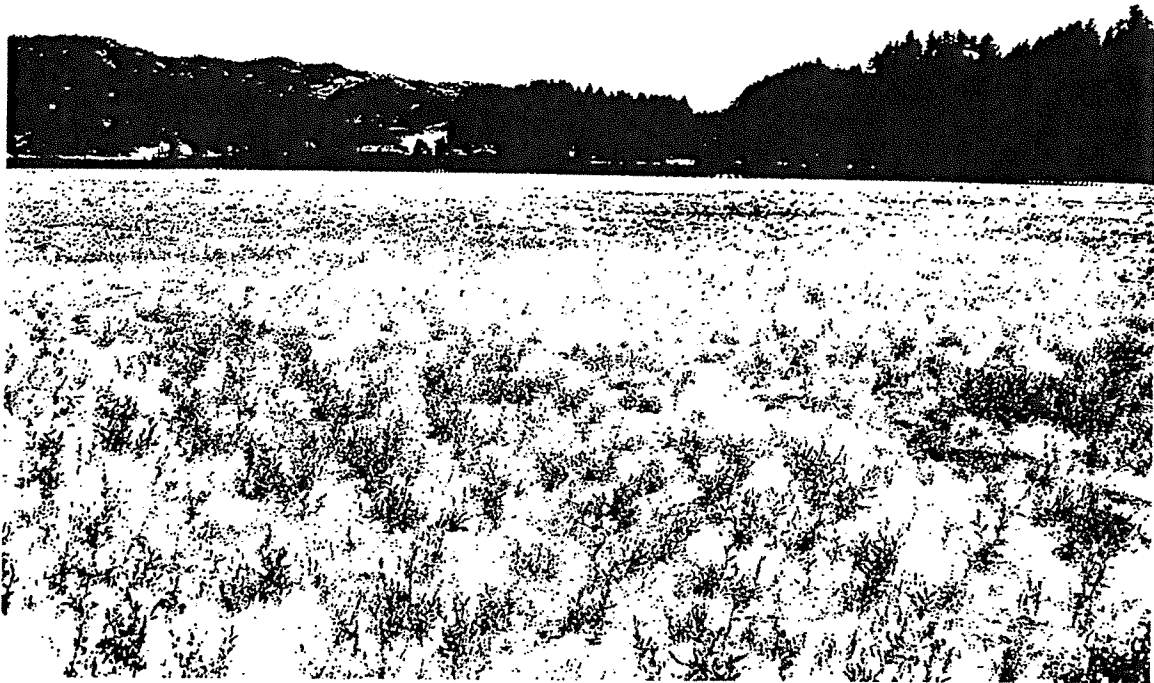


# **Biological Resource Survey**

**Girard Winery  
1077 Dunaweal Lane  
APN# 020-150-017  
Calistoga, CA**



**Prepared  
For**

**Girard Winery**

**By  
Kjeldsen Biological Consulting  
923 St. Helena Ave.  
Santa Rosa, CA 95404**

**July 2014**

# Biological Resource Survey

**Girard Winery**  
**1077 Dunaweal Lane**  
**APN# 020-150-017**  
**Calistoga, CA**

**PROJECT NAME:**

Girard Winery  
1077 Dunaweal Ln.  
Calistoga, CA  
Use Permit Application  
APN 022-150-017

**CIVIL ENGINEER:**

Always Engineering, Inc.  
2360 Professional Drive  
Santa Rosa, CA 95403

**PROJECT COORDINATOR:**

Heather McCollister  
(707) 287-5999  
bhmccolli@sbcglobal.net

**REPORT PREPARED BY:**

Kjeldsen Biological Consulting  
923 St. Helena Ave.  
Santa Rosa, CA 95404  
(707) 544-3091  
Fax:(707) 575-8030  
kjeldsen@sonic.net

**PERIOD OF STUDY:**

March –July 2014

# Biological Resource Survey

Girard Winery  
1077 Dunaweal Lane  
APN# 020-150-017  
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**Quadrangle**

# Biological Resource Survey

**Girard Winery  
1077 Dunaweal Lane  
APN# 020-150-017  
Calistoga, CA**

## Executive Summary

This study was conducted at the request of Heather McCollister, on behalf of the property owners, as background information for project permits from the Napa County Conservation, Development and Planning Department.

The project proposes a winery, access road, landscaping, parking areas, primary and reserve treated sanitary subsurface drip septic area and associated infrastructure. The property is approximately 26.53 acres. The total disturbed area of the project is 3.59 acres. The entire project is within a disturbed environment. The property is in Napa County located at 1077 Dunaweal Lane east of the city of Calistoga. The property is within the USGS Calistoga Quadrangle.

The purpose of this report is to identify biological resources that may be affected by the proposed project. The fieldwork studied the proposed project envelope, the property and adjoining environment. The findings presented below are the results of fieldwork conducted during the spring and summer of 2014 by Kjeldsen Biological Consulting:

- The project footprint is within a developed landscape. The winery is proposed for an area that was a vineyard that has been removed and prepped for replanting;
- The project as proposed will not have any direct impacts to Federal or State protected wetlands as defined by Section 404 of the Clean Water Act;
- The proposed project will not significantly reduce habitat for or have the potential to negatively impact any special-status plants or animals;
- No sensitive plants, sensitive plant habitat, or special-status plant species was identified on the property. We find that it is unlikely that the proposed project would impact any of the special-status plants known for the Quadrangle or the region based on our fieldwork, the habitat present and historic use within and associated with the project footprint;
- No sensitive animals, sensitive wildlife habitat, or special-status animal species was identified on the project site. We find that it is unlikely that the proposed project would impact any of the special-status animals known for the Quadrangle or the region based on our fieldwork, the habitat present and historic use within and associated with the project footprint;

- One juvenile Northwestern Pond Turtle was observed on the bank of the existing reservoir. There is no potential impact to this species associated with the project.
- No raptor activity or nests were observed on or near the proposed project site;
- No wildlife corridors will be impacted by the proposed project;
- There are no indications of the presence of Sensitive Natural Communities regulated by the California Department of Fish and Wildlife or US Fish and Wildlife within or directly associated with the project footprint;
- No native trees will be removed by the proposed project;
- The footprint of the project will not significantly contribute to habitat loss or habitat fragmentation; and
- The flora and fauna observed on and near the site are included as an Appendix.

### **Assessment of Impacts**

The project is within a developed landscape that has been in agriculture for decades. The property and project site conditions are such that there is no reason to expect any impacts to special-status species on site or off site provided Best Management Practices are implemented.

### **Recommendations**

The following recommended measures are presented to reduce potential biological impacts by the proposed project to a less than significant level pursuant to the California Environmental Quality Act.

Best Management Practices including silt and erosion control measures must be implemented to prevent off-site movement of sediment and dust during and post construction.

# Biological Resource Survey

## Girard Winery

1077 Dunaweal Lane  
Calistoga, CA

## A PROJECT DESCRIPTION

This study was conducted at the request of Heather McCollister on behalf the property owner. This study and report are provided as background information necessary for securing permits from Napa County Conservation, Development and Planning Department for the proposed project.

### **A.1 Introduction**

The project proposes a winery, access road, landscaping, parking areas, primary and reserve treated sanitary subsurface drip septic area and associated infrastructure. The property is approximately 26.53 acres. The total disturbed area of the project is 3.59 acres. The entire project is within a disturbed environment.

The property is in Napa County located at 1077 Dunaweal Lane east of the city of Calistoga. The property is within the USGS Calistoga Quadrangle. Plate I provides a site and location map of the property. Plate III provides an aerial photograph of the property. The attached Site Plan prepared by Always Engineering, Inc. Civil Engineering and Topographic Surveying illustrates the project (2/4/2014).

### **A.2 Background**

The surrounding land use consists of vineyards, residences, winery, and oak woodlands. The property is a rectangular shaped parcel within the Napa Valley floor. The parcel at present consists of a fallow field from which vineyard has been removed, reservoir, agricultural storage building, process wastewater ponds and associated infrastructure.

### **A.3 Purpose**

The purpose of this report is to identify biological resources that may be affected by the proposed project as listed below:

- To determine the presence of potential habitat for special-status species which would be impacted by the proposed project, including habitat types which may have the potential for supporting special-status species (target species that are known for the region, habitat, the Quadrangle and surrounding Quadrangles);
- To identify and assess potential impacts to Federal or State protected wetlands as defined by Section 404 of the Clean Water Act; and

- To determine if the project will substantially interfere with native wildlife species, wildlife corridors, and or native wildlife nursery sites;
- Identify any State or Federal biological permits required by the proposed project; and
- Recommend measures to reduce biological impacts to a less than significant level pursuant to the California Environmental Quality Act (CEQA).

#### **A.4 Definitions**

Definitions used in this report are attached in Appendix B.



## **B SURVEY METHODOLOGY**

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The purpose of the spring-summer floristic survey is to provide a faunal and floristic study of the project site with emphasis on any special-status animals, plants, unique plant populations and or critical habitat associated with the proposed project. The project scoping determined the extent of our surveys which ranged from March to July 2014.

### **B.1 Project Scoping**

The scoping for the project considered seasonal fieldwork, location and type of habitat and or vegetation types present on the property or associated with potential special-status plant species known for the Quadrangles, surrounding Quadrangles the County or the region. Our scoping also considered records in the most recent version of the Department of Fish and Wildlife California Natural Diversity Data Base (DFW CNDDDB Rare Find-3) and the California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Plants. "Target" special-status species are those listed by the State, the Federal Government or the California Native Plant Society or considered threatened in the region. Our scoping is also a function of our familiarity with the local flora and fauna as well as previous projects on other properties in the area.

Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such.

Tables II and III present DFW CNDDDB Rare Find species and U.S. Fish and Wildlife Service listed species for the Quadrangle and surrounding Quadrangles.

### **B.2 Field Survey Methodology**

Our studies were made by walking transects through and around the project site. Our fieldwork focused on locating suitable habitat for organisms or indications that such habitat exists on the site. Digital photographs were taken during our studies to document conditions and selected photographs are included within this report. A floristic and seasonally appropriate survey was conducted in the field at the time of year when rare, threatened, or endangered species are both evident and identifiable for all the species expected to occur within the Study Area.

**Plants** Field surveys were conducted recording identifying all species on the site and in the near proximity. Transects through the proposed project sites were made methodically by foot. Transects were established and scrutinized to cover topographic and vegetation variations within the study area. The Intuitive Controlled approach calls for the qualified surveyor to conduct a survey of the area by walking through it and around its perimeters, and closely examining portions where target species are especially likely to occur. The open nature of the site, historic and on going agricultural practices, and small size of the proposed development footprint

facilitated our field studies. All plant life was recorded in field notes and is presented in Appendix A

The fieldwork for identifying special-status plant species is based on our knowledge and many years of experience in conducting special-status plant species surveys in the region. Plants were identified in the field or reference material was collected, when necessary, for verification using laboratory examination with a binocular microscope and reference materials. Herbarium specimens from plants collected on the project site were made when relevant. Voucher material for selected individuals is in the possession of the authors. All plants observed (living and/or remains from last season's growth) were recorded in field notes.

Typically, blooming examples are required for identification however; it is not the only method for identifying the presence of or excluding the possibility of rare plants. Vegetative morphology and dried flower or fruit morphology, which may persist long after the blooming period, may also be used. Skeletal remains from previous season's growth can also be used for identification. Some species do not flower each year or only flower at maturity and therefore must be identified from vegetative characteristics. Algae, fungi, mosses, lichens, ferns, Lycophyta and Sphenophyta have no flowers and there are representatives from these groups that are now considered to be special-status species, which require non-blooming identification. For some plants unique features such as the aromatic oils present are key indicator. For some trees and shrubs with unique vegetative characteristics flowering is not needed for proper identification. The vegetative evaluation as a function of field experience can be used to identify species outside of the blooming period to verify or exclude the possibility of special-status plants in a study area.

Habitat is also a key characteristic for consideration of special-status species in a study area. Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years. A site evaluation based on habitat or environmental conditions is therefore a reliable method for including or excluding the possibility of special-status species in an area.

**Animals** were identified in the field by their sight, sign, or call. Our field techniques consisted of surveying the area with binoculars and walking the perimeter of the project site. Existing site conditions were used to identify habitat, which could potentially support special-status animal species. All animal life was recorded in field notes and is presented in Appendix A.

Trees were surveyed to determine whether occupied raptor nests were present within the proximity of the project site (i.e., within a minimum 500 feet of the areas to be disturbed). Surveys consisted of scanning the trees on the property (500 ft +) with binoculars searching for nest or bird activity. Our search was conducted from the property and by walking under existing trees looking for droppings or nest scatter from nests that may be present that were not observable by binoculars.

Aerial photos were reviewed to look at the habitat surrounding the site and the potential for wildlife movement, or wildlife corridors from adjoining properties onto or through the site.

**Wetlands** The project site was reviewed to determine from existing environmental conditions with a combination of vegetation, soils, and hydrologic information if seasonal wetlands were present. Wetlands were evaluated using the ACOE's three-parameter approach: Vegetation, Hydrology, and Soils.

