“H”

Biological Resources Survey

Dry Creek/Mount Veeder Winery P17-00343 & P17-00345
Planning Commission Hearing April 18, 2018

NORTHWEST BIOSURVEY
Environmental & Planning Services
1905 Westlake Drive, Kelseyville CA 95451
Phone (707) 889-1061
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January 10, 2018

Mr. Thomas Carey
c/o BD Morris Trust
601 Rossi Road
Saint Helena, CA 94574

RE: Response to Mount Veeder "Incomplete Application Letter" from Napa County Planning Staff

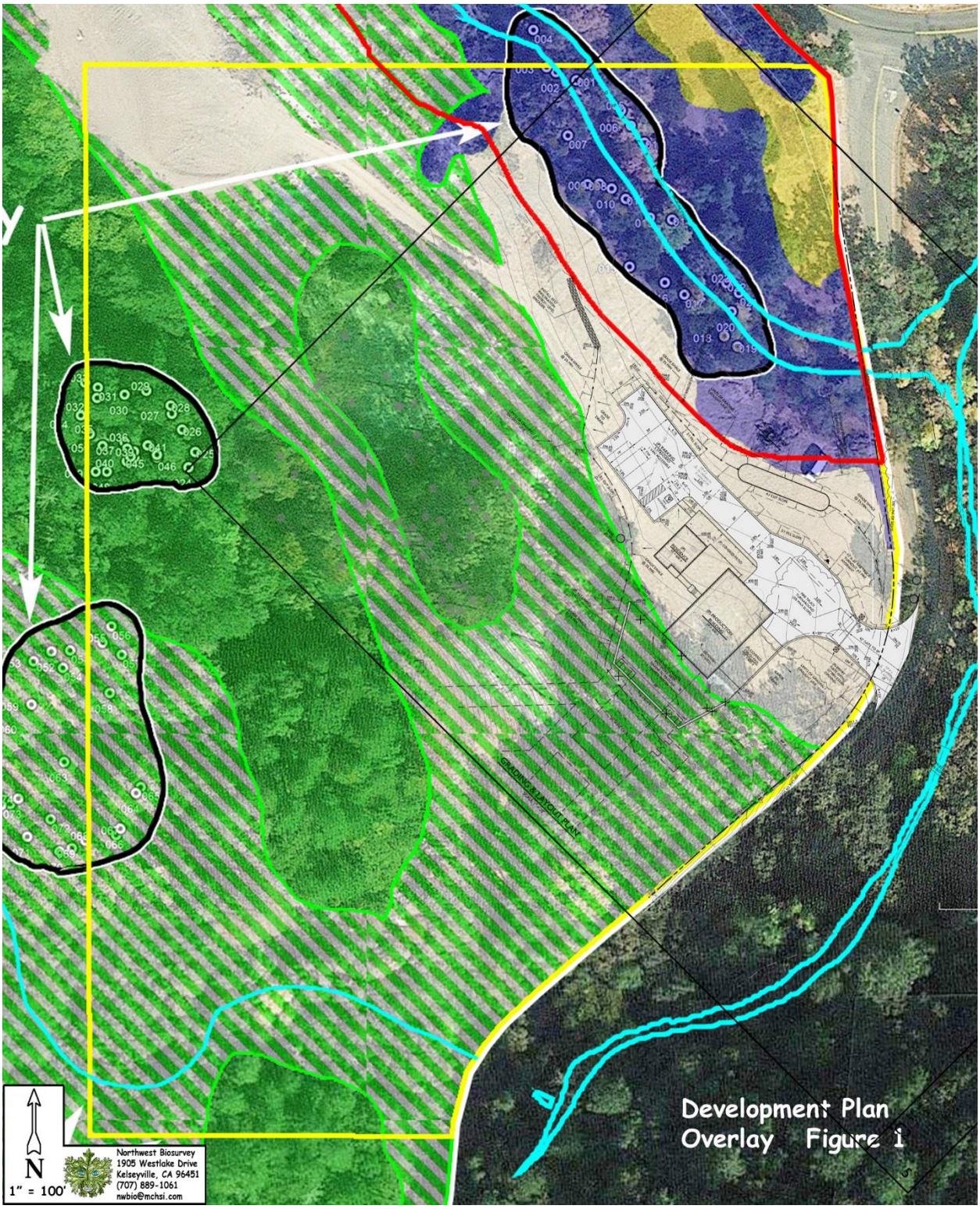
Dear Mr. Carey,

As you requested I have reviewed Jason Hade's "Incomplete Application Letter" with regard to the need for an assessment of project impacts on woodland resources. The attached image (**Figure 1**) is an overlay of the 11-3-17 Development Plan on Figure 2 of our Biological Assessment Report. The resultant figure verifies your statement that the project has been specifically designed to avoid woodland resources.

As shown in the plan, the project is limited to the ruderal (Disturbed) area cleared by Cal Fire during the Nuns Fire. Consequently, I agree that the project will not significantly impact woodland or other biological resources provided that the mitigation measures recommended in our report are implemented.

Sincerely,

Steve Zalusky
Principal Biologist


GRADING & LAYOUT PLAN
N
1" = 100'
Northwest Biosurvey
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Development Plan
Overlay Figure 1

BIOLOGICAL RESOURCE ASSESSMENT
WITH BOTANICAL and BAT HABITAT SURVEYS, WOODLAND ASSESSMENT, and DELINEATION OF WATERS OF THE U.S. for the
DRY CREEK-MT. VEEDER PROJECT

APN 027-310-039
Napa County, CA

November 11, 2017

Prepared by

Northwest Biosurvey

BIOLOGICAL RESOURCE ASSESSMENT
WITH BOTANICAL and BAT HABITAT SURVEYS,
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and
DELINEATION OF WATERS OF THE U.S.
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Prepared for: Thomas F. Carey, Esq.
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FIGURES AND TABLES

1.0 PROJECT DESCRIPTION

1.1 Proposed Project: This survey covers a 42.39-acre[1] area of a parcel proposed for a winery, located in Napa County. The property partially burned during the Nuns Fire in October of 2017. The local permitting agency is requesting completion of a botanical survey and assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for development of the property.

The initial phase of this assessment evaluates the potential of the parcel to contain sensitive plant and wildlife habitat. The second phase consists of a floristic-level botanical survey listing all plant taxa[2] on the property. The assessment will determine whether the property contains sensitive plants or potentially contains sensitive wildlife requiring mitigation under the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). As used here, the terms sensitive plant or wildlife includes all state or federal rare, threatened, or endangered species and all species listed in the California Natural Diversity Database (CNDDB) list of "Special Status Plants, Animals and Natural Communities".

A survey for sensitive bat habitat was also conducted for this project. The results of the surveys are provided in Section 5.0.

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

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

1.2 Location: The property is located at the intersection of Dry Creek Road and Mt. Veeder Road, west of Oakville in Napa County, California (APN 027-310-039; Sec. 32 T7N R5W, Rutherford, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.

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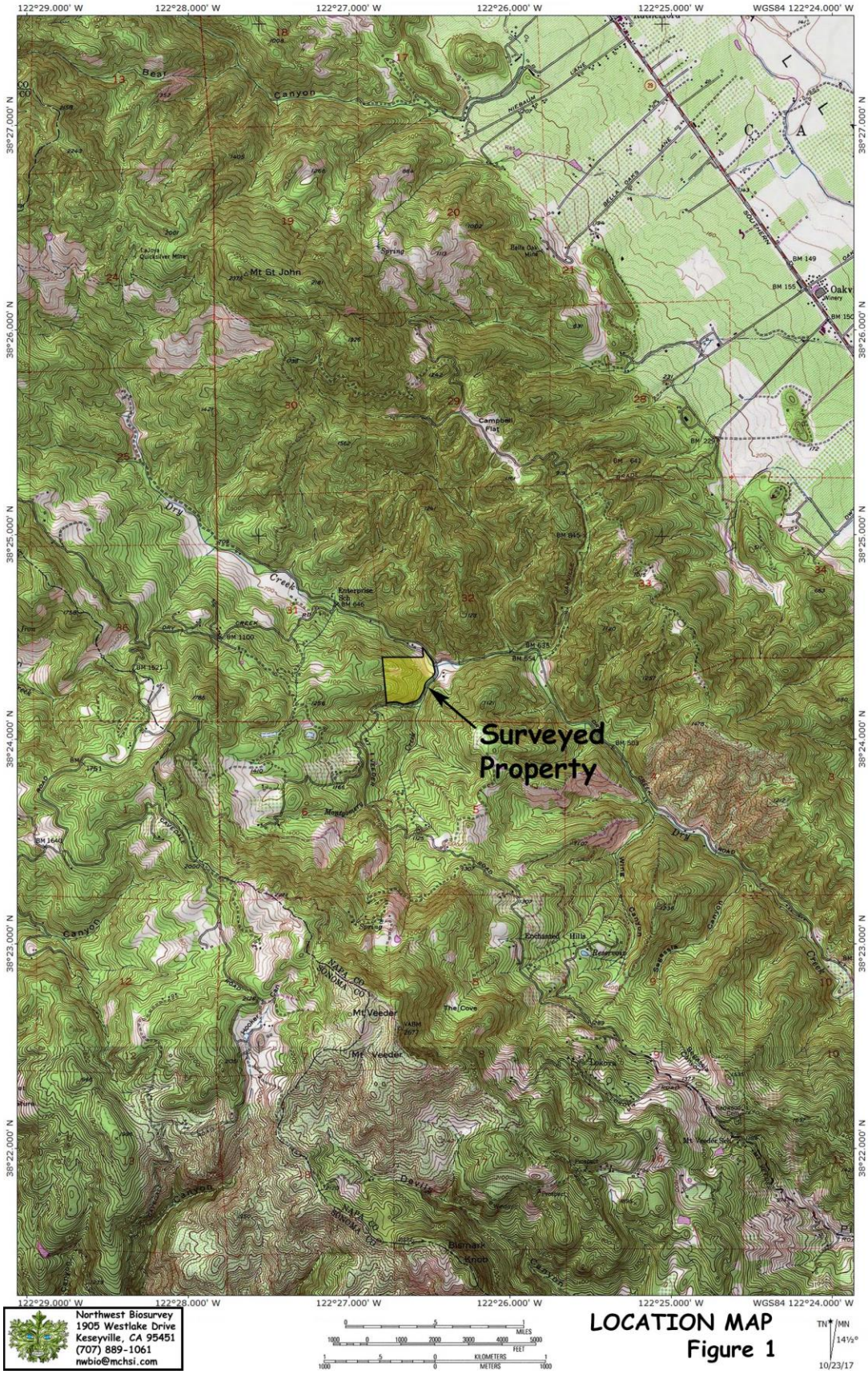
1 County records indicate this as a 55.5-acre parcel but that area appears to include two additional parcels to the north that are not part of this project.

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


122°29.000' W
122°28.000' W
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38°26.000' N
38°25.000' N
38°24.000' N
38°23.000' N
38°22.000' N
Surveyed Property
Mt St John
Mt Veeder
Campbell Flat
Dry Creek
Enterprise Sch
Enchanted Hills
The Cove
Davis
Bismark Knob
Oakv
Winery
Northwest Biosurvey
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MILES
FEET
KILOMETERS
METERS
LOCATION MAP
Figure 1
TN
MN
14½°
10/23/17

2.0 ASSESSMENT METHODOLOGY

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

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

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

- California Department of Fish and Wildlife (CDFW), *California Natural Diversity Database (CNDDB)*; RareFind 5, 2017
- California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (2017 edition)
- California Department of Fish and Wildlife, *California Wildlife Habitat Relationships System (CWHR)*, Version 9.0

The **CNDDB** and **RareFind 5** databases consist of maps and records of all known populations of sensitive plants and wildlife in California. This data is continually updated by the CDFW with new sensitive species population data.

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

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

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

2.1 Botanical Survey Methods: A full, in-season floristic-level survey was conducted for the project in 2017. CNDDB information and maps for the Rutherford quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer et al. 2009) as modified by the California Native Plant Society (CNPS), and mapped on a 1"=200' aerial photo. Vegetation community names are based on an assessment of dominant cover species.

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

2.2 Bat Habitat Survey Methods: Mature trees within the wooded areas in the development area were assessed for their potential as habitat for sensitive bat species. These included searching for hollow trees, trees with open cavities, and trees with exfoliating bark. Any trees meeting habitat criteria described above would be photographed, have their GPS coordinates recorded, and then be mapped on an aerial photo.

2.3 Delineation Methods: The delineation was conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual,* January 1987, and the *Arid West 2008 Supplement*. Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement*, 1973, and Mason's *Flora of the Marshes of California,*1957, were used as supplemental texts.

2.4 Woodland Assessment Methods: The proposed development area contains three distinct woodland types which are discussed in Section 3.3, Vegetation Types. One study plot was selected within each of the Douglas Fir Forest, the California Black Oak Forest, and the Coast Live Oak Woodland communities based on natural

community structure and identifiable geographic references (woodland boundaries, etc.). Trees within the study plots were mapped with a GPS waypoint and a record was made of its species, diameter at breast height (DBH), and any unique characteristics (dead, hollow, acorn storage tree, etc.). The methodology is discussed in detail in **Section 7.0** of this report.

2.5 Survey Dates: Site visits for botanical surveys, habitat and woodland assessments, the delineation, and mapping were made by Northwest Biosurvey staff on May 4[3], June 15, and October 24, 2017. All potentially present sensitive plant species in this area would have been identifiable on these dates.

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

Mr. Zalusky was assisted with field work by Leigh Zalusky. Leigh Zalusky has a Bachelor of Science Degree in Computer Engineering from the University of California, Davis. He has also developed extensive skills in plant taxonomy and ecology while managing and assisting in the development of the Seigler Valley Wetland Mitigation Bank and while assisting Northwest Biosurvey staff in field surveys and vegetation mapping over the past three years.

