miles



Map Prepared Date: 6/9/2016
Map Prepared By: rhougan
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA, CNDDDB June 2016

broadleaf upland forest habitat at elevations ranging from 325 to 3,285 feet (CNPS 2016b). Known associated species are not reported in the literature. Green Monardella has a high potential to occur within the Project Area due to the presence of associated vegetation types and ultramafic soils, and documented occurrences from Mount Veeder (CCH 2016, Calflora 2016).

Dark-mouthed Tritoleia (*Triteleia lugens*). CNPS Rank 4.3. Moderate Potential. Dark-mouthed Tritoleia is a perennial bulbiferous forb in the brodiaea family (Themidaceae) that blooms from April through June. It typically occurs in chaparral, coastal scrub, broadleaf upland forest, and lower montane coniferous forest habitat at elevations ranging from 325 to 3,250 feet (CNPS 2016b). Known associated species are not reported in the literature. Dark-mouthed Tritoleia has a moderate potential to occur within the Project Area due to the presence of associated vegetation types.

Oval-leaf Viburnum (*Viburnum ellipticum*). CRPR 2B.3. Moderate Potential. Oval-leaf viburnum is a shrub in the honeysuckle family (Caprifoliaceae) that blooms from May to June, with identifiable vegetative characteristics remaining intact into fall. It typically occurs in chaparral, cismontane woodland, and lower montane coniferous forest habitat at elevations ranging from 695 to 4550 feet (CDFW 2016, CNPS 2016b). Known associated species include Pacific madrone, blue oak (*Quercus douglasii*), Oregon white oak, California black oak, interior live oak (*Q. wislizenii*), California bay, sticky manzanita (*Arctostaphylos viscida*), poison oak, choke cherry (*Prunus virginiana*), mock orange (*Philadelphus lewisii*), and thimbleberry (*Rubus parviflorus*) (CDFW 2016). Oval-leaved viburnum has a moderate potential to occur within the Project Area due to the presence of associated vegetation types and associated species.

4.2.2 Special-Status Wildlife

Based upon a review of the resources and databases listed in Section 3.2.1, it was determined that 62 special-status wildlife species have been documented or are otherwise known from the Napa, Sonoma, Rutherford and Yountville USGS 7.5-minute quadrangles. Appendix B summarizes the potential for each of these species to occur in the Project Area. Special-status wildlife species that have been documented within a 5-mile radius of the Project Area are depicted in Figure 4.

Of the 62 special-status wildlife species listed in Appendix B, it was determined that 53 species are unlikely or have no potential to occur within the Project Area. For the species determined to have no potential to occur or those determined to be unlikely to occur at the site, habitat features may be entirely absent, or some elements of suitable habitat may be present (e.g., trees potentially suitable for nesting); however, the land-use on or surrounding the site, the distance from known ranges or documented occurrences, and/or the lack of other required habitat elements within the Project Area preclude the species. Elements which are required to support special-status species but are not found within the Project Area include:

- Aquatic features (e.g. streams or ponds);
- Soils to support host plants;
- Sandy beaches or alkaline flats;
- Vegetation communities (e.g., marshes, old growth fir forest); and
- Small mammal burrows or burrow surrogates.

Northern spotted owl (NSOW: *Strix occidentalis caurina*) is one such species which has been recorded in the area, but due to the current habitat conditions within and surrounding the

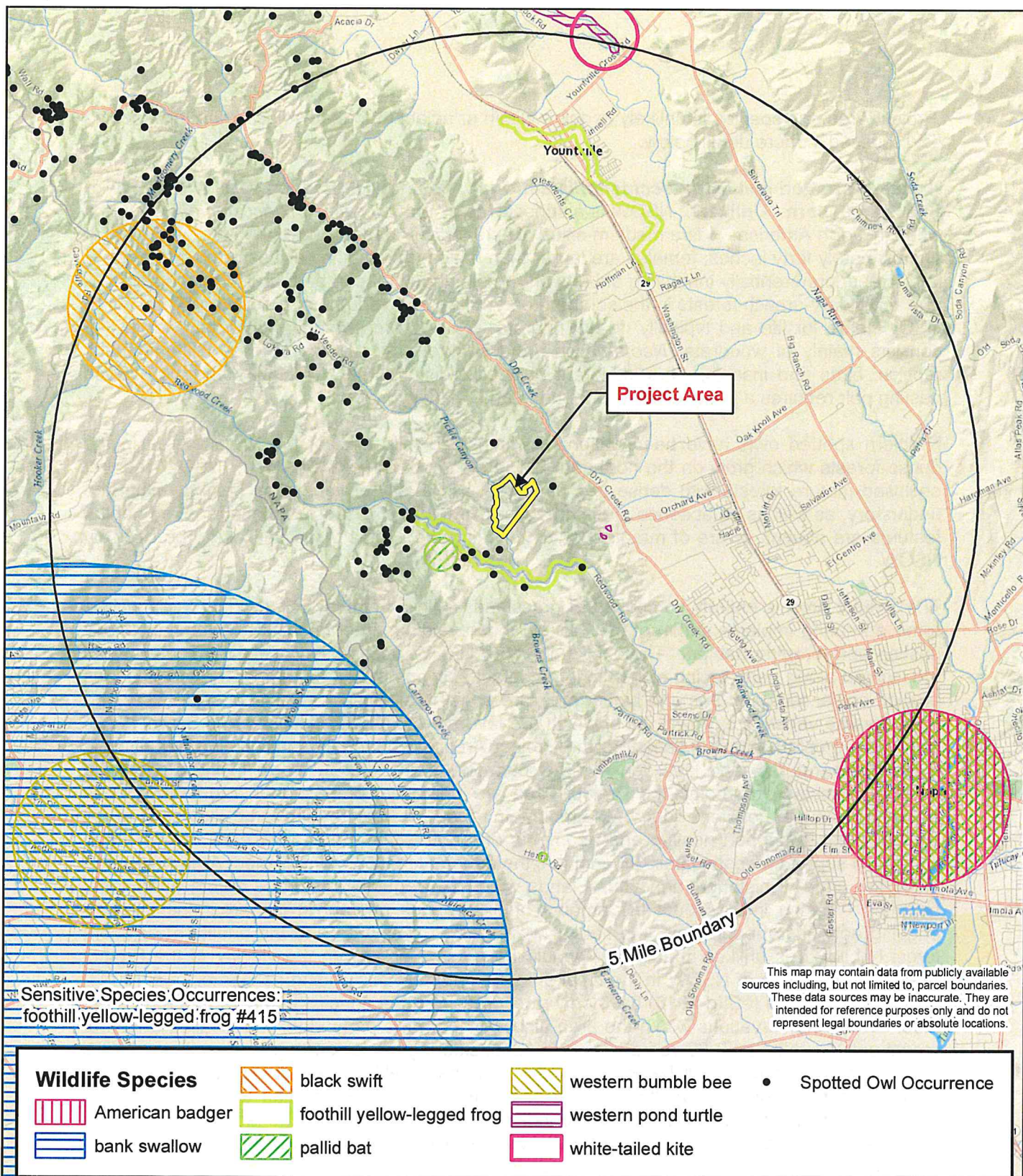


Figure 4. Special Status Wildlife Species within 5 Miles of the Project Area

Mount Veeder Vineyard Development
Napa County, California

0 0.5 1 2
Miles



Map Prepared Date: 6/9/2016
Map Prepared By: thourigan
Base Source: Esri Streaming - National Geographic
Data Source(s): WRA, CNDDB June 2016

Project Area, the species is unlikely to occur within or adjacent to the Project Area; this species is discussed in more detail below.

Northern spotted owl (*Strix occidentalis caurina*). Federal Threatened, CDFW Species of Special Concern. Unlikely. NSOW is a subspecies of spotted owl (*Strix occidentalis*) found in western North America. It is a medium-sized (16-19 inches) dark brown owl with a wingspan of approximately forty inches; females are larger than males. It nests in cavities or on platforms in large trees, preferentially inhabiting old growth forests, though it can be found in mixed primary- and secondary-growth forests in the southern part of its range (southern Oregon and California). NSOW mate for life and typically do not migrate. NSOW are primarily nocturnal and its diet consists mainly of woodrats (*Neotoma* sp.) and squirrels, as well as other small mammals, reptiles, birds and insects. It is intolerant of habitat disturbance and highly territorial. Each nesting pair requires a large territory for hunting and raising young.

Northern spotted owls have been observed within 0.25 mile east of the Project Area in the dense forests which grow on the northeast facing slopes of a mountain ridge. NSOW require: enclosed mature forests with dense tree canopies, a diversity of vegetation heights within the understory, as well as an absence of disturbance (Cornell 2016). Most of these required habitat features are absent, or are of marginal quality making the Project Area unlikely to be used by NSOW.