**Tributaries to Waters of the US** are determined by the evaluation of continuity and “ordinary high water mark.” The ordinary high water mark is determined based on the top of scour marks and high flow impacts on vegetation.

The area surveyed is shown on Plate III.

**Table I. Time and Date of Field Work for Spring and Summer 2014**

<b>Date</b>	<b>Personnel</b>	<b>Person-hr.</b>	<b>Time</b>	<b>Conditions</b>
March 13, 2014	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	11:15 to 12:15	Clear, clear cool temperatures.
April 25, 2014	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	11:00 to 12:00	Overcast, no wind, with mild temperatures.
May 8, 2014	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	12:00 to 13:00	Clear, windy with warm temperatures.
July 22, 2014	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	13:00 to 14:00	Clear, no wind, with warm temperatures.

## **C RESULTS / FINDINGS**

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### **C.1 Biological Setting**

The study site is located in Napa County within the upper Napa Valley. The parcel drains by direct infiltration or sheet flow into roadside ditches and unnamed tributaries of the Napa River. The proposed winery and support facilities are within a developed landscape (hardscape) and the wastewater disposal system is to be located within fallow agricultural lands (vineyard has been removed) (see Plate I for Location). Figures 1 to 5 illustrate the site conditions.

The property is within the inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province (Hickman, 1993). The property and surrounding region is strongly influenced storms and fog from the Pacific Ocean. The region is in climate Zone 14 "Ocean influenced Northern and Central California" characterized as an inland area with ocean or cold air influence. The climate of the region is characterized by hot, dry summers and cool, wet winters, with precipitation that varies regionally from less than 30 to more than 60 inches per year. This climate regime is referred to as a "Mediterranean Climate." The average annual temperature ranges from 45 to 90 degrees Fahrenheit. The variations of abiotic conditions including geology results in a high level of biological diversity per unit area in the region.

Our survey focused on the areas proposed project footprint, irrigation wastewater site, and immediate surrounding habitat. The aerial photo illustrates the site (Plate III) and the photographs that follow further document existing conditions of the project sites.

### **C.2 Habitat Types Present**

The vegetation of California has been considered to be a mosaic with major changes present from one area to another often with distinct vegetation changes within short distances. It is generally convenient to refer to the vegetation associates on a site as a plant community or alliance. Typically plant communities or vegetation alliances are identified or characterized by the dominant vegetation form or plant species present. There have been numerous community classification schemes proposed by different authors using different systems for the classification of vegetation. A basic premise for the designation of plant communities, associations or alliances is that in nature there are distinct plant populations occupying a site that are stable at any one time (climax community is a biotic association, that in the absence of disturbance maintains a stable assemblage over long periods of time).

In general terminology one would refer to the habitat on the property as Ruderal Grassland (agricultural land that has been routinely maintained), and hardscape with some landscape plantings. The dominant land cover types on the project site consist of non-native weeds. In the sections below the habitat types present are described and further categorized with the new system of vegetation classification by Sawyer *et al* A Manual of California Vegetation Second Edition. Sawyer classifies the vegetation on the property as Grassland Semi-natural Stands with Herbaceous Layer Sawyer does not classify hardscape or landscape plantings. This classification is the presently preferred system that over time will replace existing classification systems.

Annual Semi-Natural Herbaceous Grassland Stands present as “weeds” within the agricultural lands of the property (this area can also be classified as “ruderal habitat” which reflects the abundance of non-native annuals as a result of the agricultural disturbance).

### **Ruderal-Grassland Semi-Natural Herbaceous Stands with Herbaceous Layer (Annual Grasslands)**

Semi-Natural Herbaceous Grasslands are a result of decades of agriculture and the introduction of non-native grasses and herbs. Sawyer uses the term “Semi-natural Stands to refer to non-native introduced plants that have become established and coexist with native species. This includes what can be termed weeds, aliens, exotics or invasive plants in agricultural and nonagricultural settings. The Semi-natural Herbaceous Stands cannot be mapped due to the small size but if one searches the site one can find small patches of the following;

*Avena* ssp. Semi-natural Herbaceous Stand, Wild oats grasslands. The membership rules require *Avena* ssp. to be > 50% relative cover of the herbaceous layer. Semi-natural stands are those dominated by non-native species that have become naturalized primarily as a result of historic agricultural practices and fire suppression or management practices for weed abatement and fire suppression.

*Bromus diandrus* Semi-Natural Herbaceous Stands Annual brome grassland; (Membership Rules *Bromus diandrus* >60% relative cover with other non-natives in the herbaceous layer). *Bromus diandrus* is dominant or co-dominant with non-native in the herbaceous layer. Emergent trees and shrubs may be present at low cover Herbs < 75 cm tall are intermittent to continuous. Ripgut brome is an annual grass from Eurasia. This alliance accounts for the largest acreage of grassland vegetation in cismontane California. Stands in our area contain *Aria caryophylla*, *Cynosurus echinatus*, *Dichelostemma multiflorum*, *Erodium botrys*, *Limnanthes douglasii*, *Taeniantherum caput-medusae*, and *Baccharis pilularis* shrubs.

*Lolium perenne* Semi-Natural Herbaceous Stands Perennial Rye Grass Field; (Membership Rules *Lolium perenne* > %50 relative cover, native plants < 15% relative cover). *Lolium perenne* is a non-native grass from Europe introduced into temperate regions throughout the world. It is an annual or a perennial, cool-season bunch grass.

### **Wildlife Associated with Semi-natural Grasslands**

Semi-natural Grasslands with Herbaceous Layer (annual ruderal non-native grasslands) within the study area provide habitat for a variety of birds and Mammals. The vegetation present provides browse for deer (*Odocoileus hemionus*), cover and foraging habitat for mice and voles (*Peromyscus* ssp., *Reithrodontomys* ssp., *Microtus* ssp.), habitat for Pocket Gophers *Thomomys bottae*, foraging habitat for Broad-footed Moles (*Scapanus latimanus*), foraging and habitat for shrews, and cover and foraging habitat for Black-tailed Jackrabbit (*Lepus californicus*). Numerous bird species forage for insects and seeds in these grasslands. Bats will forage for insects over this area and raptors will feed on reptiles and mammals in this type of vegetation cover. In general, however, the non-native annual grasslands, such as are present on the study site, are not an optimum habitat for wildlife.

## **Developed Hardscape with Landscape Plantings**

This occupies a portion of the property and is visible on the aerial photograph. It consists of agricultural buildings, access roads, parking area, reservoir and process water treatment ponds not part of this project.



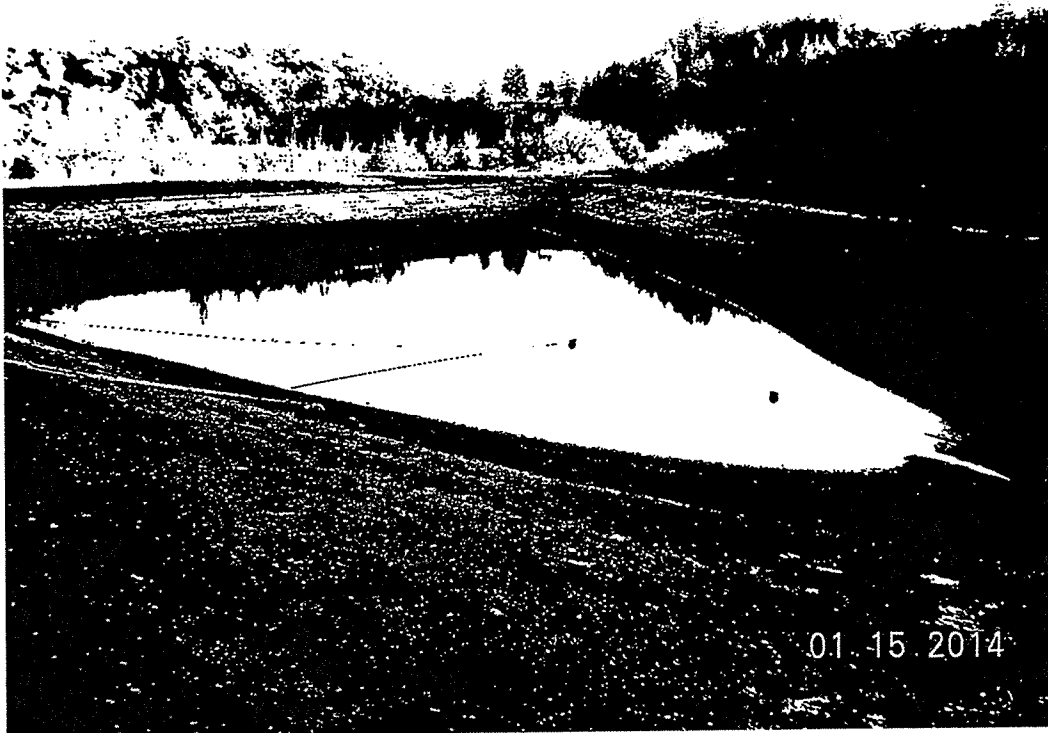
**Figure 1.** Fallow vineyard that has been disked. Proposed Winery Site.



Figure 2. View of proposed winery site.



Figure 3. View of Dunaweal Lane and the location of proposed winery entrance.



**Figure 4.** Existing vineyard reservoir. Pond turtle observed.



**Figure 5.** Created drainage swale adjacent to the waste water ponds.



The aerial photograph, Plate III illustrates the site and the surrounding environment. The environmental setting of the project site consists of:

- On the north side of the project – Vineyard, Rural Residential;
- On the east side of the project – Rural Residential and Riparian Corridor of Napa River;
- On the south side of the project – Vineyards; and
- On the west side of the project - State Highway 29.

The dominant land cover types in the vicinity of the property consist of vineyards followed by riparian corridor and on the edge of the valley floor, and Conifer Oak Woodland (Forest or Woodland Alliance)

Drainage on the site is by sheet flow into seasonal unnamed tributaries of the Napa River, and thence San Pablo Bay.

Napa County Definition for a Defined Drainages is a watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey maps most recently published, or any replacement to that symbol, and or any watercourse which has a well-defined channel with a depth greater than four feet and banks steeper than 3:1 and contains hydrophilic vegetation, riparian vegetation or woody-vegetation including tree species greater than ten feet in height.

There is a created drainage swale adjacent to the eastern property line. This swale would be not be considered a Napa County Defined Drainages. There are no direct impacts to this drainage associated with the proposed winery site or wastewater irrigation area.

### **C.3 Special-Status Species**

Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, endangered, or threatened. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such.

A map from the DFW CNDDDB Rare Find shows known special-status species in the proximity of the project as shown on Plate II. These taxa as well as those listed in Appendix C Special-status Species known for the Quadrangle and Surrounding Quadrangles were considered and reviewed as part of our scoping for the project site and property. Reference sites were reviewed as part of our scoping for some of the species.

Tables II and III below provides a list of species that are known to occur DFW CNDDDB Rare Find search) and U.S Fish and Wildlife Service. The table includes an analysis / justification for concluding absence.

**Table II.** Analysis of DFW CNDDDB and USFWS special-status plant species from the region. Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence.
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	Cismontane woodland, Valley & Foothill Grassland/Clay often Serpentine	No	May- June	No	Absence of requisite edaphic conditions. Historic use precludes presence.
<i>Amorpha californica</i> var. <i>napensis</i> Napa False Indigo	Cismontane Woodland	No	April- July	No	Requisite habitat, exposure and historic land use preclude presence on project site.
<i>Amsinkia lunularis</i> Bent-flowered Fiddleneck	Cismontane Woodland, Valley & Foothill Grassland, 3 to 500 M	No	March- June	No	Potential for project site. No indications for presence during our fieldwork. Historic use precludes presence.
<i>Arctostaphylos</i> <i>stanfordiana</i> ssp. <i>decumbans</i> Rincon Manzanita	Chaparral, Lower Montane Coniferous Forest (openings), Rocky, often Serpentine	No	Feb.- April	No	Absence of requisite habitat and vegetation associates on the site or in the immediate vicinity.
<i>Astragalus claranus</i> Clara Hunt's Milk- vetch	Chaparral, Cismontane Woodland, Valley and Foothill Grassland	No	March- May	No	Absence of requisite micro-habitat, vegetation associates and historic land use precludes presence. Lack of finding during our fieldwork.
<i>Astragalus rattanii</i> var. <i>jepsonianus</i> Jepson's Milk-vetch	Cismontane Woodland, Valley & Foothill Grassland	No	April- June	No	Requisite habitat absent on the site or in the immediate vicinity. Historic use precludes presence.