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

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

3.0 SITE CHARACTERISTICS

3.1 Topography and Drainage: The Dry Creek-Mt. Veeder property is located on a steep, east-facing slope of the Mayacamas Range west of Oakville and the Napa Valley (Figures 1 and 4). It reaches a maximum elevation of approximately 980 feet msl (mean sea level) along its western boundary and then drops 380 feet at its western edge along the banks of Dry Creek. These slopes are cut by high-gradient tributaries which join Dry Creek before draining southwest through rugged terrain to the Napa Valley. Dry Creek drains eastward across the valley floor to join the Napa River.

3.2 Soils: The property contains the following soil types:

- **Felton gravelly loam, 30-50 percent slopes,**
- **Felton gravelly loam, 50-75 percent slopes:**

  These are well-drained soils on hillslopes. They occur on a large portion of the property on the steepest slopes. These soils are residuum weathered from sandstone and shale. They are generally composed of gravelly loam over clay loam with weathered bedrock at a depth of 33 to 59 inches. Runoff class is very high. The hazard of erosion is high.

- **Sobrante loam, 5-30% slopes:**

  This moderately sloping to moderately steep soil is on foot slopes and side slopes on uplands. It is found on the more level areas near Dry Creek Road and at the top of the property at the western side. Included with this soil in mapping were small areas of Bressa, Dibble, Felton, Forward, Lodo, and Maymen soils. Runoff is medium. The hazard of erosion is slight to moderate. The Sobrante series consists of well drained soils on uplands. These soils formed in material weathered from sandstone. The vegetation is mostly annual grasses, scattered oaks, and a few ghost pine. Permeability is moderate.

- **Lodo-Maymen-Felton association, 30-75% slopes:**

  This map unit consists of somewhat excessively drained, steep, and very steep soils on hills. It includes 60% Lodo loam, 20% Maymen gravelly loam, and 20% Felton gravelly loam. All soils within the association formed in material weathered from sandstone and shale. Permeability is moderate to moderately slow. Vegetation on the Lodo and Maymen soils is brush such as chamise and manzanita, and grasses, scrub oak and small trees in protected areas. The Felton soil also supports Douglas fir and ponderosa pine, with fern, grasses, and redwoods in moist areas. The creek corridor along Dry Creek Road contains this soil type.

3.3 Vegetation Types: This project contains five natural plant communities or vegetation types based on or derived from the "Standardized Classification" scheme described in the California Native Plant Society (CNPS) *A Manual of California Vegetation*. These vegetation types and other cover types are listed below in **Table 1**. They are described below the tables and shown in the vegetation map provided in **Figure 2.**

During the Nuns Fire of October 28, 2017, a fast-moving ground fire moved through the property from the ridgetop to the west, to Dry Creek Road, thereby covering the entire property. While scattered small portions of the tree canopy were affected, all of these trees are likely to survive. The fire removed the ground cover, but this should be replaced next spring. The flat area adjacent to Dry Creek appears to have been used as a CDF base camp during the fire and was graded to remove the wild oat grassland habitat that formerly occupied much of it. It is now mapped as ruderal (disturbed areas) in the vegetation map provided in **Figure 2**.

TABLE 1. PLANT COMMUNITIES AND OTHER COVER TYPES PRESENT

COVER TYPE	Total Acres of Cover Type	Cover Type Percent of Total Property	Acres of Cover Type In Project Boundaries	Percent of Cover Type In Project Boundaries
Douglas Fir Forest	10.91	25.73	1.65	15.12
California Black Oak Woodland	25.65	60.51	3.46	13.49
Pacific Madrone Forest	0.91	2.15	0.00	0.00
Coast Live Oak Forest	2.08	4.91	0.82	39.42
Wild Oat Grassland	1.33	3.14	0.15	11.28
Ruderal (Disturbed Areas)	1.51	3.56	1.26	83.44
Total Acres of Cover Type	**42.39**	**100.00%**	**7.34**	**17.32***

* (Bottom Right Cell): Percent of Property within project area

- **Douglas Fir Forest:**

  Shaded east-facing slopes on the property are dominated by Douglas fir (*Pseudotsuga menziesii var. menziesii*), which provides a dense upper canopy with up to 90-percent cover. The subcanopy is dominated by California black oak (*Quercus kelloggii*) with subdominant California bay (*Umbellularia californica*).

Pacific madrone (*Arbutus menziesii*) is also present. The shrub layer consists primarily of seedlings and saplings of California bay.

The ground cover is made up of duff and leaf litter with scattered woodland forbs and grasses. These include Diogenes' lantern (*Calochortus amabilis*), blue dicks (*Dichelostemma capitatum ssp. capitatum*), white-stem hedge nettle (*Stachys albens*), fork-toothed ookow (*Dichelostemma congestum*), woodland madia (*Anisocarpus madioides*), Pacific blacksnakeroot (*Sanicula crassicaulis*), and coastal wood fern (*Dryopteris arguta*).

- **California Black Oak Forest:**

  This community of mature California black oak occupies south and west-facing slopes. It contains a subdominant mix of Douglas fir and California bay. It differs from the Douglas fir forest primarily in the shift in dominance from Douglas fir to California black oak. Due to its less-shaded aspect (angle and slope direction relative to noon-day sun), it supports a slightly more xeric (dry soil) flora including a shrub layer dominated by common manzanita (*Arctostaphylos manzanita ssp. manzanita*) with an inclusion of saplings of the tree canopy species.

  The ground cover is primarily duff and leaf litter with scattered woodland forbs and grasses including hedgehog dogtail (*Cynosurus echinatus*), blue wild rye (*Elymus glaucus ssp. glaucus*), and coastal wood fern.

- **Pacific Madrone Forest:**

  As is typical of these forests, Pacific madrone occurs as dense islands of small to moderate-sized trees within in matrix of surrounding black oak forest. Douglas fir saplings form the dominant shrub layer. Consequently, Pacific madrone will eventually become the dominant subcanopy within a Douglas fir forest. Due to the small patch size (aerial extent) of these forests, they are subject to edge effect from the adjacent woodlands and the ground cover here is the same as that of the Douglas fir and California black oak forest.

- **Coast Live Oak Forest:**

  Within the property boundaries, coast live oak (*Quercus agrifolia*) and California bay occur as an upper canopy of the riparian woodland along Dry Creek. These trees grow along the upper banks of this deeply-incised creek. The steeply sloping banks are dominated by Oregon ash (*Quercus agrifolia*) and red willow (*Fraxinus latifolia*). The shrub layer supports a co-dominant mix of common snowberry (*Symphoricarpos albus var. laevigatus*) and poison oak (*Toxicodendron diversilobum*).

The scour zone is primarily bedrock and soil with small islands of torrent sedge (*Carex nudata*). The adjacent active channel supports mugwort (*Artemesia douglasiana*), coastal wood fern, and licorice fern (*Polypodium glycyrrhiza*). The creek maintains cool perennial flows which become deep isolated pools in fall.

- **Wild Oat Grassland:**

  This grassland occupies a small clearing in the western half of the property. It contains the standard mix of primarily introduced annual grasses and forbs common to this region. These include: soft chess (*Bromus hordeaceus*), slender wild oat (*Avena barbata*), silver European hair grass (*Aira caryophyllea*), ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), cut-leaved geranium (*Geranium dissectum*), scarlet pimpernel (*Anagalis arvensis*), and western buttercup (*Ranunculus occidentalis*).

- **Ruderal (Disturbed Areas):**

  This term refers to disturbed areas such as roadways and parking areas. The flat areas along Dry Creek Road were apparently graded by CDF as a temporary base camp during the Nuns Fires and are now mapped as Ruderal in the vegetation map provided in **Figure 2.**

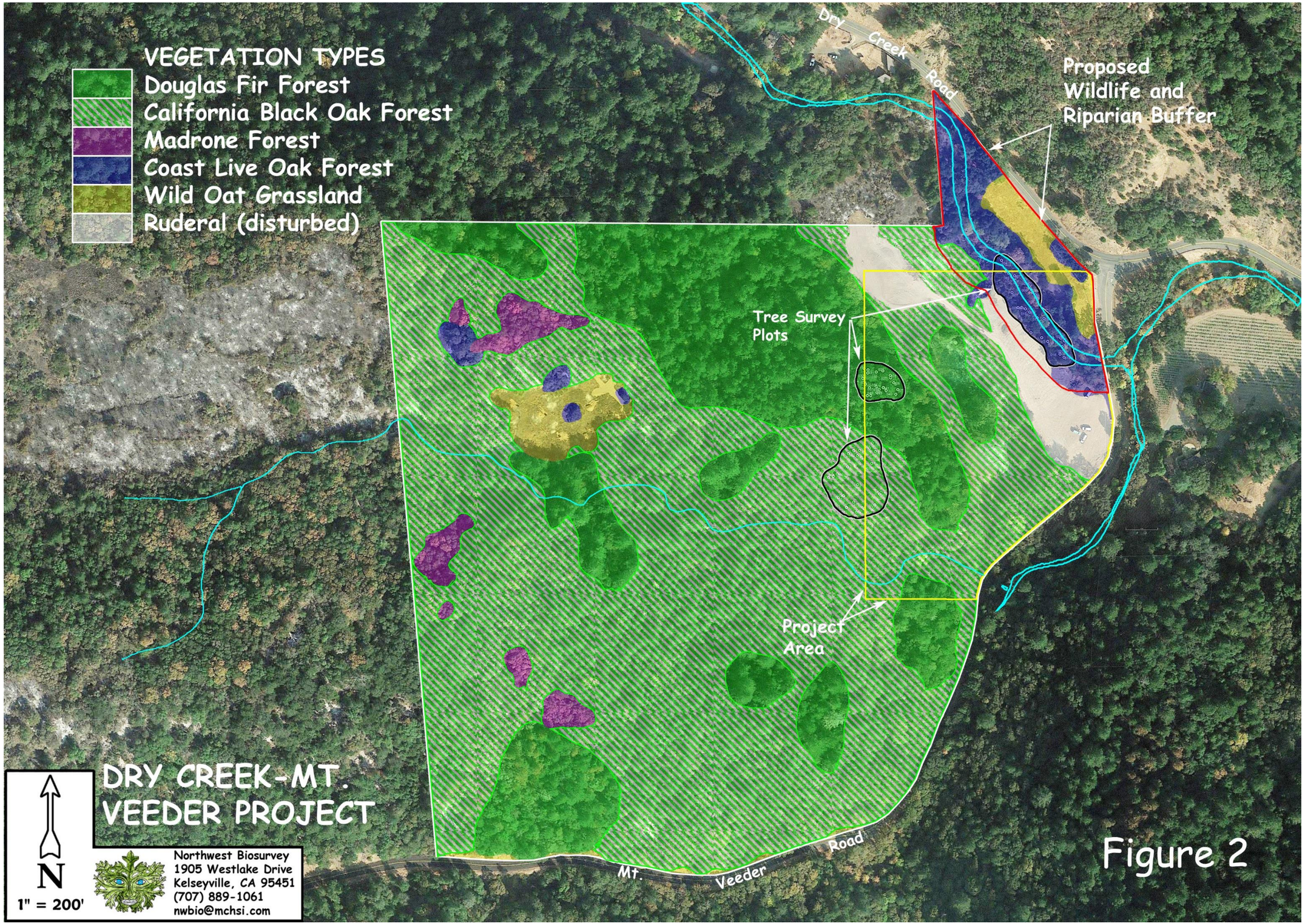
VEGETATION TYPES
Douglas Fir Forest
California Black Oak Forest
Madrone Forest
Coast Live Oak Forest
Wild Oat Grassland
Ruderal (disturbed)
Dry Creek Road
Proposed Wildlife and Riparian Buffer
Tree Survey Plots
Project Area
Mt. Veeder Road
DRY CREEK-MT. VEEDER PROJECT
N
1" = 200'
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Figure 2

4.0 PRE-SURVEY RESEARCH RESULTS

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

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

4.2 California Natural Diversity Database: The California Natural Diversity Database (CNDDB) and CDFW RareFind 5 data and maps for the Rutherford 7½' quadrangle map were reviewed for this project. **Table 3** presents a list of sensitive plant and wildlife species known to occur within the quadrangle. In addition to listing the species present within the quadrangle, the table provides a brief descriptor of the habitat requirements and blooming season, along with an assessment of whether the project area contains the necessary habitat requirements for each species. **Appendix A** at the end of this report lists the species within the nine quadrangles in the vicinity of this property.

TABLE 2. CALIFORNIA NATIVE PLANT SOCIETY'S INVENTORY OF RARE AND ENDANGERED PLANTS

Selected CNPS Plants by Scientific Name:

Dry Creek-Mt. Veeder Project

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	None	None	Apr-Jul	Broadleafed upland forest (openings), Chaparral, Cismontane woodland
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	1B.1	None	None	Feb-Apr(May)	Chaparral (rhyolitic), Cismontane woodland
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	1B.1	CT	FE	Mar-May	Chaparral (openings), Cismontane woodland, Valley and foothill grassland
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	None	None	May-Jul	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	None	None	Feb-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	None	None	Feb-Apr	Chaparral (serpentinite or volcanic, rocky)
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	None	None	Feb-Apr	Chaparral (sandy, serpentinite or volcanic)
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	1B.2	None	None	May-Sep	Chaparral (serpentinite or volcanic)
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	1B.2	None	None	Mar-May	Chaparral, Cismontane woodland, Valley and foothill grassland

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	None	None	Mar-Jun	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	perennial herb	1B.3	None	None	Apr-Aug	Chaparral (rocky)
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	4.2	None	None	Feb-May	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	1B.2	None	None	May-Jul	Chaparral (openings), Cismontane woodland

KEY FOR TABLE 2:

CNPS Rare Plant-Threat Rank Definitions:

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

State and Federal Status:

CESA = California Endangered Species Act
FESA = Federal Endangered Species Act
FE = Federal Endangered

TABLE 3. CNDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE RUTHERFORD, CALIF. 7½' QUAD.