The Project Area is entirely composed of grasslands. No oak forest or individual trees will be removed during implementation of the Project, thus avoiding direct impacts to potential NSOW nesting and foraging habitat. The vast majority of NSOW observations near the Project Area are located along north facing slopes in large, intact sections of oak forest. North facing slopes provide cooler temperatures and higher moisture content, allowing for a thicker understory and more diverse vegetative growth, all of which are favorable to NSOW (Holland and Steyn 1975). However, forested slopes adjacent to the Project Area are generally south facing, resulting in higher temperatures, and less dense forest canopies than adjacent north facing slopes. In addition, forests surrounding the Project Area are primarily composed of fragments of oak woodland along the eastern edge of the mountain range. NSOW require large expanses of old growth forest to support nesting and fragments of forest within the Project Area are not large enough to support a nesting pair. In addition, the general location of the Project Area is situated along the edge of historical agricultural lands which are regularly disturbed during agricultural activities. Taking into account the amount of disturbance present in the area due to other ongoing agricultural operations, the habitat within the Project Area and the quality of adjacent forest habitat, it is unlikely that NSOW would be present or nest in the vicinity of the Project Area. Observations of NSOW in the local area also support this finding as Berner et al (2003) and local observers (eBird 2016) have only rarely recorded the species in the surrounding area. Most CNDDDB observations within the area also date from the early 1990's, indicating a lack of recent activity in the past 30 years. Therefore, considering the lack of direct impacts to NSOW habitat as no woodland will be removed, the marginal quality of woodland habitat within or adjacent to the Project Area, the location of the Project Area in relation to agricultural and suitable woodland habitat, as well as surrounding historic land use, and the lack of observations from several sources, it is unlikely that NSOW will nest within or adjacent to the Project Area.

While most of the remaining potential species are unlikely or have no potential to occur within the Project Area, one special-status wildlife species was observed during the site visit and eight other special-status wildlife species were found to have a moderate or high potential to occur within the Project Area; these species are discussed in detail below.

Oak titmouse (*Baeolophus inornatus*). USFWS Bird of Conservation Concern. Present. This species occurs in open woodlands of oak, pine and juniper. Nests are often built in woodpecker holes and natural cavities; titmice sometimes partially excavate their own cavity (Cicero 2000).

The mixed oak forest within and surrounding the Project Area provides suitable nesting and foraging habitat for this species. The species was documented within the Project Area during the site visit.

Nuttall's Woodpecker (*Picoides nuttallii*). USFWS Bird of Conservation Concern. High Potential. Nuttall's woodpecker is associated with intact oak and riparian woodlands, rarely in conifers, and is a primary cavity nester (Lowther 2000). Typically a resident in lowland woodlands throughout much of California west of the Sierra Nevada, this species drills for sap and gleans insects from the trunk and bark of oak deciduous forests. The Project Area is located within the species year-round range.

This species is common throughout this section of Napa County and multiple observations have documented the species presence in the local area (eBird 2016). The mixed oak forest within and adjacent to the Project Area provides suitable nesting and foraging habitat for this species.

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. Moderate Potential. The white-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates.

Trees within and adjacent to the Project Area may provide suitable nesting habitat for kites. Open foraging habitat is also present within the Project Area, or within several large meadows, and agricultural operations on adjacent lands. Based on the presence of nearby suitable nesting habitat and the presence of suitable foraging habitat within and adjacent to the Project Area, there is a moderate potential for this species to occur within the Project Area.

Olive-sided flycatcher (*Contopus cooperi*). CDFW Species of Special Concern, USFWS Bird of Conservation Concern. Moderate Potential. This species is most often associated with forest openings, forest edges near natural openings (e.g. meadows, canyons, rivers) or human-made openings (e.g., harvest units), or open to semi-open forest stands (Altman, 2000).

Mixed oak forest bordering grasslands within the Project Area provides edge habitats which are preferred nesting and foraging habitat for the species. Observations of the species in the local area are common (eBird 2016). Based on the presence of suitable nesting and foraging habitat within, and adjacent to the Project Area as well as nearby observations, there is a moderate potential for this species to occur.

Pallid bat (*Antrozous pallidus*). CDFW Species of Special Concern, WBWG High Priority. Moderate Potential. Pallid bats are distributed from southern British Columbia and Montana to central Mexico, and east to Texas, Oklahoma, and Kansas. This species occurs in a number of habitats ranging from rocky arid deserts to grasslands, and into higher elevation coniferous

forests. They are most abundant in the arid Sonoran life zones below 6,000 feet, but have been found up to 10,000 feet in the Sierra Nevada. Pallid bats often roost in colonies of between 20 and several hundred individuals. Roosts are typically in rock crevices, tree hollows, mines, caves, and a variety of man-made structures, including vacant and occupied buildings. Tree roosting has been documented in large conifer snags (e.g., ponderosa pine), inside basal hollows of redwoods and giant sequoias, and within bole cavities in oak trees. They have also been reported roosting in stacks of burlap sacks and stone piles. Pallid bats are primarily insectivorous, feeding on large prey that is usually taken on the ground but sometimes in flight. Prey items include arthropods such as scorpions, ground crickets, and cicadas (WBWG 2016).

Mature oak and madrone trees within and adjacent to the Project Area support crevices and cavities that provide suitable roost sites for pallid bats. Pallid bats have access to foraging opportunities within the Project Area or in adjacent riparian zones outside of the Project Area. This species also has access to water at multiple agricultural ponds within 0.25 mile of the Project Area. Considering the presence of potential suitable roost trees as well as the availability of water and foraging opportunities within and adjacent to the Project Area, this species has a moderate potential to occur.

Silver-haired bat (*Lasionycteris noctivagans*). WBWG Medium Priority. Moderate Potential. Silver-haired bats occur in temperate conifer, mixed conifer and deciduous forests from southern Alaska to northeastern Mexico. Females form maternity roosts almost exclusively inside hollows or under loose bark of large trees and may switch roosts several times (WBWG 2016). Hibernation occurs in trees, rock crevices, leaf litter, in and under buildings, and in caves and mines. Foraging occurs above the tree canopy where the silver-haired bat preys on insects. Silver-haired bats are known to migrate south in the winter, although overwintering at northern latitudes has also been documented (WBWG 2016).

Mixed oak forest within and adjacent to the Project Area provides suitable roost sites for silver-haired bats. Foraging occurs above the tree canopy and the habitat mosaic of forest, grassland and nearby riparian zones provide suitable potential foraging habitat for the species. Additionally, multiple sources of water are present nearby. Considering all of these factors, silver-haired bats have a moderate potential to occur within the Project Area.

Hoary bat (*Lasiurus cinereus*). WBWG Medium Priority. Moderate Potential. Hoary bat is most abundant in the forests and croplands of the plains states and in forests of the Pacific Northwest, and is also found in the forests of the eastern United States and the arid deserts of the Southwest (WBWG 2016). Diverse woodland habitats with a mixture of forest and small open areas that provide edges seem ideal for this species (WBWG 2016).

This species has been found in Spanish moss (*Tillandsia* sp.), squirrel nests, woodpecker holes, and on the trunks of trees. Summer tree roosts are typically located along edge habitats close to feeding grounds. Most females rear young in deciduous trees, whereas males prefer to roost in conifers. Both sexes appear to prefer older trees as roosts, which they use for up to 5 weeks, and apparently provide greater safety (WBWG 2016).

The mixed oak forest within and adjacent to the Project Area provides suitable roost-sites for this species. Bats have access to foraging opportunities within the Project Area along habitat borders, and may also forage outside of the Project Area within agricultural fields and over multiple ponds within 0.25 mile of the Project Area. Considering the presence of suitable roost trees as well as the availability of water and foraging opportunities within and surrounding the Project Area, this species has a moderate potential to occur.

Long-eared myotis (*Myotis evotis*). WBWG Medium Priority. Moderate Potential. Long-eared myotis are primarily associated with coniferous forest, but are also found in semiarid shrublands, sage, chaparral, and agricultural areas. This species roosts under exfoliating tree bark, in tree hollows, caves, mines, crevices in rocky outcrops, in buildings, under bridges and occasionally on the ground. Long-eared myotis primarily consume beetles and moths, gleaned prey from foliage, trees, rocks, and from the ground (WBWG 2016).

The mixed oak forest within and adjacent to the Project Area provides suitable roost-sites for long-eared myotis. This species has access to foraging opportunities within nearby agricultural fields, and over several agricultural ponds or within riparian zones associated with Pickle Canyon Creek. Considering the presence of suitable roost trees as well as the availability of water and foraging opportunities within and surrounding the Project Area, this species has a moderate potential to occur.

Fringed myotis (*Myotis thysanodes*), WBWG High Priority. Moderate Potential. The fringed myotis ranges through much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. This species is found in desert scrubland, grassland, sage-grass steppe, old-growth forest, and subalpine coniferous and mixed deciduous forest. Oak and pinyon-juniper woodlands are most commonly used. The fringed myotis roosts in colonies from 10 to 2,000 individuals, although large colonies are rare. Caves, buildings, underground mines, rock crevices in cliff faces, and bridges are used for maternity and night roosts, while hibernation has only been documented in buildings and underground mines. Tree-roosting has also been documented in Oregon, New Mexico, and California (WBWG 2016).

