BIOLOGICAL RESOURCE ASSESSMENT

for the

BRYANT STOCKING VINEYARD PROJECT
KELSEYVILLE, LAKE COUNTY, CALIFORNIA

March 14, 2018

Prepared by
Northwest Biosurvey

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1.0 PROJECT DESCRIPTION

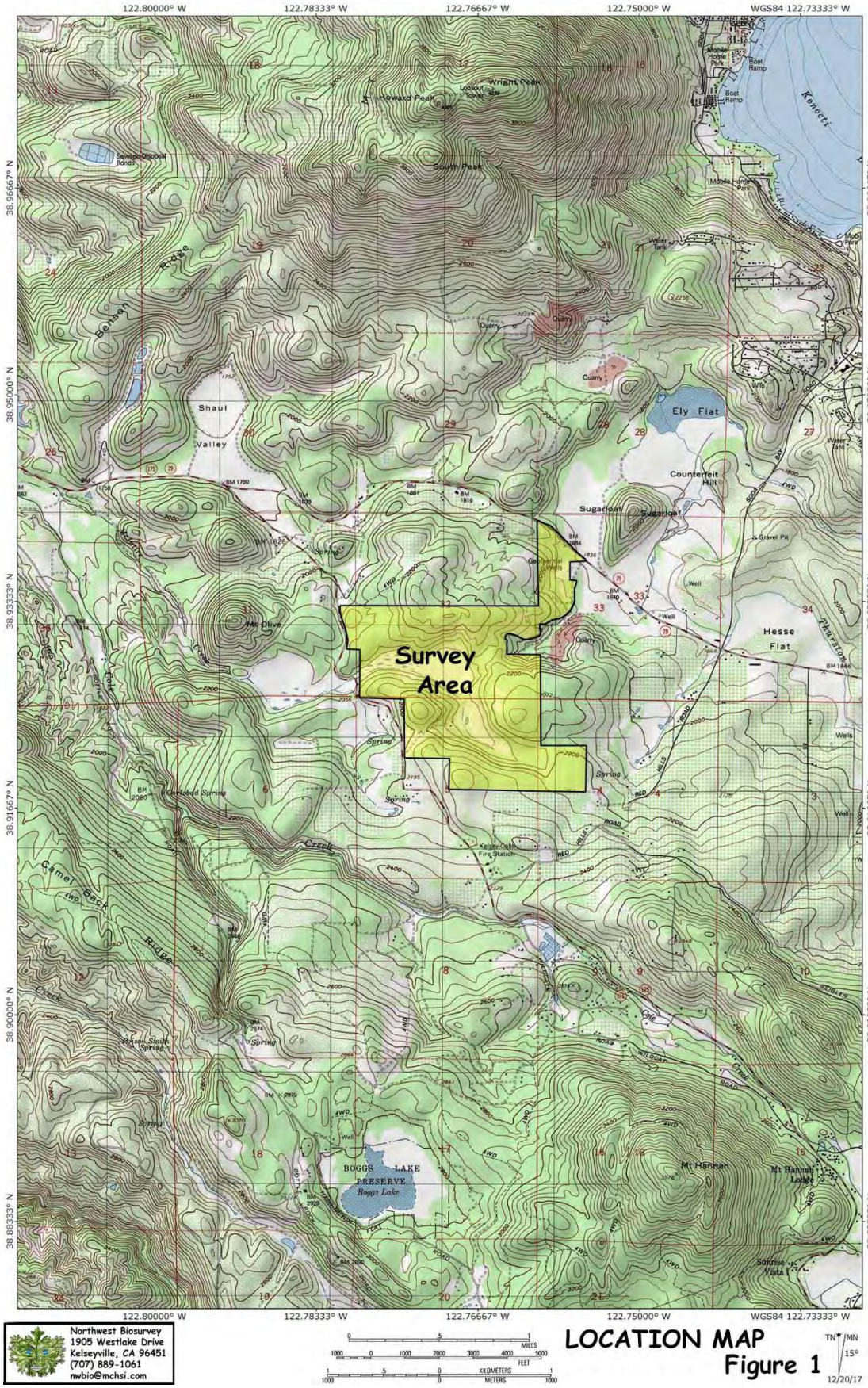
1.1 Proposed Project: This biological resource assessment covers five parcels totaling 638 acres, portions of which are proposed for vineyard development. The local permitting agency is requesting completion of an assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for development of a vineyard.

The initial phase of this assessment evaluated the potential of the property to contain sensitive plant and wildlife habitat using databases discussed below. The second phase consisted of field surveys for vegetation mapping and habitat analysis. The purpose of the biological resource assessment is to 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".

In-season botanical surveys for this property were conducted in 2015 and 2016 by another consultant[1], and additional botanical surveys were not requested and are not included in this report. Field botany conducted by Northwest Biosurvey staff was conducted outside of the botanical survey season and was limited to plant identifications required for accurate vegetation mapping. A list of incidental plants identified by us but not included in the original botanical survey is included in this report. Additionally, this assessment specifically focuses on biological resources; vegetation and wildlife. Waters of the U.S. are not addressed.

1.2 Location: The project site is located between Highways 29 and 175 on APNs 09-022-54, 55 & 56, 011-056-01 & 06, Kelseyville, California (T12N R8W Sec. 4 & 5, T13N R8W Sec. 31, 32 & 33; Kelseyville, Calif. 7½' Topographic Map). A location map is provided in Figure 1.

[1] Darcie Mahoney, Licensed Forester #2397, Botanical Report 15, June 2015.


122.80000° W
122.78333° W
122.76667° W
122.75000° W
WGS84 122.73333° W
38.96667° N
38.95000° N
38.93333° N
38.91667° N
38.90000° N
38.88333° N
Survey Area
Howard Peak
Wright Peak
South Peak
Konocti
Bensel Ridge
Shaul Valley
Ely Flat
Counterfeit Hill
Sugarloaf
Mt Olive
Hesse Flat
Camel Back Ridge
BOGGS LAKE PRESERVE
Boggs Lake
Mt Hannah
Mt Hannah Lodge
Kelsey Cobb Fire Station
Sunset Vista
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LOCATION MAP
Figure 1
TN
MN
15°
12/20/17

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

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
- 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.).

2.1 Survey Methods: A survey of vegetation types was conducted for the project site. In-season botanical surveys had previously been conducted for the project in 2015 and 2016 by a different consultant, and additional botanical surveys were not requested of Northwest Biosurvey. The CNDDB report and overlay map for the Kelseyville 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"=500' 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 plant communities is provided in Figure 2.

2.2 Survey Dates: Site visits for vegetation mapping were made on December 8 and 14, 2017.

2.4 Biological Assessment Staff: The field surveys, plant taxonomy, and vegetation mapping 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. He completed his wetland delineation training under Terry Huffman of Huffman & Associates, Inc.

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

3.0 SITE CHARACTERISTICS

3.1 Topography and Drainage: The Stocking Vineyard property lies at the base of a series of low hills constituting the eastern edge of the Mayacamas Mountains at a point where the terrain again rises along the southern slope of Mount Konocti. The property is dominated by two central wetland basins surrounded by low hills. Drainage is primarily internal to these basins, which in turn drain via McIntire Creek. This creek flows west to its confluence with Cole Creek which drains north through the Big Valley to Clear Lake. The property extends north via a narrow "panhandle" to State Highway 29. Slopes here drain east to Thurston Creek, which eventually enters the isolated drainage basin of Thurston Lake. The topography is shown in Figure 1.

3.2 Soils: The property contains four soil types, described as follows:

- Aiken-Sobrante Association, 5-15% slopes (soil unit 101):
- Aiken-Sobrante Association, 15-30% slopes (soil unit 102);

  These map units are on hills and mountains. They contain Aiken loam (on north- and east-facing slopes) and Sobrante loam (on south- and west-facing slopes). The Aiken soil is very deep and well drained; it formed in material weathered from basalt. Permeability is relatively slow; surface runoff is medium and the hazard of erosion is moderate. The Sobrante loam is moderated deep and well drained. It formed in material weathered from basalt. Permeability is moderate. Surface runoff is medium, and the hazard of erosion is moderate. These soil units are on the southwestern portions of the property

- Bottlerock-Glenview-Arrowhead complex, 5-30% slopes (soil unit 117):

  This map unit is on volcanic hills. Vegetation is mainly brush, including manzanita and ceanothus, with scattered conifers. The complex consists of about 50% Bottlerock extremely gravelly loam, 20% Glenview very gravelly loam, and 15% Arrowhead extremely gravelly sandy loam. All soils are deep and well drained and formed in material weathered from obsidian. Permeability ranges from slow to moderately slow, runoff is rapid, and the hazard of erosion is moderate to severe. This soil complex is located on the north and northeastern parts of the property.

- Clear Lake Variant clay, drained (soil unit 122):

  This very deep soil is in basins. It occurs in the lower wet meadow in the center of the property. It formed under poorly drained conditions; however, drainage has been improved as a result of entrenchment of stream channels. The soil formed in lacustrine deposits derived from mixed rock sources. The soil consists of clay or clay loam to more than 72 inches in depth. Permeability of this soil is slow. Surface runoff is slow and the hazard of erosion is slight. The soil is subject to rare periods of flooding

and ponding during prolonged storms. The shrink-swell potential is high. Natural vegetation includes annual grasses, forbs, and scattered oaks.

3.3 Plant Communities: This project contains fifteen 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 four other cover types are listed below in Table 1. They are described below and shown in the vegetation map provided in Figure 2.

- Ponderosa Pine Forest:

  Ponderosa pine is a subdominant member of the California black oak-ponderosa pine community throughout the southern half of the property. However, on the most densely shaded north-facing slopes ponderosa pine (*Pinus ponderosa*) provides the dominant tree cover. The edges of these pine forests transition into California Black Oak-Ponderosa Pine Forest. The shrub and ground cover layers are the same as those found in the latter community.

- Knobcone Pine Forest:

  Knobcone pine (*Pinus attenuata*) occurs as small, dense copses of even-aged trees along ridgetops in the northern quarter of the property. The shrub and ground cover layers are suppressed within the community due to dense canopy cover, but community edges support the shrub and ground cover layer of the surrounding Chamise Chaparral and Interior Live Oak Shrub species.

- Oregon White Oak Woodland:

  This community consists of a relatively narrow band of mature Oregon white oaks (*Quercus garryanna var. garryanna*) surrounding the two large Reed Canary Grass Swards in the middle of the property. It is generally not more than 2-3 canopy widths wide. The shrub layer is a continuation of the more mesic (moist soil) shrubs from adjacent plant communities. Common snowberry (*Symphoricarpos albus var. laevigatus*) is prevalent.

  The ground cover layer includes hedgehog dogtail (*Cynosurus echinatus*) and bracken fern (*Pteridium aquilinum var. pubescens*). It transitions into sedges, Pacific bog rush (*Juncus effusus var. pacificus*), and fuller's teasel (*Dipsacus fullonum*) along the wetland edge. Fremont cottonwood (*Populus fremontii var. fremontii*) joins the canopy at this edge. The adjacent north slopes transition into Black Oak-Ponderosa Pine Forest; on the south slopes (north of the central Reed Canary Grass Swards) the community transitions into Interior Live Oak Woodland.

- California Black Oak-Ponderosa Pine Forest:

  North-facing slopes throughout the property support mature Black Oak-Ponderosa Pine Forest. The tree canopy cover is typically 70%. The subcanopy includes Pacific madrone (*Arbutus menziesii*), interior live oak trees (*Quercus wislizeni var. wislizeni*), and California bay (*Umbellularia californica*).

  The shrub layer within this community is a mix of common and white-leaf common manzanitas (*Arctostaphylos manzanita ssp. manzanita, A. m. ssp. glaucescens*), birch-leaf mountain mahogany (*Cercocarpus betuloides var. betuloides*), and coyotebrush (*Baccharis pilularis*), along with dense thickets of poison oak (*Toxicodendron diversilobum*). California fescue (*Festuca californica*), hedgehog dogtail, field hedge parsley (*Torilis arvensis*), and blue wildrye (*Elymus glaucus ssp. glaucus*) make up much of the ground cover.

- Blue Oak Woodland:

  This comparatively open woodland community occupies a ridgetop in the northern quarter of the property and a south-facing slope in to the south. Blue oak (*Quercus douglasii*) provides a widely dispersed but homogenous tree canopy within a matrix of wild oat grassland. It lacks a true shrub layer but scattered common manzanita and interior live oak shrubs (*Quercus wislizeni var. frutescens*) occur among the denser stands of trees. The ground cover is Wild Oat Grassland but also includes scattered woodland grasses and forbs, including slender wild oat (*Avena barbata*), blue wildrye, hedgehog dogtail, and field hedge parsley.

- Interior Live Oak Woodland:

  Interior live oak occurs primarily as a shrub community[2] (described below) along the broad, south-facing slope in the northern half of the property. However, the community is developed as a moderate height (20-50 feet) woodland along the northern edge of the reed canary grass wetland and on a shaded slope to the east. This community varies from dense, homogenous stands to transitional mixes of interior live oak, manzanita, birch-leaf mountain mahogany and other shrubs found within the more heterogeneous interior live oak shrub community. The canopy cover is too dense to support shrub or ground cover layers other than leaf litter.

- Red Willow Thicket:

  Red Willow (*Salix laevigata*) occurs as dense thickets along excavated channels within the southern Reed Canary Grass Sward. This community consists of a

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

homogenous tree canopy of shrubby red willow, typically surrounded by a dense shrub layer of Himalayan blackberry (*Rubus armeniacus*).

- Common Manzanita Shrub:

  Several manzanita species occur as the shrub layer throughout the woodland and forest communities on the property; however, in a number of more-exposed locations, or where the tree canopy is open enough to allow it, common manzanita occurs as the dominant member of a distinct shrub community including a mix of other manzanitas and shrubs. These include white-leaf common manzanita, hoary manzanita (*Arctostaphylos canescens ssp. canescens*), Stanford manzanita (*Arctostaphylos stanfordiana ssp. stanfordiana*), toyon (*Heteromeles arbutifolia*), birch-leaf mountain mahogany, poison oak, and shrubby interior live oak. The canopy is too dense to support a ground cover layer other than leaf litter. Stanford manzanita occurs in the most xeric (dry soil) sites.

- Chamise Chaparral:

  This nearly-homogenous community of chamise (*Adenostoma fasciculatum*) occupies south-facing slopes throughout the property. Canopy cover is 100%. Included in this community are Stanford and common manzanitas and occasional ghost pines (*Pinus sabiniana*). The canopy is too dense to support a ground cover other than leaf litter.