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
Amorpha californica var. napensis	Napa false indigo	Broadleaved upland forest (openings), chaparral, cismontane woodland; --/--/1B.2	April-July decid. shrub	yes
Arctostaphylos canescens ssp. sonomensis	Sonoma canescent manzanita	Chaparral, lower montane conif. forest; --/--/1B.2	Jan.-April everg. shrub	no
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Chaparral, cismontane woodland; --/--/1B.1	Feb.-April everg. shrub	no
Astragalus claranus	Clara Hunt's milk-vetch	Chaparral, cismontane woodland, valley & foothill grassland; serpentinite or volcanic, rocky, clay; FE/ST/1B.1	March-May ann. herb	no
Brodiaea leptandra	narrow-anthered brodiaea	Broadleaved upland forest, chaparral, lower montane conif. forest; --/--/1B.2	May-July per. herb	yes
Ceanothus confusus	Rincon Ridge ceanothus	Closed cone conif. forest, chaparral, cismontane woodland/volcanic; --/--/1B.1	Feb.-April everg. shrub	no
Ceanothus divergens	Calistoga ceanothus	Chaparral; serpentine or volcanic, rocky; --/--/1B.2	Feb.-March ever. shrub	no
Ceanothus sonomensis	Sonoma ceanothus	Chaparral; sandy, serpent. or volcanic; --/--/1B.2	Feb.-April everg. shrub	no
Clarkia breweri	Brewer's clarkia	Chaparral, cismontane woodland, coastal scrub/often serpentinite); --/--/4.2	April-June ann. herb	poor
Erigeron biolettii	streamside daisy	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest /rocky, mesic; --/--/3	June-Oct. per. herb	yes
Erigeron greenei	Greene's narrow-leaved daisy	Serpentine chaparral; --/--/1B.2	May-Sept. per. herb	no
Eryngium jepsonii	Jepson's coyote-thistle	Valley & foothill grassland, vernal pools/clay; --/--/1B.2	April-August per herb	no
Harmonia nutans	nodding harmonia	Chaparral, cismontane woodland/rocky or gravelly, volcanic; --/--/4.3	March-May ann. herb	no
Helianthus exilis	serpentine sunflower	Chaparral, cismontane woodland/serpentinite seeps;--/--/4.2	April-Nov. ann. herb	no

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
Leptosiphon jepsonii	Jepson's leptisiphon	Chaparral, cismontane woodland; usually volcanic; --/--/1B.2	May-July ann. herb	no
Lupinus sericatus	Cobb Mountain lupine	Broadleaved upland forest, chaparral, cismontane woodland, lower montane conif. forest; --/--/1B.2	March-June per. herb	yes
Ranunculus lobbii	Lobb's aquatic buttercup	Cismontane woodland, North Coast coniferous forest, alley and foothill grassland, vernal pools/mesic--/--/4.2	Feb.-May ann. herb (aquatic)	no
Streptanthus hesperidis	green jewelflower	Chaparral (openings), cismontane woodland/serpentine, rocky; --/--/1B.2	May-July ann. herb	no

*See CNPS list for key

Wildlife Species	Common Name	Habitat Requirements/Status	Season Present	Habitat Present
Bombus caliginosus	obscure bumble bee	A black and yellow bee found in California, Oregon, Washington; G3G4/CA-SNR	year-round	no
Oncorhynchus mykiss irideus	steelhead-Central California Coast DPS	Small cool fast-flowing tributary streams with gravel beds. Steelhead are generally anadromous species that occur in streams that are contiguous with the ocean; FT/G5/S2S3	migratory	no
Dicamptodon ensatus	California giant salamander	Cool, moist forest habitats associated with rocky streams; SSC/G3/SNR	year-round	yes
Rana boylii	foothill yellow-legged frog	Riparian/aquatic: partly-shaded, shallow streams & riffles with a rocky substrate in variety of habitats; SSC/SCT/G3/S2S3	year-round	yes
Emys marmorata	western pond turtle	Aquatic turtle found in ponds, lakes, rivers, creeks, marshes & irrigation ditches with abundant vegetation and rocky or muddy bottoms; In woodland, forest, & grasslands; SSC/G3G4/S3	year-round	no
Halialeetus leucocephalus	bald eagle	Large bodies of water with adjacent snags; FD/SE/SFP/G5/S2	nesting & wintering	no

Wildlife Species	Common Name	Habitat Requirements/Status	Season Present	Habitat Present
Cypseloides niger	black swift	Steep, moist cliffs near surf or waterfalls; SSC/G4/S2	nesting	no
Buteo swainsoni	Swainson's hawk	Small groves of trees in riparian areas and oak savanna, cultivated areas; ST/G5/S3	nesting	no
Elanus leucurus	white-tailed kite	Open areas near woodlands and water; SFP/G5/S3	nesting	yes
Antrozous pallidus	pallid bat	Open, dry habitats, forest habitats, in caves, tunnels, buildings, bridges; sensitive to human disturbance; SSC/G5/S3	local migrant	yes

KEY FOR TABLE 3:

SE/ST/SD = State Endangered/Threatened/Delisted
SSC = CDFW Species of Special Concern
WL = CDFW Watch List
FE/FT/FD=Federal Endangered/Threatened/Delisted
FPE/FPT/FPD/FP = Federal Proposed Endangered/Threatened/Delisting
SC/SCD = State Candidate for Listing/Delisting
SCT=State Candidate Threatened
SFP = State Fully Protected
FC = Federal Candidate

NatureServe Conservation Status:
G1/S1 = Global/State Critically Imperiled
G2/S2 = Global/State Imperiled
G3/S3 = Global/State Vulnerable
G4/S4 = Global/State Apparently Secure
G5/S5 = Global/State Secure
SNR = Not yet assessed

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

4.4 Wildlife Assessment: Based on the pre-survey research conducted for this study, a total of 14 sensitive wildlife species need to be accounted for within the project area. These consist of ten species identified as present within the Rutherford quadrangle by the CNDDB and listed in Table 3. Lewis' woodpecker, loggerhead shrike, and Lawrence's gold finch are added based on the presence of potential habitat and because they are listed in table 4-7 of the Napa County BDR; northern spotted owl is added due to its verified presence in the vicinity of the property. Accepted protocol requires that all CNDDB species in the surrounding U.S.G.S. quadrangle be discussed even through suitable habitat may not occur on the site.

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

  This is a bumblebee native to the west coast; in the Coast Range, it inhabits meadows. It is similar in appearance and co-exists with the common *Bombus vosnesenskii* and may be mistaken for this bee. *B. oliginosus* is threatened by climate change and loss of habitat, and does not thrive in developed urban or agricultural areas. Ideal habitat does not occur on the site, although the bees may be present while feeding.

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

  Steelhead require cool perennial streams, usually streams contiguous with the ocean. The stream habitat within the property provides only seasonal flows and ponds would not provide the cool water required by this species. While not listed in Dry Creek in the CNDDB, electrofishing surveys in 1987[4] found adult steelhead in the lower ½ mile of the creek within the Napa Valley. Upstream movement appears to be limited by low flows and barriers to movement.

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

  The salamanders are found in damp forests in cool, rocky streams, and occasionally in ponds and lakes. This salamander has been found in the vicinity of Mt. Veeder in appropriate habitat. Salamanders prefer humid coastal forests, including Douglas fir, redwood, montane, and valley-foothill riparian habitats.

[4] Leidy et al., 2005.

Cold flowing water is necessary for egg-laying and maturing. The shadier portions of Dry Creek may provide habitat when water is flowing; however, much of the creek within the property is hot and fairly exposed during the summer, and salamanders are unlikely to be present. Regardless, if development activities are kept away from Dry Creek, this and other aquatic species should not be impacted.

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

  These frogs require either perennial or long-duration stream flows as successful breeding sites due to the lengthy period required for metamorphosis of larvae. *Rana boylii* has been found in numerous streams in the vicinity of the project, including tributaries to Dry Creek. They are likely to be seasonally present within Dry Creek along the east side of the parcel. Regardless, if the creek and riparian area are excluded from development, the species – if present – would not be impacted by the development.

- **Western pond turtle (*Actinemys marmorata*):**

  These turtles prefer slow or ponded water but will range widely through less suitable habitat in search of these sites. During the summer flows diminish on Dry Creek, although ponds remain within the creek channel. The species may also use the creek as a movement corridor between waterways. However, if this area is specifically excluded from development, any pond turtles present would not be impacted.

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

  This is a California Endangered species. It requires large bodies of water with abundant fish, and adjacent snags or perches. Nests are near water and consist of a stick platform on a large live tree, often the largest tree in a stand, usually with fairly open canopy. The species is addressed only because it is listed in the CNDDB overlay for this region near Lake Hennessey, north of this site. There is no suitable nesting habitat for eagles in the project area.

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

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

These requirements are met on the shaded dense Douglas fir forests within the survey area. There are several accounts of these federally threatened owls in this region mapped by the CNDDB. If no development is proposed within the Douglas fir forest, owls – if present – are unlikely to be negatively impacted. However, if development is proposed within the Douglas fir forest, it is recommended that a habitat analysis be conducted by an owl specialist.

- **Black swift (*Cypseloides niger*):**

  This California Species of Special Concern occupies a very unique and specific habitat consisting of wet, shaded, cliff sides in the spray zone of creeks and on cliffs along the ocean. There is an account of this species in the CNDDB in the Mt. Veeder area, but these conditions are not met on the project site.

- **Swainson's hawk (*Buteo swainsoni*):**

  This species is known locally mostly in the central valley. It breeds in small stands of trees in juniper-sage flats (in the south), riparian areas, and oak savanna in the central valley. Preferred nesting habitat is open riparian habitat or small groves of trees near sparsely vegetated flatlands. They usually roost in stick nests in large trees, although the hawk will also roost on the ground if not trees are available. Swainson's hawks forage in adjacent grasslands, grazing pastures, or agricultural fields, and their diet ranges from insects to small birds and mammals. They are identified in the CNDDB as occurring in the Napa Valley near the Napa River. Habitat on this property is moderate to poor due to the lack of expanses of open grassland. The species is unlikely to be present.

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

  Usually found near agricultural areas, the kite prefers open terrain near woodlands and water. These raptors hunt over open country and prefer large, deciduous trees surrounded by expanses of grassland, meadows, farmland and/or wetlands for nesting and roosting sites. The grassland in the east side of the parcel and on the knoll in the west side provide some suitable hunting habitat, although the small patch sizes of the grasslands make it unlikely that kites would nest in the adjacent woodlands. No kites and no nests were observed at the time of the field visits.

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

  This bird is considered a sensitive species by the County of Napa. These passerine (perching birds) prefer to nest in the dense foliage of oaks in dry open woodland near brushy and grassy areas or chaparral. Proximity to water is important. They frequently nest near other pairs during a breeding season that extends from late March through July, with birds migrating south in August. The property lacks suitable habitat for this species and it is unlikely to be present in its sensitive nesting state.

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

  This bird is considered a sensitive species by the County of Napa. These woodpeckers excavate nest cavities in dead trees and dead limbs of live trees in open woodlands. They prefer coniferous forests. The woodpeckers hunt insects and eat fruits and berries throughout the spring and summer and shift their diet to cached acorns and emerging insects in the fall and winter. Breeding occurs between early May and July. The more open areas of the oak and Douglas fir forests provide moderate potential habitat for this species, but may provide better habitat in future years due to the damage to trees from the Nuns Fire.

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

  This bird is considered a sensitive species by the County of Napa. These passerines prefer open-canopied woodlands with grass groundcover, and grazed open pastures. Preferred habitats include valley-foothill woodlands and riparian. They build well-concealed nests in the dense foliage of oaks and shrubs. They eat large insects but are fairly unique for passerines in that they also eat small amphibians, reptiles, birds, and mammals which they may impale on thorns or barbed wire fences. Shrikes use fence posts or shrubs as observation posts. Nesting occurs between March and early July when the young are fully fledged. The property lacks suitable habitat for this species

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

  Optimal habitat for these bats consists of open forest and woodlands with sources of water over which to feed. These bats prefer the cool summer temperatures of caves, crevices, and mines as roosting sites where they are known to wedge themselves into small spaces, but they will also roost in buildings, bridges, and hollow trees. Foraging occurs over open country. Pallid bats take a variety of prey, including insects, reptiles, and rodents. Maternity colonies tend to be in the more protected, isolated locations and may consist of more than 100 individuals. These bats have a home range of 1 to 3 miles and are known to roost with other bat species. This species is extremely sensitive to human disturbance of roosting sites.

  Surveys were conducted for bat habitat. The survey did not identify any trees that would provide potential habitat for bats, and no bat sign was seen. The survey results are discussed in more detail in **Section 5.1**.

5.0 FIELD SURVEY RESULTS

5.1 Bat Habitat Survey Results: A survey for bat habitat was conducted for this project. Mature trees within the proposed development area were assessed for potential as roosting sites for sensitive bat species. These potential bat habitat sites included hollow trees, trees with open cavities, and trees with exfoliating bark.

Results of bat habitat survey: Trees on the property are generally too young to provide habitat for sensitive bat species. Additionally, a large number of trees within the area proposed for development were damaged by the Nuns Fire in October 2017. No additional surveys for bats are recommended if work is completed this year; however, the burned and hollowed trees may be used by bats in future years.

5.2 Botanical Field Survey Results: Table 4 presents the results of the floristic-level botanical survey of the property. Each of the sensitive plant taxa potentially occurring at the property and listed in Tables 2 and 3 was specifically searched for during the surveys. A total of 81 native and introduced plant taxa were identified.

One plant taxon, **Northern California black walnut (*Juglans hindsii)***, is widespread throughout the Dry Creek corridor. Due to the widespread loss of these natural populations throughout Northern California, Northern California black walnut is listed as a CNPS List 1B species. This listing requires natural populations of these trees to be included in CEQA review and mitigation under Section 15380(d) of the CEQA Guidelines.