Table II Continued Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence
<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i> Big-scale Balsamroot	Chaparral, Cismontane Woodland, Valley & Foothill Grassland	No	March- June	No	Historic use of site precludes presence.
<i>Blennosperma bakeri</i> Sonoma Sunshine	Valley & Foothill Grassland, Vernal Pools	No	March- May	No	Absence of requisite mesic habitat.
<i>Brodiaea leptandra</i> Narrow-anthered California Brodiaea	Cismontane Woodland	No	May- June	No	Requisite habitat, exposure and historic land use preclude presence on project site.
<i>Ceanothus confusus</i> Rincon Ridge Ceanothus	Closed Cone Conifer Forests, Chaparral	No	Feb.- April	No	Absence of typical habitat and vegetation associates.
<i>Ceanothus divergens</i> Calistoga Ceanothus	Chaparral, Serpentinite or Volcanic-Rocky.	No	May- Sept.	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
<i>Ceanothus purpureus</i> Holly-leaved Ceanothus	Chaparral	No	March- May	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose Tarplant	Grassland Salt or Alkaline Marshes	No	March- June	No	Requisite mesic conditions absent. Lack of finding during our fieldwork.
<i>Eryngium constancei</i> Loch Lomond Button- celery	Vernal Pools	No	April- June	No	Absence of mesic conditions required for presence. Lack of finding during our fieldwork.

Table II Continued Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence
<i>Downingia pusilla</i> Dwarf Downingia	Wetlands	No	March May	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
<i>Fritillaria liliacea</i> Fragrant Fritillary	Open Grasslands	No	Feb.- April	No	Absence of edaphic conditions required for presence.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> White Seaside Tarplant	Coastal Scrub, Valley & Foothill Grassland	No	April Oct.	No	Absence of requisite habitat. Historic use precludes presence.
<i>Juncus luciensis</i> Santa Lucia Dwarf Rush	Seeps, Meadows, Vernal Pools, Stream Sides	No	April- June	No	Absence of requisite mesic habitat.
<i>Lasthenia burkei</i> Burke's Goldfields	Vernal Pools	No	April - June	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
<i>Layia septentrionalis</i> Colusa Layia	Cismontane Woodland, Valley and Foothill Grassland, Serpentine	No	April- May	No	Historic agricultural use and hardscape as well as absence of requisite edaphic conditions preclude presence.
<i>Leptosiphon jepsonii</i> Jepson's Leptosiphon	Chaparral, Cismontane Woodland, Valley and Foothill Grassland	No	April- May	No	Requisite habitat absent on the site or in the immediate vicinity. Lack of finding during our fieldwork.
<i>Limnanthes floccosea</i> ssp. <i>floccosa</i> Woolly Meadowfoam	Meadows & Seeps, Valley & Foothill Grassland, Cismontane Woodland, Vernal Pools.	No	April- May	No	Requisite mesic habitat absent on the site or in the immediate vicinity.

Table II Continued Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence
<i>Limnanthes vinculans</i> Sebastopol Meadowfoam	Meadows and Seeps, Valley and Foothill Grassland, Vernal Pools.	No	April- May	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
<i>Lupinus sericatus</i> Cobb Mountain Lupine	Broadleaved Upland Forest, Chaparral, Cismontane Woodland	No	March- June	No	Absence of requisite vegetation associates as well as historical use of project site precludes presence. Lack of finding during our fieldwork.
<i>Microsris paludosa</i> Marsh Microseris	Moist areas Closed Cone Conifer Forests, Cismontane Woodland, Valley & Foothill Grassland	No	April- June	No	Absence of typical habitat and vegetation associates. Historic use precludes presence.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's Navarretia	Meadows and Seeps, Cismontane Woodland, Valley and Foothill Grassland, Vernal Pools	No	May- July	No	Absence of typical habitat and vegetation associates. Historic use precludes presence..
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma Beardtongue	Cismontane Woodland	No	April- Aug.	No	Absence of typical habitat and vegetation associates.
<i>Plagiobothrys strictus</i> Calistoga Popcorn- flower	Vernal pools near thermal springs	No	March- June	No	Requisite mesic habitat absent on the site or in the immediate vicinity.
<i>Poa napensis</i> Napa Blue Grass	Meadows near Hot Springs	No	May- Aug.	No	Requisite mesic habitat absent on the site or in the immediate vicinity. Lack of finding during our fieldwork.

Table II Continued Scientific Name Common Name	Species Habitat Association or Plant Community	Habitat present on Project Site	Bloom Time	Obs. on or Near Site	Analysis of habitat on project site for presence or absence
<i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa Checkerbloom	Chaparral Serpentine	No	May- June	No	Absence of typical habitat and vegetation associates. Lack of finding during our fieldwork.
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i> Marsh Checkerbloom	Meadows and seeps, Riparian scrub mesic	No	June- Aug.	No	Requisite mesic habitat absent.
<i>Trifolium amoenum</i> Showy Rancheria Clover	Coastal Bluff Scrub, Valley & Foothill Grassland (Sometimes Serpentine)	No	April- June	No	Historic use of the site precludes presence. This species is vulnerable to disturbance and livestock grazing.
<i>Trifolium hydrophilum</i> Saline Clover	Marshes and Swamps Grassland	No	April- June	No	Absence of mesic habitat required for presence.
<i>Trichostema ruygtii</i> Napa Bluecurls, Vinegar Weed	Grassland	No	No	June- Aug.	Requisite habitat absent on the site. Historic use of the site precludes presence.
<i>Triquetrella californica</i> Coastal Triquetrella	Endemic To Coastal California < 30 Miles. Thin Soil On Outcrops In Scrub Or Grassland	No	NA	No	Lack of appropriate habitat for this moss.

**Table III.** Analysis of animal species that are known to occur (DFW CNDDDB Rare Find search). Columns are arranged alphabetically by scientific name.

Scientific Name Common Name	Habitat	Potential for Property	Obs. on Project Site	Analysis of habitat on project site for presence or absence.
<i>Accipter sriatus</i> Sharp-Shinned Hawk	Avian prey, Nests in conifers or tops of live oaks	Yes	No	Lack of habitat for prey. May fly over
<i>Ambystoma californiense</i> California Tiger Salamander	Ephemeral Breeding pools with upland oak woodlands for estivation	No	No	No breeding or upland habitat. Surrounded by development
<i>Antrozous pallidus</i> Pallid Bat	Roosts in Buildings and Overhangs, woodlands	No	No	No evidence for presence observed.
<i>Buteo swainsoni</i> Swainson's Hawk	Open areas with riparian influence	No	No	Lack of nesting habitat.
<i>Corynorhinus townsendii</i> Townsend's Big-eared Bat	Caves, also in Buildings	No	No	No roosting habitat present
<i>Elanus leucurus</i> White-tailed Kite	Nests in tall trees near water	No	No	Requisite habitat absent.
<i>Emys marmorata</i> Western Pond Turtle	Slow moving water or ponds	Yes	Yes	No habitat on project site. Observed in reservoir off site.
<i>Falco mexicanus</i> Prairie Falcon	Nests on cliffs	No	No	May fly over. Lack of habitat for nesting and feeding.
<i>Falco peregrinus anatum</i> American Peregrine Falcon	Nests on cliffs	No	No	May fly over. Lack of habitat for nesting and feeding.
<i>Hypomesus transpacificus</i> Delta Smelt	California Delta	No	No	Lack of aquatic habitat.

Table III Continued Scientific Name Common Name	Habitat	Potential for Property	Obs. or Potential for Project Site	Analysis of habitat on project site for presence or absence.
<i>Hysteroecarpus traski</i> <i>pomo</i> Russian River Tule Perch	Riverine	No	No	Requisite habitat absent on project site.
<i>Hydrochara rickseckeri</i> Ricksecker's Water Scavenger Beetle	Shallow Water	No	No	Requisite habitat absent on project site.
<i>Hydroporus leechi</i> Leech's Skyline Diving Beetle	Ponds	No	No	Requisite habitat absent on project site.
<i>Lavinia symmetricus</i> <i>navarroensis</i> Navarro Roach	Riverine	No	No	Lack of habitat.
<i>Myotis thysanodes</i> Fringed Myotis	Montane Forests or Montane Meadows	Yes	No	No evidence for presence observed during our fieldwork.
<i>Oncorhynchus kisutch</i> Coho Salmon-Central California Coast ESU	Aquatic	No	No	Lack of habitat.
<i>Oncorhynchus mykiss</i> <i>irideus</i> Steelhead-central California Coast	Aquatic	No	No	Potential for presence in Napa River. No aquatic impacts. Habitat not associated with the proposed project.
<i>Oncorhynchus tshawytschwa</i> California Coastal Chinook Salmon	Aquatic	No	No	Lack of habitat.
<i>Progne subis</i> Purple Martin	Cavity nesters. Like open areas near water.	No	No	Habitat associated with proposed project is unlikely to contain feeding or nesting potential.
<i>Rana boylei</i> Foothill Yellow-legged Frog	Streams with pools	No	No	Potential for presence in Napa River. Unlikely to occur on project site.
<i>Rana draytonii</i> California Red-legged Frog	Creeks, Rivers, permanent flowing water.	No	No	Requisite habitat absent on project site.
<i>Strix occidentalis</i> <i>caurina</i> Northern Spotted Owl	Old growth, forested deep canyons.	No	No	Requisite habitat absent. Not associated with project.



Scientific Name Common Name	Habitat	Potential for Property	Obs. or Potential for Project Site	Analysis of habitat on project site for presence or absence.
<i>Stygobromus cherylae</i> Barr's Amphipod	Aquatic	No	No	Requisite habitat absent on project site.
<i>Syncaris pacifica</i> California Freshwater Shrimp	Creeks and Estuaries below 300 ft.	No	No	Requisite habitat required for presence lacking.
<i>Taxidea taxus</i> American Badger	Grasslands with food source of ground squirrels	No	No	Absence of food sources required for presence. No burrows observed

#### C.4 Discussion of Sensitive Habitat Types

The Napa County Baseline Data Report defines Biotic communities as the characteristic assemblages of plants and animals that are found in a given range of soil, climate, and topographic conditions across a region. Sensitive biotic communities in the County were identified using a two-step process for the Napa County Baseline Data Report. The two steps were:

1. *An existing list of sensitive biotic communities prepared by the California Department of Fish and Wildlife (DFW) (2003a) was first reviewed by senior Jones & Stokes biologists, and those communities that may occur in the County were identified. Because the community names in the DFW list (2003a) did not correspond directly with the names used in the Land Cover Layer, a determination was made as to which land cover types on the Land Cover Layer correspond to the communities on the DFW list.*

2. *The aerial extent of each land cover types mapped in the County was generated from the land cover layer. Those biotic communities with an areal extent of less than 500 acres in the County (approximately 0.1% of the County) were identified. These communities were discussed with local experts and their conservation importance established. Those that were not already on the original DFW list and that were determined to be worthy of conservation were added to the list.*

*The Napa County Baseline Data Report as well as the California Department of Fish and Wildlife Natural Diversity Data Base (DFW CNDDDB) lists recognized Sensitive Biotic Communities. The Napa County Baseline Data Report lists twenty-three communities which are considered sensitive by DFW due to their rarity, high biological diversity, and/or susceptibility to disturbance or destruction. The CNDDDB communities in Napa County are the following:*

*Serpentine bunchgrass grassland,  
Wildflower field (located within native grassland),  
Creeping ryegrass grassland,  
Purple Needlegrass grassland,  
One-sided bluegrass grassland,  
Mixed serpentine chaparral,*

*McNab cypress woodland,  
Oregon white oak woodland,  
California bay forests and woodlands,  
Fremont cottonwood riparian forests,  
Arroyo willow riparian forests,  
Black willow riparian forests,  
Pacific willow riparian forests,  
Red willow riparian forests,  
Narrow willow riparian forests,  
Mixed willow riparian forests,  
Sargent cypress woodland,  
Douglas-fir-ponderosa pine forest (old-growth),  
Redwood forest,  
Coastal and valley freshwater marsh,  
Coastal brackish marsh,  
Northern coastal salt marsh, and  
Northern vernal pool.*

*Napa County biotic communities of limited distribution that are sensitive include:*

*Native grassland;  
Tanbark oak alliance;  
Brewer willow alliance;  
Ponderosa pine alliance;  
Riverine, lacustrine, and tidal mudflats; and  
Wet meadow grasses super alliance.*

The grasslands within the footprint of the project do not consist of any of the sensitive grassland communities listed by the County Baseline Data Report of DFW.

The California Department of Fish and Wildlife Natural Diversity Database five-mile search shows that Serpentine Bunchgrass and Valley Needlegrass Grassland are present near the project site. There are no marshes or wetlands associated with the project footprint or the property.

## **D. POTENTIAL BIOLOGICAL IMPACTS**

The project's effect on onsite or regional biological resources is considered to be significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. serpentine habitat, wetlands, riparian habitat);
- Adverse impacts to special-status plant and animal species;
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. sensitive biotic communities, special status habitats; e.g. wetlands);
- Loss of critical breeding, feeding or roosting habitat; and
- Interference with migratory routes or habitat connectivity.

In the sections below a discussion of potential impacts of the project on the biological resources is presented.

### **D.1 Analysis of Potential Impacts to Special-status Species**

The proposed project is primarily within a previously developed landscape. There is no reason to expect any impacts to special-status species provided BMP's.