The mixed oak forest within and adjacent to the Project Area provides suitable roost-sites for long-eared myotis. This species has access to foraging opportunities within nearby agricultural fields, and over several agricultural ponds or within riparian zones associated with Pickle Canyon Creek. Considering the presence of suitable roost trees as well as the availability of water and foraging opportunities within and surrounding the Project Area, this species has a moderate potential to occur.

4.2.3 Wildlife Corridor Assessment

Wildlife movement between suitable habitat areas typically occurs via wildlife movement corridors. The primary function of wildlife corridors is to connect two larger habitat blocks, also referred to as core habitat areas (Beier 1992, Soulé and Terbough. 1999). Prior to the site assessment on June 6, 2016 aerial imagery of the Project Area and surrounding lands were examined for the potential presence of wildlife movement corridors (Google 2016).

The Project Area contains two potential habitat corridors, both of which run roughly northwest to southeast. Onsite corridors consist of an oak forest corridor and an agricultural/grassland corridor. The Property is primarily vegetated with oak forest and has small patches of grassland along the southern and eastern edges. Vineyard development will only occur within the grassland areas. No removal of oak forest and no potential barriers such as: wide roads, curbs, or exclusion fences are proposed within the Project Area. As such, no change in land use or function will occur within the oak forest and all forested habitats will remain fully connected. The agricultural/grassland corridor occurs along the eastern edge of the Project Area and is bound by oak forest to the east and west, and by vineyards to the north and south. Within this corridor, large segments of vineyard are intersected by small patches of grassland, allowing for a habitat

mosaic of open terrain. Development of vineyards within the grasslands closely mimics conditions within adjacent habitats and would not impede the movement of species through similar habitats. Considering that no Project related development will occur within the oak forest and development within the grasslands will mimic current conditions in adjacent habitats, neither corridor will be compromised by implementation of the Project.

5.0 SUMMARY AND RECOMMENDATIONS

The following section summarizes the results of this Biological Resources Assessment and presents recommendations for future studies to ensure that potential impacts associated with the proposed development to sensitive biological resources are avoided or reduced to less than significant.

5.1 Biological Communities

The majority of the Project Area consists of annual grasslands (wild oats and purple needle grass) mixed oak forest and a seasonal wetland. The purple needle grass grassland, mixed oak forest and the seasonal wetland are sensitive communities in the Project Area; the seasonal wetland is a potential Corps wetland. The proposed vineyards will only occur within grasslands shown in Figure 2. Project activities will not remove or impact oak woodlands within the outline of the Project Area. CDFW does not consider mixed oak forest to be rare at the State or Global level, and the California Oak Woodlands Conservation Act does not apply to agricultural conversion, but Napa County General Plan (2008) provides for analysis of impacts to oak woodlands and mitigation. The Napa County General Plan (2008) includes a Conservation element, governing water resources, open space conservation, and natural resources, including oak woodlands. If the county determines that there may be a significant effect to oak forest, the county can require mitigation to reduce impacts of proposed development.

The seasonal wetland included indicators which would meet Corps wetland parameters and is a potential Corps feature. A formal wetland delineation is recommended to determine if the seasonal wetland in the Project Area is subject to Corps or RWQCB jurisdiction under Section 401/404 of the CWA or Porter-Cologne Act. If the jurisdiction applies to the feature, then permitting from the Corps or RWQCB will be necessary if vineyard development would pose a significant impact, such as deep ripping or filling.

5.2 Special-Status Plant Species

Two special-status plant species would require further analysis under CEQA: Napa false indigo, and congested-headed hayfield tarplant. Under CEQA, recommendations would include pre-construction surveys during the blooming period for species, avoidance of known populations, and mitigation for any impacted plants. Protocol level special-status plant surveys conducted in June are recommended to determine presence or absence of all special-status plant species with a moderate potential to occur within the Project Area.

5.3 Special-Status Wildlife Species

Nine special-status wildlife species are considered to have moderate or high potential to occur within the Project Area. Of these species, none are Federal- or State-listed species. Recommendations to avoid impacts to special-status wildlife species are described below.

Bat Species

Pallid bat, silver-haired bat, hoary bat, long-eared myotis, and fringed myotis were determined to have potential to roost within and adjacent to the Project Area. All of the aforementioned species are tree roosting bats and while no trees are going to be removed as part of the Project, if bat maternity roosts are present in close proximity to the proposed Project Areas and construction begins during the maternity roosting season, bat roosts may be impacted by acoustic disturbances significant enough to cause roost abandonment. Such impacts would be considered significant under CEQA.

To avoid impacts to roosting bats, it is recommended that initial ground disturbance or grading be initiated during the non-maternity season from August 15 through June 1. If activities cannot be initiated during this time frame, WRA recommends conducting a pre-construction survey of forest habitat and trees within 100 feet of the work areas to determine if any suitable roost habitat is present and the potential for occupancy. Lastly, if any unforeseen large tree which has exfoliating bark, large numbers of cavities, or cracks and crevices should require removal, it should be felled outside of the maternity season and should be allowed to lay on the ground for one night to allow any undetected roosting bats to leave the tree before it is processed.

Bird Species

Oak titmouse, Nuttall's woodpecker, white-tailed kite, and olive-sided flycatcher, were determined to have potential to nest within or adjacent to the Project Area. Additionally, a variety of native bird species protected under the MBTA as well as the CFGC may use the Project Area for nesting.

To avoid potential impacts to protected nesting birds it is recommended that initial ground disturbance and/or the removal of trees, ground vegetation, and shrubs within the Project Area occur during the non-nesting season (September 1 through January 31). If adherence to this work window is not feasible, pre-construction nesting bird surveys are recommended to avoid impacts to active nests and therefore maintain compliance with the MBTA, CFGC and CEQA. If active nests are observed, the biologist should establish a no disturbance buffer to prevent take of the nest from physical, auditory or acoustic disturbance. Distances vary by species and may be from 25 feet for common, disturbance adapted species, to 500 feet for California fully protected species such as white-tailed kite. The no disturbance buffer should be maintained until the nest has fledged or becomes naturally inactive (e.g. due to predation).

Because spotted owl are unlikely to be present within the Project Area due to a lack of suitable habitat, and other factors discussed in section 4.2.3, no further recommendations are suggested for this species.

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APPENDIX A
OBSERVED PLANT AND WILDLIFE SPECIES LIST

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Appendix A. Plant and Wildlife Species Observed in the Project Area June 05, 2016

Scientific Name	Common Name
Plants	
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus
<i>Aesculus californica</i>	Buckeye
<i>Agoseris grandiflora</i>	Giant mountain dandelion
<i>Aira caryophyllea</i>	Silvery hairgrass
<i>Amsinckia</i> sp.	-
<i>Arbutus menziesii</i>	Madrono
<i>Avena barbata</i>	Slim oat
<i>Avena fatua</i>	Wildoats
<i>Baccharis pilularis</i>	Coyote brush
<i>Bellardia trixago</i>	Mediterranean linseed
<i>Brachypodium distachyon</i>	Purple false brome
<i>Briza maxima</i>	Rattlesnake grass
<i>Briza minor</i>	Little rattlesnake grass
<i>Brodiaea elegans</i> ssp. <i>elegans</i>	Harvest brodiaea
<i>Bromus carinatus</i> var. <i>carinatus</i>	California brome
<i>Bromus diandrus</i>	Ripgut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Calochortus luteus</i>	Yellow mariposa
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	Italian thistle
<i>Carex densa</i>	Sedge
<i>Carex tumulicola</i>	Split awn sedge
<i>Centaurea solstitialis</i>	Yellow starthistle
<i>Chlorogalum pomeridianum</i>	Amole
<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	Purple clarkia
<i>Convolvulus arvensis</i>	Field bindweed
<i>Croton setiger</i>	Turkey-mullein
<i>Cynosurus echinatus</i>	Dogtail grass
<i>Cyperus eragrostis</i>	Tall cyperus
<i>Danthonia californica</i>	California oatgrass
<i>Dryopteris arguta</i>	Wood fern
<i>Elymus glaucus</i>	Blue wildrye
<i>Elymus triticoides</i>	Beardless wild rye
<i>Epilobium campestre</i>	Smooth boisduvalia
<i>Epilobium ciliatum</i>	Slender willow herb
<i>Epilobium densiflorum</i>	Willow herb
<i>Erodium cicutarium</i>	Coastal heron's bill
<i>Eschscholzia californica</i>	California poppy
<i>Festuca bromoides</i>	Brome fescue