- Interior Live Oak Shrub:

  This heterogenous shrub community[3] is typically transitional between Chamise Chaparral on the more exposed slopes to Interior Live Oak Woodland on the more shaded slopes. The community consists of a co-dominant mix of shrubby interior live oaks, Stanford and hoary manzanitas, scrub oak (*Quercus berberidifolia*), coyotebrush, chamise, California bay, buck-brush (*Ceanothus cuneatus var. cuneatus*), and wavy-leaf ceanothus (*Ceanothus foliosus var. foliosus*). The shrub layer is generally too dense to support a ground cover layer. However, openings and community edges support grasses and forbs including nitgrass (*Gastridium phleoides*), silver European hairgrass (*Aira caryophyllea*), desert fescue (*Festuca microstachys*), and goldwire (*Hypericum concinnum*).

- Blackberry Bramble:

  Dense, homogenous patches of Himalayan blackberry occur along the western edge of the southern Reed Canary Grass Sward. These are too dense to support a ground cover layer. They transition into reed canary grass within the wetlands and to Oregon white oak woodland along their upland edges.

[3] ibid footnote 1.

- Reed Canary Grass Sward:

  The central valley portions of the property consist of saturated wetland basins supporting hydrophytic grasses and forbs. They are surrounded by excavated drainage channels that may have been cut early in the past century. These basins support a broad and homogenous sward of reed canary grass (*Phalaris arundinaceae*). The excavated channels along the edges of these basins support Pacific bog rush, dense green-sheathed sedge (*Carex feta*), white alder (*Alnus rhombifolia*), red willow, and Himalayan blackberry.

- Broadleaf Cattail Marsh:

  Broadleaf cattail (*Typha latifolia*) occurs within the most mesic areas of the central basins. They occupy sites that are at least perennially saturated if not inundated. These homogenous communities abruptly give way to reed canary grass along wetland edges and into wild oat grassland along their upland edges.

- Wild Oat Grassland:

  Wild Oat Grassland occurs along the upland edges of the central basins and within woodland openings throughout the property. It also provides the dominant ground cover within most woodland and forest habitats. Grasses include (but are not limited to) slender wild oat, hedgehog dogtail, silver European hairgrass, red brome (*Bromus madritensis ssp. rubens*), poverty brome (*Bromus sterilis*), California fescue, and blue wild rye. Bowl-tubed iris (*Iris macrosiphon*), blue dicks (*Dichelostemma capitatum ssp. capitatum*), and baby blue eyes (*Nemophila menziesii*) are more common forbs beneath forest and woodland canopy.

- **Fuller's Teasel Patch:**

  Fuller's teasel occurs within the more mesic sites along the central basins. Along the northeast shore of the northern basin, it forms nearly homogenous patches transitional between the reed canary grass sward and wild oat grasslands of the adjacent uplands.

- Apple Orchard:

  An abandoned apple orchard of decadent trees occurs along the western property entrance and is associated with an abandoned residence.

- Open Water:

  Perennial open water is limited to an excavated pond in the southern wetland basin. It is surrounded by broadleaf cattail and Himalayan blackberry.

- Ruderal:

  This term refers to areas disturbed by human activity such as roadways, structures, and parking areas. Within this property it includes two clearings associated with an active quarry along the northeastern tip of the property.

- Logged Areas:

  Between 2013 and the present, extensive logging of oaks has occurred primarily within the California Black Oak-Ponderosa Pine Forest community. Within these areas (shown in black outline in Figure 2), all oaks have been removed while scattered ponderosa pines remain. The logged area encompasses 61.78 acres, 60.90 acres of which were black oak forest and 0.88 acres of which were Oregon white oak woodland. This acreage was not included in area estimates for these communities on the property.

TABLE 1. VEGETATION TYPES OF THE STOCKING VINEYARD PROJECT

COVER TYPE	Total Acres of Cover Type	Cover Type Percent of Total Property	Acres of Cover Type in Each Block															Acres of Cover Type In all Blocks	Percent of Cover Type In all Blocks
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O		
Ponderosa Pine Forest	19.29	3.02													0.16	0.97		1.13	5.86
Knobcone Pine Forest	13.75	2.16		0.92	1.00			3.02	0.60	6.04	0.76							12.34	89.75
Oregon White Oak Woodland	15.23	2.39											2.15					2.15	14.12
California Black Oak-Ponderosa Pine Forest	186.93	29.31										2.06	22.56	10.26	1.56	1.34	0.62	38.40	20.54
Blue Oak Woodland	8.30	1.30		1.86								0.01	3.73	0.52				6.12	73.73
Interior Live Oak Woodland	24.38	3.82				1.22	6.46			2.16	2.12		0.17					12.13	49.75
Red Willow Thicket	0.76	0.12																0.00	0.00
Manzanita Shrub Alliance	29.67	4.65											3.52	3.49		3.07	1.03	11.11	37.45
Chamise Chaparral	40.76	6.39	1.46	0.62	1.30	9.58	4.61	1.53	3.18	1.65	2.60		0.58					27.11	66.51
Interior Live Oak Shrub	145.13	22.75	6.11	20.59	17.38	15.33	14.70	11.05	33.19	12.59	5.86							136.80	94.26
Blackberry Bramble	3.61	0.57																0.00	0.00
Reed Canary Grass Sward	54.80	8.59																0.00	0.00
Broadleaf Cattail Marsh	1.40	0.22																0.00	0.00
Wild Oat Grassland	26.21	4.11											2.97		2.49	2.78	0.16	8.40	32.05
Fuller's Teasel Patch	1.52	0.24																0.00	0.00
Apple Orchard	0.67	0.11																0.00	0.00
Open Water	0.15	0.02																0.00	0.00
Logged Area	61.78	9.69					2.30					5.40	15.55			0.97	5.57	29.79	48.22
Ruderal (Disturbed Areas)	3.42	0.54			2.18													2.18	63.74
Total Acres of Cover Type	**637.76**	**100.00**	7.57	23.99	21.86	26.13	28.07	15.60	36.97	22.44	11.34	7.47	51.23	14.27	4.21	9.13	7.38	287.66	45.10*

** Last cell equals percent of property (all cover types) within vineyard blocks*

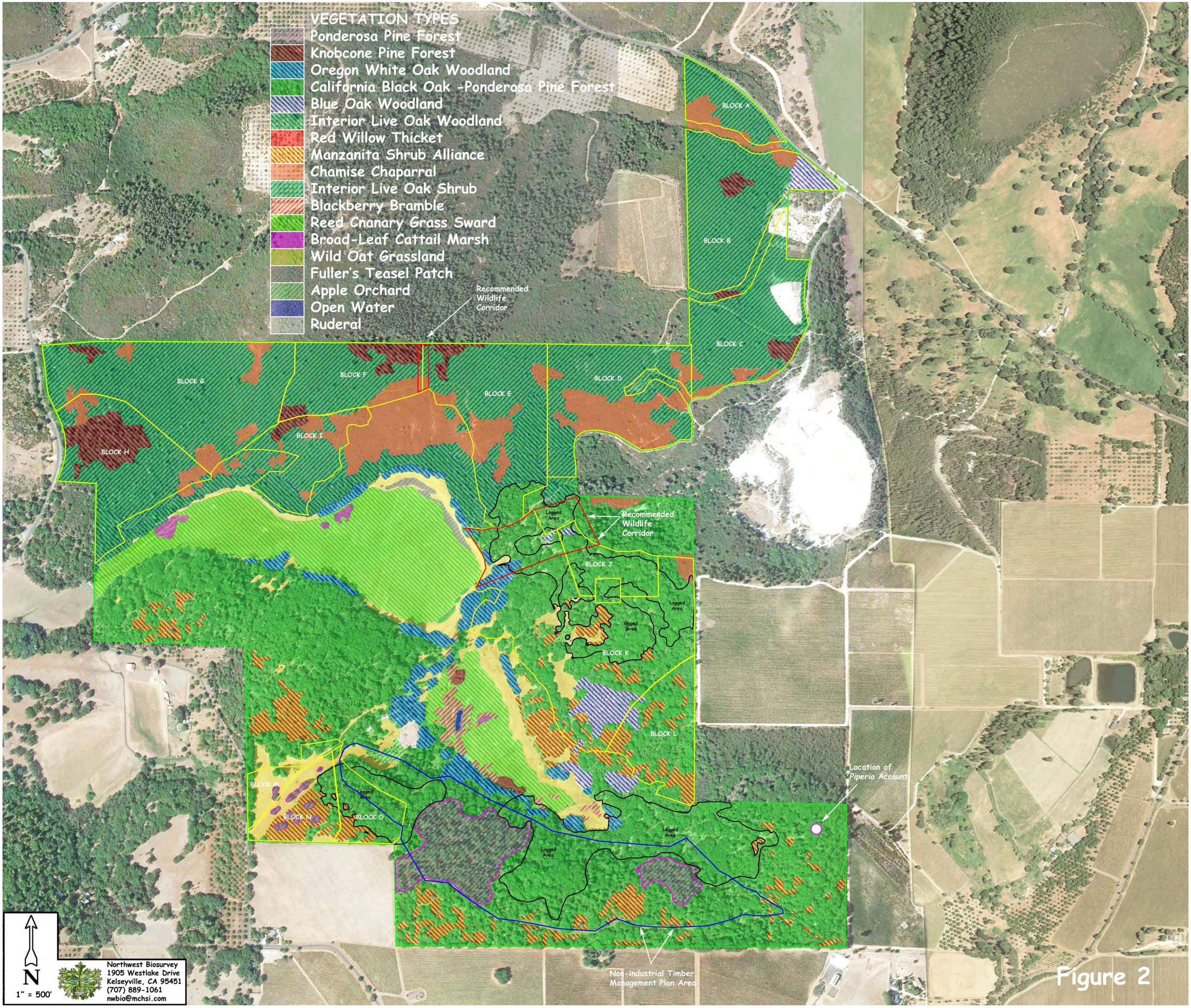
VEGETATION TYPES
Ponderosa Pine Forest
Knobcone Pine Forest
Oregon White Oak Woodland
California Black Oak -Ponderosa Pine Forest
Blue Oak Woodland
Interior Live Oak Woodland
Red Willow Thicket
Manzanita Shrub Alliance
Chamise Chaparral
Interior Live Oak Shrub
Blackberry Bramble
Reed Cnanary Grass Sward
Broad-Leaf Cattail Marsh
Wild Oat Grassland
Fuller's Teasel Patch
Apple Orchard
Open Water
Ruderal
Recommended Wildlife Corridor
BLOCK A
BLOCK B
BLOCK C
BLOCK D
BLOCK E
BLOCK F
BLOCK G
BLOCK H
BLOCK I
BLOCK J
BLOCK K
BLOCK L
BLOCK M
BLOCK N
BLOCK O
Logged Area
Recommended Wildlife Corridor
Location of Piperia Account
Non-Industrial Timber Management Plan Area
N
1" = 500'
Northwest Biosurvey
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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 Lists 1B through 4. The query included all plants within this area of Lake 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. It is important to note that this list includes species for which appropriate habitat is not present on the parcel (including serpentine and vernal pool species). The CNPS database search does not allow fine-tuning for specific soil types and many specific habitats.

4.2 California Natural Diversity Database: The California Natural Diversity Database (CNDDB) and CDFW RareFind 5 data and maps for the Kelseyville 7½' quadrangle were reviewed for this project. Table 3 presents a list of sensitive plant and wildlife species known to occur within this 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

B. Stocking Vineyard Project

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	None	None	Mar-Jun	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland
Antirrhinum subcordatum	dimorphic snapdragon	Plantaginaceae	annual herb	4.3	None	None	Apr-Jul	Chaparral, Lower montane coniferous forest
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	4.3	None	None	Jun-Jul	Chaparral, Lower montane coniferous forest
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	4.3	None	None	Feb-May	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	None	None	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	perennial evergreen shrub	1B.1	None	None	Feb-Apr	Chaparral, Lower montane coniferous forest (openings)
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	4.2	None	None	May-Jul(Aug)	Chaparral, Cismontane woodland, Lower montane coniferous forest
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	4.2	None	None	Apr-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland (open, often gravelly)
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	None	None	Jun-Sep	Chaparral, Cismontane woodland, Riparian forest
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	1B.2	None	None	Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual / perennial herb	4.2	None	None	Aug	Marshes and swamps (ponds, slow water)
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	2B.3	None	None	Jun-Sep	Marshes and swamps (freshwater)
Brodiaea rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	CE	None	May-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	4.3	None	None	Apr-Jul	Chaparral (open, often north-facing slopes), Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	4.2	None	None	Apr-Jun	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	1B.2	None	None	Jun-Sep	Chaparral, Meadows and seeps (volcanic), Valley and foothill grassland
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	4.3	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	4.2	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest, Valley and foothill grassland
Calystegia collina ssp. tridactylosa	three-fingered morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.2	None	None	Apr-Jun	Chaparral, Cismontane woodland
Carex praticola	northern meadow sedge	Cyperaceae	perennial herb	2B.2	None	None	May-Jul	Meadows and seeps (mesic)
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)

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Chlorogalum pomeridianum var. minus	dwarf soaproot	Agavaceae	perennial bulbiferous herb	1B.2	None	None	May-Aug	Chaparral (serpentinite)
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	4.2	None	None	Apr-Jul	Chaparral (openings, usually serpentinite)
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	4.3	None	None	May-Jun	Chaparral, Cismontane woodland
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	None	None	Jul-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland
Cryptantha dissita	serpentine cryptantha	Boraginaceae	annual herb	1B.2	None	None	Apr-Jun	Chaparral (serpentinite)
Delphinium uliginosum	swamp larkspur	Ranunculaceae	perennial herb	4.2	None	None	May-Jun	Chaparral, Valley and foothill grassland
Eriastrum brandegeeae	Brandegee's eriastrum	Polemoniaceae	annual herb	1B.1	None	None	Apr-Aug	Chaparral, Cismontane woodland
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	1B.2	None	None	May-Sep	Chaparral (serpentinite or volcanic)
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	1B.2	None	None	Jun-Sep	Chaparral (serpentinite)
Eryngium constancei	Loch Lomond button-celery	Apiaceae	annual / perennial herb	1B.1	CE	FE	Apr-Jun	Vernal pools
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	None	None	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	CE	None	Apr-Aug	Marshes and swamps (lake margins), Vernal pools
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss	1B.3	None	None		Chaparral, Cismontane woodland, Lower montane coniferous forest
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	1B.2	None	None	May-Aug	Chaparral, Cismontane woodland, Valley and foothill grassland
Hesperolinon bicarpellatum	two-carpellate western flax	Linaceae	annual herb	1B.2	None	None	May-Jul	Chaparral (serpentinite)