**Western Pond Turtle (*Emys marmorata*)** The pond turtle is found throughout California and is listed by the State as a Species of Concern. It does not have Federal status. Suitable habitat consists of any permanent or nearly permanent body of water or slow moving stream with suitable refuge, basking sites and nesting sites. Refuge sites include partially submerged logs or rocks or mats of floating vegetation. Basking sites can be partially submerged rocks or logs, as well as shallow-sloping banks with little or no cover. Nesting occurs in sandy banks or in soils up to 100 meters away from aquatic habitat.

It is unlikely that turtles would move in the area proposed for winery site. The disturbed area and vineyard do not provide potential nesting habitat, due to soil compaction dry ground with no cover or vegetated cover. Turtles most likely have moved in from the adjacent pond southeast of the property.

The **Calistoga Popcorn-Flower (*Plagiobothrys strictus*)** is shown with a confidence interval that overlaps that of the study area. This is a species that is limited in nature and is historically known from sites on the west side of State Highway 29. It is associated with geothermal springs or swales in clay loam soil. There is no habitat on the property that would support this species. We found no evidence that would indicate any potential for presence on the property. The other species known for the quadrangle and surrounding quadrangles and those listed in the table above are reasonably precluded by the historic use of the property and the hardscape present.

**Pallid Bat (*Antrozous pallidus*):** The Pallid Bat occupies a wide variety of habitats, such as grasslands, shrublands, and forested areas of oak and pine, but prefer rocky outcrops with desert scrub. The pallid bat roosts in caves, mines, crevices, and occasionally in hollow trees or buildings.

They forage over open country and within woodlands. No roosts or evidence of their presence was observed within the proposed project area potential. . The project and property do not contain potential roosting habitat.

**Northern Spotted Owl (*Strix occidentalis caurina*):** Northern spotted owls require mature forest patches with permanent water and suitable nesting trees and snags (Zeiner et al. 1990a). Northern spotted owls use dense, old-growth forests, or mid- to late- seral stage forests, with a multi-layered canopy for breeding (Remsen 1978). Mixed conifer, redwood, and Douglas-fir habitats are required for nesting and roosting. The project and property do not contain potential nesting habitat and the project sited do not contain potential foraging habitat.

Our fieldwork did not find any habitat for any special-status animal species known for the Quadrangle surrounding Quadrangles or for the region that would be impacted by the proposed project. The present conditions of the project site and historic use is such that there is little reason to expect the occurrence of any special-status animal species on the property or within the footprint of the project.

Habitat impacted by the proposed project is such that it will not substantially reduce or restrict the range of listed animals.

## **D.2 Analysis of Potential Impacts on Sensitive Habitat**

There are no DFW Sensitive Communities or Napa County Sensitive Biotic Communities present on project site. The project footprint is primarily within a historically developed landscape.

**Native Grassland** - The project will not impact any populations of native grasslands.

**Seasonal Wetland** generally denotes areas where the soil is seasonally saturated and/or inundated by fresh water for a significant portion of the wet season, and then seasonally dry during the dry season. To be classified as “Wetland,” the duration of saturation and/or inundation must be long enough to cause the soils and vegetation to become altered and adapted to the wetland conditions. Varying degrees of pooling or ponding, and saturation will produce different edaphic and vegetative responses. These soil and vegetative clues, as well as hydrological features, are used to define the wetland type. Seasonal wetlands typically take the form of shallow depressions and swales that may be intermixed with a variety of upland habitat types. Seasonal wetlands fall under the jurisdiction of the U.S. Army Corps of Engineers. There are no potential seasonal wetlands or vernal pools associated with the project footprint.

“**Waters of the State**” include drainages which are characterized by the presence of definable bed and bank that meet ACOE, and RWQCB definitions and or jurisdiction. Any direct discharge of storm water into “Waters of the State” will require ACOE, DFW, and RWQCB permits. There are no drainages or creeks associated with the project.

**Riparian Vegetation** is by all standards considered sensitive. Riparian Vegetation functions to control water temperature, regulate nutrient supply (biofilters), bank stabilization, rate of runoff, wildlife habitat (shelter and food), release of allochthonous material, release of woody debris which functions as habitat and slow nutrient release, and protection for aquatic organisms.

Riparian vegetation is also a moderator of water temperature has a cascade effect in that it relates to oxygen availability. The project will not impact any riparian vegetation.

**Trees** The project will not remove any native trees. Domestic walnuts along Dunaweal Lane will be removed by the proposed entrance.

### **Wildlife Habitat and Wildlife Corridors**

Are natural areas interspersed with developed areas are important for animal movement, increasing genetic variation in plant and animal populations, reduction of population fluctuations, and retention of predators of agricultural pests and for movement of wildlife and plant populations. Wildlife corridors have been demonstrated to not only increase the range of vertebrates including avifauna between patches of habitat but also facilitate two key plant-animal interactions: pollination and seed dispersal. Corridor users can be grouped into two types: passage species and corridor dwellers. The data from various studies indicate that corridors should be at least 100 feet wide to provide adequate movement for passage species and corridor dwellers in the landscape. There are no identifiable wildlife corridors through the property.

### **Raptor Nests, Bird Rookeries, Bat Roosts, Wildlife Dens or Burrows**

No raptor nests were identified during our survey. We found no indications of nesting raptors on the property or in the near vicinity of the project sites. We did not observe any nests, whitewash or nest droppings, perching associated with the project site or trees along Dunaweal lane or adjoining parcels. No bird rookeries were present on the property or within the project footprint.

Very few burrows were observed, but small mammals and songbirds likely utilize habitats on the project site for foraging and cover. No significant wildlife dens or burrows were observed.

### **Unique Species that are Endemic, Rare or Atypical for the Area**

No unique or unusual populations of plants or animals were present on the property or the project site.

The flora and fauna present are typical for the developed landscape of the region. There were no unique species, endemic populations of plants or animals or species that are rare or atypical for the area present on the project site or property.

### **Habitat Fragmentation**

The proposed project is within a historically developed landscape. The project will not result in habitat fragmentation.

## **D.3 Potential Off-site Impacts of the Project**

There is no expected impact to biological resources by the proposed project. BMP's during development of the site will prevent any significant off-site impacts.

#### **D.4 Potential Cumulative Impacts**

Cumulative biological effects are the result of incremental losses of biological resources within a region. The site location, historic development and use of the area within the footprint of the project negate the potential for cumulative biological resource effects. The project development is proposed for an area of the property that has had a long historic use. There is nothing to indicate that there will be any cumulative biological impacts of the project provided.

#### **D.5 State and Federal Permit**

Any impact to wetlands or drainages will require agency consultation and permits from the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and Regional Water Quality Control Boards for impacts to "Waters of the State."

The project as proposed will not impact any wetlands or seasonal drainages.

## **E. RECOMMENDATIONS TO AVOID IMPACTS**

### **E.1 Significance**

The significance of potential impacts is a function of the scope and scale of the proposed project within the existing Federal, State and Local regulations and management practices. The determination of significance of impacts to biological resources consists of an understanding of the project as proposed and an evaluation of the context in which the impact may occur. The extent and degree of any impact on-site or off-site must be evaluated consistent with known or expected site conditions. Therefore, the significance of potential impacts is assessed relevant to a site-specific scale and the larger regional context.

### **E.2 Recommendations**

The historic use of the property and project site conditions are such that there is no reason to expect any impacts to special-status species on-site or off-site provided standard construction practices are utilized. The project must comply with Napa County SWPPP requirements to ensure that best management practices are adopted in order to minimize the amount of sediment and other pollutants leaving the site during construction activities.

## **F. SUMMARY**

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This study is provided as background information necessary for evaluating potential impacts of the project on local Biological Resources.

We find that the proposed project following BMPs will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The site is primarily developed landscape, and the history of use reasonably preclude presence of any special-status plant species on the project site.

We find that the project as proposed will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

We find that the project as proposed will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No wetlands or vernal pools are associated with the proposed project.

We find that the proposed project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

We find that the proposed project will not conflict with any local policies or ordinances protecting biological resources.



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## **G.2 Qualifications of Field Investigators**

**Chris K. Kjeldsen, Ph.D., Botany**, Oregon State University, Corvallis, Oregon. He has over forty years of professional experience in the study of California flora. He was a member of the Sonoma County Planning Commission and Board of Zoning (1972 to 1976). He has over thirty years of experience in managing and conducting environmental projects involving impact assessment and preparation of compliance documents, Biological Assessments, DFW Habitat Assessments, DFW Mitigation projects, ACOE Mitigation projects and State Parks and Recreation Biological Resource Studies. Experience includes conducting special-status species surveys, jurisdictional wetland delineations, general biological surveys, 404 and 1600 permitting, and consulting on various projects. He taught Plant Taxonomy at Oregon State University and numerous botanical science and aquatic botany courses at Sonoma State University including sections on wetlands and wetland delineation techniques. He has supervised numerous graduate theses, NSF, DOE and local agency grants and served as a university administrator. He has a valid DFW collecting permit.

**Daniel T. Kjeldsen, B. S., Natural Resource Management**, California Polytechnic State University, San Luis Obispo, California. He spent 1994 to 1996 in the Peace Corps managing natural resources in Honduras, Central America. His work for the Peace Corps in Central America focused on watershed inventory, mapping and the development and implementation of a protection plan. He has over ten years of experience in conducting Biological Assessments, DFW Habitat Assessments, ACOE wetland delineations, wetland rehabilitation, and development of and implementation of mitigation projects and mitigation monitoring. He has received 3.2 continuing education units MCLE 27 hours in Determining Federal Wetlands Jurisdiction from the University of California Berkeley Extension. Attended Wildlife Society Workshop Falconiformes of Northern California Natural History and Management California Tiger Salamander 2003, Natural History and Management of Bats Symposium 2005, Western Pond Turtle Workshop 2007, and Western Section Bat Workshop 2011. Laguna Foundation & The Wildlife Project Rare Pond Species Survey Techniques 2009. A full resume is available upon request.

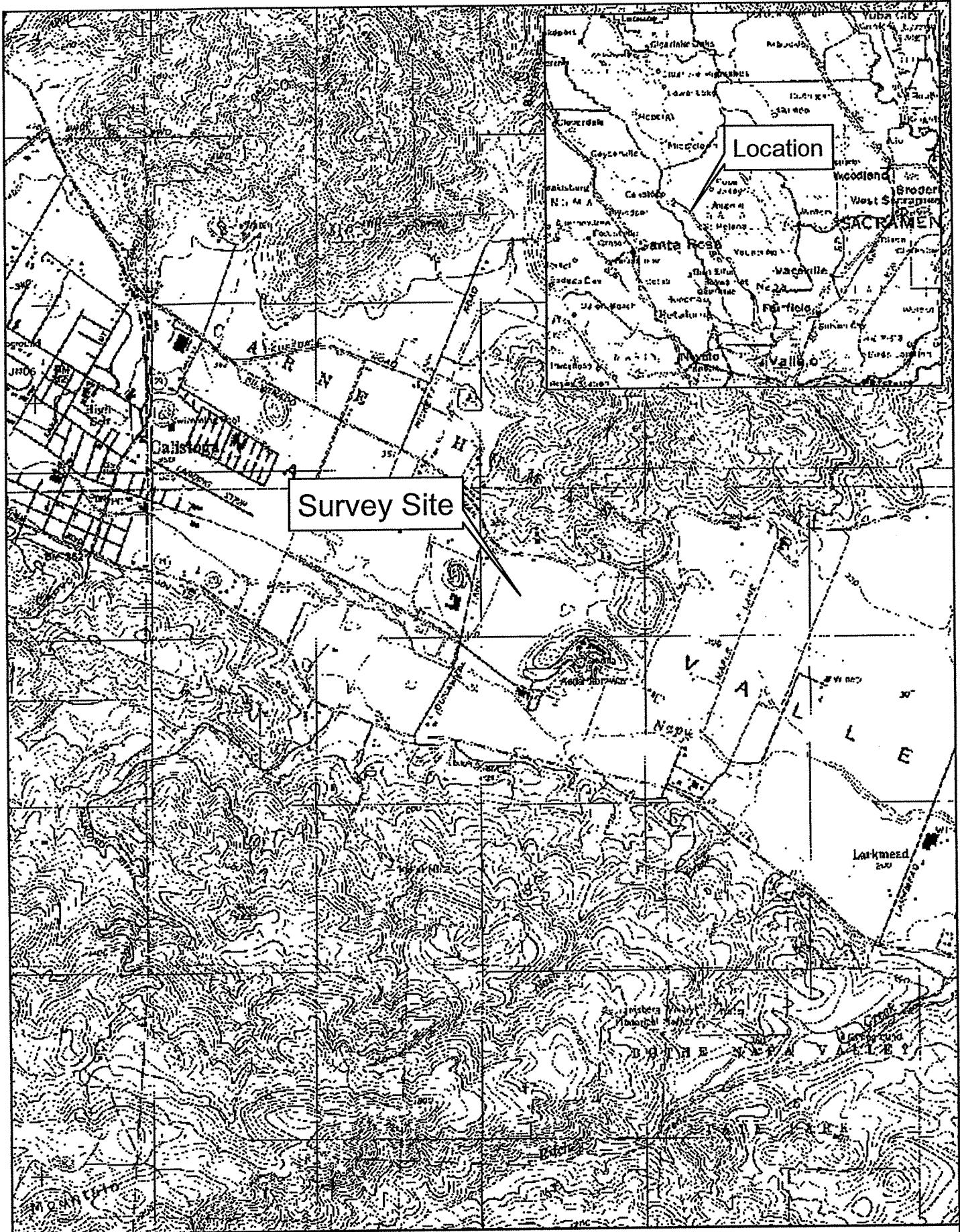


Plate I. Site / Location Map

(Calistoga Quadrangle)