Scientific Name	Common Name
<i>Festuca perennis</i>	Italian rye grass
<i>Fragaria vesca</i>	Wild strawberry
<i>Galium murale</i>	Tiny bedstraw
<i>Geranium molle</i>	Crane's bill geranium
<i>Geranium robertianum</i>	Robert's geranium
<i>Helminthotheca echioides</i>	Bristly ox-tongue
<i>Heteromeles arbutifolia</i>	Toyon
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Barley
<i>Hypochaeris glabra</i>	Smooth cats ear
<i>Hypochaeris radicata</i>	Hairy cats ear
<i>Juncus patens</i>	Rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Leontodon saxatilis</i>	Hawkbit
<i>Logfia gallica</i>	Narrowleaf cottonrose
<i>Lonicera hispidula</i>	Pink honeysuckle
<i>Lupinus formosus</i> var. <i>formosus</i>	Western lupine
<i>Lysimachia arvensis</i>	Scarlet pimpernel
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife
<i>Madia gracilis</i>	Gumweed
<i>Mentha pulegium</i>	Pennyroyal
<i>Paspalum dilatatum</i>	Dallis grass
<i>Perideridia</i> sp.	-
<i>Phalaris aquatica</i>	Harding grass
<i>Plantago lanceolata</i>	Ribwort
<i>Quercus agrifolia</i>	Coast live oak
<i>Quercus douglasii</i>	Blue oak
<i>Quercus garryana</i>	Oregon oak
<i>Quercus kelloggii</i>	Black Oak
<i>Quercus lobata</i>	Valley Oak
<i>Raphanus sativus</i>	Jointed charlock
<i>Rubus ursinus</i>	California blackberry
<i>Rumex acetosella</i>	Sheep sorrel
<i>Rumex pulcher</i>	Fiddleleaf dock
<i>Sanicula bipinnatifida</i>	Purple sanicle
<i>Sherardia arvensis</i>	Field madder
<i>Silene gallica</i>	Common catchfly
<i>Sonchus asper</i> ssp. <i>asper</i>	Sow thistle
<i>Spergularia rubra</i>	Purple sand spurry
<i>Stachys rigida</i>	Rough hedgenettle
<i>Stipa miliacea</i> var. <i>miliacea</i>	Smilo grass

Scientific Name	Common Name
<i>Stipa pulchra</i>	Purple needle grass
<i>Symphoricarpos mollis</i>	Snowberry
<i>Torilis arvensis</i>	Field hedge parsley
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Tragopogon porrifolius</i>	Salsify
<i>Trifolium glomeratum</i>	Clustered clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium striatum</i>	Knotted clover
<i>Triteleia laxa</i>	Ithuriel's spear
<i>Umbellularia californica</i>	California bay
<i>Vicia hirsuta</i>	Hairy vetch
<i>Vicia sativa</i>	Spring vetch
<i>Vitis vinifera</i>	Cultivated grape
<i>Wyethia angustifolia</i>	Narrow leaved mule ears
<i>Zeltnera muehlenbergii</i>	Muehlenberg's centaury
Wildlife	
Birds	
<i>Aphelocoma californica</i>	western scrub jay
<i>Baeolophus inornatus</i>	oak titmouse
<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Calypte anna</i>	Anna's hummingbird
<i>Cathartes aura</i>	turkey vulture
<i>Junco hyemalis</i>	dark-eyed junco
<i>Melanerpes formicivorus</i>	acorn woodpecker
<i>Pipilo maculatus</i>	spotted towhee
<i>Poecile rufescens</i>	chestnut-backed chickadee
<i>Sitta carolinensis</i>	white-breasted nuthatch
<i>Spinus psaltria</i>	lesser goldfinch
<i>Tachycineta bicolor</i>	tree swallow
<i>Zenaida macroura</i>	mourning dove
Mammals	
<i>Odocoileus hemionus columbianus</i>	blacktailed deer
<i>Thomomys bottae</i>	Bota's pocket gopher
Reptiles	
<i>Sceloporus occidentalis</i>	western fence lizard
Invertebrates	
<i>Junonia coenia</i>	common buckeye
<i>Papilio zelicaon</i>	Anise swallowtail
<i>Phyciodes mylitta</i>	mylitta crescent

Scientific Name	Common Name
<i>Pieris rapae</i>	cabbage white
<i>Libellula luctuosa</i>	widow skimmer

APPENDIX B

POTENTIAL FOR SPECIAL-STATUS SPECIES TO OCCUR IN THE PROJECT AREA

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Appendix C. Potential for Special Status Plant and Wildlife Species to Occur in the Project Area. List compiled from the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (2016), U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation Database (2016), and California Native Plant Society (CNPS) Electronic Inventory (2016) searches of the Napa, Sonoma, Rutherford and Yountville USGS 7.5' quadrangles, a review of historical and current satellite imagery via Google Earth (2016) and a review of other CDFW lists and publications (Jennings and Hayes 1994, Zeiner et al. 1990, and Jameson and Peters 2004).