Note: *Even when a site meets the generalized habitat description for a sensitive plant taxon, this is not a guarantee that it is present. The precise habitat requirements for any species cannot be known in most cases. Plants with sensitive regulatory status are rare because they have a narrow band of habitat criteria that must be met. These may include a wide range of factors including microclimate, seasonal soil moisture, soil chemistry and texture, and presence or absence of specific pests or competitors.*

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

TABLE 4. FLORA OF THE DRY CREEK-MT. VEEDER PROJECT

Habit	Species	Common Name	Family	Origin
fern	*Pteridium aquilinum var. pubescens*	bracken fern	Dennstaedtiaceae	N
fern	*Dryopteris arguta*	coastal wood fern	Dryopteridaceae	N
fern	*Polypodium glycyrrhiza*	licorice fern	Polypodiaceae	N
fern	*Pentagramma triangularis ssp. triangularis*	gold-back fern	Pteridaceae	N
forb	*Sanicula bipinnatifida*	purple sanicle	Apiaceae	N
forb	*Sanicula crassicaulis*	Pacific sanicle, Pacific blacksnakeroot	Apiaceae	N
forb	*Sanicula laciniata*	coast sanicle, coastal blacksnakeroot	Apiaceae	N
forb	*Torilis arvensis*	field hedge parsley	Apiaceae	A
forb	*Achillea millefolium*	common yarrow	Asteraceae	N
forb	*Agoseris heterophylla var. heterophylla*	annual agoseris, annual mountain dandelion	Asteraceae	N
forb	*Anisocarpus madioides*	woodland madia	Asteraceae	N
forb	*Anthemis cotula*	dog-fennel	Asteraceae	A
forb	*Artemesia douglasiana*	mugwort	Asteraceae	N
forb	*Cirsium arvense*	Canada thistle	Asteraceae	A
forb	*Cirsium brevistylum*	clustered thistle, Indian thistle	Asteraceae	N
forb	*Cirsium vulgare*	bull thistle	Asteraceae	A
forb	*Micropus californicus*	cottontop	Asteraceae	N
forb	*Cardamine breweri*	Brewer's bittercress	Brassicaceae	N
forb	*Cerastium glomeratum*	mouse-ear chickweed, sticky mouse-ear	Caryophyllaceae	A
forb	*Convolvulus arvensis*	orchard morning-glory	Convolvulaceae	A
forb	*Carex nudata*	naked sedge, Torrent sedge	Cyperaceae	N
forb	*Acmispon brachycarpus*	shortpodded lotus, hill lotus	Fabaceae	N
forb	*Acmispon micranthus*	smallflower lotus	Fabaceae	N

Habit	Species	Common Name	Family	Origin
forb	*Lathyrus jepsonii var. californicus*	California tule pea	Fabaceae	N
forb	*Lupinus bicolor*	miniature lupine	Fabaceae	N
forb	*Melilotus indica*	sour clover	Fabaceae	A
forb	*Trifolium ciliolatum*	foothill clover	Fabaceae	N
forb	*Trifolium hirtum*	rose clover	Fabaceae	A
forb	*Erodium cicutarium*	red-stem storksbill	Geraniaceae	A
forb	*Geranium dissectum*	cut-leaved geranium	Geraniaceae	A
forb	*Geranium molle*	dovefoot geranium	Geraniaceae	A
forb	*Geranium robertianum*	Robert's geranium	Geraniaceae	A
forb	*Iris macrosiphon*	bowl-tubed iris	Iridaceae	N
forb	*Sisyrinchium bellum*	blue-eyed grass	Iridaceae	N
forb	*Stachys albens*	white-stem hedge nettle	Lamiaceae	N
forb	*Calochortus amabilis*	Diogenes lantern, golden fairy lantern	Liliaceae	N
forb	*Chlorogalum pomeridianum*	wavyleaf soap plant	Liliaceae	N
forb	*Dichelostemma capitatum ssp. capitatum*	blue dicks	Liliaceae	N
forb	*Dichelostemma congestum*	fork-toothed ookow	Liliaceae	N
forb	*Eschscholzia californica*	California poppy	Papaveraceae	N
forb	*Leptosiphon minimus*	true baby stars	Polemoniaceae	N
forb	*Anagalis arvensis*	scarlet pimpernel	Primulaceae	A
forb	*Ranunculus occidentalis*	western buttercup	Ranunculaceae	N
forb	*Drymocallis glandulosa ssp. glandulosa*	sticky cinqfoil	Rosaceae	N
forb	*Fragaria vesca*	wood strawberry	Rosaceae	N
grass	*Aira caryophyllea*	silver European hairgrass	Poaceae	A
grass	*Avena barbata*	slender wild oat	Poaceae	A
grass	*Briza minor*	small quaking grass	Poaceae	A

Habit	Species	Common Name	Family	Origin
grass	*Bromus diandrus*	ripgut brome, ripgut grass	Poaceae	A
grass	*Bromus hordeaceus*	soft chess	Poaceae	A
grass	*Cynosurus echinatus*	hedgehog dogtail, annual dogtail	Poaceae	A
grass	*Elymus glaucus ssp. glaucus*	blue wildrye	Poaceae	N
grass	*Festuca perennis*	Italian rye grass, perennial ryegrass	Poaceae	A
grass	*Hordeum marinum ssp. gussoneanum*	Mediterranean barley	Poaceae	A
grass	*Melica torreyana*	torrey melic	Poaceae	N
grass	*Poa annua*	annual bluegrass	Poaceae	A
grass	*Stipa lemmonii var. lemmonii*	Lemmon's needle-grass	Poaceae	N
moss	*Cladina portentosa ssp. pacifica*	coastal reindeer moss	Cladoniaceae	N
shrub	*Toxicodendron diversilobum*	poison oak	Anacardiaceae	N
shrub	*Baccharis pilularis*	coyote brush, chaparral broom	Asteraceae	N
shrub	*Symphoricarpos albus var. laevigatus*	common snowberry	Caryophyllaceae	N
shrub	*Arctostaphylos manzanita ssp. manzanita*	common manzanita	Ericaceae	N
shrub	*Mimulus aurantiacus ssp. aurantiacus*	bush monkeyflower, sticky monkeyflower	Phrymaceae	N
shrub	*Ceanothus cuneatus var. cuneatus*	buckbrush	Rhamnaceae	N
shrub	*Heteromeles arbutifolia*	toyon	Rosaceae	N
shrub	*Rosa californica*	California wild rose	Rosaceae	N
shrub	*Rubus armeniacus*	Himalayan blackberry	Rosaceae	A
tree	*Arbutus menziesii*	Pacific madrone	Ericaceae	N
tree	*Quercus agrifolia*	coast live oak	Fagaceae	N
tree	*Quercus kelloggii*	California black oak	Fagaceae	N
tree	***Juglans hindsii***	**Northern California black walnut; CNPS Rank 1B.1**	**Juglandaceae**	**N**
tree	*Umbellularia californica*	California bay	Lauraceae	N

Habit	Species	Common Name	Family	Origin
tree	*Fraxinus latifolia*	Oregon ash	Oleaceae	N
tree	*Pinus attenuata*	knobcone pine	Pinaceae	N
tree	*Pinus ponderosa*	ponderosa pine	Pinaceae	N
tree	*Pseudotsuga menziesii var. menziesii*	Douglas fir	Pinaceae	N
tree	*Salix laevigata*	red willow	Salicaceae	N
tree	*Acer macrophyllum*	big-leaf maple	Sapindaceae	N
vine	*Symphoricarpos mollis*	tripvine, creeping snowberry	Caprifoliaceae	N
vine	*Marah fabaceus*	California manroot	Cucurbitaceae	N
vine	*Lathyrus tingitanus*	Tangier pea	Fabaceae	A

Origin: N = Native, A = Alien

6.0 DELINEATION OF WATERS OF THE U.S.

6.1 Purpose of Delineation: This delineation has been conducted at the request of the local permitting agency in order to determine the extent of possible waters of the U.S. on the property. Measurements were taken using GIS mapping methods[5] verified in the field.

6.2 Delineation Procedure: This delineation has been conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2008*. The survey included use of lidar mapped overlays and an extensive foot survey. Possible waters of the U.S. on this property are defined as "other waters" consisting of ephemeral and perennial stream channels.

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

6.4 Waters of the U.S: The results of the delineation are shown on the aerial photo base map provided in **Figure 3**. Ephemeral stream segment B flows eastward to join Dry Creek (stream segment A), which contains perennial pools. The delineated boundaries of the possible Waters of the U.S are mapped in **Figure 3**. The total area of delineated waters is 0.71 acre. The delineation results are shown below in **Table 5**.

TABLE 5. POSSIBLE WATERS OF THE U.S.

Project Name: Dry Creek-Mount Veeder Winery			
Stream Segment	Length (ft)	Average Width (ft)	Area (acres)
A	624	35	0.501
B	1,519	6	0.209
Total Possible Waters of U.S. Within Survey Area			0.71

[5] ((Pixels/feature)/(dpi of image)) x (map scale in acres/square inch).

Project Name: Dry Creek-Mount Veeder Winery

Contact: Mr. Tom Carey
c/o BD Morris Trust
601 Rossi Road
Saint Helena, CA 94574

Delineator: Steve Zalusky, Principal Biologist
Northwest Biosurvey
P.O. Box 191
Cobb, CA 95426
(707) 928-1985

Date of Map: July 10, 2017

Stream Segment	Length (ft)	Average Width (ft)	Area (acres)
A	624	35	0.501
B	1,519	6	0.209
Total Possible Waters of U.S. Within Survey Area			**0.71**

38.407370°N
122.442393°W

A

B

38.402854°N
122.446167°W

DRY CREEK-MT. VEEDER PROJECT

N
1" = 200'

Northwest Biosurvey
1905 Westlake Drive
Kelseyville, CA 95451
(707) 889-1061
nwbio@mchsi.com

200'

Image Date: 10-17-17 Image Source: Google Earth

Figure 3

7.0 NAPA COUNTY WOODLAND ASSESSMENT

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

7.1 Procedure: The Dry Creek-Mt. Veeder Project site contains four distinct native forest communities. These are Douglas fir forest, California black oak forest, Pacific madrone forest and coast live oak forest. Portions of three of these (excluding Pacific madrone forest) occur within the proposed development areas. These communities are described in detail in Section 3.3 along with the other vegetation types on the property and are analyzed in this section due the potential for project-related impacts to woodlands. The acreage of each woodland community (and of all other vegetation and cover types) has been previously provided in Table 1.

Survey plots for each community were selected to best represent the structure and density of the forest or woodland that occurs within the proposed project area. The size was based on the need to include enough trees to provide a meaningful statistical sample. These plots are mapped in **Figure 2**.

Within each study plot, all trees were mapped with a GPS waypoint and a record was made of its species, diameter at breast height (DBH), and any unique characteristics (dead, hollow, acorn storage tree, etc.). The field data for each plot is provided in **Appendix C**.

The data collected for the study plots for each of the communities were then statistically analyzed to provide the following information:

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

This data is provided in **Tables 6-8**.

TABLE 6. TREE SURVEY DATA SUMMARY – DOUGLAS FIR FOREST

SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)	AVERAGE # OF TRUNKS PER ACRE[4]
DF	15	11.87	101
BLK	4	18.5	27
BAY	7	6.72	47
TOTAL	**26**	**11.50**	**175**
Total area of sample plot		6,461 ft^2	
Average canopy size[1]		236 ft^2	
Average distance between trunks[2]		16 ft	
Canopy closure[3]		95%	

TABLE 7. TREE SURVEY DATA SUMMARY – CALIFORNIA BLACK OAK FOREST

SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)	AVERAGE # OF TRUNKS PER ACRE[4]
BLK	13	19.61	33
BAY	3	16.31	8
DF	7	11.16	18
MAD	2	10.71	5
TOTAL	**25**	**16.14**	**64**
Total area of sample plot		16,927ft^2	
Average canopy size[1]		576ft^2	
Average distance between trunks[2]		677ft	
Canopy closure[3]		85%	

TABLE 8. TREE SURVEY DATA SUMMARY – COAST LIVE OAK FOREST

SPECIES	NUMBER IN SURVEY AREA	AVERAGE DBH (INCHES)	AVERAGE # OF TRUNKS PER ACRE[4]
CLO	11	14.7	34
BAY	4	23.7	13
ORA	7	13.2	22
OWO	1	4	3
TOTAL	**23**	**15.34**	**72**
Total area of sample plot		15,452ft^2	
Average canopy size[1]		604ft^2	
Average distance between trunks[2]		26ft	
Canopy closure[3]		90%	

Key:

CLO=Coast live oak *BAY=California Bay* *ORA=Oregon Ash*

OWO=Oregon White Oak *DF=Douglas Fir* *BLK=Black Oak*

MAD=Pacific Madrone

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

1. Average canopy size per tree = (area of test plot X percent canopy closure)/combined # of trees in test plot
2. Total number of trees = Total area of this community in block/(average canopy size per tree/percent canopy closure)
3. Average distance between trunks = square root of (combined area of this community in all development areas/total number of trunks)
4. Total number of trees in block/total number of acres in block.

Table 9 provides an estimate of the species and number of trees that occur within the project area shown in Figure 2. In lieu of a specific project design, an estimate of potential tree loss (if any) cannot be provided.

TABLE 9. ESTIMATED NUMBERS AND SPECIES OF TREES OCCURRING WITHIN THE PROJECT AREA (Yellow Polygon in Figure 2)

Plant Community	Number and Species of Trees in Project Area							Total # of Trees per Community
	DF	BLK	CLO	OWO	BAY	MAD	ORA	
Douglas fir Forest	167	45	0	0	78	0	0	290
California Black Oak Forest	62	114	0	0	28	17	0	221
Coast Live Oak Forest	0	0	28	2	11	0	18	59
Total # Each Species	**229**	159	28	2	117	17	18	**Total estimated # of trees In project area = 570**

7.2 Regional Setting and Continuity with Surrounding Woodlands and Other Habitat: The Dry Creek-Mt. Veeder property is located on a steep, east-facing slope of the Mayacamas Range west of Oakville and the Napa Valley (Figures 1 and 4). It reaches a maximum elevation of approximately 980 feet msl (mean sea level) along its western boundary and then drops 380 feet at its western edge along the banks of Dry Creek.