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Hesperolinon didymocarpum	Lake County western flax	Linaceae	annual herb	1B.2	CE	None	May-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	1B.2	None	None	(May)Jun-Aug	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2B.1	None	None	Sep-May	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub
Lasthenia burkei	Burke's goldfields	Asteraceae	annual herb	1B.1	CE	FE	Apr-Jun	Meadows and seeps (mesic), Vernal pools
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	None	None	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland
Legenere limosa	legenere	Campanulaceae	annual herb	1B.1	None	None	Apr-Jun	Vernal pools
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	1B.2	None	None	Mar-May	Chaparral, Cismontane woodland, Valley and foothill grassland
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	4.2	None	None	Mar-May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	None	None	Mar-Jun	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	None	None	Mar-May	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss	4.3	None	None		Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Subalpine coniferous forest
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	3.1	None	None	Mar-Jun	Valley and foothill grassland, Vernal pools (alkaline)

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	1B.1	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Polemoniaceae	annual herb	1B.1	CT	FE	May-Jun	Vernal pools (volcanic ash flow)
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	Polemoniaceae	annual herb	1B.2	CE	FE	May-Jun	Vernal pools (volcanic ash flow)
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	1B.1	CE	FT	May-Sep(Oct)	Vernal pools
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	perennial herb	1B.3	None	None	Apr-Aug	Chaparral (rocky)
Potamogeton zosteriformis	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	2B.2	None	None	Jun-Jul	Marshes and swamps (assorted freshwater)
Sedella leiocarpa	Lake County stonecrop	Crassulaceae	annual herb	1B.1	CE	FE	Apr-May	Cismontane woodland, Valley and foothill grassland, Vernal pools
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	Malvaceae	perennial herb	1B.2	None	None	(Jun)Jul-Aug	Meadows and seeps, Riparian forest
Streptanthus barbiger	bearded jewelflower	Brassicaceae	annual herb	4.2	None	None	May-Jul	Chaparral (serpentinite)
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	Brassicaceae	perennial herb	1B.2	None	None	May-Jul	Chaparral, Cismontane woodland
Streptanthus glandulosus ssp. hoffmanii	Hoffman's bristly jewelflower	Brassicaceae	annual herb	1B.3	None	None	Mar-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland (often serpentinite)
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	1B.2	None	None	May-Jul	Chaparral (openings), Cismontane woodland
Streptanthus morrisonii ssp. kruckebergii	Kruckeberg's jewelflower	Brassicaceae	perennial herb	1B.2	None	None	Apr-Jul	Cismontane woodland (serpentinite)

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps
Tracyina rostrata	beaked tracyina	Asteraceae	annual herb	1B.2	None	None	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	1B.2	None	None	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2B.3	None	None	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest

TABLE 2 KEY:

CNPS Rare Plant-Threat Rank Definitions:

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

State and Federal Status:

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

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

Habitat Type	Habitat Present
Clear Lake Drainage Cyprinid/Catostomid Stream	no
Clear Lake Drainage Resident Trout Stream	no
Clear Lake Drainage Seasonal Lakefish Spawning Stream	no
Northern Volcanic Ash Vernal Pool	no

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Chaparral, cismontane woodland, lower montane conif. forest/volcanic; --/--/1B.3	March-May everg. shrub	Habitat present
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Chaparral, lower montane coniferous forest/rocky, often; --/--/1B.1	Feb.-April ann. herb	Habitat present
Astragalus breweri	Brewer's milk-vetch	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)/often serpentinite, volcanic; --/--/4.2	April-June ann. herb	Habitat present
Azolla microphylla	Mexican mosquito-fern	Marshes and swamps (ponds, slow water); --/--/4.2	August ann./per. herb	Habitat present
Brasenia schreberi	watershield	Marshes & swamps/freshwater; --/--/2.3	June-Sept. rhizom. herb, aquatic	Habitat present
Calyptridium quadripetalum	four-petaled pussypaws	Chaparral, lower montane coniferous forest/sandy or gravelly, usually serpentinite; --/--/4.3	April-June ann. herb	Moderate habitat present
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Chaparral (openings, usually serpentinite); --/--/4.2	April-June ann. herb	Poor to moderate habitat
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Closed-cone coniferous forest, chaparral, cismontane woodland/usually serpentinite; --/--/4.3	July-Aug. ann. herb	Poor to moderate habitat
Eriastrum brandegeeae	Brandegee's eriastrum	Chaparral, cismontane woodland, valley & foothill grassland/often serpentinite; --/--/1B.1	April-Aug. ann. herb	Poor to moderate

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
				habitat
Gratiola heterosepala	Boggs Lake hedge-hyssop	Freshwater marsh, marsh & swamp, vernal pool, wetland; --/SE/1B.2	April-Aug. ann. herb	moderate
Hesperolinon adenophyllum	glandular western flax	Chaparral, cismontane woodland, valley & foothill grassland/serpentinite; --/--/1B.2	May-Aug. ann. herb	Habitat not present
Horkelia bolanderi	Bolander's horkelia	Cismontane woodland, lower montane conif. forest, meadows & seeps, valley & foothill grassland/edges; --/ --/1B.2	June-Aug. per. herb	Habitat present
Lasthenia burkei	Burke's goldfields	Meadows and seeps, vernal pools, wetland; FE/SE/1B.1	April-June ann. herb	Habitat not present
Layia septentrionalis	Colusa layia	Chaparral, cismontane woodland, valley & foothill grassland/sandy, serpent.; --/--/1B.2	April-May, ann. herb	Habitat not present
Legenere limosa	legenere	Vernal pools; --/--/1B.1	April-June ann. herb	Habitat not present
Leptosiphon acicularis	bristly leptisiphon	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; --/--/4.2	April-July ann. herb	Habitat present
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Chaparral, cismontane woodland, valley & foothill grassland, vernal pools/vernally mesic; --/--/4.2	March-May (June) ann. herb	Poor habitat
Micropus amphibolus	Mt. Diablo cottonweed	Broadleaved upland forest, chaparral, cismontane woodland, valley & foothill grassland /rocky; --/--/3.2	March-May ann. herb	Habitat present
Monardella viridis	green monardella	Broadleaved upland forest, chaparral, cismontane woodland; --/--/4.3	June-Sept. rhizom. herb	Habitat present
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	Volcanic ash flow vernal pools, wetlands; FE/ST/1B.1	May-June ann. herb	Habitat not present
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	Volcanic ash flow vernal pools, wetlands; FE/SE/1B.2	May-June ann. herb	Habitat not present
Orcuttia tenuis	slender orcutt grass	Vernal pools; FT/SE/1B.1	May-Oct. ann. herb	Habitat not present
Potamogeton zosteriformis	eel-grass pondweed	Marshes & swamps, wetlands; --/--/2B.2	June-July ann. herb	Habitat present

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS* Status	Blooming Season	Habitat Present
			aquatic	
Streptanthus barbiger	bearded jewel flower	Chaparral/serpentine; --/--/4.2	May-July ann. herb	Habitat not present
Trichostema ruygtii	Napa bluecurls	Chaparral, cismontane woodland, lower montane conif. forest, valley & foothill grassland, vernal pools; --/--/1B.2	June-Oct. ann. herb	Habitat present

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
Calasellus californica	an isopod	Aquatic: freshwater wells & springs. One occurrence from Kelseyville in 1931; G2/S2	year-round	Poor
Bombus caliginosus	obscure bumble bee	A black and yellow bee found in California, Oregon, Washington; G3G4/CA-SNR	year-round	Potential habitat present
*Hydrochara ricksecker*i	Ricksecker's water scavenger beetle	Aquatic beetle that lives in slow-flowing streams, shallow open water, springs, stagnant ponds, & vernal pools; G2/S2	year-round	Habitat not present
Lavinia exilicauda chi	Clear Lake hitch	Riparian/aquatic: partly-shaded, shallow streams & riffles with a rocky substrate in variety of habitats; SSC/ST/G4/S1	year-round	Habitat not present
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	Habitat present
Taricha rivularis	red-bellied newt	Occurs near high to moderate gradient streams and rivers, riffles, pools. Burrows in soil or debris near water, emerges during fall rains to water to breed; G4/SNR	year-round	Habitat not present
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	Habitat present
Pandion haliaetus	osprey	Large, fish-bearing waters usually in mixed conifer	sometimes	Nesting

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
		habitats; WL/G5/S4	migratory	habitat not present
Progne subis	purple martin	Open woodland near water; SSC/G5/S3	migratory in winter	Habitat present
Erethizon dorsatum	North American porcupine	Conifer and hardwood forests are preferred, uses fallen and standing dead trees as cover; G5/SNR	year-round	Habitat present

*See CNPS Table 2 list for key

TABLE 3 KEY:

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

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

4.3 Wildlife Habitat Analysis Results: The California 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, ten sensitive wildlife species need to be accounted for within the project area based on their identification as present within the Kelseyville quadrangle by the CNDDB. Additional species are added based on the results of the CWHR, the presence of appropriate habitat, and their occurrence in the region. 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.

- *Calasellus californicus* (a freshwater isopod):

  Found in freshwater habitats; the known collections are from a freshwater well and two springs in 1933. Habitat for this crustacean is poor on this property.

- Obscure bumble bee (*Bombus oliginosus*):

  This bumblebee is 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. Potential habitat for this species may occur in the wetlands on the property.

- **Ricksecker's water scavenger beetle (***Hydrochara rickseckeri*):

  This species is known from accounts in the San Francisco Bay Area. It occupies ponds and shallow waters of streams, lakes, or marshes. This species is listed here because it was identified near Boggs Lake in Lake County. There is no suitable habitat for this beetle within the project area.

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

  Clear Lake hitch are a California Species of Concern and currently have State Threatened Species status. Hitch are fish of lakes and slow-moving streams. There are no perennial streams in the project area and the site is far from Clear Lake.

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

  These frogs are relatively common along the shaded banks of perennial headwater streams. They are heavily dependent on the presence of perennial water and are seldom far from pools where they can seek shelter from predation. The larvae require three to four months to mature, making most ephemeral (seasonal) streams unsuitable as breeding sites.

Foothill yellow-legged frogs are found throughout Kelsey Creek and its tributaries, and have been identified along Highway 175. McIntire Creek runs through the low area on the property and although it appears to have been altered, it may support this species as long as flows are high enough. The proposed vineyard blocks include a setback buffer from McIntire Creek.

- Red-bellied newt (*Taricha rivularis*):

  This species is often found under rocks, logs, soil or duff, or in rodent burrows in coastal woodlands and redwood forests. Newts occur near high-to-moderate gradient streams and rivers, in riffles, and pools. They usually breed in flowing water. These animals burrow in soil or debris near water, and emerge to water during fall rains to breed; they may migrate up to a mile or more between terrestrial habitat and stream breeding sites. They have been identified in the Cobb Mountain area along Bottle Rock Road. Appropriate habitat does not occur on the project site.

- Western pond turtle (*Actinemys marmorata*):

  These turtles prefer slow or ponded water with sheltering vegetation but will range widely through less suitable habitat in search of these sites. Eggs are laid on land in sheltered nests. Young overwinter in the nest and emerge the following spring in Northern California. When present, pond turtles are readily observed basking along shorelines or on logs in shallow water. McIntire Creek may provide a suitable movement corridor for turtles and they may occur within the small pond on the property. The proposed vineyard blocks include a setback buffer from McIntire Creek.

- Osprey (*Pandion haliaetus*):

  This species occurs near large, fish-bearing waters in ponderosa pine or mixed conifer habitats where it feeds on open waters for fish, although it also takes small birds and mammals. It hunts over wide expanses of open water and usually nests in the tops of large isolated trees near shorelines. Nests are made on platforms of sticks on top of large snags, dead-topped trees, or man-made structures, usually within close proximity of large fish-producing water bodies. The stick nests constructed by this species are readily apparent when present. This site lacks suitable nesting habitat for the osprey. This species' sensitive status pertains to nesting pairs. This species no longer has sensitive status, but is protected under the Migratory Bird Treaty Act and California Department of Fish and Game code.

- Purple martin (*Progne subis*):

  These migratory passerine (perching) birds prefer open, old growth, multilayered woodland with nearby water. Much is known about habitat preference in this

species due to recent research. They are commonly found in riparian habitat, or valley foothill with montane hardwood or montane-hardwood-conifer habitats near water. Up to 70-percent of nests are in fire-killed firs and pines. Most tree nest sites are located in the upper slopes of hilly and mountainous terrain and Northwest Biosurvey staff has found this species in habitat meeting these requirements in the Geysers area of Lake and Napa Counties. There is a potential for purple martins to be present in the forests and remaining oak woodlands on the property, especially where snags remain.

- North American porcupine (*Erethizon dorsatum*):

  This species prefers conifer and hardwood forests and woodlands, but is also found in forested wetlands and chaparral. It uses downed logs and debris, as well as snags and tree hollows, as cover. The porcupine breeds from September to November or December, giving birth in the spring. One offspring is reared a year. *E. dorsatum* is herbivorous; its diet consists of many parts of trees and other plants including bark, needles, flowers, roots, berries, leaves, and seeds. It is mostly nocturnal. The large amount of woody debris and other vegetation on the property may provide suitable habitat for porcupines. This species is listed in the CNDDB as "G5" (Global Secure) and "SNR" (Species not Rated-California). It is therefore not a species with sensitive regulatory status although its local accounts are included in the database.

- Pallid bat (*Antrozous pallidus*):

  This is a pale bat with a dog-like face. Optimal habitat for these bats consists of open, dry habitats with rocky areas, but the bats are also found in oak savanna grasslands, and in open forest and woodlands with access to riparian and open water for feeding and drinking in northern California. Foraging occurs over open country. 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; they will also roost in buildings, bridges, and hollow trees. Preferred roosts are high above the ground and inaccessible to terrestrial predators, although they are occasionally found roosting on the ground underneath sacks and other items left by humans.

  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. The bats have a home range of 1 to 3 miles and are known to roost with other bat species. This species of bat does not migrate long distances between seasons. This species is extremely sensitive to human disturbance of roosting sites. Populations in California have declined due to habitat destruction

and use of pesticides. There is a potential for pallid bats or other bat species to roost in the woodlands, especially if there are ponds in the vicinity of the property.

Raptors and passerines with non-sensitive status are likely to nest on the property due to the diverse woodland and forest habitats there. These would include: red-tailed hawks (heard during surveys), crows and ravens, Cooper's hawks, northern harriers, tri-colored blackbirds (potentially in the cattails within the wetland), woodpeckers, yellow-breasted chats, and yellow warblers. Much of the original oak woodland has been removed in the past few years, leaving open pine forest in many locations, but downed wood, snags, and large trees remain in many parts of the property and may be used by a wide variety of wildlife.

No wildlife surveys were conducted as part of this assessment. All nesting raptors are protected under the Migratory Bird Treaty Act and Fish and Game Code.