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Wildlife				
Mammals				
pallid bat <i>Antrozous pallidus</i>	SSC, WBWG	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, forages along river channels. Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees and various human structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate Potential. Mature oak and madrone trees within and surrounding the Project Area have snags, exfoliating bark and other features that may support roosting by the species. Additionally, nearby streams, agricultural reservoirs, and stock ponds provide suitable water for the species.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bat Species.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SC, SSC, WBWG High	This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	Unlikely. No suitable rock crevices, caves or abandoned buildings occur within the Project Area that may support roosting by the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
silver-haired bat <i>Lasionycteris noctivagans</i>	WBWG	Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. This species is primarily a forest dweller, feeding over streams, ponds, and open brushy areas. It roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark.	Moderate Potential. Mature oak and madrone trees within and surrounding the Project Area have snags, exfoliating bark and other features that may support roosting by the species. Additionally, nearby streams, agricultural reservoirs, and stock ponds provide suitable water for the species.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bat Species.
western red bat <i>Lasiurus blossevillei</i>	SSC, WBWG	This species is highly migratory and is typically solitary, roosting primarily in the foliage of trees or shrubs. It is associated with broad-leaved tree species including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	Unlikely. No broad leaved trees such as sycamore are present within the Project Area, nor is there any riparian zones present that could support preferred roost trees. The species may roost within nearby riparian corridors and may be detected foraging or flying over the Project Area.	No further actions are recommended for this species.
hoary bat <i>Lasiurus cinereus</i>	WBWG	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Moderate Potential. Large oak trees occur within and surrounding the Project Area and may be suitable to support roosting by the species. Additionally, nearby streams, agricultural reservoirs, and stock ponds provide suitable water for the species.	See section 4.2.2 for further discussion of this species.. Recommendations for this species are also discussed in section 5.3, under the heading: Bat Species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
long-eared myotis <i>Myotis evotis</i>	WBWG	Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests from sea level to 9000 feet. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, and rocky outcrops on the ground. They also sometimes roost in buildings and under bridges.	Moderate Potential. The Large oak and madrone trees which occur within and surrounding the Project Area are suitable to support roosting by the species. Additionally, nearby streams, agricultural reservoirs, and stock ponds provide suitable water for the species.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bat Species.
long-legged myotis <i>Myotis volans</i>	WBWG	Primarily found in coniferous forests, but also occurs seasonally in riparian and desert habitats. Large hollow trees, rock crevices and buildings are important day roosts. Other roosts include caves, mines and buildings.	Unlikely. No extensive conifer forests are present within or surrounding the Project Area. Those conifer trees which are present are primarily small and not of sufficient size to support roosting by this species. No other suitable structures such as abandoned buildings or rock crevices occur that could support roosting by this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
fringed myotis <i>Myotis thysanodes</i>	WBWG	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	Moderate Potential. Large oak and madrone trees which occur within and surrounding the Project Area are suitable to support roosting by the species. Additionally, nearby streams, agricultural reservoirs, and stock ponds provide suitable water for the species.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bat Species.
American badger <i>Taxidea taxus</i>	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	No Potential. During the site assessment no ground squirrel burrows or other suitable burrow surrogates were observed. No ground squirrels or other potential prey sources were observed that could support foraging by the species.	No further actions are recommended for this species.
Ringtail <i>Bassariscus astutus</i>	CFP	Widely distributed throughout most of California, absent from some portions of the Central Valley and northeastern California. Found in a variety of habitats throughout the western US including riparian areas, semi-arid country, deserts, chaparral, oak woodlands, pinyon pine woodlands, juniper woodlands and montane conifer forests usually under 1400m in elevation. Typically uses cliffs or large trees for shelter.	Unlikely. While the Project Area does contain oak woodland, it is primarily composed of grassland with no suitable rock crevices, outcrops, or riparian corridors to support the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
salt-marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP, SSC	Found only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may use other thick wetland vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	No Potential. The Project Area does not contain any salt marsh habitat required to support the species.	No further actions are recommended for this species.
Birds				
golden eagle <i>Aquila chrysaetos</i>	BCC, CFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	Unlikely. Golden eagle are known to nest within the expanses of rolling hills and grasslands which occur along the eastern edge of Napa County (Berner et al 2003). Areas within and surrounding the Project Area do not contain large cliffs or suitable large snags that could be used for nesting by the species. Due to the presence of agricultural lands nearby, the species may occasionally forage in the area.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
bald eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Unlikely. No large water bodies occur nearby to support foraging by the species. The only confirmed account of nesting by Berner et al (2003) was in the northeast section of the county near Lake Berryessa.	No further actions are recommended for this species.
Swainson's hawk <i>Buteo swainsoni</i>	ST	Summer resident in California's Central Valley and limited portions of the southern California interior. Nests in tree groves and isolated trees in riparian and agricultural areas, including near buildings. Forages in grasslands and scrub habitats as well as agricultural fields, especially alfalfa. Preys on arthropods year-round as well as smaller vertebrates during the breeding season.	Unlikely. The Project Area is outside of the typical nesting range for this species. Berner et al (2003) does not list the species as breeding or having the potential to breed in Napa County. Only one occurrence is listed in CNDDB and occurred in 2012 along the Napa River.	No further actions are recommended for this species.
northern harrier <i>Circus cyaneus</i>	SSC	Year-round resident and winter visitor. Found in open habitats including grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.	Unlikely. The Project Area contains only small areas of grassland on fairly steep slopes. The size of these grasslands make it unlikely that the species would nest within the limited habitat available when more suitable habitat is found approximately 1 mile north of the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
white-tailed kite <i>Elanus leucurus</i>	CFP	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	Moderate Potential. This species is known to nest and forage near agricultural fields like those found around the Project Area. Oaks and grasslands within the Project Area may also provide suitable foraging and nesting habitat to support the species.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bird Species.
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, SD, CFP, BCC	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	No Potential. The Project Area does not contain suitable tall structures such as buildings or cliffs which are required to support nesting by the species. In addition, no nearby water sources are present to support foraging by the species.	No further actions are recommended for this species.
northern spotted owl <i>Strix occidentalis caurina</i>	FT, SC, SSC	Year-round resident in dense, structurally complex forests, primarily those with old-growth conifers. Nests on platform-like substrates in the forest canopy, including in tree cavities. Preys on mammals.	Unlikely. No work will occur within forested habitats. Work in adjacent uplands will not remove or modify potential nesting habitat. Forests surrounding the Project Area are fragments of larger forest areas and are disturbed by agricultural operations making it unlikely that the species would be present.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
burrowing owl <i>Athene cunicularia</i>	SSC, BCC	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	No Potential. This species does not typically nest within Napa County (Berner et al 2003). No suitable short grass prairie, ground squirrel burrows or burrow surrogates were observed during the site assessment.	No further actions are recommended for this species.
long-eared owl <i>Asio otus</i>	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves. Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	Unlikely. No suitable riparian corridors exist within the Project Area. The nearby riparian corridors may support nesting by the species, therefore the species may be observed foraging in the grasslands or adjacent vineyards.	No further actions are recommended for this species.
Allen's hummingbird <i>Selasphorus sasin</i>	BCC	Summer resident along the California coast, breeding in a variety of woodland and forest habitats, including parks and gardens with abundant nectar sources. Nest in shrubs and trees with dense vegetation.	Unlikely. Oak and madrone woodlands may provide suitable nesting habitat in the area. However, nectar sources are limited and are unlikely to support enough flowers to provide forage for nesting.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
olive-sided flycatcher <i>Contopus cooperi</i>	SSC, BCC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	Moderate Potential. Habitat mosaics between oak woodland and grassland or vineyard such as those found within the Project Area, are preferred nesting habitat for the species.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bird Species.
black swift <i>Cypseloides niger</i>	SSC, BCC	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas.	No Potential. The Project Area is outside of the known breeding distribution for this species.	No further actions are recommended for this species.
bank swallow <i>Riparia riparia</i>	ST	Migrant in riparian and other lowland habitats in western California. Colonial nester in riparian areas with vertical cliffs and banks with fine-textured or fine-textured sandy soils near streams, rivers, lakes or the ocean. Historical range in southern and central areas of California has been eliminated by loss of nesting habitat due to flood and erosion-control projects, but currently is known to breed in Siskiyou, Shasta, and Lassen Cos., and along Sacramento River from Shasta Co. south to Yolo Co.	No Potential. The Project Area is not within the known distribution of this species within California. In addition, the Project Area does not contain suitable river banks, cliffs or other structures which may support the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
purple martin <i>Progne subis</i>	SSC	Inhabits woodlands and coniferous forests at mid to high elevation. Nests in old woodpecker cavities and are often located in tall, isolated trees or snags. Prefers mixed chaparral and canyons for foraging.	Unlikely. While oaks within the Project Area may provide suitable cavities to nest, the only known occurrences of the species are along the northern borders of the county greater than 5-miles from the Project Area (Berner et al 2003).	No further actions are recommended for this species.
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	High Potential. This species is common within Napa County and accounts of nesting as well as sightings in the local area make the species likely to nest within the surrounding oak woodlands (Berner et al 2003, eBird 2016).	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bird Species.
loggerhead shrike <i>Lanius ludovicianus</i>	BCC, SSC	Year-round resident in open woodland, grassland, savannah and scrub. Prefers areas with sparse shrubs, trees, posts, and other suitable perches for foraging. Preys upon large insects and small vertebrates. Nests are well-concealed in densely-foliaged shrubs or trees.	Unlikely. Vineyards adjacent to the Project Area are managed to reduce prey which would otherwise provide large insects for shrikes and the grasslands within the Project Area are unlikely to provide sufficient forage to support nesting by the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
oak titmouse <i>Baeolophus inornatus</i>	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	Present. This species was observed during the site assessment.	See section 4.2.2 for further discussion of this species. Recommendations for this species are also discussed in section 5.3, under the heading: Bird Species.
black oystercatcher <i>Haematopus bachmani</i>	BCC	Year-round resident of rocky coast habitats along the Pacific coast. Also occurs on coastal and lower estuarine mud-flats. Forages primarily on intertidal invertebrates.	No Potential. The Project Area is outside of the known breeding distribution for this species.	No further actions are recommended for this species.
western snowy plover <i>Charadrius nivosus (alexandrinus) nivosus</i>	FT, SSC, BCC, RP	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	No Potential. The Project Area does not contain any alkaline lakes, salt flats, sandy beaches or other such suitable substrate to support nesting by the species.	No further actions are recommended for this species.
California least tern <i>Sternula antillarum browni</i>	FE, SE, CFP	(Nesting colony) nests along the coast from San Francisco Bay south to northern Baja California. Breeding colonies in San Francisco Bay found in abandoned salt ponds and along estuarine shores. Colonial breeder on barren or sparsely vegetated, flat substrates near water.	No Potential. The Project Area does not contain any alkaline lakes, salt flats, sandy beaches or other such suitable substrate to support nesting by the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	No Potential. The Project Area does not contain any suitable marsh habitat required to support the species.	No further actions are recommended for this species.
California Ridgway's (clapper) rail <i>Rallus obsoletus obsoletus</i>	FE, SE, CFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on molluscs and crustaceans.	No Potential. The Project Area does not contain any suitable marsh habitat required to support the species.	No further actions are recommended for this species.
least bittern <i>Ixobrychus exilis</i>	SSC, BCC	Summer resident in portions of the Central Valley and southern California. Typically breeds in deeper freshwater marshes with dense emergent and woody vegetation.	No Potential. The Project Area does not contain any suitable marsh or aquatic habitat to support the species.	No further actions are recommended for this species.
San Francisco (common) yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC, SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	No Potential. The Project Area does not contain any suitable marsh or aquatic vegetation required to support the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
yellow warbler <i>Setophaga (Dendroica) petechia brewsteri</i>	SSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	No Potential. The Project Area does not contain any suitable riparian habitat to support the species.	No further actions are recommended for this species.
yellow-breasted chat <i>Icteria virens</i>	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	No Potential. The Project Area does not contain any suitable riparian habitat required to support nesting by the species.	No further actions are recommended for this species.
Bell's sage sparrow <i>Amphispiza belli belli</i>	BCC, SSC, DFG:WL	Year-round resident, though shows seasonal movements. Prefers dense chaparral and scrub habitats for breeding; strongly associated with chamise. Also occurs in more open habitats during winter.	Unlikely. While thick oak woodlands border the Project Area, no chamise, or chaparral scrub habitats occur in close proximity that could support nesting by the species.	No further actions are recommended for this species.
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Year-round resident associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats and adjacent areas; often found where wetland communities merge into grassland. May also occur in drier grasslands. Nests near the ground in taller vegetation, including along roads, levees, and canals.	No Potential. This species is only known to occur in the far southern end of Napa County and not within or near to the Project Area (Berner et al 2003, Shuford and Gardali 2008).	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
grasshopper sparrow <i>Ammodramus</i> <i>savannarum</i>	SSC	Summer resident. Breeds in open grasslands, generally with low- to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	Unlikely. While the Project Area is comprised of grasslands, accounts of this species are primarily located further south within Napa County within the grasslands and hills between Napa and Sonoma (Berner et al 2003). Forested habitats which surround the Project Area isolate the grasslands and limit the amount of suitable habitat for the species.	No further actions are recommended for this species.
yellow-headed blackbird <i>Xanthocephalus</i> <i>xanthocephalus</i>	SSC	Summer resident. Breeds colonially in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Requires abundant large insects such as dragonflies; nesting is timed for maximum emergence of insect prey.	No Potential. This species has only been recorded nesting in the far southern end of Napa County, well outside of the Project Area (Berner et al 2003, Shuford and Gardali 2008).	No further actions are recommended for this species.
tricolored blackbird <i>Agelaius tricolor</i>	BCC, SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	No Potential. The Project Area does not contain marshes, wetlands or other water bodies with sufficient emergent vegetation to support a nesting colony of this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Amphibians				
California red-legged frog <i>Rana draytonii</i>	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	No Potential. The Project Area does not contain any suitable water bodies which could allow frogs to breed. Habitats within the Project Area are primarily grasslands and no ground squirrel burrows or other suitable estivation habitat are present. Therefore the Project Area lacks both breeding and estivation habitat.	No further actions are recommended for this species.
foothill yellow-legged frog <i>Rana boylei</i>	SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	No Potential. The Project Area does not contain any suitable water bodies which could allow frogs to survive. Adjacent ponds are well outside of the Project Area and will remain unaffected by the Project.	No further actions are recommended for this species.
Pacific (western) pond turtle <i>Actinemys marmorata</i>	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	No Potential. The Project Area does not contain any suitable water bodies which could allow turtles to survive. Adjacent ponds are well outside of the Project Area and will remain unaffected by Project activities.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Fish				
river lamprey <i>Lampetra ayresi</i>	SSC	Lower Sacramento River, San Joaquin River and Russian River. May occur in coastal streams north of San Francisco Bay. Adults need clean, gravelly riffles, Ammocoetes need sandy backwaters or stream edges, good water quality and temps < 25 degrees C.	No Potential. The Project Area does not contain suitable aquatic features to support this species. This species has been extirpated from this watershed.	No further actions are recommended for this species.
Pacific lamprey <i>Entosphenus</i> (= <i>Lampetra</i>) <i>tridentatus</i>	SSC	Spawn between March and July in gravel bottomed streams in riffle habitat. Larvae drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrates.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.
hardhead <i>Mylopharodon</i> <i>conocephalus</i>	SSC, FS sensitive	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic Centrarchids predominate.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	SSC, RP	Endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes. Occurs in slow-moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young. Splittail are primarily freshwater fish, but are tolerant of moderate salinity and can live in water where salinity levels reach of 10-18 parts per thousand.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.