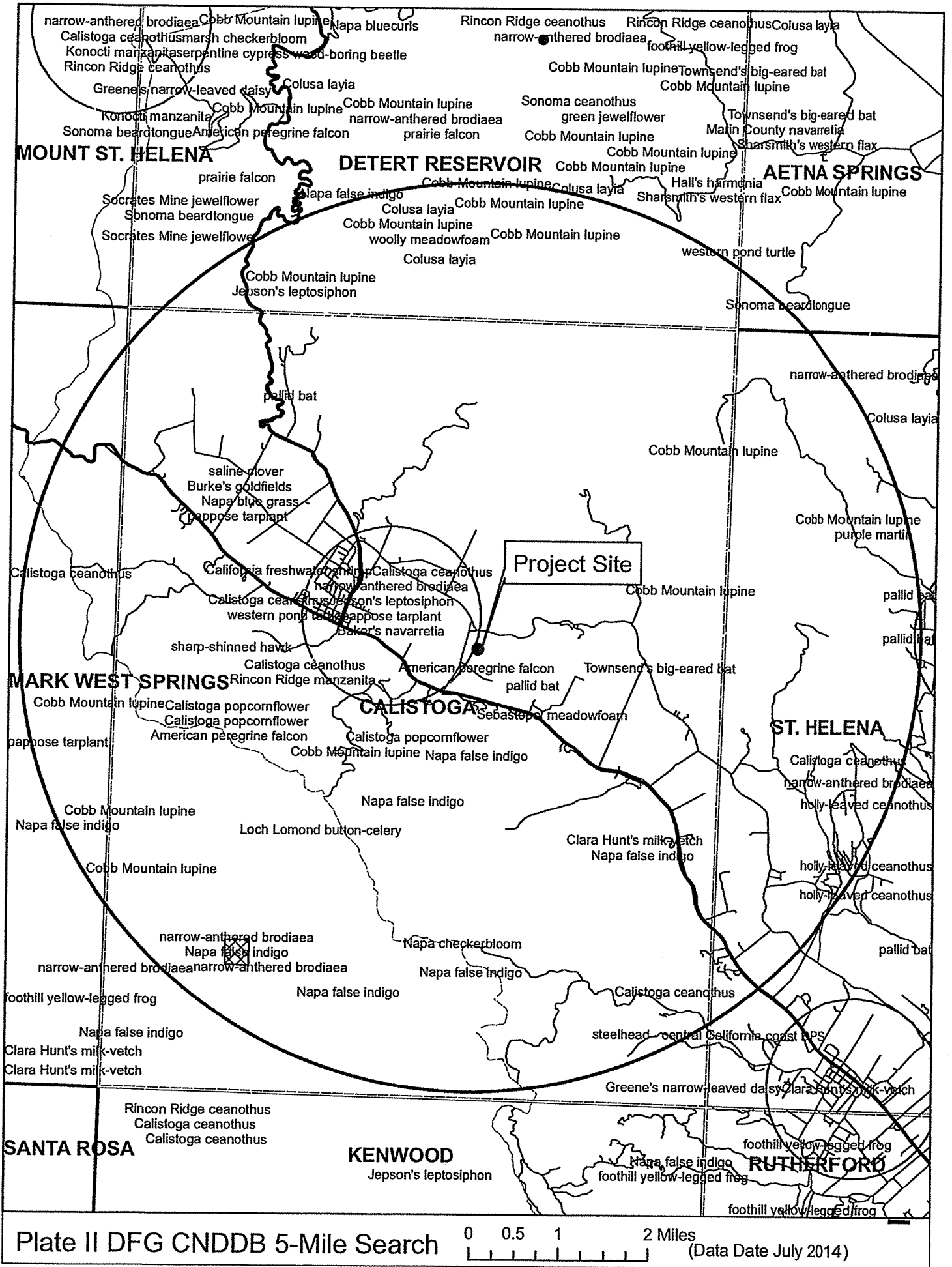


Plate II DFG CNDDDB 5-Mile Search



(Data Date July 2014)

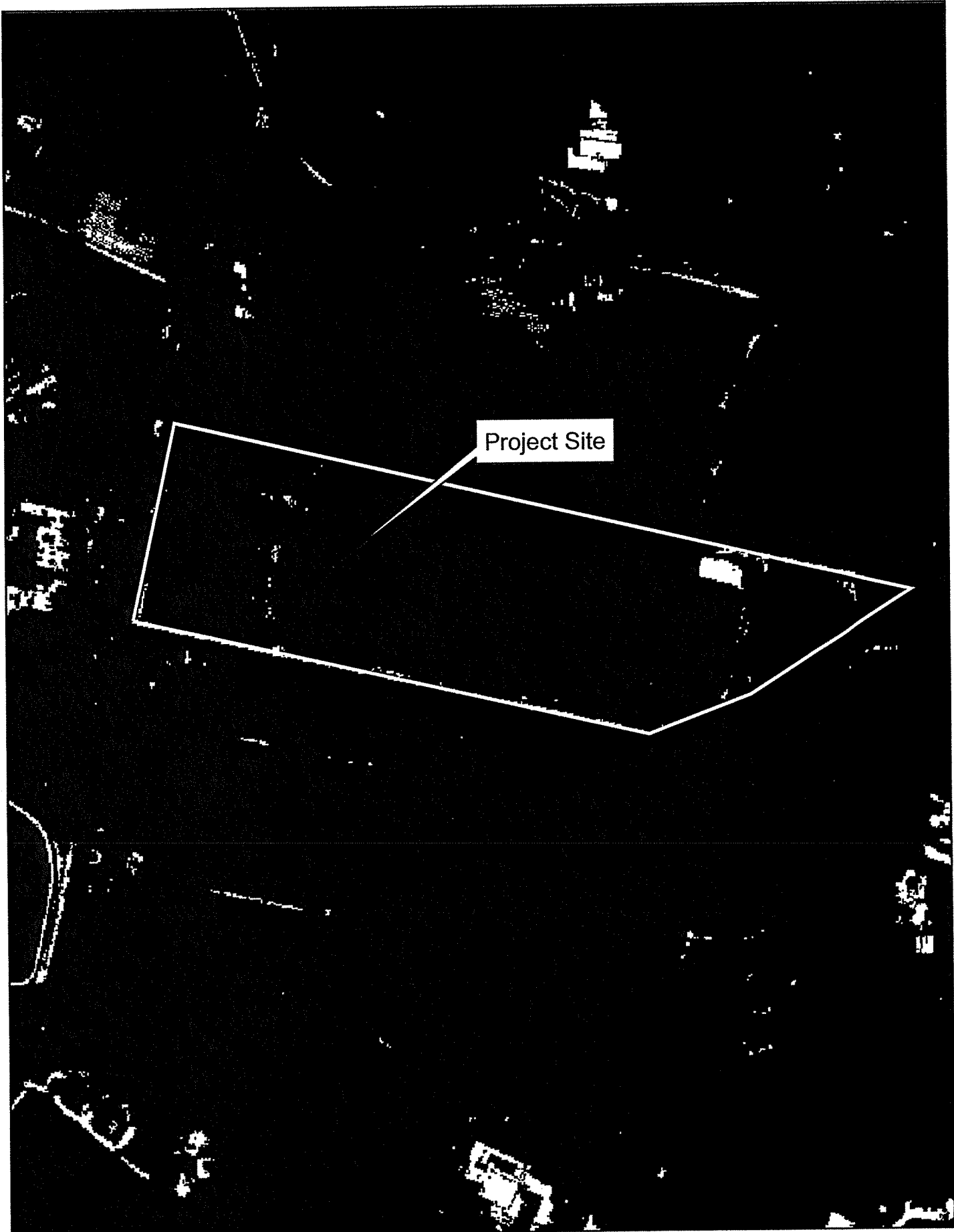


Plate III. Aerial Photo / Survey Area



# APPENDIX A

## Plants and Animals Observed Associated With The Project Site

**PLANTS**

The nomenclature for the list of plants found on the project site and the immediate vicinity follows: Brodo, Irwin M., Sylvia Duran Sharnoff and Stephen Sharnoff, 2001, for the lichens;; S Norris and Shevrock - 2004, for the mosses; and Baldwin, B.G., D.H. Goldman, D.J.Keil, R.Patterson, T.J.Rosati, and D.H.Wilkens, editors, 2012 - for the vascular plants.. The plant list is organized by major plant group.

**Habitat type** indicates the general associated occurrence of the taxon on the project site or in nature.

**Abundance** refers to the relative number of individuals on the project site or in the region.

<u>MAJOR PLANT GROUP</u>		
Family	Genus	Habitat Type
Abundance		
Common Name		

NCN = No Common Name, \* = Non-native, @= Voucher Specimen

**MINACEAE**

<i>Alsia californica</i> (W.J.Hooker&Arnott) Sullivant	Epiphytic on Trees	Common
NCN		
<i>Dendroalsia abietina</i> (Hook.) Brit.	Epiphytic on Trees	Common
NCN		
<i>Homalothecium nuttallii</i> (Wilson) Jaeger	Epiphytic on Trees	Common
NCN		
<i>Orthotrichum lyellii</i> Hook & Tayl.	Epiphytic on Trees	Common
NCN		
<i>Scleropodium touretii</i> (Brid.) L Koch.	Epiphytic on Trees	Common
NCN		

**LICHENS**

**FOLIOSE**

<i>Flavoparmelia caperata</i> (L.) Hale	Epiphytic on Trees	Common
NCN		
<i>Flavopunctilia flaventor</i> (Stirt.) Hale	Epiphytic on Trees	Common
NCN		
<i>Parmelia sulcata</i> Taylor	Epiphytic on Trees	Common
NCN		
<i>Xanthoria polycarpa</i> (Hoffm.) Rieber	Epiphytic on Trees	Common
Pin-cushion Sunburst Lichen		



**MAJOR PLANT GROUP****Family**

<b>Genus</b>	<b>Habitat Type</b>	<b>Abundance</b>
<b>Common Name</b>		

NCN = No Common Name, \* = Non-native, @ = Voucher Specimen

**FRUTICOSE**

<i>Evernia prunastri</i> (L.) Ach.	Epiphytic on Trees	Common
NCN		
<i>Ramalina farinacea</i> (L.) Ach.	Epiphytic on Trees	Common
NCN		

**VASCULAR PLANTS DIVISION CONIFEROPHYTA--GYMNOSPERMS****PINACEAE**

<i>Pseudotsuga menziesii</i> (Vassey) Mayr var. <i>menziesii</i>	On Property Line	Common
Douglas-fir		

**TAXODIACEAE**

<i>Sequoia sempervirens</i> (D.Don) Endl.	Planted	Common
Redwood		

**VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS****CLASS--DICOTYLEDONAE- TREES****MAGNOLIIDS****LAURACEAE**

<i>Umbellularia californica</i> (Hook.&Arn.) Nutt.	On Property Line	Occasional
California Laurel, Sweet Bay, Pepperwood, California Bay		

**EUDICOTS****ERICACEAE Heath Family**

<i>Arbutus menziesii</i> Pursh	On Property Line	Common
Madrone		

**FAGACEAE Oak Family**

<i>Quercus agrifolia</i> Nee	On Property Line	Common
Live Oak		

<i>Quercus kelloggii</i> Newb.	On Property Line	Common
Black Oak		

<i>Quercus lobata</i> Nee.	On Property Line	Common
Valley Oak		

**JUGLANDACEAE Walnut Family**

* <i>Juglans nigra</i> L.	Planted	Common
Black Walnut		

* <i>Juglans regia</i> L.	Planted	Common
English Walnut		

**OLEACEAE Olive Family**

* <i>Olea europaea</i> L.	Domestic Ruderal	Occasional
Olive		

**MAJOR PLANT GROUP**

Family	Genus	Habitat Type	Abundance
Common Name			

NCN = No Common Name, \* = Non-native, @= Voucher Specimen

PLATANACEAE Sycamore Family			
	* <i>Platanus acerifolia</i> Wild	Domestic Introduction	Occasional
	London Plane Tree, Sycamore		
ROSACEAE Rose Family			
	* <i>Pyrus communis</i> (L.)	Escape or Domestic	Occasional
	Pear		
SALICACEAE Willow Family			
	<i>Populus fremontii</i> S. Watson ssp. <i>fremontii</i>	Along property Line	Occasional
	Fremont Cottonwood		
	<i>Salix laevigata</i> Bebb.	On Property Line	Common
	Red Willow		
SAPINDACEAE Soapberry Family			
	<i>Acer macrophyllum</i> Prush	On Property Line	Common
	Big-leaf Maple		

**VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS****CLASS--DICOTYLEDONAE-SHRUBS AND WOODY VINES****MAGNOLIIDS****EUDICOTS**

ASTERACEAE (Compositae) Sunflower Family			
	<i>Baccharis pilularis</i> deCandolle	On Property Line	Common
	Coyote Brush		
ROSACEAE Rose Family			
	* <i>Rubus armeniacus</i> Focke	On Property Line	Common
	Himalayan Blackberry		

**VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS****CLASS--DICOTYLEDONAE-HERBS****EUDICOTS**

APIACEAE (Umbelliferae) Carrot Family			
	* <i>Dacus carota</i> L.	Ruderal	Common
	Wild Carrot, Queen Anne's Lace		
ASTERACEAE (Compositae) Sunflower Family			
	* <i>Anthemis cotula</i> L.	Ruderal	Common
	Mayweed, Stinkweed, Dog-fennel		
	* <i>Calendula arvensis</i> L.	Ruderal	Occasional
	Field Marigold		
	* <i>Helminthotheca echioides</i> (L.) Holub	Ruderal	Common
	Ox-tongue (= <i>Picris echioides</i> )		
	* <i>Lactuca serriola</i> L.	Ruderal	Occasional
	Prickly Lettuce		

**MAJOR PLANT GROUP****Family**

<u>Genus</u>	<u>Habitat Type</u>	<u>Abundance</u>
<u>Common Name</u>		

NCN = No Common Name, \* = Non-native, @ = Voucher Specimen

* <i>Senecio vulgaris</i> L.	Ruderal	Occasional
NCN		
* <i>Taraxacum officinale</i> F.H.Wigg	Ruderal	Common
Dandelion		
<i>Xanthium strumarium</i> L.	Ruderal	Occasional
Cocklebur		
BRASSICACEAE Mustard Family		
* <i>Brassica nigra</i> (L.) Koch	Ruderal	Common
Black Mustard		
DIPSACACEAE Teasel Family		
* <i>Dipsacus sativus</i> L.	Ruderal	Common
Fuller's Teasel		
FABACEAE (Leguminosae) Legum Family		
* <i>Vicia sativa</i> L. subsp. <i>nigra</i>	Ruderal	Common
Narrow Leaved-vetch		
GERANIACEAE Geranium Family		
* <i>Erodium botrys</i> (Cav.) Bertol.	Ruderal	Common
Broadleaf Filaree, Long-beaked Filaree		
MALVACEAE Mallow Family		
* <i>Malva parviflora</i> L.	Ruderal	Common
Cheeseweed, Mallow		
ONAGRACEAE Evening-primrose Family		
<i>Epilobium brachycarpum</i> C.Presl	Ruderal Dry Areas	Common
Willow Herb		
PLANTAGINACEAE Plantain Family		
* <i>Plantago lanceolata</i> L.	Ruderal	Common
English Plantain		
POLYGONACEAE Buckwheat Family		
* <i>Polygonum aviculare</i> L. subsp. <i>depressum</i>	Ruderal	Common
Common Prostrate Knotweed (= <i>P. arenastrum</i> )		
* <i>Rumex crispus</i> L.	Ruderal	Common
Curly Dock		
VISCACEAE Mistletoe Family		
<i>Phoradendron serotinum</i> (Raf.) Johnst. subsp. <i>tomentosum</i>	Woodlands	Common
Oak Mistletoe (= <i>P. villosum</i> )		

**MAJOR PLANT GROUP**

Family

Genus

Habitat Type

Abundance

Common Name

NCN = No Common Name, \* = Non-native, @= Voucher Specimen

**VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS****CLASS--MONOCOTYLEDONAE-GRASSES**

POACEAE Grass Family

* <i>Avena barbata</i> Link.	Rudera	Common
Slender Wild Oat		
* <i>Bromus diandrus</i> Roth	Ruderal	Common
Ripgut Grass		
<i>Elymus glaucus</i> Buckley ssp. <i>glaucus</i>	Ruderal	Common
Blue Wildrye		
<i>Festuca microstachys</i> Nutt.	Ruderal	Common
NCN (= <i>Vulpia microstachys</i> )		
* <i>Festuca myuros</i> L.	Ruderal s	Common
Rattail Fescue, Zorro Annual Fescue (= <i>Vulpia myuros</i> )		
* <i>Phalaris aquatica</i> L.	Grasslands	Common
Harding Grass		

**VASCULAR PLANTS DIVISION ANTHOPHYTA --ANGIOSPERMS****CLASS--MONOCOTYLEDONAE-SEDGES AND RUSHES**

CYPERACEAE Sedge Family

<i>Cyperus eragrostis</i> Lam.	Ruderal Moist Areas	Common
Nut-grass		

## Fauna Species Observed in the Vicinity of the Project Site

The nomenclature for the animals found on the project site and in the immediate vicinity follows: Mc Ginnis -1984, for the fresh water fishes; Stebbins -1985, for the reptiles and amphibians; and Udvardy and Farrand - 1998, for the birds; and Jameson and Peeters -1988 for the mammals.

### AMPHIBIA AND REPTILIA

#### ORDER

Common Name	Genus	Observed
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#### CHELONIA

Northwestern Pond Turtle	<i>Actinemys marmorata marmorata</i>	X
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### AVES

#### ORDER

Common Name	Genus	Observed
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#### AVES

California Quail	<i>Callipepla californica</i>	X
Canada Goose	<i>Branta canadensis</i>	X
Common Crow	<i>Corvus brachyrhynchos</i>	X
European Starling	<i>Sturnus vulgaris</i>	X

#### CHELONIA

Western Pond Turtle	<i>Emys marmorata</i>	X
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### MAMMALS

#### ORDER

Common Name	Genus	Observed
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#### LAGOMORPHA

Black-tailed Jackrabbit	<i>Lepus californicus</i>	Scat
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#### RODENTIA

Pocket Gopher	<i>Thomomys bottae</i>	Sight
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# APPENDIX B

## **Definitions** (Not all are relevant to this project)

**Absolute Cover.** The percentage of ground covered by the vertical projection of the plant crowns of a species or defined set of plants as viewed from above. The absolute cover of herbaceous plants includes any standing (attached to a living plant, and not lying on the ground) plant parts, whether alive or dead; this definition excludes litter and other separated plant material. The cover may include mosses, lichens and recognizable cryptogamic crusts.

**Best Management Practices.** Best management practices represent the construction or agricultural practices that are consistent with regulatory laws or industry standards which are prudent and consistent with site conditions.

**Confidence Interval.** The California Department of Fish and Wildlife (DFW) California Natural Diversity Data Base (CNDDB) uses map polygon projections for indicating potential for occurrence of special-status plant populations around a recorded occurrence.

**Critical Habitat.** Critical habitat is by definition a designated by U.S. Fish and Wildlife Service as essential for the existence of a particular population of species. The U.S. Fish and Wildlife Service designates critical habitat for special-status species as an area or region within which a species may be found. "Critical habitat" is defined as areas essential for the "conservation" of the species in question.

**Habitat Fragmentation.** The issue of habitat fragmentation is of concern locally, nationally, and globally. The term habitat fragmentation refers to the loss of connections within the biosphere such that the movement, genetic exchange, and dispersal of native populations is restricted or prevented. Anthropogenic habitat fragmentation can be the result of a road construction, logging, agriculture, or urban growth. The practice of retaining or planning for "Corridors" is an attempt to address this issue. Corridors that allow movement of wildlife through and around a site include stream and riparian areas and also areas that connect two or more sites of critical wildlife habitat.

**Habitat Types.** Habitat types are used by DFW to categorize elements of nature associated with the physical and biological conditions in an area. These are of particular importance for the wildlife they support, and they are important as indicators of the potential for special-status species.

**Relative Cover.** A measure of the cover of a species in relation to that of other species within a set area or sample of vegetation. This is usually calculated for species that occur in the same layer (stratum) of vegetation, and this measure can be calculated across a group of samples.

**Riparian Corridor.** Riparian corridors can be defined as the stream channel between the low-water and high-water marks plus the terrestrial landscape above the high water-mark (where vegetation may be influenced by elevated water tables or extreme flooding and by the ability of the soils to hold water; Naiman, et. al. 1993).

**Riparian Corridor or Riparian Ecosystem.** Riparian ecosystems occupy the ecotone between upland and lotic aquatic realms. Riparian corridors can be defined as the stream channel between the low- and high-water marks plus the terrestrial landscape above the high water-mark (where vegetation may be influenced by elevated water tables or extreme flooding and by the ability of the soils to hold water; Naiman, et. al. 1993).

**Ruderal Habitat.** Ruderal habitat is characterized by disturbance and the establishment and dominance of non-native introduced weed species. Ruderal plant communities are a function of or result of agricultural or logging practices. This habitat is typically found along graded roads, erosional surfaces or sites influenced by agricultural animal populations.

**Sensitive Habitat.** DFW Natural Diversity Data Base uses environmentally sensitive plant communities for plant populations that are rare or threatened in nature. Sensitive habitat is defined as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Wildlife Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes. Sensitive Habitat also includes wetlands and tributaries to "Waters of the US" as defined by the Corps of Engineers (ACOE) and DFW seasonal streams DFW.

**Serpentinite.** Serpentinite or serpentine consists of ultramafic rock outcrops that due to the unique mineral composition support a unique flora often of endemics. Kruckeberg, 1984, indicates that the taxonomy and evolutionary responses to serpentines include "1) taxa endemic to serpentine, 2) local or regional indicator taxa, largely confined to serpentine in parts of their ranges, 3) indifferent or "bodenvag" taxa that range on and off serpentine, and 4) taxa that are excluded from serpentine." Serpentine outcrops or serpentinites support numerous special-status plant taxa.

**Special-status Species.** Special-status organisms are plants or animals that have been designated by Federal or State agencies as rare, endangered, or threatened. We have also included plant species listed by the CNPS. Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such.

**Standard Agricultural Practices.** Standard agricultural practices are best management practices which are prudent as applied in the agricultural industry such as the use of regulated pesticides,

methods of and timing of weed control, appropriate fertilizer application, irrigation management, frost protection, erosion control and soil conservation and management, and dust control among other practices.

**Streams.** The DFW definition of stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports wildlife, fish, or other aquatic life. This includes watercourses having a surface or subsurface flow that support or have supported riparian vegetation. DFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

**Target organisms.** Special-status species that are listed by: the California Department of Fish and recorded in the Natural Diversity Data Base for the Quadrangle and surrounding Quadrangles of the project site; the California Native Plant Society for the habitat present on the project site Quadrangle and surrounding Quadrangles; Federal Endangered and Threatened Species that Occur in the U.S.G.S. 7 1/2 Minute Quadrangle; our experience with the local flora and fauna; any species identified by local individuals that are considered to be rare in the region; and DFW Five Mile radius CNDDDB Rarefind search (See Plate II).

**Wetlands.** Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

**Vernal Pools.** Vernal pools are a type of seasonal wetland distinct for California and the western US. Typically they are associated with seasonal rainfall or "Mediterranean climate" and have a distinct flora and fauna, an impermeable or slowly permeable substrate and contain standing water for a portion of the year. They are characterized by a variable aquatic and dry regime with standing water during the spring plant growth regime. They have a high degree of endemism of flora and fauna.

## **Federal Regulations**

**Federal Endangered Species Act** Pursuant to the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA), have authority over projects that may affect the continued existence of a species that is federally listed as threatened or endangered. Section 9 of ESA prohibits the take of a federally listed species; take is defined, in part, as killing, harming, or harassment and includes habitat modification or degradation where it actually results in death or injury to wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

**Section 404 of the Clean Water Act** Section 404 of the Clean Water Act establishes a requirement to obtain a permit before any activity that involves any discharge of dredged or fill material into "waters of the United States," including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce,



tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Army Corps of Engineers (ACOE) regulates and issues 404 permits for activities that involve the discharge of dredged or fill materials into waters of the United States. A Water Quality Certification 401 permit must also be obtained from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Board to the nine Regional Water Quality Control Boards (RWQCBs).

## **State Regulations**

**California Endangered Species Act** Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the Fish and Wildlife Code, a permit from Department of Fish and Wildlife (DFW) is required for projects that could result in the take of a state listed threatened or endangered species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the ESA does. As a result, the threshold for a take under CESA is higher than that under the ESA.

**California Fish and Wildlife Code Section 1600** – Lake and Streambed Alteration Permit. All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFW pursuant to Section 1600 of the California Fish and Wildlife Code. Section 1600 states that it is unlawful for any person, government agency, state, local, or any public utility to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or deposit or dispose of waste, debris, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake without first notifying DFW of such activity.

**Porter-Cologne Water Quality Control Act** Under the Porter-Cologne Water Quality Control Act, "waters of the state" fall under the jurisdiction of the RWQCB. Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the Clean Water Act.