5.0 FIELD SURVEY RESULTS

In-season floristic-level botanical surveys were conducted for this project in 2015 and 2016 by Darcie Mahoney, Licensed Forester #2397, Botanical Report 15, June 2015 & 23 June 2016. No additional in-season botanical surveys were conducted. However, some additional plants were identifiable during our December surveys; these are listed below.

Ms. Mahoney identified an individual plant to the level of genus *Piperia*. Of the six species of this genus found in this region, three are CNPS Rank 4. Rank 4 is a watch list of species about which not enough is known to list as sensitive. The location of this account is shown in Figure 2 as a white circle with pink border. It is not within an area that will be disturbed by proposed project activities.

TABLE 4. ADDITIONAL PLANT SPECIES IDENTIFIED, OR CLARIFIED SPECIES NAMES
BRYANT STOCKING VINEYARD PROPERTY

Habit	Species	Common Name	Family	Origin
fern	*Pteridium aquilinum var. pubescens*	bracken fern	Dennstaedtiaceae	N
forb	*Dipsacus fullonum*	fuller's teasel	Dipsacaceae	A
forb	*Juncus effusus var. pacificus*	Pacific bog rush	Juncaceae	N
grass	*Elymus glaucus ssp. glaucus*	blue wildrye	Poaceae	N
grass	*Festuca microstachys*	desert fescue, small fescue	Poaceae	N
grass	*Gastridium phleoides*	nitgrass	Poaceae	A
shrub	*Arctostaphylos manzanita ssp. glaucescens*	white-leaf common manzanita	Ericaceae	N
shrub	*Arctostaphylos manzanita ssp. manzanita*	common manzanita	Ericaceae	N
shrub	*Quercus wislizeni var. frutescens*	interior live oak	Fagaceae	N
shrub	*Rubus armeniacus*	Himalayan blackberry	Rosaceae	A
tree	*Arbutus menziesii*	Pacific madrone	Ericaceae	N
tree	*Quercus garryanna var. garryanna*	Oregon white oak	Fagaceae	N
tree	*Quercus wislizeni var. wislizeni*	interior live oak	Fagaceae	N
tree	*Pinus sabiniana*	ghost pine, foothill pine	Pinaceae	N
tree	*Populus fremontii var. fremontii*	Fremont cottonwood	Salicaceae	N
tree	*Salix laevigata*	red willow	Salicaceae	N

Origin: N = Native, A = Alien

6.0 SUMMARY AND RECOMMENDATIONS

6.1 Summary: This biological resource assessment involved the following analyses 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 *On-line Inventory of Rare and Endangered Vascular Plants of California,* and the California Department of Fish and Wildlife's *Wildlife Habitat Relations System*
- Vegetation mapping

Sensitive Plants: The 2015 and 2016 botanical surveys conducted by Darcie Mahoney identified an individual plant to the level of genus *Piperia*. Of the six species of this genus found in this region, three are CNPS Rank 4. Rank 4 is a watch list of species about which not enough is known to list as sensitive. The location is described as "adjacent a side road in the forested habitat". The location is indicated in Figure 2 with a white circle with a pink border.

Sensitive Wildlife: A total of eleven sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDB database for the Kelseyville quadrangle, the CWHR database, the presence of appropriate habitat, and their occurrence in the region. Five of these have a potential to occur on the property. These are:

- Obscure bumble bee: wetland habitat
- Foothill yellow-legged frog: McIntire Creek, wetland, small pond
- Western pond turtle: McIntire Creek, small pond
- Purple martin: Oak woodlands and pine forest
- Porcupine: Pine forest
- Pallid bat: Oak woodlands

Sensitive Habitat: The property contains two central wetland basins which have been excluded from the proposed vineyard block design.

Possible Waters of the U.S.: At the request of the client, a delineation of waters of the U.S. was not conducted for this project. Waterways contiguous with McIntire Creek, including the two central wetland basins are likely to qualify as Waters of the U.S. As

noted, the client has established setbacks from the wetland habitat within the central basins (shown in Figure 2 as Reed Canary Grass Sward.

6.2 Recommendations:

1. Sensitive Wildlife:

- Obscure Bumblebee, Foothill Yellow-legged Frog, Western Pond Turtle:

  Potential Impacts: Any vineyard construction activity resulting in the loss of wetland habitat in the central basins of the property or resulting in direct impacts to McIntire Creek or the small pond has a potential to result in an incidental take of these state species of special concern. However, the proposed vineyard block design has specifically excluded the central wetland basins, McIntire Creek, and the pond.

  Proposed Mitigation: The project design reviewed in this study[4] avoids impacts to McIntire Creek, the central wetland basins, and the small pond as shown in Figure 2 of this report. This plan should not be modified in a manner that would impact these resources.

- Purple Martin, Raptors, Migratory Birds:

  Potential Impacts: Clearing or grading within woodland or forest habitat during the breeding season (February 15 through August 31) has a potential to result in an incidental take of these special status species.

  Proposed Mitigation: Any vegetation clearing or grading within 200 feet of woodland habitat between February 15 and August 31 should be preceded by a survey for nests of purple martin, raptors, and migratory birds conducted by a qualified biologist. In the event that active nests of these species are found, appropriate breeding season construction buffer shall be established and construction within these buffers should be delayed until after August 31, or until fledging is completed as determined by a qualified biologist. As an alternative, trees approved for removal shall be felled outside of the breeding season.

[4] "Stoking Vineyards 7765 State Hwy 29 Erosion Control Plan for New Vineyard" by Napa Valley Vineyard Engineering, Inc. May 12, 2017.

- Pallid bat:

  Potential Impacts: Removal of trees providing bat habitat during the maternity roosting season (April 1 through September 15) has the potential to result in an incidental take of pallid bats.

  Proposed Mitigation: If work is proposed within woodland habitat during the maternity roosting season (April 1 through September 15), trees with features capable of supporting roosting bats shall be surveyed by a qualified biologist for bat roosts or evidence of bat roosting (guano, urine staining, dead bats) within 14 days of the start of project activities or removal of vegetation. If active roosts are discovered, an exclusion buffer would be established around the active roost by a qualified bat biologist.

  Removal of trees and ground-disturbing activities should be performed to the extent possible from September 16 through March 31, outside of the maternity roosting season. Following the felling of any tree or snag, the tree or snag should be allowed to remain on the ground for 24 hours prior to chipping or removal to allow any bats to escape.

2. Sensitive Plant Populations:

- *Piperia* genus:

  Botanical surveys conducted in 2015 and 2016 by Registered Forester Darcie Mahoney identified a single individual of the genus *Piperia*. However, the plant was not keyed to species. Of the six species of this genus that occur in this region, three have a CNPS Rank of 4. Rank 4 is a watch list of plants about which not enough is known to list them as sensitive taxa. The location description was described as "adjacent to a roadway in a forested area". The location of this population is shown in Figure 2 as a white circle with pink border. It is not in an area that will be impacted by the proposed project.

  Potential Impacts: If this plant is sensitive, its removal would qualify as an incidental take. However, it is questionable that if it is a Rank 4 species, the loss of a single individual would qualify as a significant impact within the context of the CEQA Guidelines. Regardless, the plant is in a location well outside of the proposed project area.

Proposed Mitigation: It is recommended that the location of this plant or population be flagged and protected with construction fencing prior to construction in order to avoid impacts by equipment using the adjacent roadway.

3. Woodlands and Forest

Potential Impacts: Table 1 provides a list of the acreage of all vegetation types on the Stocking Vineyard property along with the acreage and percentage of each of these plant communities within the proposed vineyard blocks. The property contains a total of 267.88 acres of woodland and forest distributed among six different plant communities. The currently proposed vineyard blocks contain a combined total of 72.27 acres (27%) of the remaining woodland and forest on the property.

Consistent with the Oak Woodlands Conservation Act, the lead agency will need to determine whether loss of this woodland acreage constitutes a significant adverse impact on the environment as defined within the CEQA Guidelines.

Proposed Mitigation: If it is determined that project-related impacts to woodlands are significant within the context of the CEQA Guidelines, one or more of the following mitigations is recommended.

a) Avoidance and Minimization: The vegetation map provided in Figure 2 can be used as a planning tool in the modification of the vineyard block design to reduce impacts to woodland and forest. Vineyard block design would reduce impacts to these resources by emphasizing use of chamise chaparral, interior live oak shrub, and existing clear-cut woodland (as mapped in Figure 2).

b) Establishment of Woodland Conservation Areas: Oak woodlands outside of the proposed vineyard blocks should be considered as woodland conservation areas. These conservation areas should be permanently excluded from future development through permit conditions, recorded easements, or other methods consistent with local land use regulations. It should be noted that the area marked in Figure 2 as Non-Industrial Timber Management Plan (NTMP) is not available for woodland mitigation since it is actively being managed for timber harvest.

4. Habitat Fragmentation

Potential Impacts: Vineyard development that transects woodlands and waterways has a potential to restrict wildlife movement and disrupt continuity with surrounding habitats. With the exception of extensive clear-cut areas, the property supports a belt of continuous black oak and ponderosa pine forest along its southern perimeter. All of this similar habitat has been removed from adjacent properties for vineyard development.

The principal wildlife movement corridor in the area is provided by the open wetland habitats and adjacent woodland and McIntire Creek riparian habitat of the central basins (mapped as Reed Canary Grass Sward and Wild Oat Grassland in Figure 2). Based on the current vineyard development plan[5], this habitat will remain intact.

Proposed Mitigation: It is recommended that the remaining belt of black oak and ponderosa pine forest along the property's southern perimeter remain intact. Vineyard development here should emphasize use of existing clear-cut areas.

Two wildlife corridors are recommended and have been agreed to by the client. These are shown as red polygons in Figure 2. A major corridor connects the central basins to lands east of the property. A second corridor allows wildlife movement to the north. East to west movement to the central basins along the southern end of the property is unimpeded by current project design.

No modifications should occur in the proposed vineyard development plan that would result in direct impacts to the central basins (Reed Canary Grass Swards), McIntire Creek, and the adjacent band of woodland habitat.

Fencing should be restricted to vineyard blocks. Fencing along roadways or other linear features such as property boundaries should be avoided if not directly associated with vineyard blocks.

[5] ibid footnote 4.

5. Waterways:

Potential Impacts: A wetland delineation was not conducted as part of this biological resource assessment; however, the extensive wetland basins in the center of the property (Reed Canary Grass Sward) have been protected by a setback buffer from all proposed project activity.

Proposed Mitigation: The local, state, and federal permitting agencies will require setbacks from waterways. Proposed impacts to waterways will require permits from the following agencies:

- U.S. Army Corps of Engineers
- Regional Water Quality Control Board
- California Department of Fish and Wildlife
- Lake County Community Development Department

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APPENDIX A

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

Surrounding 9-Quad List: Kelseyville Quadrangle

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Asti	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Asti	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Asti	Taricha rivularis	red-bellied newt	None	None	SSC	-
Asti	Ardea herodias	great blue heron	None	None	-	-
Asti	Lavinia symmetricus ssp. 4	Clear Lake - Russian River roach	None	None	SSC	-
Asti	Hysterocarpus traski pomo	Russian River tule perch	None	None	SSC	-
Asti	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Thrt	None	-	-
Asti	Oncorhynchus tshawytscha	chinook salmon - California coastal ESU	Thrt	None	-	-
Asti	Bombus caliginosus	obscure bumble bee	None	None	-	-
Asti	Antrozous pallidus	pallid bat	None	None	SSC	-
Asti	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Asti	Lasiurus blossevillii	western red bat	None	None	SSC	-
Asti	Myotis yumanensis	Yuma myotis	None	None	-	-
Asti	Emys marmorata	western pond turtle	None	None	SSC	-
Asti	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Asti	Cypripedium montanum	mountain lady's-slipper	None	None	-	4.2
Clearlake Highlands	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Clearlake Highlands	Rana draytonii	California red-legged frog	Thrt	None	SSC	-
Clearlake Highlands	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Clearlake Highlands	Ardea alba	great egret	None	None	-	-
Clearlake Highlands	Ardea herodias	great blue heron	None	None	-	-
Clearlake Highlands	Coccyzus americanus occidentalis	western yellow-billed cuckoo	Thrt	End	-	-
Clearlake Highlands	Strix occidentalis caurina	northern spotted owl	Thrt	Thrt	SSC	-
Clearlake Highlands	Archoplites interruptus	Sacramento perch	None	None	SSC	-
Clearlake Highlands	Lavinia exilicauda chi	Clear Lake hitch	None	Thrt	-	-
Clearlake Highlands	Hedychridium milleri	Borax Lake cuckoo wasp	None	None	-	-
Clearlake Highlands	Dubiraphia brunnescens	brownish dubiraphian riffle beetle	None	None	-	-
Clearlake Highlands	Antrozous pallidus	pallid bat	None	None	SSC	-
Clearlake Highlands	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Clearlake Highlands	Myotis lucifugus	little brown bat	None	None	-	-
Clearlake Highlands	Myotis yumanensis	Yuma myotis	None	None	-	-
Clearlake Highlands	Pyrgulopsis ventricosa	Clear Lake pyrg	None	None	-	-
Clearlake Highlands	Emys marmorata	western pond turtle	None	None	SSC	-
Clearlake Highlands	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
Clearlake Highlands	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	-	-
Clearlake Highlands	Northern Basalt Flow Vernal Pool	Northern Basalt Flow Vernal Pool	None	None	-	-
Clearlake Highlands	Northern Volcanic Ash Vernal Pool	Northern Volcanic Ash Vernal Pool	None	None	-	-
Clearlake Highlands	Eryngium constancei	Loch Lomond button-celery	End	End	-	1B.1