Delta smelt <i>Hypomesus transpacificus</i>	FT, SE, RP	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt; most often at salinities < 2 ppt.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.
longfin smelt <i>Spirinchus thaleichthys</i>	FC, ST, SSC	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Coho salmon - central CA coast ESU <i>Oncorhynchus kisutch</i>	FE, SE, NMFS	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.
Chinook salmon – Sacramento winter-run ESU <i>Oncorhynchus tshawytscha</i>	FE, SE, RP, NMFS	Occurs in the Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 degrees C for spawning. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles typically migrate to the ocean soon after emergence from the gravel.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.
steelhead - central CA coast DPS <i>Oncorhynchus mykiss irideus</i>	FT, NMFS	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	No Potential. The Project Area does not contain suitable aquatic features to support this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Invertebrates				
western bumblebee <i>Bombus occidentalis</i>	SSI	These bees can still be found in the northern and eastern parts of their historic range, but the once common populations from southern British Columbia to central California have nearly disappeared (Xerces 2016).	Unlikely. The Project Area is primarily composed of grassland which does not provide suitable structure for hives.	No further actions are recommended for this species.
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE, SSI	Two populations in San Bruno mountain and the Cordelia Hills are recognized. Hostplant is <i>Viola pedunculata</i> , which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	No Potential. Suitable serpentine soils capable of supporting the host plants for this species are not present.	No further actions are recommended for this species.
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE, SSI	Limited to the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on in rocky outcrops and cliffs in coastal scrub habitat on steep, north-facing slopes within the fog belt. Species range is tied to the distribution of the larval host plant, <i>Sedum spathulifolium</i> .	No Potential. The Project Area is outside of the known range for this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
An isopod <i>Calasellus californicus</i>	SSI	A blind isopod found in freshwater habitats, the known collections are from a freshwater well and two springs. This poorly known species has been collected from one locality each in Napa, Lake and Santa Clara counties.	No Potential. The Project Area does not contain suitable aquatic habitat to support the species.	No further actions are recommended for this species.
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT, SSI, RP	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No Potential. The Project Area does not contain suitable vernal pool habitat to support the species.	No further actions are recommended for this species.
conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE, SSI, RP	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	No Potential. The Project Area does not contain suitable vernal pool habitat to support the species.	No further actions are recommended for this species.
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT, SSI, RP	Occurs only in the central valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberry 2 to 8 inches in diameter; some preference shown for "stressed" elderberry.	No Potential. The Project Area is outside of the known distribution for this species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
California freshwater shrimp <i>Syncaris pacifica</i>	FE, SE, SSI	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	No Potential. The Project Area does not contain suitable aquatic habitat to support the species.	No further actions are recommended for this species.
Plants				
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet (52 to 300 meters). Blooms (Apr), May-Jun.	Unlikely Potential. While Project Area contains valley and foothill grassland, it does not contain clay, serpentine or volcanic soils.	No further actions are recommended for this species.
Napa false indigo <i>Amorpha californica</i> var. <i>napensis</i>	Rank 1B.2	Broadleafed upland forest (openings), chaparral, cismontane woodland. Elevation ranges from 390 to 6560 feet (120 to 2000 meters). Blooms Apr-Jul.	Moderate Potential. Project Area contains broadleafed upland forest within the elevation range of the species.	See section 4.2.1 for further discussion of this species. Recommendations for this species are also discussed in section 5.2.
twig-like snapdragon <i>Antirrhinum virga</i>	Rank 4.3	Chaparral, lower montane coniferous forest/rocky, openings, often serpentine. Elevation ranges from 330 to 6610 feet (100 to 2015 meters). Blooms Jun-Jul.	No Potential. The Project Area does not contain chaparral or coniferous forest.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Baker's manzanita <i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i>	SR, Rank 1B.1	Broadleafed upland forest, chaparral/often serpentine. Elevation ranges from 250 to 980 feet (75 to 300 meters). Blooms Feb-Apr.	Unlikely Potential. While the Project Area contains broadleafed upland forest within the elevation range of the species, it does not contain serpentine.	No further actions are recommended for this species.
Rincon Ridge manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i>	Rank 1B.1	Chaparral (rhyolitic), cismontane woodland. Elevation ranges from 250 to 1210 feet (75 to 370 meters). Blooms Feb-Apr (May).	No Potential. The Project Area does not contain volcanic soil.	No further actions are recommended for this species.
Clara Hunt's milk-vetch <i>Astragalus claranus</i>	FE, ST, Rank 1B.1	Chaparral (openings), cismontane woodland, valley and foothill grassland/serpentine or volcanic, rocky, clay. Elevation ranges from 250 to 900 feet (75 to 275 meters). Blooms Mar-May.	No Potential. The Project Area does not contain serpentine or volcanic soils.	No further actions are recommended for this species.
Cleveland's milk-vetch <i>Astragalus clevelandii</i>	Rank 4.3	Chaparral, cismontane woodland, riparian forest/serpentine seeps. Elevation ranges from 660 to 4920 feet (200 to 1500 meters). Blooms Jun-Sep.	No Potential. The Project Area does not contain serpentine soils or riparian habitat.	No further actions are recommended for this species.
alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	Rank 1B.2	Playas, valley and foothill grassland (adobe clay), vernal pools/alkaline. Elevation ranges from 0 to 200 feet (1 to 60 meters). Blooms Mar-Jun.	No Potential. The Project Area does not contain vernal pools or clay soils.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
big-scale balsamroot <i>Balsamorhiza macrolepis</i>	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland/sometimes serpentine. Elevation ranges from 300 to 5100 feet (90 to 1555 meters). Blooms Mar-Jun.	Unlikely Potential. The Project Area does not contain serpentine soils, chaparral or woodland; however it does contain valley and foothill grassland within the elevation range of the species.	No further actions are recommended for this species.
Sonoma sunshine <i>Blennosperma bakeri</i>	FE, SE, Rank 1B.1	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 30 to 360 feet (10 to 110 meters). Blooms Mar-May.	Unlikely Potential. The Project Area does not contain vernal pools and the grassland present is ruderal and does not represent typical habitat for the species.	No further actions are recommended for this species.
narrow-anthered brodiaea <i>Brodiaea leptandra</i>	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/volcanic. Elevation ranges from 360 to 3000 feet (110 to 915 meters). Blooms May-Jul.	Unlikely Potential. While the Project Area does contain broadleafed upland forest and grassland, it does not contain volcanic soils.	No further actions are recommended for this species.
Brewer's calandrinia <i>Calandrinia breweri</i>	Rank 4.2	Chaparral, coastal scrub/sandy or loamy, disturbed sites and burns. Elevation ranges from 30 to 4000 feet (10 to 1220 meters). Blooms (Jan), Mar-Jun.	No Potential. The Project Area does not contain chaparral, coastal scrub or burns.	No further actions are recommended for this species.
small-flowered calycadenia <i>Calycadenia micrantha</i>	Rank 1B.2	Chaparral, meadows and seeps (volcanic), valley and foothill grassland/roadsides, rocky, talus, scree, sometimes serpentine, sparsely vegetated areas. Elevation ranges from 20 to 4920 feet (5 to 1500 meters). Blooms Jun-Sep.	Unlikely Potential. While the Project Area contains meadows and seeps and grassland, it does not contain volcanic soils or rocky/talus slopes or sparsely vegetated areas.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
johnny-nip <i>Castilleja ambigua</i> <i>var. ambigua</i>	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pool margins. Elevation ranges from 0 to 1430 feet (0 to 435 meters). Blooms Mar-Aug.	Unlikely Potential. The Project Area is not near the coast and the grasslands present are ruderal and do not represent typical habitat for the species.	No further actions are recommended for this species.
Mead's owl's-clover <i>Castilleja ambigua</i> <i>var. meadii</i>	Rank 1B.1	Meadows and seeps, vernal pools/gravelly, volcanic, clay. Elevation ranges from 1480 to 1560 feet (450 to 475 meters). Blooms Apr-May.	Unlikely Potential. While the Project Area contains meadows and seeps as well as grassland, no volcanic or clay soils are present.	No further actions are recommended for this species.
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	Rank 1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentine. Elevation ranges from 250 to 3490 feet (75 to 1065 meters). Blooms Feb-Jun.	No Potential. The Project Area does not contain coniferous forest, woodland or volcanic or serpentine soils.	No further actions are recommended for this species.
Calistoga ceanothus <i>Ceanothus divergens</i>	Rank 1B.2	Chaparral (serpentine or volcanic, rocky). Elevation ranges from 560 to 3120 feet (170 to 950 meters). Blooms Feb-Apr.	No Potential. The Project Area does not contain chaparral or volcanic or serpentine soils.	No further actions are recommended for this species.
holly-leaved ceanothus <i>Ceanothus purpureus</i>	Rank 1B.2	Chaparral, cismontane woodland/volcanic, rocky. Elevation ranges from 390 to 2100 feet (120 to 640 meters). Blooms Feb-Jun.	No Potential. The Project Area does not contain volcanic soils nor chaparral or woodland.	No further actions are recommended for this species.
Sonoma ceanothus <i>Ceanothus sonomensis</i>	Rank 1B.2	Chaparral (sandy, serpentine or volcanic). Elevation ranges from 710 to 2620 feet (215 to 800 meters). Blooms Feb-Apr.	No Potential. The Project Area does not contain sandy, serpentine or volcanic soils.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Sonoma spineflower <i>Chorizanthe valida</i>	FE, SE, Rank 1B.1	Coastal prairie (sandy). Elevation ranges from 30 to 1000 feet (10 to 305 meters). Blooms Jun-Aug.	No Potential. The Project Area is not near the coast.	No further actions are recommended for this species.
Brewer's clarkia <i>Clarkia breweri</i>	Rank 4.2	Chaparral, cismontane woodland, coastal scrub/often serpentine. Elevation ranges from 710 to 3660 feet (215 to 1115 meters). Blooms Apr-Jun.	No Potential. The Project Area does not contain serpentine soils nor chaparral or woodland.	No further actions are recommended for this species.
Tracy's clarkia <i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Rank 4.2	Chaparral (openings, usually serpentine). Elevation ranges from 210 to 2130 feet (65 to 650 meters). Blooms Apr-Jul.	No Potential. The Project Area does not contain chaparral.	No further actions are recommended for this species.
dwarf downingia <i>Downingia pusilla</i>	Rank 2B.2	Valley and foothill grassland (mesic), vernal pools. Elevation ranges from 0 to 1460 feet (1 to 445 meters). Blooms Mar-May.	Unlikely Potential. The Project Area does not contain vernal pools and the grasslands present are ruderal and do not represent typical habitat for the species.	No further actions are recommended for this species.
streamside daisy <i>Erigeron biolettii</i>	Rank 3	Broadleaved upland forest, cismontane woodland, north coast coniferous forest/rocky, mesic. Elevation ranges from 100 to 3610 feet (30 to 1100 meters). Blooms Jun-Oct.	Unlikely Potential. The Project Area does not contain rocky areas or mesic areas within woodlands.	No further actions are recommended for this species.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	Rank 1B.2	Chaparral (serpentine or volcanic). Elevation ranges from 260 to 3300 feet (80 to 1005 meters). Blooms May-Sep.	No Potential. The Project Area does not contain chaparral.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
San Joaquin spearscale <i>Extriplex joaquinana</i>	Rank 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland/alkaline. Elevation ranges from 0 to 2740 feet (1 to 835 meters). Blooms Apr-Oct.	No Potential. The Project Area does not contain alkaline soils.	No further actions are recommended for this species.
nodding harmonia <i>Harmonia nutans</i>	Rank 4.3	Chaparral, cismontane woodland/rocky or gravelly, volcanic. Elevation ranges from 250 to 3200 feet (75 to 975 meters). Blooms Mar-May.	No Potential. The Project Area does not contain rocky, gravelly areas within woodlands nor volcanic soils.	No further actions are recommended for this species.
congested-headed hayfield tarplant <i>Hemizonia congesta</i> <i>ssp. congesta</i>	Rank 1B.2	Valley and foothill grassland/sometimes roadsides. Elevation ranges from 70 to 1840 feet (20 to 560 meters). Blooms Apr-Nov.	Moderate Potential. The Project Area contains grassland within the elevation range of the species, however no individuals were observed during the June site visit.	See section 4.2.1 for further discussion of this species. Recommendations for this species are also discussed in section 5.2.
two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	Rank 1B.2	Chaparral (serpentine). Elevation ranges from 200 to 3300 feet (60 to 1005 meters). Blooms May-Jul.	No Potential. The Project Area does not contain chaparral.	No further actions are recommended for this species.
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	Rank 1B.2	Chaparral/serpentine. Elevation ranges from 890 to 980 feet (270 to 300 meters). Blooms May-Jul.	No Potential. The Project Area does not contain chaparral.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
thin-lobed horkelia <i>Horkelia tenuiloba</i>	Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland/mesic openings, sandy. Elevation ranges from 160 to 1640 feet (50 to 500 meters). Blooms May-Jul (Aug).	Unlikely Potential. The Project Area contains broadleafed upland forest and grassland; However the grassland is ruderal and overgrown and very few mesic sites are present within the grassland and forest.	No further actions are recommended for this species.
Northern California black walnut <i>Juglans hindsii</i>	Rank 1B.1	Riparian forest, riparian woodland. Elevation ranges from 0 to 1440 feet (0 to 440 meters). Blooms Apr-May.	No Potential. The Project Area does not contain riparian habitat.	No further actions are recommended for this species.
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE, Rank 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/mesic. Elevation ranges from 0 to 1540 feet (0 to 470 meters). Blooms Mar-Jun.	Unlikely Potential. The grasslands within the Project Area are dominated by upland species.	No further actions are recommended for this species.
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Rank 1B.2	Marshes and swamps (freshwater and brackish). Elevation ranges from 0 to 20 feet (0 to 5 meters). Blooms May-Jul (Aug), (Sep).	No Potential. The Project Area does not contain marshes and swamps.	No further actions are recommended for this species.
bristly leptosiphon <i>Leptosiphon acicularis</i>	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.	Unlikely Potential. The Project Area does not contain chaparral, coastal prairie, woodland; while grassland is present within the elevation range of the species, they are dense and overgrown.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	Rank 1B.2	Chaparral, cismontane woodland/usually volcanic. Elevation ranges from 330 to 1640 feet (100 to 500 meters). Blooms Mar-May.	No Potential. The Project Area does not contain volcanic soil, chaparral or woodland.	No further actions are recommended for this species.
broad-lobed leptosiphon <i>Leptosiphon latisectus</i>	Rank 4.3	Broadleaved upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.	Unlikely Potential. While the Project Area contains broadleaved upland forest, the understory was typically dense ruderal grasslands which would likely preclude this species.	No further actions are recommended for this species.
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	SR, Rank 1B.1	Marshes and swamps (brackish or freshwater), riparian scrub. Elevation ranges from 0 to 30 feet (0 to 10 meters). Blooms Apr-Nov.	No Potential. The Project Area does not contain marsh or swamp habitat or riparian scrub.	No further actions are recommended for this species.
redwood lily <i>Lilium rubescens</i>	Rank 4.2	Broadleaved upland forest, chaparral, lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest/sometimes serpentine, sometimes roadsides. Elevation ranges from 100 to 6270 feet (30 to 1910 meters). Blooms Apr-Aug (Sep).	Moderate Potential. The Project Area contains broadleaved forest within the elevation range of the species.	See section 4.2.1 for further discussion of this species. Recommendations for this species are also discussed in section 5.2.
Sebastopol meadowfoam <i>Limnanthes vincularis</i>	FE, SE, Rank 1B.1	Meadows and seeps, valley and foothill grassland, vernal pools/vernally mesic. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Apr-May.	No Potential. The Project Area does not contain marshy areas or wet meadows in valley oak savanna.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Napa lomatium <i>Lomatium repostum</i>	Rank 4.3	Chaparral, cismontane woodland/serpentine. Elevation ranges from 300 to 2720 feet (90 to 830 meters). Blooms Mar-Jun.	No Potential. The Project Area does not contain serpentine.	No further actions are recommended for this species.
Cobb Mountain lupine <i>Lupinus sericatus</i>	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 900 to 5000 feet (275 to 1525 meters). Blooms Mar-Jun.	Unlikely Potential. The Project contains broadleafed upland forest within the elevation range of the species; however the canopy is closed and the soil is not rocky or gravelly.	No further actions are recommended for this species.
Mt. Diablo cottonweed <i>Micropus amphibolus</i>	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland/rocky. Elevation ranges from 150 to 2710 feet (45 to 825 meters). Blooms Mar-May.	Unlikely Potential. The Project Area does not have rocky grasslands or bare patches on soil.	No further actions are recommended for this species.
green monardella <i>Monardella viridis</i>	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland. Elevation ranges from 330 to 3310 feet (100 to 1010 meters). Blooms Jun-Sep.	Moderate Potential. The Project Area contains broadleafed upland forest within the elevation range of the species.	See section 4.2.1 for further discussion of this species. Recommendations for this species are also discussed in section 5.2.
few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE, ST, Rank 1B.1	Vernal pools (volcanic ash flow). Elevation ranges from 1310 to 2810 feet (400 to 855 meters). Blooms May-Jun.	No Potential. The Project Area does not contain vernal pools.	No further actions are recommended for this species.
Sonoma beardtongue <i>Penstemon newberryi</i> var. <i>sonomensis</i>	Rank 1B.3	Chaparral (rocky). Elevation ranges from 2300 to 4490 feet (700 to 1370 meters). Blooms Apr-Aug.	No Potential. The Project Area does not contain chaparral.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
Lobb's aquatic buttercup <i>Ranunculus lobbii</i>	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools/mesic. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.	Unlikely Potential. The Project Area does not contain saturated areas within the grasslands.	No further actions are recommended for this species.
green jewelflower <i>Streptanthus hesperidis</i>	Rank 1B.2	Chaparral (openings), cismontane woodland/serpentine, rocky. Elevation ranges from 430 to 2490 feet (130 to 760 meters). Blooms May-Jul.	No Potential. The Project Area does not contain chaparral or woodland with serpentine or rocky soils.	No further actions are recommended for this species.
Suisun Marsh aster <i>Symphyotrichum lentum</i>	Rank 1B.2	Marshes and swamps (brackish and freshwater). Elevation ranges from 0 to 10 feet (0 to 3 meters). Blooms (Apr), May-Nov.	No Potential. The Project Area does not contain marshes or swamps and is outside the elevation range of the species.	No further actions are recommended for this species.
Napa bluecurls <i>Trichostema ruygtii</i>	Rank 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 100 to 2230 feet (30 to 680 meters). Blooms Jun-Oct.	Unlikely Potential. The Project Area contains grassland however the grass is dense and tall, likely precluding the species. Additionally, the Project Area does not contain volcanic soils.	No further actions are recommended for this species.
two-fork clover <i>Trifolium amoenum</i>	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 20 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.	Unlikely Potential. The grasslands within the Project Area are tall and ruderal and do not represent typical habitat for the species.	No further actions are recommended for this species.