The property forms part of a continuous belt of Douglas fir and California black oak forest along the shaded east-facing slopes above Dry Creek. These slopes are cut by high-gradient tributaries which join Dry Creek before draining southwest through rugged

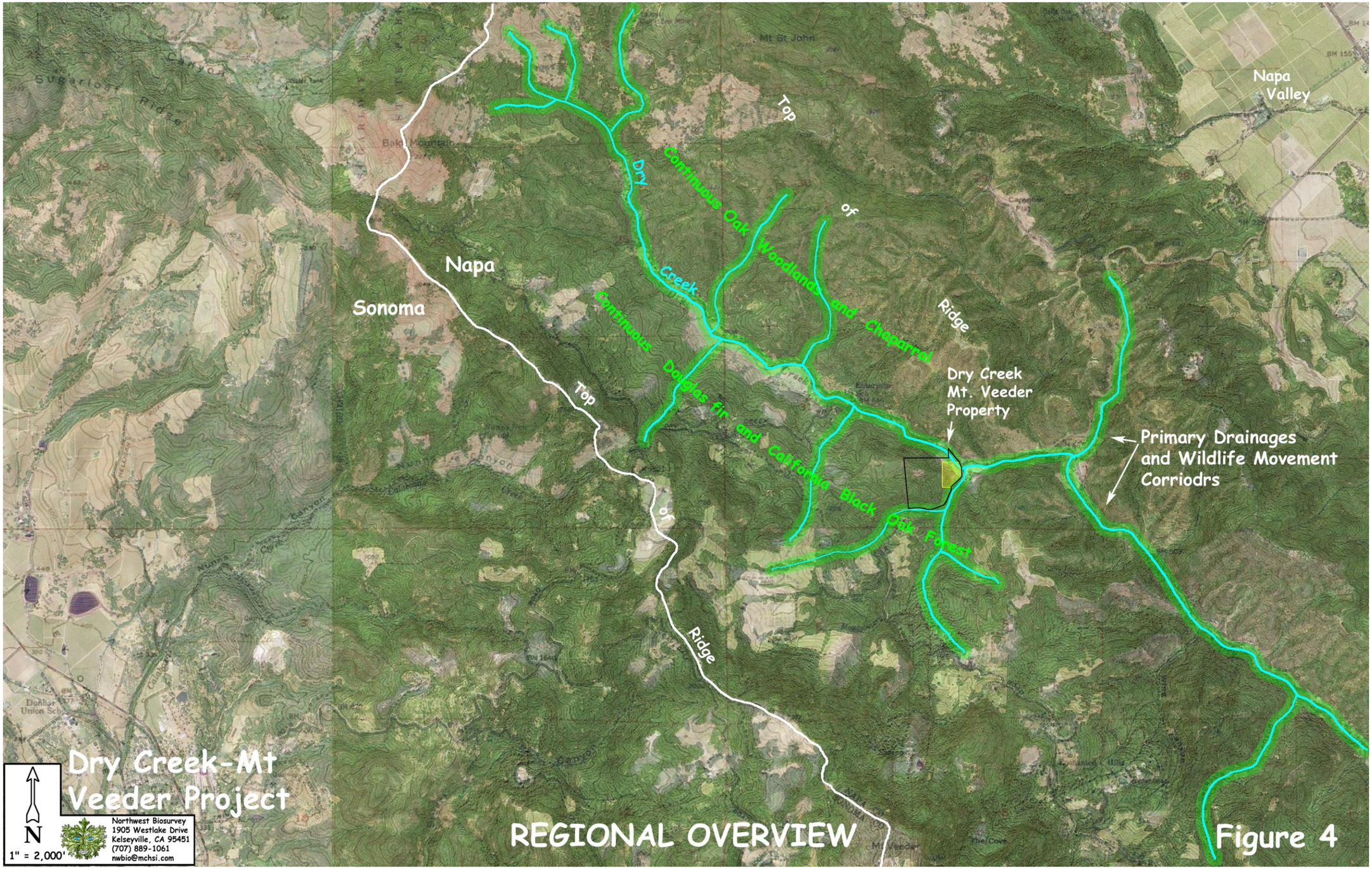
terrain to the Napa Valley. Dry Creek drains eastward across the valley floor to join the Napa River.

7.3 Wildlife Value of Woodlands in the Survey Area:

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

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

  Appendix C provides a list of wildlife species that could be expected to use forest habitats on the Dry Creek-Mt. Veeder property. The list contains 160 wildlife species, not all of which would specifically occupy the comparatively small area of this parcel but are likely to occur within similar habitat within the region.


Napa
Valley
Top
Dry
Creek
Ridge
Napa
Sonoma
Top
of
Ridge
Continuous Oak Woodland and Chaparral
Continuous Douglas fir and California Black Oak Forest
Dry Creek
Mt. Veeder
Property
Primary Drainages
and Wildlife Movement
Corriodrs
Dry Creek-Mt
Veeder Project
N
1" = 2,000'
Northwest Biosurvey
1905 Westlake Drive
Kelseyville, CA 95451
(707) 889-1061
nwbio@mchsi.com
REGIONAL OVERVIEW
Figure 4

- **Value as a Wildlife Corridor:** The project area does not occur within any of the wildlife corridors identified as a *CalWild Linkage* shown in Map 4-2 of the Napa County BDR. Historically, the principal wildlife corridors in the region would have consisted of major waterways and adjacent grasslands through the Napa Valley. These corridors have been heavily fragmented by vineyard and residential development. Steep, heavily wooded slopes typically provide poor regional wildlife movement corridors and this would also be true for the Dry Creek-Mt Veeder property. However, within the local setting, the continuous belt of Douglas fir and California black oak forest provides habitat continuity allowing free movement of local wildlife throughout the area. Additionally, the Dry Creek riparian corridor provides the principal north-south movement corridor within the surrounding area.

  Figure 4 provides a map of local corridors most likely used by large and medium sized wildlife (deer, coyote, fox, bear, mountain lion, racoon, possum, etc.) for cover and movement through the area. These consist primarily of stream corridors, and secondarily, of continuous bands of forest.

  As shown in Figures 2 and 4, the Dry Creek-Mt. Veeder property is located at the confluence of Dry Creek and a major tributary. Consequently, it occupies an important "cross-roads" along the Dry Creek movement corridor. Preservation of the riparian corridor passing through the eastern edge of the property is critical if this corridor is to remain intact and habitat fragmentation is to be avoided.

- **Cover and Edge Habitat for Surrounding Communities:** Structural edge (between forest and grassland habitats) is limited to the small clearing in the western half of the property and to the edges of the coast live oak-riparian community along Dry Creek. The remaining transitions are between similar forest habitats (Douglas fir and California black oak forest) and are unlikely to result in significant edge effects because the habitat structure and core wildlife of these two woodlands are very similar. The most valuable edge occurs along the eastern edge of the coast live oak-riparian forest and the wild oat grassland adjacent to Dry Creek Road.

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

  Sensitive Plant Communities: Old-growth Douglas fir-Ponderosa pine forest is one of the Sensitive Biotic Communities listed in the Napa County Baseline Data Report. While the property contains Douglas fir forest as shown in Figure 2, the trees here are relatively young with an average DBH of 11.75 inches. Douglas fir saplings are prominent throughout the California black oak and Pacific madrone forest,

indicating that these two forests are recovering from a fire event during the last ~50 to 75 years. This is likely to account for the young age of all forests on the property. Due to its comparatively young age, the Douglas fir forest does not appear to qualify as a sensitive Napa County community.

Critical Wildlife Resources: A survey for bat habitat was conducted as part of the field surveys for this project. The survey is discussed in Section 5.1 of this report. The property generally lacks senescent trees with hollows, broken limbs, or peeling bark that would provide habitat for bats. Ironically, as a result of the Nuns fire, hollow and burned-out trees now occur on the property and in the future have the potential to provide good bat (and purple martin) habitat.

- **Woodland Age Class and Size:** Based on the woodland assessment conducted for this project (Section 7.0), forest on the property consist of young healthy trees with a significant population of saplings and seedlings. The California black oak and Pacific madrone forests appear to be in successional transition to Douglas fir forest.

8.0 CONFORMANCE WITH NAPA COUNTY BASELINE DATA REPORT (BDR)

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

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

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

A total of 81 plant taxa were identified on the property. **Northern California black walnut**, a CNPS Rank 1.B species, occurs within the riparian corridor of Dry Creek. These trees are growing within their natural riparian habitat and are therefore considered to qualify as a sensitive plant taxon under Section 15380(d) of the CEQA Guidelines.

Sensitive Wildlife: Based on the wildlife analysis provided in Section 4.3, the following wildlife species with sensitive regulatory status have a potential to occur on the property:

- Pacific giant salamander
- Foothill yellow-legged frog
- Western pond turtle
- Northern spotted owl
- Lewis' woodpecker
- Pallid bat

As noted in **Section 5.1**, a survey for potential bat habitat trees was conducted as part of this assessment. Due to the comparatively young age of trees on the property and the consequent lack of senescent trees with hollows, peeling bark, or broken limbs, suitable bat habitat was not found within the proposed project area. However, the

Nuns fire has created hollowed and damaged trees that may provide suitable habitat in future years.

8.3 Potential Wildlife Movement Corridors: The CalWild Linkage Map presented in Map 4-2 of the BDR was reviewed with respect to this project. The project area is not within a movement area as defined by the CalWild database. Local wildlife movement is discussed in detail in the Woodland Assessment, **Section 7.3**. The eastern end of the property includes a segment of Dry Creek and its confluence with a significant tributary. This riparian corridor would serve as an important movement corridor for local wildlife.

8.4. Fisheries Resources: Dry Creek is likely to contain a warm-water fishery; however, as discussed in Section 4.3, it does not currently provide habitat for steelhead.

9.0 SUMMARY, IMPACT ANALYSIS, AND RECOMMENDATIONS

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

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

Sensitive Plants: A total of 81 native and introduced plant taxa were identified on the property during the in-season, floristic-level botanical survey. **Northern California black walnut (*Juglans hindsii)*** is widespread throughout the Dry Creek corridor. Due to the widespread loss of these natural populations throughout Northern California, Northern California black walnut is listed as a CNPS List 1B species. This listing requires natural populations of these trees to be included in CEQA review and mitigation under Section 15380(d) of the CEQA Guidelines. As used here, the term sensitive includes species having state or federal regulatory status, defined as Rare Plant Ranks 1B through 4 by the California Native Plant Society, or otherwise listed in the California Natural Diversity Database.

Sensitive Wildlife: A total of fourteen sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDB database for the quadrangle or the Napa County BDR. Possible habitat occurs for the following species within the proposed development areas:

- Pacific giant salamander
- Foothill yellow-legged frog
- Western pond turtle
- Northern spotted owl
- Lewis' woodpecker
- Pallid bat

Surveys were conducted for bat habitat within the proposed development areas; no suitable bat habitat trees were found (trees with hollows, etc.). No further surveys for bats are recommended for the 2017 construction season.

Woodland Resources: A Napa County Woodland Assessment was conducted for this project and is provided in **Section 7.0**. As shown in **Table 1**, the proposed development area contains 1.65 acres of Douglas fir forest, 3.46 acres of California black oak forest, and 0.82 acres of coast live oak-riparian forest. As shown in Table 9, this forest acreage would contain an estimated 570 trees of seven different species. No woodlands qualifying as sensitive biotic communities in the Napa County Baseline Data Report are present.

Possible Waters of U.S.: A total area of **0.71 acre** of possible waters of the U.S. has been delineated in ephemeral and perennial channels.

9.2 Potential Impacts and Proposed Mitigations:

1. Habitat Fragmentation:

Potential Impact: The Napa County Baseline Data Report emphasizes preservation of wildlife corridors and prevention of habitat fragmentation. As shown in **Figure 4**, the property forms part of a continuous belt of Douglas fir and California black oak forest along the east-facing slope above Dry Creek. Approximately 80-percent of this habitat on the parcel is located west of the proposed project area and, consequently, fragmentation of this forest habitat should be minimal.

The project also contains a segment of the Dry Creek riparian corridor which is a significant wildlife corridor within this watershed, providing access from the ridge of the Mayacamas Mountains, eastward to the Napa Valley. Any activities that result in the disruption of wildlife movement along this corridor would have a significant adverse impact on wildlife movement and would result in habitat fragmentation.

Proposed Mitigation: In order to avoid disruption of wildlife movement along the Dry Creek riparian corridor, a wildlife movement and riparian buffer is recommended. This proposed buffer is shown as a red polygon in **Figure 2**. It would extend 55 feet westward to include the riparian canopy of coast live oak woodland. It would extend eastward to the property boundary along Dry Creek and Mt. Veeder Roads, including the small opening of wild oat grassland edge. The westward edge of this buffer should be defined by a low, deer-passable fence or wall to prevent vehicle movement and storage within the buffer and to establish a sense of usable space for wildlife.

Potential isolation and fragmentation of remaining habitat on the property can be minimized by restricting deer fencing to the development areas. Fencing should not extend along linear features such as roadways or property lines.

2. Woodland and Forest Resources:

Potential Impact: As listed in Table 1 and analyzed in Table 9, the proposed project area (shown as a yellow polygon in Figure 2) contains approximately 6 acres of forest distributed among Douglas fir, California black oak, and coast live oak forest. It contains an estimated combined total of 570 trees. In the absence of a defined development plan, potential impacts to these forests cannot be estimated.

Once a project design is provided, the significance of impacts to forest resources must be determined by County staff in conformance with *Napa County General Plan policy CON-22*.

Proposed Mitigation: Implementation of the conservation buffer in Measure 1 above would preserve virtually all of the coast live oak woodland. It is recommended that the vegetation mapping provided in Figure 2 and the tree assessment provided in Tables 1 and Tables 7-9 be used to minimize tree loss in the final project design.