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Clearlake Highlands	Harmonia hallii	Hall's harmonia	None	None	-	1B.2
Clearlake Highlands	Hemizonia congesta ssp. calyculata	Mendocino tarplant	None	None	-	4.3
Clearlake Highlands	Lasthenia burkei	Burke's goldfields	End	End	-	1B.1
Clearlake Highlands	Viburnum ellipticum	oval-leaved viburnum	None	None	-	2B.3
Clearlake Highlands	Sedella leiocarpa	Lake County stonecrop	End	End	-	1B.1
Clearlake Highlands	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Clearlake Highlands	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	None	None	-	1B.1
Clearlake Highlands	Calochortus uniflorus	pink star-tulip	None	None	-	4.2
Clearlake Highlands	Limnanthes floccosa ssp. floccosa	woolly meadowfoam	None	None	-	4.2
Clearlake Highlands	Hesperolinon bicarpellatum	two-carpellate western flax	None	None	-	1B.2
Clearlake Highlands	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
Clearlake Highlands	Toxicoscordion fontanum	marsh zigadenus	None	None	-	4.2
Clearlake Highlands	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Clearlake Highlands	Piperia michaelii	Michael's rein orchid	None	None	-	4.2
Clearlake Highlands	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Clearlake Highlands	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
Clearlake Highlands	Gratiola heterosepala	Boggs Lake hedge-hyssop	None	End	-	1B.2
Clearlake Highlands	Imperata brevifolia	California satintail	None	None	-	2B.1
Clearlake Highlands	Eriastrum brandegeeae	Brandegee's eriastrum	None	None	-	1B.1
Clearlake Highlands	Leptosiphon acicularis	bristly leptosiphon	None	None	-	4.2
Clearlake Highlands	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Clearlake Highlands	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	End	Thrt	-	1B.1
Clearlake Highlands	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	End	End	-	1B.2
Clearlake Highlands	Potamogeton zosteriformis	eel-grass pondweed	None	None	-	2B.2
Clearlake Highlands	Myosurus minimus ssp. apus	little mousetail	None	None	-	3.1
Clearlake Highlands	Horkelia bolanderi	Bolander's horkelia	None	None	-	1B.2
Clearlake Oaks	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Clearlake Oaks	Pandion haliaetus	osprey	None	None	WL	-
Clearlake Oaks	Archoplites interruptus	Sacramento perch	None	None	SSC	-
Clearlake Oaks	Lavinia exilicauda chi	Clear Lake hitch	None	Thrt	-	-
Clearlake Oaks	Dubiraphia brunnescens	brownish dubiraphian riffle beetle	None	None	-	-
Clearlake Oaks	Antrozous pallidus	pallid bat	None	None	SSC	-
Clearlake Oaks	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Clearlake Oaks	Myotis yumanensis	Yuma myotis	None	None	-	-
Clearlake Oaks	Gonidea angulata	western ridged mussel	None	None	-	-
Clearlake Oaks	Emys marmorata	western pond turtle	None	None	SSC	-
Clearlake Oaks	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	None	None	-	-
Clearlake Oaks	Hemizonia congesta ssp. calyculata	Mendocino tarplant	None	None	-	4.3
Clearlake Oaks	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Clearlake Oaks	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Clearlake Oaks	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Clearlake Oaks	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Clearlake Oaks	Potamogeton zosteriformis	eel-grass pondweed	None	None	-	2B.2
Highland Springs	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Highland Springs	Taricha rivularis	red-bellied newt	None	None	SSC	-
Highland Springs	Aquila chrysaetos	golden eagle	None	None	FP ; WL	-
Highland Springs	Artemisiospiza belli belli	Bell's sage sparrow	None	None	WL	-
Highland Springs	Agelaius tricolor	tricolored blackbird	None	Cand End	SSC	-
Highland Springs	Lavinia exilicauda chi	Clear Lake hitch	None	Thrt	-	-
Highland Springs	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Thrt	None	-	-
Highland Springs	Emys marmorata	western pond turtle	None	None	SSC	-
Highland Springs	Calycadenia micrantha	small-flowered calycadenia	None	None	-	1B.2
Highland Springs	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Highland Springs	Amsinckia lunaris	bent-flowered fiddleneck	None	None	-	1B.2
Highland Springs	Cryptantha dissita	serpentine cryptantha	None	None	-	1B.2
Highland Springs	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	-	4.2
Highland Springs	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Highland Springs	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	None	None	-	1B.1
Highland Springs	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Highland Springs	Trichostema ruygtii	Napa bluecurls	None	None	-	1B.2
Highland Springs	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Highland Springs	Hesperolinon adenophyllum	glandular western flax	None	None	-	1B.2
Highland Springs	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Highland Springs	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
Highland Springs	Antirrhinum subcordatum	dimorphic snapdragon	None	None	-	4.3
Highland Springs	Horkelia bolanderi	Bolander's horkelia	None	None	-	1B.2
Kelseyville	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Kelseyville	Taricha rivularis	red-bellied newt	None	None	SSC	-
Kelseyville	Pandion haliaetus	osprey	None	None	WL	-
Kelseyville	Progne subis	purple martin	None	None	SSC	-
Kelseyville	Calasellus californicus	An isopod	None	None	-	-
Kelseyville	Linderiella occidentalis	California linderiella	None	None	-	-
Kelseyville	Lavinia exilicauda chi	Clear Lake hitch	None	Thrt	-	-
Kelseyville	Bombus caliginosus	obscure bumble bee	None	None	-	-
Kelseyville	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	None	None	-	-
Kelseyville	Emys marmorata	western pond turtle	None	None	SSC	-
Kelseyville	Clear Lake Drainage Cyprinid/Catostomid Stm	Clear Lake Drainage Cyprinid/Catostomid Stm	None	None	-	-
Kelseyville	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
Kelseyville	Clear Lake Drg Seasonal Lakefish Spawn Stm	Clear Lake Drg Seasonal Lakefish Spawn Stm	None	None	-	-
Kelseyville	Northern Volcanic Ash Vernal Pool	Northern Volcanic Ash Vernal Pool	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Kelseyville	Lasthenia burkei	Burke's goldfields	End	End	-	1B.1
Kelseyville	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Kelseyville	Micropus amphibolus	Mt. Diablo cottonweed	None	None	-	3.2
Kelseyville	Azolla microphylla	Mexican mosquito fern	None	None	-	4.2
Kelseyville	Streptanthus barbiger	bearded jewelflower	None	None	-	4.2
Kelseyville	Brasenia schreberi	watershield	None	None	-	2B.3
Kelseyville	Legenere limosa	legenere	None	None	-	1B.1
Kelseyville	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Kelseyville	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	None	None	-	1B.1
Kelseyville	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Kelseyville	Monardella viridis	green monardella	None	None	-	4.3
Kelseyville	Trichostema ruygtii	Napa bluecurls	None	None	-	1B.2
Kelseyville	Limnanthes floccosa ssp. floccosa	woolly meadowfoam	None	None	-	4.2
Kelseyville	Hesperolinon adenophyllum	glandular western flax	None	None	-	1B.2
Kelseyville	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
Kelseyville	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Kelseyville	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
Kelseyville	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Kelseyville	Gratiola heterosepala	Boggs Lake hedge-hyssop	None	End	-	1B.2
Kelseyville	Orcuttia tenuis	slender Orcutt grass	Thrt	End	-	1B.1
Kelseyville	Eriastrum brandegeeae	Brandegee's eriastrum	None	None	-	1B.1
Kelseyville	Leptosiphon acicularis	bristly leptosiphon	None	None	-	4.2
Kelseyville	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	End	Thrt	-	1B.1
Kelseyville	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	End	End	-	1B.2
Kelseyville	Potamogeton zosteriformis	eel-grass pondweed	None	None	-	2B.2
Kelseyville	Horkelia bolanderi	Bolander's horkelia	None	None	-	1B.2
Lakeport	Elanus leucurus	white-tailed kite	None	None	FP	-
Lakeport	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Lakeport	Pandion haliaetus	osprey	None	None	WL	-
Lakeport	Ardea alba	great egret	None	None	-	-
Lakeport	Ardea herodias	great blue heron	None	None	-	-
Lakeport	Egretta thula	snowy egret	None	None	-	-
Lakeport	Nycticorax nycticorax	black-crowned night heron	None	None	-	-
Lakeport	Agelaius tricolor	tricolored blackbird	None	Cand End	SSC	-
Lakeport	Phalacrocorax auritus	double-crested cormorant	None	None	WL	-
Lakeport	Archoplites interruptus	Sacramento perch	None	None	SSC	-
Lakeport	Lavinia exilicauda chi	Clear Lake hitch	None	Thrt	-	-
Lakeport	Andrena blennospermatis	Blennosperma vernal pool andrenid bee	None	None	-	-
Lakeport	Bombus occidentalis	western bumble bee	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Lakeport	Dubiraphia brunnescens	brownish dubiraphian riffle beetle	None	None	-	-
Lakeport	Pekania pennanti	fisher - West Coast DPS	Prop Thrt	Cand Thrt	SSC	-
Lakeport	Taxidea taxus	American badger	None	None	SSC	-
Lakeport	Emys marmorata	western pond turtle	None	None	SSC	-
Lakeport	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	-	-
Lakeport	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Lakeport	Tracyina rostrata	beaked tracyina	None	None	-	1B.2
Lakeport	Amsinckia lunaris	bent-flowered fiddleneck	None	None	-	1B.2
Lakeport	Cryptantha dissita	serpentine cryptantha	None	None	-	1B.2
Lakeport	Plagiobothrys lithocaryus	Mayacamas popcornflower	None	None	-	1A
Lakeport	Brasenia schreberi	watershield	None	None	-	2B.3
Lakeport	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Lakeport	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Lakeport	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Lakeport	Hesperolinon adenophyllum	glandular western flax	None	None	-	1B.2
Lakeport	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
Lakeport	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
Lakeport	Ranunculus lobbii	Lobb's aquatic buttercup	None	None	-	4.2
Lucerne	Rana draytonii	California red-legged frog	Thrt	None	SSC	-
Lucerne	Taricha rivularis	red-bellied newt	None	None	SSC	-
Lucerne	Haliaeetus leucocephalus	bald eagle	Delisted	End	FP	-
Lucerne	Pandion haliaetus	osprey	None	None	WL	-
Lucerne	Ardea alba	great egret	None	None	-	-
Lucerne	Ardea herodias	great blue heron	None	None	-	-
Lucerne	Falco mexicanus	prairie falcon	None	None	WL	-
Lucerne	Phalacrocorax auritus	double-crested cormorant	None	None	WL	-
Lucerne	Archoplites interruptus	Sacramento perch	None	None	SSC	-
Lucerne	Lavinia exilicauda chi	Clear Lake hitch	None	Thrt	-	-
Lucerne	Dubiraphia brunnescens	brownish dubiraphian riffle beetle	None	None	-	-
Lucerne	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Lucerne	Lasionycteris noctivagans	silver-haired bat	None	None	-	-
Lucerne	Margaritifera falcata	western pearlshell	None	None	-	-
Lucerne	Anodonta oregonensis	Oregon floater	None	None	-	-
Lucerne	Gonidea angulata	western ridged mussel	None	None	-	-
Lucerne	Emys marmorata	western pond turtle	None	None	SSC	-
Lucerne	Clear Lake Drainage Cyprinid/Catostomid Stm	Clear Lake Drainage Cyprinid/Catostomid Stm	None	None	-	-
Lucerne	Clear Lake Drg Seasonal Lakefish Spawn Stm	Clear Lake Drg Seasonal Lakefish Spawn Stm	None	None	-	-
Lucerne	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	-	-
Lucerne	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Lucerne	Amsinckia lunaris	bent-flowered fiddleneck	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Lucerne	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Lucerne	Lupinus antoninus	Anthony Peak lupine	None	None	-	1B.3
Lucerne	Hesperolinon adenophyllum	glandular western flax	None	None	-	1B.2
Lucerne	Hesperolinon bicarpellatum	two-carpellate western flax	None	None	-	1B.2
Lucerne	Potamogeton zosteriformis	eel-grass pondweed	None	None	-	2B.2
Lucerne	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
The Geysers	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
The Geysers	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
The Geysers	Taricha rivularis	red-bellied newt	None	None	SSC	-
The Geysers	Progne subis	purple martin	None	None	SSC	-
The Geysers	Lavinia symmetricus ssp. 4	Clear Lake - Russian River roach	None	None	SSC	-
The Geysers	Hysterocarpus traski pomo	Russian River tule perch	None	None	SSC	-
The Geysers	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Thrt	None	-	-
The Geysers	Bombus occidentalis	western bumble bee	None	None	-	-
The Geysers	Emys marmorata	western pond turtle	None	None	SSC	-
The Geysers	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
The Geysers	Asclepias solanoana	serpentine milkweed	None	None	-	4.2
The Geysers	Layia septentrionalis	Colusa layia	None	None	-	1B.2
The Geysers	Cryptantha dissita	serpentine cryptantha	None	None	-	1B.2
The Geysers	Streptanthus barbiger	bearded jewelflower	None	None	-	4.2
The Geysers	Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewelflower	None	None	-	1B.2
The Geysers	Streptanthus glandulosus ssp. hoffmanii	Hoffman's bristly jewelflower	None	None	-	1B.3
The Geysers	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	-	4.2
The Geysers	Calystegia collina ssp. tridactylosa	three-fingered morning-glory	None	None	-	1B.2
The Geysers	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
The Geysers	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
The Geysers	Astragalus clevelandii	Cleveland's milk-vetch	None	None	-	4.3
The Geysers	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
The Geysers	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
The Geysers	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
The Geysers	Hesperolinon adenophyllum	glandular western flax	None	None	-	1B.2
The Geysers	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
The Geysers	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
The Geysers	Clarkia gracilis ssp. tracyi	Tracy's clarkia	None	None	-	4.2
The Geysers	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
The Geysers	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
The Geysers	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
The Geysers	Panicum acuminatum var. thermale	Geysers panicum	None	End	-	1B.2
The Geysers	Collomia diversifolia	serpentine collomia	None	None	-	4.3
The Geysers	Eriastrum brandegeeae	Brandegee's eriastrum	None	None	-	1B.1

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
The Geysers	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	End	Thrt	-	1B.1
The Geysers	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Whispering Pines	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
Whispering Pines	Rana boylii	foothill yellow-legged frog	None	SCT	SSC	-
Whispering Pines	Rana draytonii	California red-legged frog	Thrt	None	SSC	-
Whispering Pines	Taricha rivularis	red-bellied newt	None	None	SSC	-
Whispering Pines	Progne subis	purple martin	None	None	SSC	-
Whispering Pines	Bombus occidentalis	western bumble bee	None	None	-	-
Whispering Pines	Antrozous pallidus	pallid bat	None	None	SSC	-
Whispering Pines	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Whispering Pines	Lasiurus blossevillii	western red bat	None	None	SSC	-
Whispering Pines	Lasiurus cinereus	hoary bat	None	None	-	-
Whispering Pines	Myotis evotis	long-eared myotis	None	None	-	-
Whispering Pines	Myotis thysanodes	fringed myotis	None	None	-	-
Whispering Pines	Emys marmorata	western pond turtle	None	None	SSC	-
Whispering Pines	Sceloporus graciosus graciosus	northern sagebrush lizard	None	None	-	-
Whispering Pines	Central Valley Drg Rainbow Trout/Cyprinid Stm	Central Valley Drg Rainbow Trout/Cyprinid Stm	None	None	-	-
Whispering Pines	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
Whispering Pines	Grimmia torenii	Toren's grimmia	None	None	-	1B.3
Whispering Pines	Mielichhoferia elongata	elongate copper moss	None	None	-	4.3
Whispering Pines	Chlorogalum pomeridianum var. minus	dwarf soaproot	None	None	-	1B.2
Whispering Pines	Eryngium constancei	Loch Lomond button-celery	End	End	-	1B.1
Whispering Pines	Asclepias solanoana	serpentine milkweed	None	None	-	4.2
Whispering Pines	Erigeron greenei	Greene's narrow-leaved daisy	None	None	-	1B.2
Whispering Pines	Helianthus exilis	serpentine sunflower	None	None	-	4.2
Whispering Pines	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Whispering Pines	Amsinckia lunaris	bent-flowered fiddleneck	None	None	-	1B.2
Whispering Pines	Cryptantha dissita	serpentine cryptantha	None	None	-	1B.2
Whispering Pines	Arabis blepharophylla	coast rockcress	None	None	-	4.3
Whispering Pines	Streptanthus brachiatus ssp. brachiatus	Socrates Mine jewelflower	None	None	-	1B.2
Whispering Pines	Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	None	None	-	1B.2
Whispering Pines	Streptanthus hesperidis	green jewelflower	None	None	-	1B.2
Whispering Pines	Legenere limosa	legenere	None	None	-	1B.1
Whispering Pines	Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	-	4.2
Whispering Pines	Sedella leiocarpa	Lake County stonecrop	End	End	-	1B.1
Whispering Pines	Carex praticola	northern meadow sedge	None	None	-	2B.2
Whispering Pines	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Whispering Pines	Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	None	None	-	1B.1
Whispering Pines	Astragalus breweri	Brewer's milk-vetch	None	None	-	4.2
Whispering Pines	Astragalus clevelandii	Cleveland's milk-vetch	None	None	-	4.3