SPECIES	STATUS	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN THE PROJECT AREA	RESULTS
saline clover <i>Trifolium hydrophilum</i>	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 980 feet (0 to 300 meters). Blooms Apr-Jun.	Unlikely Potential. The Project Area does not contain alkaline grassland or swamps.	No further actions are recommended for this species.
dark-mouthed triteleia <i>Triteleia lugens</i>	Rank 4.3	Broadleafed upland forest, chaparral, coastal scrub, lower montane coniferous forest. Elevation ranges from 330 to 3280 feet (100 to 1000 meters). Blooms Apr-Jun.	Moderate Potential. The Project Area contains broadleafed upland forest within the elevation range of the species.	See section 4.2.1 for further discussion of this species. Recommendations for this species are also discussed in section 5.2.
oval-leaved viburnum <i>Viburnum ellipticum</i>	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 710 to 4590 feet (215 to 1400 meters). Blooms May-Jun.	Moderate Potential. The Project Area contains somewhat steep ravine that is heavily wooded with a dense understory which contains known associated species.	See section 4.2.1 for further discussion of this species. Recommendations for this species are also discussed in section 5.2.

FE	Federal Endangered
FT	Federal Threatened
FC	Federal Candidate
BCC	USFWS Birds of Conservation Concern
SE	State Endangered
ST	State Threatened
SSC	CDFW Species of Special Concern
SSI	CDFW Special-Status Invertebrate
CFP	CDFW Fully Protected Animal
WBWG	Western Bat Working Group High or Medium Priority species
Rank 1A	CRPR Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	CRPR Rank 1B: Plants rare, threatened or endangered in California and elsewhere
Rank 2B	CRPR Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)
CRPR Threat Ranks:	
.1	Seriously threatened
.2	Fairly threatened
.3	Not very threatened in California