3. Sensitive Plants and Wildlife:

Potential Impacts:

- Plants: Northern California black walnut, a CNPS Rank 1.B taxon with sensitive regulatory status pursuant to Section 15380(d) of the CEQA

Guidelines, occurs within the Dry Creek Riparian corridor (coast live oak woodland). Project-related impacts to this woodland have a potential to result in a loss of Northern California black walnut trees.

- Wildlife: Project-related impacts to Dry Creek and its tributary along Mt. Veeder Road have a potential to result in an incidental take of Pacific giant salamander, foothill yellow-legged frog, and western pond turtle, all of which have sensitive regulatory status. Impacts to Douglas fir and California black oak forest have a potential to result in an incidental take of Lewis' woodpecker and northern spotted owl.

Proposed Mitigation: Establishment of the wildlife and riparian buffer recommended in Mitigation measure #1 above would avoid impacts to Northern California black walnut, Pacific giant salamander, foothill yellow-legged frog, and western pond turtle.

If vegetation clearing or other land disturbance within 100 feet of Douglas fir or California black oak forest is proposed during the bird breeding season (February 15 through August 31), the work should be preceded by a survey for Lewis' woodpecker and other migratory passerines (perching birds) by a qualified biologist within 14 days prior to the beginning of work. In the event that nesting birds are found during the survey, construction buffers shall be established by the biologist in cooperation with the California Department of Fish and Wildlife. These buffers shall remain in place until offspring have fledged or after August 31.

If the proposed project requires removal of Douglas fir or black oak forest, the work should be preceded by a survey for northern spotted owls conducted pursuant to federal protocol by a qualified biologist in consultation with the U.S. Fish and Wildlife Service. Sufficient lead time should be provided to allow these protocol surveys to be completed prior to the proposed construction date.

If work is completed during the 2017 construction season, no additional bat surveys are recommended based on the results of the survey conducted for this assessment. In following years, if trees are to be removed (outside of the dates listed below), any tree to be removed that is suitable for use by bats shall be surveyed for signs of bats. This survey shall occur no earlier than fourteen days prior to tree removal. Suitable trees include those with hollows and/or shedding bark.

If pallid bats, or other bats with sensitive regulatory status, are discovered during the surveys, a buffer of 50 feet should be established depending on recommendations of the surveying biologist. Removal of these roost trees shall be restricted to between September 15 and October 15, when young of the year are capable of flying, or between February 15 and April 1 to avoid hibernating bats and prior to formation of maternity sites.

4. Waters of the U.S.:

Potential Impacts: The proposed project area contains possible Waters of the U.S. which if filled or otherwise modified would qualify as an impact subject to regulation by the Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife.

Proposed Mitigation: Implementation of Mitigation measure #1 above would avoid impacts to the main channel of Dry Creek. Placement of fill within the tributary marked as channel "B" in Figure 3 will require approval of the following conditional permits:

- 404 permit by the Corps of Engineers (possibly a non-reporting permit under the Nationwide Permit Program)
- 401 Water Quality Certification from the Regional Water Quality Control Board
- 1604 Stream Alteration Agreement from the California Department of Fish and Wildlife

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APPENDIX A

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

Surrounding 9-Quad List: Rutherford Quadrangle

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Calistoga	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Calistoga	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Calistoga	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Calistoga	Taricha rivularis	red-bellied newt	None	None	SSC	-
Calistoga	Accipiter striatus	sharp-shinned hawk	None	None	WL	-
Calistoga	Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	-
Calistoga	Syncaris pacifica	California freshwater shrimp	End	End	-	-
Calistoga	Hysterocarpus traski pomo	Russian River tule perch	None	None	SSC	-
Calistoga	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Calistoga	Bombus occidentalis	western bumble bee	None	None	-	-
Calistoga	Antrozous pallidus	pallid bat	None	None	SSC	-
Calistoga	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Calistoga	Myotis evotis	long-eared myotis	None	None	-	-
Calistoga	Myotis thysanodes	fringed myotis	None	None	-	-
Calistoga	Myotis yumanensis	Yuma myotis	None	None	-	-
Calistoga	Emys marmorata	western pond turtle	None	None	SSC	-
Calistoga	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	-	-
Calistoga	Eryngium constancei	Loch Lomond button-celery	End	End	-	1B.1
Calistoga	Lomatium repostum	Napa lomatium	None	None	-	4.3
Calistoga	Centromadia parryi ssp. parryi	pappose tarplant	None	None	-	1B.2
Calistoga	Erigeron biolettii	streamside daisy	None	None	-	3
Calistoga	Harmonia nutans	nodding harmonia	None	None	-	4.3
Calistoga	Lasthenia burkei	Burke's goldfields	End	End	-	1B.1
Calistoga	Lessingia hololeuca	woolly-headed lessingia	None	None	-	3
Calistoga	Plagiobothrys strictus	Calistoga popcornflower	End	Threat	-	1B.1
Calistoga	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	-	1B.1
Calistoga	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Calistoga	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Calistoga	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Calistoga	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
Calistoga	Trifolium hydrophilum	saline clover	None	None	-	1B.2
Calistoga	Monardella viridis	green monardella	None	None	-	4.3
Calistoga	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Calistoga	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Calistoga	Limnanthes vinculans	Sebastopol meadowfoam	End	End	-	1B.1
Calistoga	Sidalcea hickmanii ssp. napensis	Napa checkerbloom	None	None	-	1B.1
Calistoga	Clarkia breweri	Brewer's clarkia	None	None	-	4.2
Calistoga	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Calistoga	Poa napensis	Napa blue grass	End	End	-	1B.1
Calistoga	Puccinellia simplex	California alkali grass	None	None	-	1B.2
Calistoga	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Calistoga	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Calistoga	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Calistoga	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Calistoga	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Calistoga	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Calistoga	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Calistoga	Triteleia lugens	dark-mouthed triteleia	None	None	-	4.3
Chiles Valley	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Chiles Valley	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Chiles Valley	Aquila chrysaetos	golden eagle	None	None	FP ; WL	-
Chiles Valley	Elanus leucurus	white-tailed kite	None	None	FP	-
Chiles Valley	Pandion haliaetus	osprey	None	None	WL	-
Chiles Valley	Ardea herodias	great blue heron	None	None	-	-
Chiles Valley	Agelaius tricolor	tricolored blackbird	None	Cand End	SSC	-
Chiles Valley	Bombus caliginosus	obscure bumble bee	None	None	-	-
Chiles Valley	Antrozous pallidus	pallid bat	None	None	SSC	-
Chiles Valley	Myotis evotis	long-eared myotis	None	None	-	-
Chiles Valley	Myotis yumanensis	Yuma myotis	None	None	-	-
Chiles Valley	Anodonta californiensis	California floater	None	None	-	-
Chiles Valley	Anodonta oregonensis	Oregon floater	None	None	-	-
Chiles Valley	Gonidea angulata	western ridged mussel	None	None	-	-
Chiles Valley	Emys marmorata	western pond turtle	None	None	SSC	-
Chiles Valley	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
Chiles Valley	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Chiles Valley	Helianthus exilis	serpentine sunflower	None	None	-	4.2
Chiles Valley	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Chiles Valley	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
Chiles Valley	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	-	4.2
Chiles Valley	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Chiles Valley	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Chiles Valley	Hesperolinon sharsmithiae	Sharsmith's western flax	None	None	-	1B.2
Chiles Valley	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
Chiles Valley	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Chiles Valley	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
Chiles Valley	Collomia diversifolia	serpentine collomia	None	None	-	4.3
Chiles Valley	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Chiles Valley	Leptosiphon latisectus	broad-lobed leptosiphon	None	None	-	4.3
Chiles Valley	Navarretia rosulata	Marin County navarretia	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Chiles Valley	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
Chiles Valley	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Chiles Valley	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Chiles Valley	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Glen Ellen	Ambystoma californiense	California tiger salamander	Threat	Threat	WL	-
Glen Ellen	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Glen Ellen	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Glen Ellen	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Glen Ellen	Taricha rivularis	red-bellied newt	None	None	SSC	-
Glen Ellen	Accipiter cooperii	Cooper's hawk	None	None	WL	-
Glen Ellen	Accipiter striatus	sharp-shinned hawk	None	None	WL	-
Glen Ellen	Aquila chrysaetos	golden eagle	None	None	FP ; WL	-
Glen Ellen	Buteo regalis	ferruginous hawk	None	None	WL	-
Glen Ellen	Elanus leucurus	white-tailed kite	None	None	FP	-
Glen Ellen	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Glen Ellen	Eremophila alpestris actia	California horned lark	None	None	WL	-
Glen Ellen	Ardea herodias	great blue heron	None	None	-	-
Glen Ellen	Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threat	End	-	-
Glen Ellen	Ammodramus savannarum	grasshopper sparrow	None	None	SSC	-
Glen Ellen	Riparia riparia	bank swallow	None	Threat	-	-
Glen Ellen	Asio flammeus	short-eared owl	None	None	SSC	-
Glen Ellen	Athene cunicularia	burrowing owl	None	None	SSC	-
Glen Ellen	Caecidotea tomalensis	Tomales isopod	None	None	-	-
Glen Ellen	Syncaris pacifica	California freshwater shrimp	End	End	-	-
Glen Ellen	Linderiella occidentalis	California linderiella	None	None	-	-
Glen Ellen	Lavinia symmetricus ssp. 3	Red Hills roach	None	None	SSC	-
Glen Ellen	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Glen Ellen	Bombus crotchii	Crotch bumble bee	None	None	-	-
Glen Ellen	Bombus occidentalis	western bumble bee	None	None	-	-
Glen Ellen	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	None	None	-	-
Glen Ellen	Taxidea taxus	American badger	None	None	SSC	-
Glen Ellen	Antrozous pallidus	pallid bat	None	None	SSC	-
Glen Ellen	Myotis thysanodes	fringed myotis	None	None	-	-
Glen Ellen	Myotis volans	long-legged myotis	None	None	-	-
Glen Ellen	Myotis yumanensis	Yuma myotis	None	None	-	-
Glen Ellen	Emys marmorata	western pond turtle	None	None	SSC	-
Glen Ellen	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
Glen Ellen	Blennosperma bakeri	Sonoma sunshine	End	End	-	1B.1
Glen Ellen	Downingia pusilla	dwarf downingia	None	None	-	2B.2
Glen Ellen	Legenere limosa	legenere	None	None	-	1B.1
Glen Ellen	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Glen Ellen	Iris longipetala	coast iris	None	None	-	4.2
Glen Ellen	Fritillaria liliacea	fragrant fritillary	None	None	-	1B.2
Glen Ellen	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Glen Ellen	Navarretia cotulifolia	cotula navarretia	None	None	-	4.2
Glen Ellen	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Glen Ellen	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Kenwood	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Kenwood	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Kenwood	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Kenwood	Taricha rivularis	red-bellied newt	None	None	SSC	-
Kenwood	Taricha torosa	Coast Range newt	None	None	SSC	-
Kenwood	Accipiter cooperii	Cooper's hawk	None	None	WL	-
Kenwood	Ardea herodias	great blue heron	None	None	-	-
Kenwood	Strix occidentalis caurina	northern spotted owl	Threat	Threat	SSC	-
Kenwood	Syncaris pacifica	California freshwater shrimp	End	End	-	-
Kenwood	Hysterocarpus traski pomo	Russian River tule perch	None	None	SSC	-
Kenwood	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Kenwood	Oncorhynchus tshawytscha	chinook salmon - California coastal ESU	Threat	None	-	-
Kenwood	Bombus occidentalis	western bumble bee	None	None	-	-
Kenwood	Hydroporus leechi	Leech's skyline diving beetle	None	None	-	-
Kenwood	Antrozous pallidus	pallid bat	None	None	SSC	-
Kenwood	Emys marmorata	western pond turtle	None	None	SSC	-
Kenwood	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
Kenwood	Valley Needlegrass Grassland	Valley Needlegrass Grassland	None	None	-	-
Kenwood	Allium peninsulare var. franciscanum	Franciscan onion	None	None	-	1B.2
Kenwood	Lomatium repostum	Napa lomatium	None	None	-	4.3
Kenwood	Erigeron biolettii	streamside daisy	None	None	-	3
Kenwood	Harmonia nutans	nodding harmonia	None	None	-	4.3
Kenwood	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Kenwood	Downingia pusilla	dwarf downingia	None	None	-	2B.2
Kenwood	Viburnum ellipticum	oval-leaved viburnum	None	None	-	2B.3
Kenwood	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	-	1B.1
Kenwood	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Kenwood	Hosackia gracilis	harlequin lotus	None	None	-	4.2
Kenwood	Trifolium amoenum	two-fork clover	End	None	-	1B.1
Kenwood	Iris longipetala	coast iris	None	None	-	4.2
Kenwood	Calochortus uniflorus	pink star-tulip	None	None	-	4.2
Kenwood	Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	End	End	-	1B.1
Kenwood	Calandrinia breweri	Brewer's calandrinia	None	None	-	4.2
Kenwood	Clarkia breweri	Brewer's clarkia	None	None	-	4.2
Kenwood	Castilleja ambigua var. ambigua	johnny-nip	None	None	-	4.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Kenwood	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Kenwood	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
Kenwood	Alopecurus aequalis var. sonomensis	Sonoma alopecurus	End	None	-	1B.1
Kenwood	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
Kenwood	Leptosiphon acicularis	bristly leptosiphon	None	None	-	4.2
Kenwood	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Kenwood	Navarretia heterandra	Tehama navarretia	None	None	-	4.3
Kenwood	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Kenwood	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Kenwood	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Kenwood	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Kenwood	Ceanothus gloriosus var. exaltatus	glory brush	None	None	-	4.3
Kenwood	Ceanothus purpureus	holly-leaved ceanothus	None	None	-	1B.2
Kenwood	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Kenwood	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Napa	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Napa	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Napa	Rana draytonii	California red-legged frog	Threat	None	SSC	-
Napa	Accipiter cooperii	Cooper's hawk	None	None	WL	-
Napa	Buteo swainsoni	Swainson's hawk	None	Threat	-	-
Napa	Elanus leucurus	white-tailed kite	None	None	FP	-
Napa	Pandion haliaetus	osprey	None	None	WL	-
Napa	Ardea alba	great egret	None	None	-	-
Napa	Ardea herodias	great blue heron	None	None	-	-
Napa	Egretta thula	snowy egret	None	None	-	-
Napa	Nycticorax nycticorax	black-crowned night heron	None	None	-	-
Napa	Melospiza melodia samuelis	San Pablo song sparrow	None	None	SSC	-
Napa	Riparia riparia	bank swallow	None	Threat	-	-
Napa	Geothlypis trichas sinuosa	saltmarsh common yellowthroat	None	None	SSC	-
Napa	Setophaga petechia	yellow warbler	None	None	SSC	-
Napa	Calasellus californicus	An isopod	None	None	-	-
Napa	Syncaris pacifica	California freshwater shrimp	End	End	-	-
Napa	Pogonichthys macrolepidotus	Sacramento splittail	None	None	SSC	-
Napa	Hypomesus transpacificus	Delta smelt	Threat	End	-	-
Napa	Spirinchus thaleichthys	longfin smelt	Cand	Threat	SSC	-
Napa	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Napa	Bombus occidentalis	western bumble bee	None	None	-	-
Napa	Taxidea taxus	American badger	None	None	SSC	-
Napa	Antrozous pallidus	pallid bat	None	None	SSC	-
Napa	Emys marmorata	western pond turtle	None	None	SSC	-
Napa	Lilaeopsis masonii	Mason's lilaeopsis	None	Rare	-	1B.1