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Whispering Pines	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	None	None	-	1B.2
Whispering Pines	Lupinus sericatus	Cobb Mountain lupine	None	None	-	1B.2
Whispering Pines	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Whispering Pines	Fritillaria purdyi	Purdy's fritillary	None	None	-	4.3
Whispering Pines	Hesperolinon adenophyllum	glandular western flax	None	None	-	1B.2
Whispering Pines	Hesperolinon bicarpellatum	two-carpellate western flax	None	None	-	1B.2
Whispering Pines	Sidalcea oregana ssp. hydrophila	marsh checkerbloom	None	None	-	1B.2
Whispering Pines	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Whispering Pines	Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	None	None	-	4.3
Whispering Pines	Antirrhinum subcordatum	dimorphic snapdragon	None	None	-	4.3
Whispering Pines	Antirrhinum virga	twig-like snapdragon	None	None	-	4.3
Whispering Pines	Penstemon newberryi var. sonomensis	Sonoma beardtongue	None	None	-	1B.3
Whispering Pines	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
Whispering Pines	Imperata brevifolia	California satintail	None	None	-	2B.1
Whispering Pines	Panicum acuminatum var. thermale	Geysers panicum	None	End	-	1B.2
Whispering Pines	Collomia diversifolia	serpentine collomia	None	None	-	4.3
Whispering Pines	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Whispering Pines	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Whispering Pines	Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	End	Thrt	-	1B.1
Whispering Pines	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	End	End	-	1B.2
Whispering Pines	Eriogonum nervulosum	Snow Mountain buckwheat	None	None	-	1B.2
Whispering Pines	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
Whispering Pines	Ceanothus confusus	Rincon Ridge ceanothus	None	None	-	1B.1
Whispering Pines	Ceanothus divergens	Calistoga ceanothus	None	None	-	1B.2
Whispering Pines	Horkelia bolanderi	Bolander's horkelia	None	None	-	1B.2

KEY:

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

KEY (cont.):

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

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

APPENDIX B

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
A007	CALIFORNIA NEWT	SC	NATIVE
A014	CALIFORNIA SLENDER SALAMANDER		NATIVE
A020	SPECKLED BLACK SALAMANDER		NATIVE
B049	AMERICAN BITTERN		NATIVE
B050	LEAST BITTERN	SC	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
B108	TURKEY VULTURE		NATIVE
B110	OSPREY	CD	NATIVE
B111	WHITE-TAILED KITE	CF BL	NATIVE
B113	BALD EAGLE	CE CF BL FS CD	NATIVE
B114	NORTHERN HARRIER	SC	NATIVE
B115	SHARP-SHINNED HAWK		NATIVE
B116	COOPER'S HAWK		NATIVE
B117	NORTHERN GOSHAWK	SC BL FS CD	NATIVE
B119	RED-SHOULDERED HAWK		NATIVE
B123	RED-TAILED HAWK		NATIVE
B124	FERRUGINOUS HAWK		NATIVE
B125	ROUGH-LEGGED HAWK		NATIVE
B126	GOLDEN EAGLE	CF BL CD	NATIVE
B127	AMERICAN KESTREL		NATIVE
B128	MERLIN		NATIVE
B131	PRAIRIE FALCON		NATIVE
B140	CALIFORNIA QUAIL	SC HA	NATIVE
B141	MOUNTAIN QUAIL	HA	NATIVE
B145	VIRGINIA RAIL		NATIVE
B146	SORA		NATIVE
B148	COMMON GALLINULE	HA	NATIVE

B149	AMERICAN COOT			HA	NATIVE
B251	BAND-TAILED PIGEON			HA	NATIVE
B255	MOURNING DOVE			HA	NATIVE
B260	GREATER ROADRUNNER				NATIVE
B262	BARN OWL				NATIVE
B263	FLAMMULATED OWL				NATIVE
B264	WESTERN SCREECH OWL				NATIVE
B265	GREAT HORNED OWL				NATIVE
B267	NORTHERN PYGMY OWL				NATIVE
B269	BURROWING OWL		SC	BL	NATIVE
B270	SPOTTED OWL	FT	SC	BL FS CD	NATIVE
B272	LONG-EARED OWL		SC		NATIVE
B273	SHORT-EARED OWL		SC		NATIVE
B274	NORTHERN SAW-WHET OWL				NATIVE
B277	COMMON POORWILL				NATIVE
B287	ANNA'S HUMMINGBIRD				NATIVE
B291	RUFOUS HUMMINGBIRD				NATIVE
B292	ALLEN'S HUMMINGBIRD				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
B305	WHITE-HEADED WOODPECKER				NATIVE
B307	NORTHERN FLICKER				NATIVE
B311	WESTERN WOOD-PEWEE				NATIVE
B317	HAMMOND'S FLYCATCHER				NATIVE
B318	DUSKY FLYCATCHER				NATIVE
B320	PACIFIC-SLOPE FLYCATCHER				NATIVE
B323	SAY'S PHOEBE				NATIVE
B326	ASH-THROATED FLYCATCHER				NATIVE
B333	WESTERN KINGBIRD				NATIVE
B337	HORNED LARK				NATIVE
B338	PURPLE MARTIN		SC		NATIVE
B339	TREE SWALLOW				NATIVE
B340	VIOLET-GREEN SWALLOW				NATIVE
B341	NORTHERN ROUGH-WINGED SWALLOW				NATIVE
B343	CLIFF SWALLOW				NATIVE
B346	STELLER'S JAY				NATIVE
B348	WESTERN SCRUB-JAY				NATIVE
B352	YELLOW-BILLED MAGPIE				NATIVE
B353	AMERICAN CROW			HA	NATIVE

B354	COMMON RAVEN			NATIVE
B356	MOUNTAIN CHICKADEE			NATIVE
B358	OAK TITMOUSE			NATIVE
B360	BUSHTIT			NATIVE
B361	RED-BREASTED NUTHATCH			NATIVE
B362	WHITE-BREASTED NUTHATCH			NATIVE
B363	PYGMY NUTHATCH			NATIVE
B364	BROWN CREEPER			NATIVE
B368	BEWICK'S WREN		SC	NATIVE
B369	HOUSE WREN			NATIVE
B375	GOLDEN-CROWNED KINGLET			NATIVE
B376	RUBY-CROWNED KINGLET			NATIVE
B377	BLUE-GRAY GNATCATCHER			NATIVE
B380	WESTERN BLUEBIRD			NATIVE
B381	MOUNTAIN BLUEBIRD			NATIVE
B386	HERMIT THRUSH			NATIVE
B389	AMERICAN ROBIN			NATIVE
B390	VARIED THRUSH			NATIVE
B391	WRENTIT			NATIVE
B393	NORTHERN MOCKINGBIRD			NATIVE
B398	CALIFORNIA THRASHER			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
B461	COMMON YELLOWTHROAT		SC	NATIVE
B463	WILSON'S WARBLER			NATIVE
B471	WESTERN TANAGER			NATIVE
B475	BLACK-HEADED GROSBEAK			NATIVE
B477	LAZULI BUNTING			NATIVE
B482	GREEN-TAILED TOWHEE			NATIVE
B483	SPOTTED TOWHEE		SC	NATIVE
B484	CALIFORNIA TOWHEE	FT CE		NATIVE
B489	CHIPPING SPARROW			NATIVE

B493	BLACK-CHINNED SPARROW						NATIVE
B495	LARK SPARROW						NATIVE
B497	BELL'S SPARROW	FT		SC			NATIVE
B499	SAVANNAH SPARROW		CE	SC			NATIVE
B504	FOX SPARROW						NATIVE
B505	SONG SPARROW			SC			NATIVE
B509	GOLDEN-CROWNED SPARROW						NATIVE
B510	WHITE-CROWNED SPARROW						NATIVE
B512	DARK-EYED JUNCO						NATIVE
B519	RED-WINGED BLACKBIRD			SC			NATIVE
B520	TRICOLORED BLACKBIRD			SC	BL		NATIVE
B521	WESTERN MEADOWLARK						NATIVE
B522	YELLOW-HEADED BLACKBIRD			SC			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
B548	CLARK'S GREBE						NATIVE
B554	PLUMBEOUS VIREO						NATIVE
B699	BARRED OWL						NATIVE
M006	ORNATE SHREW	FE		SC			NATIVE
M012	TROWBRIDGE'S SHREW						NATIVE
M023	YUMA MYOTIS				BL		NATIVE
M025	LONG-EARED MYOTIS				BL		NATIVE
M027	LONG-LEGGED MYOTIS						NATIVE
M030	SILVER-HAIRED BAT						NATIVE
M032	BIG BROWN BAT						NATIVE
M034	HOARY BAT						NATIVE
M038	PALLID BAT			SC	BL FS		NATIVE
M045	BRUSH RABBIT	FE	CE			HA	NATIVE
M047	AUDUBON'S COTTONTAIL					HA	NATIVE
M051	BLACK-TAILED JACKRABBIT			SC		HA	NATIVE
M055	YELLOW-PINE CHIPMUNK						NATIVE
M059	SONOMA CHIPMUNK						NATIVE
M077	WESTERN GRAY SQUIRREL					HA	NATIVE
M079	DOUGLAS' SQUIRREL					HA	NATIVE
M080	NORTHERN FLYING SQUIRREL			SC	FS		NATIVE
M084	MAZAMA POCKET GOPHER						NATIVE
M117	DEER MOUSE			SC			NATIVE

M119	BRUSH MOUSE								NATIVE
M120	PINYON MOUSE								NATIVE
M127	DUSKY-FOOTED WOODRAT	FE			SC				NATIVE
M139	COMMON MUSKRAT							HA	NATIVE
M146	COYOTE							HA	NATIVE
M149	GRAY FOX							HA	NATIVE
M151	BLACK BEAR							HA	NATIVE
M152	RINGTAIL			CF					NATIVE
M153	RACCOON							HA	NATIVE
M155	FISHER				SC	FC	BL FS		NATIVE
M156	ERMINE							HA	NATIVE
M157	LONG-TAILED WEASEL							HA	NATIVE
M160	AMERICAN BADGER				SC			HA	NATIVE
M165	MOUNTAIN LION				SC				NATIVE
M166	BOBCAT							HA	NATIVE
M181	MULE DEER							HA	NATIVE
R022	WESTERN FENCE LIZARD								NATIVE
R040	SOUTHERN ALLIGATOR LIZARD								NATIVE
R042	NORTHERN ALLIGATOR LIZARD								NATIVE
R046	NORTHERN RUBBER BOA		CT				FS		NATIVE
R051	NORTH AMERICAN RACER								NATIVE
R057	GOPHERSNAKE				SC				NATIVE
R058	EASTERN KINGSNAKE								NATIVE
R061	COMMON GARTERSNAKE	FE	CE	CF	SC				NATIVE
R062	TERRESTRIAL GARTERSNAKE								NATIVE
R076	WESTERN RATTLESNAKE								NATIVE
R078	AQUATIC GARTERSNAKE								NATIVE

Total Number of Species: 187

Query Parameters

Included Locations
Lake Co

Included Location Seasons
Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)
Blue Oak Woodland, Chamise-redshank Chaparral, Fresh Emergent Wetland, Montane Hardwood,

Ponderosa Pine, Valley Oak Woodland, Wet Meadow

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

Included Habitat Seasons

Migrant, Summer, Winter, Yearlong

Excluded Elements

Algae, Bank, Barren, Campground, Cave, Cliff, Dump, Grain, Grass/agriculture, Jetty, Kelp, Lakes, Lithic, Mine, Mud Flats,
Nest Box, Nest Island, Nest Platform, Pack Stations, Ponds, Riparian Inclusion, Rivers, Rock, Salt Ponds, Sand Dune,
Shrub/agriculture, Soil - Aerated, Soil - Saline, Springs, Springs - Hot, Springs - Mineral, Streams - Permanent, Talus, Tidepools,
Tree/agriculture, Trees - Fir, Vernal Pools, Water - Created Body, Water - Fast, Water/agriculture, Wharf

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Included Species All Species Included

Included Special Statuses

Native

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2015 Botanical Survey for the Bryant Stocking Ranch

Project Description

The project site is a proposed non-industrial timber management plan in T12N, R8W, Sections 4 & 5 and T13N, R8W, Sections 31 & 32, MDBM. McIntire Creek bisects the property and drains to Cole Creek, which is tributary to Clear Lake.

Survey Method

The scoping strategy, survey method and impact assessments used for this survey are consistent with the Department of Fish and Wildlife's "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (November 24, 2009)".

Three visits were made for the botanical survey: April 8, May 8, and June 5, 2015 during the listed species' bloom periods or when plant parts could be identified by the surveyor. Plants were identified to the lowest taxonomic level necessary to make sure that they were not species of special concern. Species not identified on site were keyed in the office using the references cited at the end of this report. The survey route was chosen to sample all the property's habitats: valley grassland, chaparral, and yellow pine forest. To best access the property, most of the roads and skid roads were walked or driven, with some off-road traverses into the valley grassland and forest. The chaparral habitat was generally too densely-vegetated to walk through—except via roads.

A rare plant list was obtained from a query of the California Native Plant Society's Inventory of Rare and Endangered Plants for those species which could have the potential for occurring within the project area. The plant list is appended to this report.