Potential to Occur:

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Results and Recommendations:

Present. Species was observed on the site or has been recorded (i.e. CNDDDB, other reports) on the site recently.

Not Present. Species is assumed to not be present due to a lack of key habitat components.

Not Observed. Species was not observed during surveys.

APPENDIX C
REPRESENTATIVE PHOTOGRAPHS OF THE PROJECT AREA

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Photo 1. Wild oats grassland among mixed oak forest within the center section of the Project Area.



Photo 2. A patch of mature oaks and oak forest within the grasslands near the southern most portion of the Project Area. Planting of vineyard would encircle these oaks and none would be removed during construction.

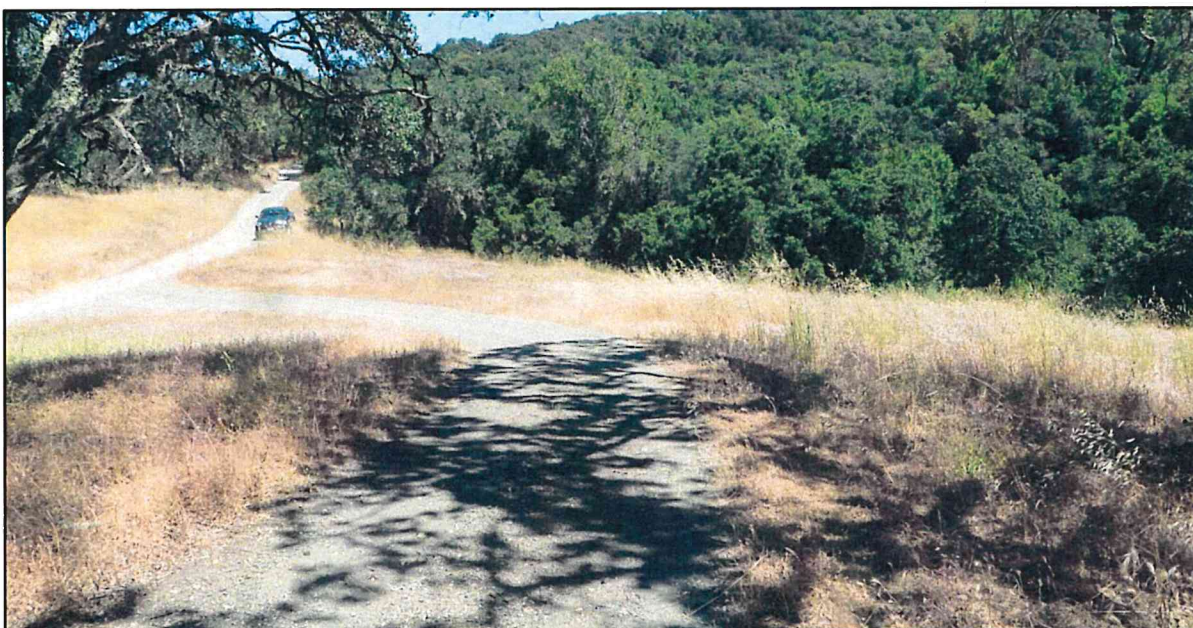


Photo 3. The grasslands to the right of the photo are proposed to be developed into vineyard. Vineyards will not encroach on or remove any of the oak forest seen within this photo.



Photo 4. Wild oats grasslands within the Project Area located near the northeast most portion of the Project Area.



Photo 5. Showing the diffuse light through the canopy of oak forest within areas adjacent to the northeastern most segment of the Project Area. These areas do not have the dense branch structure and dark enclosed forest typically used by NSOW during the nesting season; however other birds may nest in such structure.



Photo 6. An agricultural pond located just north of the Project Area. Ponds of this type are ideal for bats to drink from after emerging from day roosts.



Photo 7. Example of purple needle grass grassland. This biological community occurs in several small patches within the wild oats grasslands.



Photo 8. Photograph showing seasonal wetland located in a swale in the south east section of the Project Area.