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Napa	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Napa	Harmonia nutans	nodding harmonia	None	None	-	4.3
Napa	Lasthenia conjugens	Contra Costa goldfields	End	None	-	1B.1
Napa	Symphyotrichum lentum	Suisun Marsh aster	None	None	-	1B.2
Napa	Downingia pusilla	dwarf downingia	None	None	-	2B.2
Napa	Extriplex joaquinana	San Joaquin spearscale	None	None	-	1B.2
Napa	Eleocharis parvula	small spikerush	None	None	-	4.3
Napa	Astragalus tener var. tener	alkali milk-vetch	None	None	-	1B.2
Napa	Lathyrus jepsonii var. jepsonii	Delta tule pea	None	None	-	1B.2
Napa	Trifolium amoenum	two-fork clover	End	None	-	1B.1
Napa	Trifolium hydrophilum	saline clover	None	None	-	1B.2
Napa	Juglans hindsii	Northern California black walnut	None	None	-	1B.1
Napa	Trichostema ruygtii	Napa bluecurls	None	None	-	1B.2
Napa	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Napa	Calandrinia breweri	Brewer's calandrinia	None	None	-	4.2
Napa	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
Napa	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Napa	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Napa	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Rutherford	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Rutherford	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Rutherford	Taricha rivularis	red-bellied newt	None	None	SSC	-
Rutherford	Buteo swainsoni	Swainson's hawk	None	Threat	-	-
Rutherford	Elanus leucurus	white-tailed kite	None	None	FP	-
Rutherford	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Rutherford	Cypseloides niger	black swift	None	None	SSC	-
Rutherford	Ardea herodias	great blue heron	None	None	-	-
Rutherford	Nycticorax nycticorax	black-crowned night heron	None	None	-	-
Rutherford	Icteria virens	yellow-breasted chat	None	None	SSC	-
Rutherford	Setophaga petechia	yellow warbler	None	None	SSC	-
Rutherford	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Rutherford	Bombus caliginosus	obscure bumble bee	None	None	-	-
Rutherford	Antrozous pallidus	pallid bat	None	None	SSC	-
Rutherford	Gonidea angulata	western ridged mussel	None	None	-	-
Rutherford	Emys marmorata	western pond turtle	None	None	SSC	-
Rutherford	Eryngium jepsonii	Jepson's coyote-thistle	None	None	-	1B.2
Rutherford	Erigeron biolettii	streamside daisy	None	None	-	3
Rutherford	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Rutherford	Harmonia nutans	nodding harmonia	None	None	-	4.3
Rutherford	Helianthus exilis	serpentine sunflower	None	None	-	4.2
Rutherford	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Rutherford	Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	None	None	-	1B.1
Rutherford	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Rutherford	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
Rutherford	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
Rutherford	Clarkia breweri	Brewer's clarkia	None	None	-	4.2
Rutherford	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Rutherford	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Rutherford	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Rutherford	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Rutherford	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Rutherford	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Sonoma	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Sonoma	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Sonoma	Taricha rivularis	red-bellied newt	None	None	SSC	-
Sonoma	Cypseloides niger	black swift	None	None	SSC	-
Sonoma	Melospiza melodia samuelis	San Pablo song sparrow	None	None	SSC	-
Sonoma	Passerculus sandwichensis alaudinus	Bryant's savannah sparrow	None	None	SSC	-
Sonoma	Falco columbarius	merlin	None	None	WL	-
Sonoma	Spinus lawrencei	Lawrence's goldfinch	None	None	-	-
Sonoma	Riparia riparia	bank swallow	None	Threat	-	-
Sonoma	Selasphorus rufus	rufous hummingbird	None	None	-	-
Sonoma	Syncaris pacifica	California freshwater shrimp	End	End	-	-
Sonoma	Bombus caliginosus	obscure bumble bee	None	None	-	-
Sonoma	Bombus occidentalis	western bumble bee	None	None	-	-
Sonoma	Antrozous pallidus	pallid bat	None	None	SSC	-
Sonoma	Emys marmorata	western pond turtle	None	None	SSC	-
Sonoma	Allium peninsulare var. franciscanum	Franciscan onion	None	None	-	1B.2
Sonoma	Lomatium repostum	Napa lomatium	None	None	-	4.3
Sonoma	Balsamorhiza macrolepis	big-scale balsamroot	None	None	-	1B.2
Sonoma	Blennosperma bakeri	Sonoma sunshine	End	End	-	1B.1
Sonoma	Erigeron biolettii	streamside daisy	None	None	-	3
Sonoma	Harmonia nutans	nodding harmonia	None	None	-	4.3
Sonoma	Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	None	None	-	1B.2
Sonoma	Downingia pusilla	dwarf downingia	None	None	-	2B.2
Sonoma	Viburnum ellipticum	oval-leaved viburnum	None	None	-	2B.3
Sonoma	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
Sonoma	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
Sonoma	Monardella viridis	green monardella	None	None	-	4.3
Sonoma	Lilium rubescens	redwood lily	None	None	-	4.2
Sonoma	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
Sonoma	Leptosiphon acicularis	bristly leptosiphon	None	None	-	4.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
Sonoma	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Sonoma	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
Sonoma	Horkelia tenuiloba	thin-lobed horkelia	None	None	-	1B.2
Sonoma	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
Sonoma	Triteleia lugens	dark-mouthed triteleia	None	None	-	4.3
St. Helena	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
St. Helena	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
St. Helena	Rana draytonii	California red-legged frog	Threat	None	SSC	-
St. Helena	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
St. Helena	Ardea herodias	great blue heron	None	None	-	-
St. Helena	Progne subis	purple martin	None	None	SSC	-
St. Helena	Setophaga petechia	yellow warbler	None	None	SSC	-
St. Helena	Athene cunicularia	burrowing owl	None	None	SSC	-
St. Helena	Strix occidentalis caurina	northern spotted owl	Threat	Threat	SSC	-
St. Helena	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
St. Helena	Bombus caliginosus	obscure bumble bee	None	None	-	-
St. Helena	Antrozous pallidus	pallid bat	None	None	SSC	-
St. Helena	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
St. Helena	Myotis evotis	long-eared myotis	None	None	-	-
St. Helena	Myotis thysanodes	fringed myotis	None	None	-	-
St. Helena	Myotis yumanensis	Yuma myotis	None	None	-	-
St. Helena	Emys marmorata	western pond turtle	None	None	SSC	-
St. Helena	Northern Vernal Pool	Northern Vernal Pool	None	None	-	-
St. Helena	Eryngium jepsonii	Jepson's coyote-thistle	None	None	-	1B.2
St. Helena	Lomatium repostum	Napa lomatium	None	None	-	4.3
St. Helena	Erigeron biolettii	streamside daisy	None	None	-	3
St. Helena	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
St. Helena	Harmonia nutans	nodding harmonia	None	None	-	4.3
St. Helena	Helianthus exilis	serpentine sunflower	None	None	-	4.2
St. Helena	Layia septentrionalis	Colusa layia	None	None	-	1B.2
St. Helena	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
St. Helena	Amorpha californica var. napensis	Napa false indigo	None	None	-	1B.2
St. Helena	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
St. Helena	Astragalus claranus	Clara Hunt's milk-vetch	End	Threat	-	1B.1
St. Helena	Astragalus clevelandii	Cleveland's milk-vetch	None	None	-	4.3
St. Helena	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
St. Helena	Trichostema ruygtii	Napa bluecurls	None	None	-	1B.2
St. Helena	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
St. Helena	Hesperolinon sharsmithiae	Sharsmith's western flax	None	None	-	1B.2
St. Helena	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
St. Helena	Toxicoscordion fontanum	marsh zigadenus	None	None	-	4.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FEDERAL	CALIF	CDFW	CNPS
St. Helena	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
St. Helena	Castilleja ambigua var. ambigua	johnny-nip	None	None	-	4.2
St. Helena	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
St. Helena	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
St. Helena	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
St. Helena	Collomia diversifolia	serpentine collomia	None	None	-	4.3
St. Helena	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
St. Helena	Navarretia cotulifolia	cotula navarretia	None	None	-	4.2
St. Helena	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
St. Helena	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
St. Helena	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
St. Helena	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
St. Helena	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
St. Helena	Ceanothus pinetorum	Kern ceanothus	None	None	-	4.3
St. Helena	Ceanothus purpureus	holly-leaved ceanothus	None	None	-	1B.2
St. Helena	Ceanothus sonomensis	Sonoma ceanothus	None	None	-	1B.2
St. Helena	Brodiaea leptandra	narrow-anthered brodiaea	None	None	-	1B.2
St. Helena	Triteleia lugens	dark-mouthed triteleia	None	None	-	4.3
Yountville	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Yountville	Elanus leucurus	white-tailed kite	None	None	FP	-
Yountville	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Yountville	Ardea alba	great egret	None	None	-	-
Yountville	Ardea herodias	great blue heron	None	None	-	-
Yountville	Falco peregrinus anatum	American peregrine falcon	Delisted	Delisted	FP	-
Yountville	Icteria virens	yellow-breasted chat	None	None	SSC	-
Yountville	Setophaga petechia	yellow warbler	None	None	SSC	-
Yountville	Phalacrocorax auritus	double-crested cormorant	None	None	WL	-
Yountville	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threat	None	-	-
Yountville	Bombus caliginosus	obscure bumble bee	None	None	-	-
Yountville	Antrozous pallidus	pallid bat	None	None	SSC	-
Yountville	Emys marmorata	western pond turtle	None	None	SSC	-
Yountville	Sagittaria sanfordii	Sanford's arrowhead	None	None	-	1B.2
Yountville	Eryngium jepsonii	Jepson's coyote-thistle	None	None	-	1B.2
Yountville	Lomatium repostum	Napa lomatium	None	None	-	4.3
Yountville	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Yountville	Harmonia nutans	nodding harmonia	None	None	-	4.3
Yountville	Micropus amphibolus	Mt. Diablo cottonweed	None	None	-	3.2
Yountville	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
Yountville	Downingia pusilla	dwarf downingia	None	None	-	2B.2
Yountville	Astragalus clevelandii	Cleveland's milk-vetch	None	None	-	4.3
Yountville	Monardella viridis	green monardella	None	None	-	4.3

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

KEY FOR 9-QUAD LIST:

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

SE/ST/SD=State Endangered/Threatened/Delisted
SC/SCD/SCT=State Candidate for Listing/Delisting/Threatened
SSC=CDFW Species of Special Concern
SFP=State Fully Protected
WL=CDFW Watch List
FE/FT/FD=Federal Endangered/Threatened/Delisted
FPE/FPT/FPD/FP=Federal Proposed Endangered/Threatened/Delisting
FC=Federal Candidate

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

APPENDIX B

TREE SURVEY DATA

TREE SURVEY DATA – Coast Live Oak Forest		
WAYPOINT	SPECIES	DIAMETER AT BREAST HEIGHT (DBH) (in.)
1	BAY	22,28 (multi-trunk)= 35.6
2	BAY	13
3	BAY	32
4	CLO	16
5	ORA	6,6= 8.49
6	ORA	4,4,6,7= 10.82
7	CLO	7
8	CLO	12
9	CLO	9
10	CLO	10
11	CLO	15
12	ORA	5,6,7,7,7= 14.42
13	CLO	28
14	ORA	5,6,9,11,14 = 21.42
15	CLO	3
16	CLO	6
17	OWO	4
18	CLO	17
19	CLO	7,38 = 38.64
20	BAY	14
21	ORA	9
22	ORA	17
23	ORA	7,9= 11.4
SPECIES	**NUMBER IN SURVEY AREA**	**AVERAGE DBH (INCHES)**
CLO	11	14.7
BAY	4	23.7
ORA	7	13.2
OWO	1	4
TOTAL	23	15.34

TREE SURVEY DATA – Douglas Fir Forest		
WAYPOINT	SPECIES	DIAMETER AT BREAST HEIGHT (DBH) (in.)
24	DF	14
25	BLK	16
26	BAY	5
27	BLK	39
28	DF	13
29	DF	20
30	BAY	4
31	DF	9
32	DF	17
33	BAY	6,12= 13.42
34	BAY	2
35	DF	17
36	DF	15
37	DF	13
38	BLK	12
39	DF	12
40	BAY	3,3,5= 6.55
41	DF	5
42	BLK	7
43	DF	10
44	DF	5
45	DF	9
46	DF	10
47	BAY	3,4,5= 7.07
48	BAY	9
49	DF	9
SPECIES	**NUMBER IN SURVEY AREA**	**AVERAGE DBH (INCHES)**
DF	15	11.87
BLK	4	18.5
BAY	7	6.72
TOTAL	26	11.50

TREE SURVEY DATA - Black Oak Forest		
WAYPOINT	SPECIES	DIAMETER AT BREAST HEIGHT (DBH) (in.)
51	BLK	16
52	BAY	6,15= 16.16
53	BLK	32
54	BAY	6,7,14= 16.76
55	DF	16
56	BLK	11,19= 21.95
57	MAD	6,12= 13.42
58	MAD	8
59	BLK	22
60	DF	6
61	DF	6
62	BAY	16
63	BLK	18
64	BLK	12
65	BLK	32
66	DF	10,11,12= 19.10
67	DF	10
68	BLK	19
69	BLK	9
70	BLK	13
71	BLK	31
72	DF	10
73	DF	11
74	BLK	18
75	BLK	11
SPECIES	**NUMBER IN SURVEY AREA**	**AVERAGE DBH (INCHES)**
BLK	13	19.61
BAY	3	16.31
DF	7	11.16
MAD	2	10.71
TOTAL	25	16.14

Key:

CLO=Coast live oak	***BAY=California Bay***	***ORA=Oregon Ash***
OWO=Oregon White Oak	***DF=Douglas Fir***	***BLK=Black Oak***
MAD=Pacific Madrone		

1. Average canopy size per tree = (area of test plot X percent canopy closure)/combined # of trees in test plot
2. Total number of trees = Total area of this community in block/(average canopy size per tree/percent canopy closure)
3. Average distance between trunks = square root of (combined area of this community in all development areas/total number of trunks)
4. Total number of trees in block/total number of acres in block.