# **APPENDIX C**

## **CNPS Special Status-species Listed for the Project Quadrangle and Surrounding Quadrangles**

## **DFW CNDDDB Rare Find Special-status Species Listed for the Quadrangle and Surrounding Quadrangles**

## **U.S. Fish and Wildlife Service Listed Species for the Quadrangle**



# Inventory of Rare and Endangered Plants - 7th edition interface

v7-14jun 6-11-14

Status: search results - Wed, Jul. 16, 2014 16:06 ET c

Your Quad Selection: Calistoga (517D) 3812255, Kenwood (501A) 3812245, Santa Rosa (501B) 3812246, Aetna Springs (516B) 3812264, St. Helena (516C) 3812254, Rutherford (500B) 3812244, Detert Reservoir (517A) 3812265, Mount St. Helena (517B) 3812266, Mark West Springs (517C) 3812256

scientific	common	family	CNPS
<u>Allium peninsulare</u> var. <u>franciscanum</u> (i)	Franciscan onion	Alliaceae	List 1B.2
<u>Alopecurus aequalis</u> var. <u>sonomensis</u> (i)	Sonoma alopecurus	Poaceae	List 1B.1
<u>Amorpha californica</u> var. <u>napensis</u> (i)	Napa false indigo	Fabaceae	List 1B.2
<u>Amsinckia lunaris</u> (i)	bent-flowered fiddleneck	Boraginaceae	List 1B.2
<u>Anomobryum julaceum</u>	slender silver moss	Bryaceae	List 2B.2
<u>Arctostaphylos canescens</u> ssp. <u>sonomensis</u> (i)	Sonoma canescent manzanita	Ericaceae	List 1B.2
<u>Arctostaphylos manzanita</u> ssp. <u>elegans</u> (i)	Konocti manzanita	Ericaceae	List 1B.3
<u>Arctostaphylos stanfordiana</u> ssp. <u>decumbens</u> (i)	Rincon Ridge manzanita	Ericaceae	List 1B.1
<u>Astragalus claranus</u> (i)	Clara Hunt's milk-vetch	Fabaceae	List 1B.1
<u>Astragalus rattanii</u> var. <u>jepsonianus</u> (i)	Jepson's milk-vetch	Fabaceae	List 1B.2
<u>Balsamorhiza macrolepis</u> (i)	big-scale balsamroot	Asteraceae	List 1B.2
<u>Blennosperma bakeri</u> (i)	Sonoma sunshine	Asteraceae	List 1B.1
<u>Brodiaea leptandra</u>	narrow-anthered brodiaea	Themidaceae	List 1B.2

<u>Ceanothus confusus</u> (C)	Rincon Ridge ceanothus	Rhamnaceae	List 1B.1
<u>Ceanothus divergens</u> (C)	Calistoga ceanothus	Rhamnaceae	List 1B.2
<u>Ceanothus purpureus</u> (C)	holly-leaved ceanothus	Rhamnaceae	List 1B.2
<u>Ceanothus sonomensis</u> (C)	Sonoma ceanothus	Rhamnaceae	List 1B.2
<u>Centromadia parryi</u> ssp. <u>parryi</u> (C)	pappose tarplant	Asteraceae	List 1B.2
<u>Cryptantha dissita</u>	serpentine cryptantha	Boraginaceae	List 1B.2
<u>Downingia pusilla</u> (C)	dwarf downingia	Campanulaceae	List 2B.2
<u>Erigeron biolettii</u> (C)	streamside daisy	Asteraceae	List 3
<u>Erigeron greenei</u>	Greene's narrow-leaved daisy	Asteraceae	List 1B.2
<u>Eriogonum nervulosum</u> (C)	Snow Mountain buckwheat	Polygonaceae	List 1B.2
<u>Eryngium constancei</u> (C)	Loch Lomond button-celery	Apiaceae	List 1B.1
<u>Fritillaria liliacea</u> (C)	fragrant fritillary	Liliaceae	List 1B.2
<u>Fritillaria pluriflora</u> (C)	adobe-lily	Liliaceae	List 1B.2
<u>Gratiola heterosepala</u> (C)	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
<u>Harmonia hallii</u> (C)	Hall's harmonia	Asteraceae	List 1B.2
<u>Hemizonia congesta</u> ssp. <u>congesta</u> (C)	white seaside tarplant	Asteraceae	List 1B.2
<u>Hesperolinon bicarpellatum</u>	two-carpellate western flax	Linaceae	List 1B.2
<u>Hesperolinon sharsmithiae</u>	Sharsmith's western	Linaceae	List

	flax		1B.2
<u>Juncus luciensis</u> (C)	Santa Lucia dwarf rush	Juncaceae	List 1B.2
<u>Lasthenia burkei</u> (C)	Burke's goldfields	Asteraceae	List 1B.1
<u>Lasthenia conjugens</u> (C)	Contra Costa goldfields	Asteraceae	List 1B.1
<u>Layia septentrionalis</u> (C)	Colusa layia	Asteraceae	List 1B.2
<u>Leptosiphon jepsonii</u> (C)	Jepson's leptosiphon	Polemoniaceae	List 1B.2
<u>Lessingia hololeuca</u> (C)	woolly-headed lessingia	Asteraceae	List 3
<u>Limnanthes vinculans</u> (C)	Sebastopol meadowfoam	Limnanthaceae	List 1B.1
<u>Lupinus sericatus</u> (C)	Cobb Mountain lupine	Fabaceae	List 1B.2
<u>Micropus amphibolus</u> (C)	Mt. Diablo cottonweed	Asteraceae	List 3.2
<u>Microseris paludosa</u> (C)	marsh microseris	Asteraceae	List 1B.2
<u>Navarretia leucocephala</u> ssp. <u>bakeri</u> (C)	Baker's navarretia	Polemoniaceae	List 1B.1
<u>Navarretia leucocephala</u> ssp. <u>plieantha</u> (C)	many-flowered navarretia	Polemoniaceae	List 1B.2
<u>Navarretia myersii</u> ssp. <u>deminuta</u>	small pincushion navarretia	Polemoniaceae	List 1B.1
<u>Navarretia rosulata</u> (C)	Marin County navarretia	Polemoniaceae	List 1B.2
<u>Penstemon newberryi</u> var. <u>sonomensis</u> (C)	Sonoma beardtongue	Plantaginaceae	List 1B.3
<u>Plagiobothrys strictus</u>	Calistoga popcorn-flower	Boraginaceae	List 1B.1
<u>Poa napensis</u>	Napa blue grass	Poaceae	List

			1B.1
<u>Sidalcea hickmanii</u> ssp. <u>napensis</u>	Napa checkerbloom	Malvaceae	List 1B.1
<u>Sidalcea oregana</u> ssp. <u>hydrophila</u>	marsh checkerbloom	Malvaceae	List 1B.2
<u>Sidalcea oregana</u> ssp. <u>valida</u>	Kenwood Marsh checkerbloom	Malvaceae	List 1B.1
<u>Streptanthus batrachopus</u> (C)	Tamalpais jewel-flower	Brassicaceae	List 1B.3
<u>Streptanthus brachiatus</u> ssp. <u>brachiatus</u>	Socrates Mine jewel-flower	Brassicaceae	List 1B.2
<u>Streptanthus brachiatus</u> ssp. <u>hoffmanii</u> (C)	Freed's jewel-flower	Brassicaceae	List 1B.2
<u>Streptanthus hesperidis</u>	green jewel-flower	Brassicaceae	List 1B.2
<u>Streptanthus morrisonii</u> ssp. <u>elatus</u> (C)	Three Peaks jewel-flower	Brassicaceae	List 1B.2
<u>Streptanthus morrisonii</u> ssp. <u>kruckebergii</u>	Kruckeberg's jewel-flower	Brassicaceae	List 1B.2
<u>Streptanthus vernalis</u> (C)	early jewel-flower	Brassicaceae	List 1B.2
<u>Stuckenia filiformis</u> ssp. <u>alpina</u>	slender-leaved pondweed	Potamogetonaceae	List 2B.2
<u>Trichostema ruygtii</u> (C)	Napa bluecurls	Lamiaceae	List 1B.2
<u>Trifolium amoenum</u> (C)	two-fork clover	Fabaceae	List 1B.1
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	List 1B.2
<u>Triquetrella californica</u> (C)	coastal triquetrella	Pottiaceae	List 1B.2
<u>Viburnum ellipticum</u> (C)	oval-leaved viburnum	Adoxaceae	List 2B.3

**U.S. Fish & Wildlife Service**  
**Sacramento Fish & Wildlife Office**  
**Federal Endangered and Threatened Species that Occur in**  
**or may be Affected by Projects in the**  
**CALISTOGA (517D)**  
**U.S.G.S. 7 1/2 Minute Quad**

Report Date: July 16, 2014

Listed Species

Invertebrates

*Syncaris pacifica*  
California freshwater shrimp (E)

Fish

*Hypomesus transpacificus*  
delta smelt (T)

*Oncorhynchus kisutch*  
coho salmon - central CA coast (E) (NMFS)

*Oncorhynchus mykiss*  
Central California Coastal steelhead (T) (NMFS)  
Central Valley steelhead (T) (NMFS)  
Critical habitat, Central California coastal steelhead (X) (NMFS)

*Oncorhynchus tshawytscha*  
California coastal chinook salmon (T) (NMFS)  
Central Valley spring-run chinook salmon (T) (NMFS)  
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

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

Birds

*Strix occidentalis caurina*  
northern spotted owl (T)

Plants

*Astragalus clarianus*  
Clara Hunt's milk-vetch (E)

Eryngium constancei  
Loch Lomond coyote-thistle (=button-celery) (E)

Lasthenia burkei  
Burke's goldfields (E)

Plagiobothrys strictus  
Calistoga allocarya (popcorn-flower) (E)

Poa napensis  
Napa bluegrass (E)

### Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the . Consult with them  
directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species



California Department of Fish and Game  
Natural Diversity Database  
Selected Elements by Scientific Name - Five Mile

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Accipiter striatus</i> sharp-shinned hawk	ABNKC12020			G5	S3	
2 <i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	PDFAB08012			G4T2	S2	1B.2
3 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
4 <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon Ridge manzanita	PDERI041G4			G3T1	S1	1B.1
5 <i>Astragalus claranus</i> Clara Hunt's milk-vetch	PDFAB0F240	Endangered	Threatened	G1	S1	1B.1
6 <i>Brodiaea leptandra</i> narrow-anthered brodiaea	PMLILO0C22			G3?	S3?	1B.2
7 <i>Ceanothus confusus</i> Rincon Ridge ceanothus	PDRHA04220			G1	S1	1B.1
8 <i>Ceanothus divergens</i> Calistoga ceanothus	PDRHA04240			G2	S2	1B.2
9 <i>Ceanothus purpureus</i> holly-leaved ceanothus	PDRHA04160			G2	S2	1B.2
10 <i>Centromadia parryi</i> ssp. <i>parryi</i> pappose tarplant	PDAST4R0P2			G3T1	S1	1B.2
11 Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
12 <i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010		Candidate Threatened	G3G4	S2S3	SC
13 <i>Emys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
14 <i>Eryngium constancei</i> Loch Lomond button-celery	PDAP10Z0W0	Endangered	Endangered	G1	S1	1B.1
15 <i>Falco mexicanus</i> prairie falcon	ABNKD06090			G5	S4	
16 <i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
17 <i>Juncus luciensis</i> Santa Lucia dwarf rush	PMJUN013J0			G2G3	S2S3	1B.2
18 <i>Lasthenia burkei</i> Burke's goldfields	PDAST5L010	Endangered	Endangered	G1	S1	1B.1
19 <i>Layia septentrionalis</i> Colusa layia	PDAST5N0F0			G2	S2	1B.2
20 <i>Leptosiphon jepsonii</i> Jepson's leptosiphon	PDPLM09140			G2	S2	1B.2
21 <i>Limnanthes floccosa</i> ssp. <i>floccosa</i> woolly meadowfoam	PDLIM02043			G4T4	S3.2	4.2
22 <i>Limnanthes vincularis</i> Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
23 <i>Lupinus sericatus</i> Cobb Mountain lupine	PDFAB2B3J0			G2	S2	1B.2

California Department of Fish and Game  
Natural Diversity Database  
Selected Elements by Scientific Name - Five Mile

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Myotis thysanodes</i> fringed myotis	AMACC01090			G4	S4	
25 <i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	PDPLM0C0E1			G4T2	S2	1B.1
26 <i>Oncorhynchus mykiss irideus</i> steelhead - central California coast DPS	AFCHA0209G	Threatened		G5T2Q	S2	
27 <i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	PDSCR1L483			G4T1	S2	1B.3
28 <i>Plagiobothrys strictus</i> Calistoga popcornflower	PDBOR0V120	Endangered	Threatened	G1	S1	1B.1
29 <i>Poa napensis</i> Napa blue grass	PMPOA4Z1R0	Endangered	Endangered	G1	S1	1B.1
30 <i>Progne subis</i> purple martin	ABPAU01010			G5	S3	SC
31 <i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom	PDMAL110A6			G3T1	S1	1B.1
32 <i>Sidalcea oregana</i> ssp. <i>hydrophila</i> marsh checkerbloom	PDMAL110K2			G5T3	S3	1B.2
33 <i>Syncaris pacifica</i> California freshwater shrimp	ICMAL27010	Endangered	Endangered	G1	S1	
34 <i>Trifolium hydrophilum</i> saline clover	PDFAB400R5			G2	S2	1B.2