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

APPENDIX C

WILDLIFE HABITAT RELATIONSHIPS SYSTEM RESULTS

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

SPECIES SUMMARY REPORT

FE = Federal Endangered
FT = Federal Threatened
CF = California Fully Protected
CP = California Protected
PT = Federally-Proposed Threatened
FC = Federal Candidate
CD = CDF Sensitive
HA = Harvest

CE = California Endangered
CT = California Threatened
SC = California Species of Special Concern
PE = Federally-Proposed Endangered
BL = BLM Sensitive
FS = USFS Sensitive

Note: Any given status code for a species may apply to the full species or to only one or more subspecies or distinct population segments.

ID	Species Name	Status	Native/Introduced
A004	CALIFORNIA GIANT SALAMANDER		NATIVE
A006	ROUGH-SKINNED NEWT		NATIVE
A007	CALIFORNIA NEWT	SC	NATIVE
A020	SPECKLED BLACK SALAMANDER		NATIVE
B051	GREAT BLUE HERON	CD	NATIVE
B052	GREAT EGRET	CD	NATIVE
B053	SNOWY EGRET		NATIVE
B058	GREEN HERON		NATIVE
B059	BLACK-CROWNED NIGHT HERON		NATIVE
B076	WOOD DUCK	HA	NATIVE
B077	GREEN-WINGED TEAL	HA	NATIVE
B103	BUFFLEHEAD	HA	NATIVE
B105	COMMON MERGANSER	HA	NATIVE
B108	TURKEY VULTURE		NATIVE
B110	OSPREY	CD	NATIVE
B113	BALD EAGLE	CE CF BL FS CD	NATIVE
B115	SHARP-SHINNED HAWK		NATIVE
B116	COOPER'S HAWK		NATIVE
B119	RED-SHOULDERED HAWK		NATIVE
B123	RED-TAILED HAWK		NATIVE
B126	GOLDEN EAGLE	CF BL CD	NATIVE
B127	AMERICAN KESTREL		NATIVE
B128	MERLIN		NATIVE
B131	PRAIRIE FALCON		NATIVE
B140	CALIFORNIA QUAIL	SC HA	NATIVE
B141	MOUNTAIN QUAIL	HA	NATIVE

B145	VIRGINIA RAIL				NATIVE
B251	BAND-TAILED PIGEON			HA	NATIVE
B255	MOURNING DOVE			HA	NATIVE
B264	WESTERN SCREECH OWL				NATIVE
B265	GREAT HORNED OWL				NATIVE
B267	NORTHERN PYGMY OWL				NATIVE
B270	SPOTTED OWL	FT	SC	BL FS CD	NATIVE
B272	LONG-EARED OWL		SC		NATIVE
B273	SHORT-EARED OWL		SC		NATIVE
B274	NORTHERN SAW-WHET OWL				NATIVE
B277	COMMON POORWILL				NATIVE
B286	BLACK-CHINNED HUMMINGBIRD				NATIVE
B287	ANNA'S HUMMINGBIRD				NATIVE
B289	CALLIOPE HUMMINGBIRD				NATIVE
B291	RUFOUS HUMMINGBIRD				NATIVE
B292	ALLEN'S HUMMINGBIRD				NATIVE
B293	BELTED KINGFISHER				NATIVE
B294	LEWIS' S WOODPECKER				NATIVE
B296	ACORN WOODPECKER				NATIVE
B299	RED-BREASTED SAPSUCKER				NATIVE
B302	NUTTALL'S WOODPECKER				NATIVE
B303	DOWNY WOODPECKER				NATIVE
B304	HAIRY WOODPECKER				NATIVE
B307	NORTHERN FLICKER				NATIVE
B308	PILEATED WOODPECKER				NATIVE
B309	OLIVE-SIDED FLYCATCHER		SC		NATIVE
B311	WESTERN WOOD-PEWEE				NATIVE
B318	DUSKY FLYCATCHER				NATIVE
B320	PACIFIC-SLOPE FLYCATCHER				NATIVE
B321	BLACK PHOEBE				NATIVE
B326	ASH-THROATED FLYCATCHER				NATIVE
B333	WESTERN KINGBIRD				NATIVE
B338	PURPLE MARTIN		SC		NATIVE
B339	TREE SWALLOW				NATIVE
B340	VIOLET-GREEN SWALLOW				NATIVE
B346	STELLER'S JAY				NATIVE
B348	WESTERN SCRUB-JAY				NATIVE
B353	AMERICAN CROW			HA	NATIVE

B357	CHESTNUT-BACKED CHICKADEE			NATIVE
B358	OAK TITMOUSE			NATIVE
B360	BUSHTIT			NATIVE
B361	RED-BREASTED NUTHATCH			NATIVE
B362	WHITE-BREASTED NUTHATCH			NATIVE
B364	BROWN CREEPER			NATIVE
B368	BEWICK'S WREN		SC	NATIVE
B369	HOUSE WREN			NATIVE
B370	WINTER WREN			NATIVE
B372	MARSH WREN		SC	NATIVE
B373	AMERICAN DIPPER			NATIVE
B375	GOLDEN-CROWNED KINGLET			NATIVE
B376	RUBY-CROWNED KINGLET			NATIVE
B377	BLUE-GRAY GNATCATCHER			NATIVE
B380	WESTERN BLUEBIRD			NATIVE
B381	MOUNTAIN BLUEBIRD			NATIVE
B382	TOWNSEND'S SOLITAIRE			NATIVE
B385	SWAINSON'S THRUSH			NATIVE
B386	HERMIT THRUSH			NATIVE
B389	AMERICAN ROBIN			NATIVE
B390	VARIED THRUSH			NATIVE
B391	WRENTIT			NATIVE
B407	CEDAR WAXWING			NATIVE
B408	PHAINOPEPLA			NATIVE
B410	LOGGERHEAD SHRIKE	FE	SC	NATIVE
B415	CASSIN'S VIREO			NATIVE
B417	HUTTON'S VIREO		SC	NATIVE
B418	WARBLING VIREO			NATIVE
B425	ORANGE-CROWNED WARBLER			NATIVE
B426	NASHVILLE WARBLER			NATIVE
B430	YELLOW WARBLER		SC	NATIVE
B435	YELLOW-RUMPED WARBLER			NATIVE
B436	BLACK-THROATED GRAY WARBLER			NATIVE
B437	TOWNSEND'S WARBLER			NATIVE
B438	HERMIT WARBLER			NATIVE
B460	MACGILLIVRAY'S WARBLER			NATIVE
B461	COMMON YELLOWTHROAT		SC	NATIVE
B463	WILSON'S WARBLER			NATIVE

B467	YELLOW-BREASTED CHAT		SC		NATIVE
B471	WESTERN TANAGER				NATIVE
B475	BLACK-HEADED GROSBEAK				NATIVE
B483	SPOTTED TOWHEE		SC		NATIVE
B484	CALIFORNIA TOWHEE	FT CE			NATIVE
B489	CHIPPING SPARROW				NATIVE
B495	LARK SPARROW				NATIVE
B504	FOX SPARROW				NATIVE
B505	SONG SPARROW		SC		NATIVE
B506	LINCOLN'S SPARROW				NATIVE
B509	GOLDEN-CROWNED SPARROW				NATIVE
B512	DARK-EYED JUNCO				NATIVE
B519	RED-WINGED BLACKBIRD		SC		NATIVE
B521	WESTERN MEADOWLARK				NATIVE
B528	BROWN-HEADED COWBIRD				NATIVE
B532	BULLOCK'S ORIOLE				NATIVE
B536	PURPLE FINCH				NATIVE
B538	HOUSE FINCH				NATIVE
B539	RED CROSSBILL				NATIVE
B542	PINE SISKIN				NATIVE
B543	LESSER GOLDFINCH				NATIVE
B544	LAWRENCE'S GOLDFINCH				NATIVE
B545	AMERICAN GOLDFINCH				NATIVE
B546	EVENING GROSBEAK				NATIVE
B554	PLUMBEOUS VIREO				NATIVE
B699	BARRED OWL				NATIVE
B773	AMERICAN REDSTART				NATIVE
B798	WHITE-THROATED SPARROW				NATIVE
B799	HARRIS'S SPARROW				NATIVE
M006	ORNATE SHREW	FE	SC		NATIVE
M012	TROWBRIDGE'S SHREW				NATIVE
M015	SHREW-MOLE				NATIVE
M018	BROAD-FOOTED MOLE		SC		NATIVE
M023	YUMA MYOTIS			BL	NATIVE
M025	LONG-EARED MYOTIS			BL	NATIVE
M027	LONG-LEGGED MYOTIS				NATIVE
M028	CALIFORNIA MYOTIS				NATIVE
M031	CANYON BAT				NATIVE

M033	WESTERN RED BAT				SC			FS	NATIVE
M034	HOARY BAT								NATIVE
M037	TOWNSEND'S BIG-EARED BAT				SC		BL	FS	NATIVE
M051	BLACK-TAILED JACKRABBIT				SC			HA	NATIVE
M059	SONOMA CHIPMUNK								NATIVE
M077	WESTERN GRAY SQUIRREL							HA	NATIVE
M112	AMERICAN BEAVER							HA	NATIVE
M113	WESTERN HARVEST MOUSE								NATIVE
M116	CALIFORNIA MOUSE								NATIVE
M117	DEER MOUSE				SC				NATIVE
M119	BRUSH MOUSE								NATIVE
M120	PINYON MOUSE								NATIVE
M127	DUSKY-FOOTED WOODRAT	FE			SC				NATIVE
M134	CALIFORNIA VOLE	FE	CE		SC		BL		NATIVE
M139	COMMON MUSKRAT							HA	NATIVE
M146	COYOTE							HA	NATIVE
M147	RED FOX			CT				FS HA	NATIVE
M149	GRAY FOX							HA	NATIVE
M151	BLACK BEAR							HA	NATIVE
M152	RINGTAIL			CF					NATIVE
M153	RACCOON							HA	NATIVE
M160	AMERICAN BADGER				SC			HA	NATIVE
M165	MOUNTAIN LION				SC				NATIVE
M177	ELK							HA	NATIVE
R022	WESTERN FENCE LIZARD								NATIVE
R023	COMMON SAGEBRUSH LIZARD						BL		NATIVE
R036	WESTERN SKINK				SC		BL		NATIVE
R039	TIGER WHIPTAIL								NATIVE
R040	SOUTHERN ALLIGATOR LIZARD								NATIVE
R042	NORTHERN ALLIGATOR LIZARD								NATIVE
R046	NORTHERN RUBBER BOA			CT				FS	NATIVE
R053	STRIPED RACER		FT	CT					NATIVE
R057	GOPHERSNAKE				SC				NATIVE
R058	EASTERN KINGSNAKE								NATIVE
R059	CALIFORNIA MOUNTAIN KINGSNAKE				SC		BL	FS	NATIVE
R061	COMMON GARTERSNAKE	FE	CE	CF	SC				NATIVE
R071	DESERT NIGHTSNAKE								NATIVE
R078	AQUATIC GARTERSNAKE								NATIVE

Total Number of Species: 178

Query Parameters

Included Locations
Napa Co

Included Location Seasons
Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)
Douglas-fir, Montane Hardwood, Montane Riparian

Habitat Suitability Threshold
Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons
Migrant, Summer, Winter, Yearlong

Excluded Elements
Algae, Aquatics - Submerged, Barren, Bogs, Brush Pile, Buildings, Burrow, Campground, Cave, Cliff, Dump, Grass/agriculture,
Grass/water, Jetty, Kelp, Lakes, Lithic, Mine, Mud Flats, Nest Box, Nest Island, Nest Platform, Pack Stations, Ponds, Rivers, Rock, Salt Ponds, Sand Dune, Shrub/agriculture, Shrub/grass, Shrub/water, Soil - Saline, Soil - Sandy, Springs, Springs - Hot,
Springs - Mineral, Talus, Tidepools, Transmission Lines, Tree/agriculture, Tree/shrub, Water - Created Body, Water - Slow, Water/agriculture, Wharf

Included Species All Species Included

Included Special Statuses
Native