CALIFORNIA DEPARTMENT OF

# RareFind

Query Summary:

Quad (Calistoga (3812255) Kenwood (3812245) Santa Rosa (3812246) Aetna Springs (3812264) St. Helena (3812254) Rutherford (3812244) Detert Reservoir (3812265) Mount St. Helena (3812266) Mark West Springs (3812256))  
 Habitat (Valley & foothill grassland Aquatic)

CNDDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	Monocots	PMLIL021R1	14	1	None	None	G5T1	S1	1B.2	null	Cismontane woodland   Ultramafic   Valley & foothill grassland
<i>Ambystoma californiense</i>	California tiger salamander	Amphibians	AAAAA01180	1094	25	Threatened	Threatened	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern   IUCN_VU-Vulnerable	Cismontane woodland   Meadow & seep   Riparian woodland   Valley & foothill grassland   Vernal pool   Wetland
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	Dicots	PDBOR01070	64	2	None	None	G2?	S2?	1B.2	BLM_S-Sensitive	Cismontane woodland   Valley & foothill grassland
<i>Antrozous pallidus</i>	pallid bat	Mammals	AMACC10010	402	10	None	None	G5	S3	null	BLM_S-Sensitive   CDFW_SSC-Species of Special Concern   IUCN_LC-Least Concern   USFS_S-Sensitive   WBWG_H-High Priority	Chaparral   Coastal scrub   Desert wash   Great Basin grassland   Great Basin scrub   Mojavean desert scrub   Riparian woodland   Sonoran desert scrub   Upper montane coniferous forest   Valley & foothill grassland
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	Dicots	PDFAB0F240	6	6	Endangered	Threatened	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral   Cismontane woodland   Valley & foothill grassland
<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	Dicots	PDFAB0F7E1	47	1	None	None	G4T3	S3	1B.2	BLM_S-Sensitive	Cismontane woodland   Ultramafic   Valley & foothill grassland
<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	Dicots	PDAST11061	43	2	None	None	G2	S2	1B.2	BLM_S-Sensitive   USFS_S-Sensitive	Chaparral   Cismontane woodland   Ultramafic   Valley & foothill grassland
<i>Blennosperma bakeri</i>	Sonoma sunshine	Dicots	PDAST1A010	23	4	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Valley & foothill grassland   Vernal pool   Wetland
												Broadleaved upland forest   Chaparral

Brodiaea leptandra	narrow-anthered brodiaea	Monocots	PMLILO022	29	19	None	None	G3?	S3?	1B.2	null	Cismontane woodland   Lower montane coniferous forest   Valley & foothill grassland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2394	1	None	Threatened	G5	S3	null	ABC_WLBCC-Watch List of Birds of Conservation Concern   BLM_S-Sensitive   IUCN_LC-Least Concern   USFS_S-Sensitive   USFWS_BCC-Birds of Conservation Concern	Great Basin grassland   Riparian forest   Riparian woodland   Valley & foothill grassland
Centromadia parryi ssp. parryi	pappose tarplant	Dicots	PDAST4R0P2	29	4	None	None	G3T1	S1	1B.2	BLM_S-Sensitive	Coastal prairie   Marsh & swamp   Meadow & seep   Valley & foothill grassland
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	487	10	None	Candidate Threatened	G3G4	S2S3	null	BLM_S-Sensitive   CDFW_SSC-Species of Special Concern   IUCN_LC-Least Concern   USFS_S-Sensitive   WBWG_H-High Priority	Broadleaved upland forest   Chaparral   Chenopod scrub   Great Basin grassland   Great Basin scrub   Joshua tree woodland   Lower montane coniferous forest   Meadow & seep   Mojavean desert scrub   Riparian forest   Riparian woodland   Sonoran desert scrub   Sonoran thorn woodland   Upper montane coniferous forest   Valley & foothill grassland
Downingia pusilla	dwarf downingia	Dicots	PDCAM060C0	127	1	None	None	GU	S2	2B.2	null	Valley & foothill grassland   Vernal pool   Wetland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	158	1	None	None	G5	S3	null	BLM_S-Sensitive   CDFW_FP-Fully Protected   IUCN_LC-Least Concern	Cismontane woodland   Marsh & swamp   Riparian woodland   Valley & foothill grassland   Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1136	23	None	None	G3G4	S3	null	BLM_S-Sensitive   CDFW_SSC-Species of Special Concern   IUCN_VU-Vulnerable	Aquatic   Artificial flowing waters   Klamath/North coast flowing waters   Klamath/North coast standing waters   Marsh & swamp   Sacramento/San Joaquin flowing waters

												USFS_S-Sensitive	Sacramento/San Joaquin standing waters   South coast flowing waters   South coast standing waters   Wetland
Falco mexicanus	prairie falcon	Birds	ABNKD06090	457	2	None	None	G5	S4	null	CDFW_WL-Watch List   IUCN_LC-Least Concern   USFWS_BCC-Birds of Conservation Concern	Great Basin grassland   Great Basin scrub   Mojavean desert scrub   Sonoran desert scrub   Valley & foothill grassland	
Fritillaria liliacea	fragrant fritillary	Monocots	PMLIL0V0C0	69	6	None	None	G2	S2	1B.2	USFS_S-Sensitive	Coastal prairie   Coastal scrub   Ultramafic   Valley & foothill grassland	
Fritillaria pluniflora	adobe-lily	Monocots	PMLIL0V0F0	107	1	None	None	G3	S3	1B.2	BLM_S-Sensitive   SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral   Cismontane woodland   Ultramafic   Valley & foothill grassland	
Hemizonia congesta ssp. congesta	white seaside tarplant	Dicots	PDAST4R065	33	1	None	None	G5T2T3	S2S3	1B.2	null	Coastal scrub   Valley & foothill grassland	
Hydrochara rickseckeri	Ricksecker's water scavenger beetle	Insects	IICOL5V010	13	1	None	None	G2?	S2?	null	null	Aquatic   Sacramento/San Joaquin flowing waters   Sacramento/San Joaquin standing waters	
Hydroporus leechi	Leech's skyline diving beetle	Insects	IICOL55040	13	1	None	None	G1?	S1?	null	null	Aquatic	
Hysteroecarpus traski pomom	Russian River tule perch	Fish	AFCQK02011	4	1	None	None	G5T2	S2	null	AFS_VU-Vulnerable   CDFW_SSC-Species of Special Concern	Aquatic   Klamath/North coast flowing waters	
Lavinia symmetricus navarroensis	Navarro roach	Fish	AFCJB19023	4	1	None	None	G4T1T2	S1S2	null	CDFW_SSC-Species of Special Concern	Aquatic   Sacramento/San Joaquin flowing waters	
Layia septentrionalis	Colusa layia	Dicots	PDAST5N0F0	46	11	None	None	G2	S2	1B.2	BLM_S-Sensitive	Chaparral   Cismontane woodland   Ultramafic   Valley & foothill grassland	
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Dicots	PDLIM02043	54	1	None	None	G4T4	S3.2	4.2	null	Chaparral   Cismontane woodland   Valley & foothill grassland   Vernal pool   Wetland	
Limnanthes vinculans	Sebastopol meadowfoam	Dicots	PDLIM02090	43	8	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Meadow & seep   Valley & foothill grassland   Vernal pool   Wetland	
Microseris	marsh											Cismontane woodland   Closed-cone	

Species	Common Name	Group	Code	Count	Year	Conservation	Threats	Code	Code	Code	Code	Code	Habitats
<i>paludosa</i>	microseris	Dicots	PDAST6E0D0	31	1	None	None	G2	S2	1B.2	null		coniferous forest   Coastal scrub   Valley & foothill grassland
<i>Navarretia leucocephala</i> ssp. bakeri	Baker's navarretia	Dicots	PDPLM0C0E1	58	8	None	None	G4T2	S2	1B.1	BLM_S-Sensitive		Cismontane woodland   Lower montane coniferous forest   Meadow & seep   Valley & foothill grassland   Vernal pool   Wetland
<i>Oncorhynchus mykiss</i> irideus	steelhead - central California coast DPS	Fish	AFCHA0209G	38	2	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened		Aquatic   Sacramento/San Joaquin flowing waters
<i>Plagiobothrys strictus</i>	Calistoga popcomflower	Dicots	PDBOR0V120	3	3	Endangered	Threatened	G1	S1	1B.1	SB_UCBBG-UC Berkeley Botanical Garden		Meadow & seep   Valley & foothill grassland   Vernal pool   Wetland
<i>Poa napensis</i>	Napa blue grass	Monocots	PMPOA4Z1R0	2	2	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden		Meadow & seep   Valley & foothill grassland   Wetland
<i>Rana boylei</i>	foothill yellow-legged frog	Amphibians	AAABH01050	805	19	None	None	G3	S2S3	null	BLM_S-Sensitive   CDFW_SSC-Species of Special Concern   IUCN_NT-Near Threatened   USFS_S-Sensitive		Aquatic   Chaparral   Cismontane woodland   Coastal scrub   Klamath/North coast flowing waters   Lower montane coniferous forest   Meadow & seep   Riparian forest   Riparian woodland   Sacramento/San Joaquin flowing waters
<i>Rana draytonii</i>	California red-legged frog	Amphibians	AAABH01022	1335	3	Threatened	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern   IUCN_VU-Vulnerable		Aquatic   Artificial flowing waters   Artificial standing waters   Freshwater marsh   Marsh & swamp   Riparian forest   Riparian scrub   Riparian woodland   Sacramento/San Joaquin flowing waters   Sacramento/San Joaquin standing waters   South coast flowing waters   South coast standing waters   Wetland
Serpentine Bunchgrass	Serpentine Bunchgrass	Herbaceous	CTT42130CA	22	1	None	None	G2	S2.2	null	null		Valley & foothill grassland
<i>Stygobromus cherylae</i>	Barr's amphipod	Crustaceans	ICMAL05D60	1	1	None	None	G1	S1	null	null		Aquatic
<i>Syncaris pacifica</i>	California freshwater shrimp	Crustaceans	ICMAL27010	18	3	Endangered	Endangered	G1	S1	null	IUCN_EN-Endangered		Aquatic   Sacramento/San Joaquin flowing waters

Taxidea taxus	American badger	Mammals	AMAJF04010	476	1	None	None	G5	S4	null	CDFW_SSC- Species of Special Concern   IUCN_LC- Least Concern Alkali marsh   Alkali playa   Alpine   Alpine dwarf scrub   Bog & fen   Brackish marsh   Broadleaved upland forest   Chaparral   Chenopod scrub   Cismontane woodland   Closed-cone coniferous forest   Coastal bluff scrub   Coastal dunes   Coastal prairie   Coastal scrub   Desert dunes   Desert wash   Freshwater marsh   Great Basin grassland   Great Basin scrub   Interior dunes   lone formation   Joshua tree woodland   Limestone   Lower montane coniferous forest   Marsh & swamp   Meadow & seep   Mojavean desert scrub   Montane dwarf scrub   North coast coniferous forest   Oldgrowth   Pavement plain   Redwood   Riparian forest   Riparian scrub   Riparian woodland   Salt marsh   Sonoran desert scrub   Sonoran thom woodland   Ultramafic   Upper montane coniferous forest   Upper Sonoran scrub   Valley & foothill grassland   Chaparral   Cismontane woodland   Lower montane coniferous forest   Valley & foothill grassland   Vernal pool   Wetland   Coastal bluff scrub   Ultramafic   Valley & foothill grassland   Marsh & swamp   Valley & foothill
Trichostema nygtii	Napa bluecurls	Dicots	PDLAM220H0	19	2	None	None	G2	S2	1B.2	null
Trifolium amoenum	showy rancheria clover	Dicots	PDFAB40040	26	2	Endangered	None	G1	S1	1B.1	SB_RSABG- Rancho Santa Ana Botanic Garden   SB_USDA-US Dept of Agriculture Coastal bluff scrub   Ultramafic   Valley & foothill grassland   Marsh & swamp   Valley & foothill
Trifolium											

7/16/2014

Quick View

hydrophilum	saline clover	Dicots	PDFAB400R5	49	4	None	None	G2	S2	1B.2	null	grassland   Vernal pool   Wetland
Triquetrella californica	coastal triquetrella	Bryophytes	NBMUS7S010	11	1	None	None	G1	S1	1B.2	USFS_S- Sensitive	Coastal bluff scrub   Coastal scrub   Valley & foothill grassland
Valley Needlegrass Grassland	Valley Needlegrass Grassland	Herbaceous	CTT42110CA	45	2	None	None	G3	S3.1	null	null	Valley & foothill grassland
Wildflower Field	Wildflower Field	Herbaceous	CTT42300CA	5	1	None	None	G2	S2.2	null	null	Valley & foothill grassland