Survey Results

At the southern entrance to the property exists a clearing which extends east to an old homestead. Within this area are orchard trees such as English and black walnut, cherry, chestnut, pear, and trees such as deodar cedar and black locust.

The northwest portion of the property above the valley floor is dense chaparral with isolated stands of knobcone pine. The remaining forested hillslopes are primarily ponderosa pine and black oak where much of the black oak had been removed in an earlier operation. The valley grassland is generally grasses and rushes, with valley oak and blue oak along the edges. Due

to these diverse habitats, the vegetation is also quite diverse.

Species Observed

The following plants were observed (not all plants were blooming, but were otherwise recognizable to the author). Common and Latin names used for plant identification are taken from the references listed at the end of this report.

Scientific Name	Common Name
Achillea millefolium	yarrow
Acmispon brachycarpus	short-podded lotus
Acmispon glaber	deerweed
Acmispon parviflorus	hill lotus
Actaea rubra	western baneberry
Adenocaulon bicolor	trail plant
Adenostoma fasciculatum	chamise
Aesculus californica	California buckeye
Agroseris grandiflora	bigflower agoseris
Agroseris retorsa	spearleaf mountain dandelion
Aira caryophylla	silver hair grass
Allium amplectens	narrow-leaved onion
Alnus rhombifolia	white alder
Alopecurus aequalis	short-awn foxtail
Amelanchier spp.	western serviceberry
Angelica tomentosa	wooly angelica
Antirrhinum vexillocalyculatum	wiry snapdragon
Amsinckia intermedia	fiddleneck
Anaphalis margaritacea	pearly everlasting
Anisocarpus madioides	woodland madia
Anthoxanthum odoratum	sweet vernal grass
Apiastrum angustifolium	wild parsley
Apocynum androsaemifolium	spreading dogbane
Aquilegia formosa	columbine
Arctostaphylos canescens canescens	hoary manzanita
Arctostaphylos manzanita manzanita	Parry manzanita
Arctostaphylos stanfordiana stanfordiana	Standford's manzanita
Artemesia douglasiana	mugwort
Artemesia ludoviciana albula	silver wormword
Avena barbata	slender oat
Baccharis pilularis	coyote bush
Brassica spp.	yellow mustard
Bromus carinatus	California brome
Bromus hordeaceus	soft brome

Bromus laevipes	woodland brome
Bromus madritensis	red brome
Bromus sterilis	poverty brome
Calandrinia breweri	Brewer's red maids
Calandrinia ciliate	red maids
Callitriche spp.	starwort
Calochortus amabilis	globe lily
Calystegia occidentalis	western morning glory
Carex densa	dense sedge
Carex feta	green-sheathed sedge
Carex fracta	fragile-sheathed sedge
Castilleja applegatei	pine Indian paintbrush
Castilleja exserta	purple owl's clover
Ceanothus cordulatus	mountain whitethorn
Ceanothus cuneatus	wedge-leaf ceanothus
Ceanothus oliganthus	hairy ceanothus
Ceanothus thyrsiflorus	blue blossom
Centauria solstitialis	yellow star thistle
Cerastium glomeratum	sticky chickweed
Cercis occidentalis	redbud
Cercocarpus betuloides	birch-leaf mountain mahogany
Chenopodium californicum	California goosefoot
Chlorogalum pomeridianum	wavy-leaved soapplant
Chrysolepis sempervirens	bush chinkapin
Circuta douglasii	western water hemlock
Cirsium occidentale	snowy thistle
Clarkia amoena	farewell to spring
Clarkia unguiculata	elegant clarkia
Claytonia perfoliata	miner's lettuce
Collinsia parviflora	blue-eyed Mary
Cryptantha torreyana	Torrey's cryptantha
Cuscuta californica	dodder
Cynoglossum grande	houndstongue
Cynosurus echinatus	dogtail grass
Cytisus scoparius	Scotch broom
Daucus carota	Queen Anne's lace
Deschampsia elongata	slender hairgrass
Dicentra formosa	bleeding heart
Dichelostemma capitatum	blue dicks
Dipsacus sativus	common teasel
Dodocatheon hendersonii	foothill shooting-star

Echinochloa crus-galli	barnyard grass
Elymus repens	quackgrass
Eremocarpus setigerus	turkey mullein
Eriodictyon californicum	yerba santa
Eriophyllum lanatum	wooly sunflower
Erysimum capitatum	western wallflower
Eschscholzia californica	California poppy
Euphorbia crenulata	Chinese caps
Festuca californica	California fescue
Frangula californica	California coffeeberry
Galium ambiguum	Yolla Bolly bedstraw
Galium andrewsii	phloxleaf bedstraw
Galium trifolium	fragrant bedstraw
Garrya fremontii	Fremont's silktassel
Gratiola ebracteata	hedge-hyssop
Heteromeles arbutifolia	toyon
Hieracium albiflorum	white hawkweed
Holcus lanatus	velvet grass
Hordeum vulgare	barley
Hosackia crassifolia crassifolia	deer vetch
Hosackia stipularis stipularis	balsam birdsfoot trefoil
Hypericum scouleri	Scouler's St. John's wort
Iris spp.	iris
Juncus spp.	rush
Keckiella lemmonii	Lemmon's beardstongue
Lagophylla ramosissima	branched hareleaf
Lamium aplexicaule	henbit
Lathyrus tingitanus	Tangier pea
Lathyrus vestitus	hillside pea
Leptosiphon parviflorus	variable linanthus
Lomatium utriculatum	common lomatium
Lonicera hispidula	hairy honeysuckle
Lotus corniculatus	bird's foot trefoil
Lupinus bicolor	miniature lupine
Lupinus spp.	blue bush lupine
Marah spp.	wild cucumber
Marrubium vulgare	common horehound
Matricaria matricarioides	pineapple weed

Mentha pulegium	pennyroyal
Mimulus auranticus	bush monkey flower
Micropus californicus	cottonweed
Monardella odoratissima	coyote mint
Navarettia squarrosa	skunkweed
Nemophila heterophylla	white nemophila
Nemophila menziesii	baby blue eyes
Nicotiana bigelovii	Indian tobacco
Oxypolis occidentalis	western oxypolis
Pedicularis densiflora	Indian warrior
Penstemon heterophyllus	blue penstemon
Phacelia spp.	waterleaf
Phalaris arundinacea	reed canary grass
Philadelphus spp.	mock-orange
Pinus attenuata	knobcone pine
Pinus ponderosa	ponderosa pine
Piperia spp.	orchid
Plagiobothrys tenellus	Pacific popcorn flower
Plantago lanceolata	English plantain
Plantago patagonica	wooly plantain
Poa bulbosa	bulbous bluegrass
Poa compressa	Canada bluegrass
Poa palustris	fowl bluegrass
Poa pratensis	Kentucky bluegrass
Populus spp.	poplar
Prunus virginiana	western chokecherry
Pseudotsuga menziesii	Douglas-fir
Quercus berberidifolia	scrub oak
Quercus chrysolepis	canyon live oak
Quercus douglasii	blue oak
Quercus kelloggi	black oak
Quercus lobata	valley oak
Quercus vaccinifolia	huckleberry oak
Rhus aromatica	skunkbrush
Rorippa nasturtium-aqatica	watercress
Rubus discolor	Himalaya berry
Rumex acetosella	sheep sorrel
Rumex crispus	curly dock
Rumex obtusifolius	broadleaf dock

Salix spp.	willow
Salvia sonomensis	creeping sage
Sambuca nigra	black elder
Sanicula bipinnatifida	purple sanicle
Sanicula crassicaulis	Pacific sanicle
Scrophularia californica	Coast figwort
Scutellaria spp.	nose skullcap
Silene californica	Indian pink
Sonchus asper	spiny sow thistle
Symphoricarpus albus	snowberry
Thysanocarpus curvipes	fringepod
Toxicodendron diversilobum	poison oak
Toxicoscordion venenosum	meadow death camas
Torillis arvensis	hedge parsley
Tragopogon dubius	yellow salsify
Trifolium willdenovii	tomcat clover
Typha spp.	cattail
Umbellularia californica	California bay
Uropappus lindleyi	silver puffs
Utica dioica	stinging nettle
Verbascum thapsus	common mullein
Verbena lasiostachys	western verbena
Veronica americana	American brooklime
Vicea sativa	spring vetch
Vulpia myuros var. hirsuta	foxtail fescue
Wyethia angustifolia	narrow-leaved mule ears

Impacts Assessment and Mitigation Measures

Just one potential species was noted in the *Piperia* genus, and this is a genus that contains rare plants. One plant was observed adjacent a side road in the forested habitat. It was first noted in April; and although the botanical survey spanned three months and the plant was observed three times, the window of positive identification had passed by the time of the last visit. Therefore, the plant has been flagged off with "special treatment area" flagging so as not to be disturbed, since identification to species was not possible. No other potential listed species were observed.

Submitted by: Darcie Mahoney

Darcie Mahoney, Licensed Forester #2397
Author and Surveyor of Botanical Report, 15 June 2015

References

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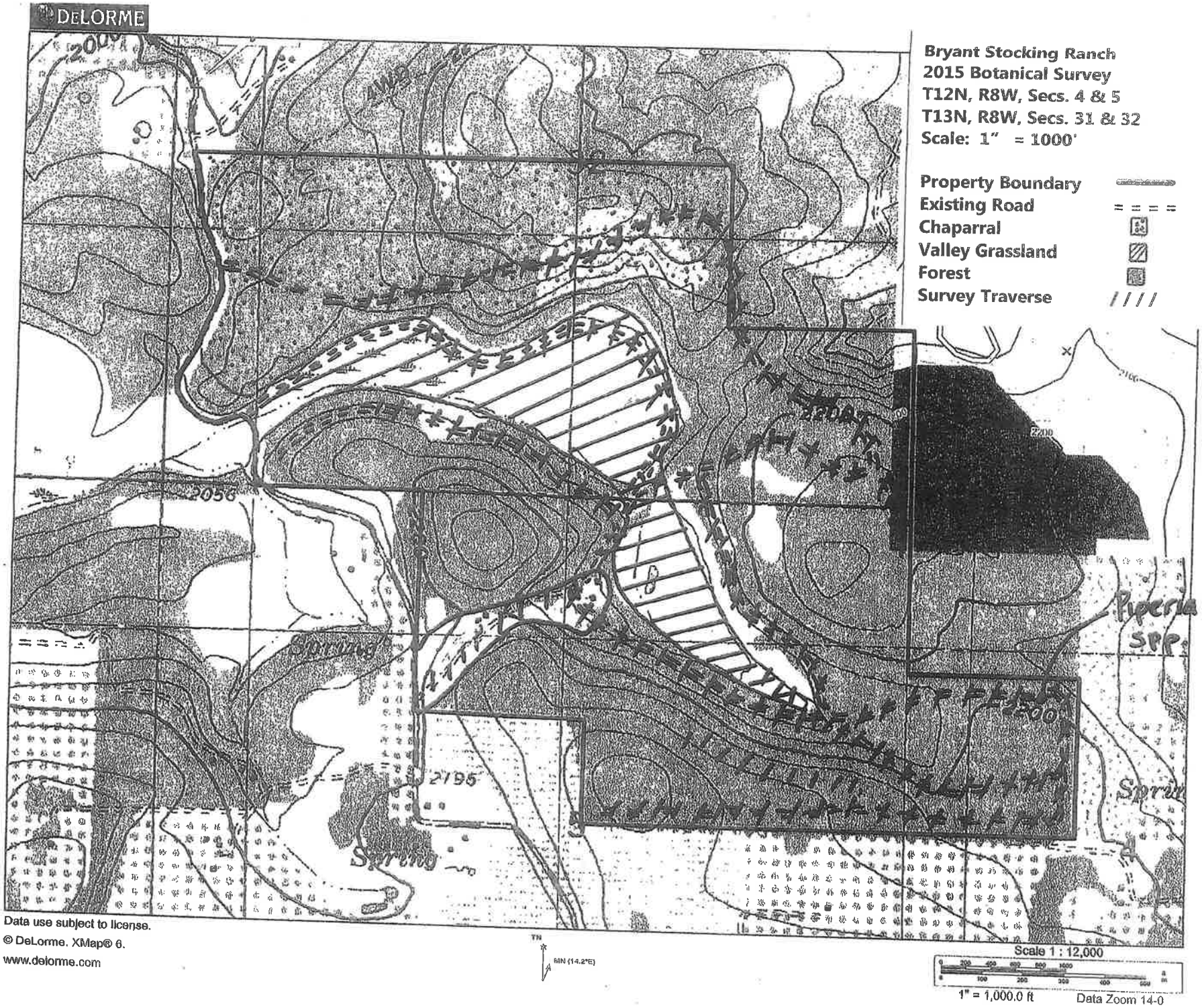
DeLORME
Bryant Stocking Ranch
2015 Botanical Survey
T12N, R8W, Secs. 4 & 5
T13N, R8W, Secs. 31 & 32
Scale: 1" = 1000'
Property Boundary
Existing Road
Chaparral
Valley Grassland
Forest
Survey Traverse
2056
2195
2200
Spring
Piperia SPP
Data use subject to license.
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www.delorme.com
TN
MN (14.2°E)
Scale 1 : 12,000
1" = 1,000.0 ft
Data Zoom 14-0

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CNPS Rare and Endangered Plant Inventory

Plant List

79 matches found. *Click on scientific name for details*

Search Criteria

Found in Lake County, Elevation is above 2000 or below 3000 feet, Community = Chaparral

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Antirrhinum subcordatum	dimorphic snapdragon	Plantaginaceae	annual herb	4.3	S3.3	G3
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	4.3	S3.3?	G3
Arabis modesta	modest rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3
Arabis oregana	Oregon rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3G4Q
Arctostaphylos canescens ssp. sonomensis	Sonoma canescent manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2	G3G4T2
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	S3	G5T3
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	perennial evergreen shrub	1B.1	S2?	G3T2?
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	4.2	S3.2	G3
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	4.2	S3.2	G3
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	S3.3?	G3?
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	1B.2	S3	G4T3
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	4.3	S3.3	G4T3
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	S3?	G3?
Brodiaea rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	S2	G2
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	4.3	S3.3	G3
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	1B.2	S2	G2
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	4.3	S3.3	G3
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	4.2	S3.2	G4T3
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G5T2

Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S1	G1
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	S2	G2
Chlorogalum pomeridianum var. minus	dwarf soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S2	G5T2
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	1B.2	S2	G5T2
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	4.2	S3.2	G5T3
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	S3.3	G4G5T3
Delphinium uliginosum	swamp larkspur	Ranunculaceae	perennial herb	4.2	S3.2	G3
Epilobium nivium	Snow Mountain willowherb	Onagraceae	perennial herb	1B.2	S2	G2
Eriastrum brandegeeae	Brandegee's eriastrum	Polemoniaceae	annual herb	1B.1	S1	G1Q
Eriastrum tracyi	Tracy's eriastrum	Polemoniaceae	annual herb	3.2	S3	G3Q
Erigeron greenei	Greene's narrow-leaved daisy.	Asteraceae	perennial herb	1B.2	S2	G2
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	1B.2	S2	G2
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	4.2	S3.2	G3
Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	1B.2	S3	G3
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	S3.2	G3
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss	1B.3	S2	G2
Harmonia hallii	Hall's harmonia	Asteraceae	annual herb	1B.2	S2?	G2
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	4.3	S3.3	G3
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	4.2	S3.2	G3Q
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	1B.2	S3	G3
Hesperolinon bicarpellatum	two-carpellate western flax	Linaceae	annual herb	1B.2	S3	G3
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	1B.2	S2	G2
Hesperolinon tehamense	Tehama County western flax	Linaceae	annual herb	1B.3	S3	G3
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	1B.2	S1	G1
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2B.1	S3	G3
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	S2	G2
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	4.2	S3.2	G3
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3

Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	4.2	S3.2	G4T4
Lomatium hooveri	Hoover's lomatium	Apiaceae	perennial herb	4.3	S3.3	G3
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	4.3	S3.3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	S2	G2
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	4.3	S3.3	G3Q
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3S4	G3G4
Mimulus glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	4.3	S3.3	G3
Mimulus nudatus	bare monkeyflower	Phrymaceae	annual herb	4.3	S3.3	G3
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	4.3	S3.3	G3T3
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	4.2	S3.2	G3
Navarretia jepsonii	Jepson's navarretia	Polemoniaceae	annual herb	4.3	S3.3	G3
Navarretia sinistra ssp. pinnatisecta	pinnate-leaved navarretia	Polemoniaceae	annual herb	4.3	S3.3	G4G5T3
Navarretia subuligera	awl-leaved navarretia	Polemoniaceae	annual herb	4.3	S3.3	G4
Orobanche valida ssp. howellii	Howell's broomrape	Orobanchaceae	perennial herb (parasitic)	4.3	S3.3	G3T3
Penstemon newberryi var. sonomensis	Sonoma beardtongue	Plantaginaceae	perennial herb	1B.3	S2	G4T1
Senecio clevelandii var. clevelandii	Cleveland's ragwort	Asteraceae	perennial herb	4.3	S3.3	G4?T3Q
Sidalcea hickmanii ssp. pillsburiensis	Lake Pillsbury checkerbloom	Malvaceae	perennial herb	1B.2	S1	G3T1
Streptanthus barbiger	bearded jewel-flower	Brassicaceae	annual herb	4.2	S3.2	G3
Streptanthus batrachopus	Tamalpais jewel-flower	Brassicaceae	annual herb	1B.3	S1	G1
Streptanthus brachiatus ssp. hoffmanii	Freed's jewel-flower	Brassicaceae	perennial herb	1B.2	S2	G2T2
Streptanthus drepanoides	sickle-fruit jewel-flower	Brassicaceae	annual herb	4.3	S3.3	G3
Streptanthus hesperidis	green jewel-flower	Brassicaceae	annual herb	1B.2	S2	G2
Streptanthus morrisonii ssp. elatus	Three Peaks jewel-flower	Brassicaceae	perennial herb	1B.2	S2	G2T2
Streptanthus vernalis	early jewel-flower	Brassicaceae	annual herb	1B.2	S1	G1
Thelypodium brachycarpum	short-podded thelypodium	Brassicaceae	perennial herb	4.2	S3.2	G3
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	S3.2	G3
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	1B.2	S2	G2
Triteleia lugens	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	4.3	S3.3	G3

Suggested Citation

CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

34 matches found. *Click on scientific name for details*

Search Criteria

Found in Lake County, Elevation is above 2000 or below 3000 feet,
Community = Lower montane coniferous forest

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Antirrhinum subcordatum	dimorphic snapdragon	Plantaginaceae	annual herb	4.3	S3.3	G3
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	4.3	S3.3?	G3
Arabis modesta	modest rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3
Arabis oregana	Oregon rockcress	Brassicaceae	perennial herb	4.3	S3.3?	G3G4Q
Arctostaphylos canescens ssp. sonomensis	Sonoma canescent manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2	G3G4T2
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	S3	G5T3
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	perennial evergreen shrub	1B.1	S2?	G3T2?
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	4.2	S3.2	G3
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	4.3	S3.3	G4T3
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	S3?	G3?
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	4.3	S3.3	G3
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	4.3	S3.3	G3
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	4.2	S3.2	G4T3
Didymodon norrisii	Norris' beard moss	Pottiaceae	moss	2B.2	S3S4	G3G4
Eriogonum umbellatum var. bahiiforme	bay buckwheat	Polygonaceae	perennial herb	4.2	S3.2	G5T3
Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	S3.2	G3
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss	1B.3	S2	G2
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	1B.2	S1	G1
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3

Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	S2	G2
Mimulus glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	4.3	S3.3	G3
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	1B.1	S2	G4T2
Navarretia sinistra ssp. pinnatisecta	pinnate-leaved navarretia	Polemoniaceae	annual herb	4.3	S3.3	G4G5T3
Navarretia subuligera	awl-leaved navarretia	Polemoniaceae	annual herb	4.3	S3.3	G4
Piperia leptopetala	narrow-petaled rein orchid	Orchidaceae	perennial herb	4.3	S3.3	G3
Pleuropogon californicus var. davyi	Davy's semaphore grass	Poaceae	perennial rhizomatous herb	4.3	S3.3	G5T3
Ribes roezlii var. amictum	hoary gooseberry	Grossulariaceae	perennial deciduous shrub	4.3	S3.3	G3G4T3
Streptanthus drepanoides	sickle-fruit jewel-flower	Brassicaceae	annual herb	4.3	S3.3	G3
Thelypodium brachycarpum	short-podded thelypodium	Brassicaceae	perennial herb	4.2	S3.2	G3
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	S3.2	G3
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	1B.2	S2	G2
Triteleia lugens	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	4.3	S3.3	G3

Suggested Citation

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CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

13 matches found. *Click on scientific name for details*

Search Criteria

Found in Lake County, Elevation is above 2000 or below 3000 feet, Community = Meadows and seeps

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	4.2	S3.2	G3
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	4.3	S3.3	G3
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S3	G4
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	1B.2	S2	G2
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G5T2
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	1B.2	S1	G1
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2B.1	S3	G3
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	1B.1	S2	G4T2
Plagiobryoides vinosula	wine-colored tufa moss	Bryaceae	moss	4.2	S2	G3G4
Pleuropogon californicus var. davyi	Davy's semaphore grass	Poaceae	perennial rhizomatous herb	4.3	S3.3	G5T3
Thelypodium brachycarpum	short-podded thelypodium	Brassicaceae	perennial herb	4.2	S3.2	G3
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	S3.2	G3
Trichodon cylindricus	cylindrical trichodon	Ditrichaceae	moss	2B.2	S2	G4G5

Suggested Citation

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CNPS California Native Plant Society Rare and Endangered Plant Inventory

Plant List

58 matches found. *Click on scientific name for details*

Search Criteria

Found in Lake County, Elevation is above 2000 or below 3000 feet, Community = Cismontane woodland

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	S3	G5T3
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	4.2	S3.2	G3
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	4.2	S3.2	G3
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	S3.3?	G3?
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	1B.2	S3	G4T3
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	4.3	S3.3	G4T3
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	S3?	G3?
Brodiaea rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	S2	G2
California macrophylla	round-leaved filaree	Geraniaceae	annual herb	1B.1	S2	G2
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G5T2
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S1	G1
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	1B.2	S2	G5T2
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	S3.3	G4G5T3
Didymodon norrisii	Norris' beard moss	Pottiaceae	moss	2B.2	S3S4	G3G4
Eriastrum brandegeeae	Brandegee's eriastrum	Polemoniaceae	annual herb	1B.1	S1	G1Q
Eriastrum tracyi	Tracy's eriastrum	Polemoniaceae	annual herb	3.2	S3	G3Q
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	4.2	S3.2	G3
Eriogonum umbellatum var. bahiiforme	bay buckwheat	Polygonaceae	perennial herb	4.2	S3.2	G5T3

Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	4.2	S3.2	G3
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	1B.2	S3	G3
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	S3.2	G3
Grimmia torenii MOSS	Toren's grimmia	Grimmiaceae	moss	1B.3	S2	G2
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	4.3	S3.3	G3
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	4.2	S3.2	G3Q
Hemizonia congesta ssp. calyculata	Mendocino tarplant	Asteraceae	annual herb	4.3	S3.3	G5T3
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	1B.2	S3	G3
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	1B.2	S2	G2
Hesperolinon tehamense	Tehama County western flax	Linaceae	annual herb	1B.3	S3	G3
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	S2	G2
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	4.2	S3.2	G3
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	4.3	S3.3	G3
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	4.2	S3.2	G4T4
Lomatium hooveri	Hoover's lomatium	Apiaceae	perennial herb	4.3	S3.3	G3
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	4.3	S3.3	G3
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	S2	G2
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3S4	G3G4
Mielichhoferia elongata	elongate copper moss	Mniaceae	moss	2B.2	S2	G4
Mimulus glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	4.3	S3.3	G3
Mimulus nudatus	bare monkeyflower	Phrymaceae	annual herb	4.3	S3.3	G3
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	4.3	S3.3	G3T3
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	4.2	S3.2	G3
Navarretia jepsonii	Jepson's navarretia	Polemoniaceae	annual herb	4.3	S3.3	G3
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	1B.1	S2	G4T2
Navarretia subuligera	awl-leaved navarretia	Polemoniaceae	annual herb	4.3	S3.3	G4
Piperia leptopetala	narrow-petaled rein orchid	Orchidaceae	perennial herb	4.3	S3.3	G3
Plagiobryoides vinosula	wine-colored tufa moss	Bryaceae	moss	4.2	S2	G3G4
Pleuropogon californicus var. davyi	Davy's semaphore grass	Poaceae	perennial rhizomatous herb	4.3	S3.3	G5T3

Eriophyllum

Ribes roezlii var. amictum	hoary gooseberry	Grossulariaceae	perennial deciduous shrub	4.3	S3.3	G3G4T3
Sedella leiocarpa	Lake County stonecrop	Crassulaceae	annual herb	1B.1	S1	G1
Streptanthus brachiatus ssp. hoffmanii	Freed's jewel-flower	Brassicaceae	perennial herb	1B.2	S2	G2T2
Streptanthus drepanoides	sickle-fruit jewel-flower	Brassicaceae	annual herb	4.3	S3.3	G3
Streptanthus hesperidis	green jewel-flower	Brassicaceae	annual herb	1B.2	S2	G2
Streptanthus morrisonii ssp. kruckebergii	Kruckeberg's jewel-flower	Brassicaceae	perennial herb	1B.2	S1	G2T1
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	S3.2	G3
Tracyina rostrata	beaked tracyina	Asteraceae	annual herb	1B.2	S1	G1
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	1B.2	S2	G2

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2016 Botanical Survey for the Bryant Stocking Ranch

Project Description

In 2015, a botanical survey was conducted by the author for the McIntire NTMP in Sections 4 & 5 of T12N, R8W and Sections 31 & 32 of T13N, R8W. Recently, an ~ 85 acre addition to the property has been acquired by the landowner, who desired a botanical survey be conducted on that parcel as well. This new portion of the property is accessed via Highway 29 and is adjacent the S Bar S Quarry in Sections 32 and 33 of T13N, R8W, MDBM in the Thurston Creek watershed.

Survey Method

The scoping strategy, survey method and impact assessments used for this survey are consistent with the Department of Fish and Wildlife's "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (November 24, 2009)".

The survey was conducted on May 26, 2016 during the listed species' bloom periods or when plant parts could be identified by the surveyor. Plants were identified to the lowest taxonomic level necessary to make sure that they were not species of special concern. Species not identified on site were keyed in the office using the references cited at the end of this report.

A rare plant list was obtained from a query of the California Native Plant Society's Inventory of Rare and Endangered Plants for those species which could have the potential for occurring within the project area. The plant list is appended to this report.

In general, the sloping portions of the project area are chaparral habitat with some inclusions of knobcone pine. Because the chaparral habitat is essentially impenetrable, the survey traverse occurred along open trails in these areas. The flat near the highway was able to be surveyed without walking on roads.

Survey Results

Probably 3/4 of the new acreage is very dense chaparral--primarily manzanita, ceanothus, and chamise. Where the new parcel abuts the original property, the habitat grades into black oak and ponderosa pine. The flat area near Highway 29 has exposed white tuff (?) soils with chaparral at the sloping edges, grading to blue and black oaks and ponderosa pine over grasses at the highway.

Species Observed

The following plants were observed (not all plants were blooming, but were otherwise recognizable to the author). Common and Latin names used for plant identification are taken from the references listed at the end of this report.

Scientific Name	Common Name
Acmispon brachycarpus	short-podded lotus
Acmispon glaber	deerweed
Acmispon grandiflorus	large-leaved lotus
Adenostoma fasciculatum	chamise
Aira caryophylla	silver hair grass
Allophyllum divaricatum	purple false gilia
Anthoxanthum odoratum	sweet vernal grass
Arctostaphylos canescens canescens	hoary manzanita
Arctostaphylos glandulosa glandulosa	Eastwood's manzanita
Arctostaphylos stanfordiana stanfordiana	Standford's manzanita
Avena barbata	slender oat
Baccharis pilularis	coyote bush
Brassica spp.	yellow mustard
Briza minor	small rattlesnake grass
Bromus hordeaceus	soft brome
Bromus madritensis	red brome
Calochortus amabilis	globe lily
Ceanothus cuneatus	wedge-leaf ceanothus
Ceanothus foliosus	wavy-leaved ceanothus
Ceanothus integerrimus	deer brush
Cercocarpus betuloides	birch-leaf mountain mahogany
Chlorogalum pomeridianum	wavy-leaved soapplant
Clarkia gracilis gracilis	graceful clarkia
Claytonia perfoliata	miner's lettuce
Cryptantha torreyana	Torrey's cryptantha
Cuscuta californica	dodder
Cynoglossum grande	houndstongue
Cynosurus echinatus	dogtail grass
Daucus carota	Queen Anne's lace
Deschampsia elongata	slender hairgrass

Emmenanthe penduliflora	whispering bells
Eremocarpus setigerus	turkey mullein
Eriodictyon californicum	yerba santa
Eriophyllum lanatum	wooly sunflower
Festuca idahoensis	blue fescue
Festuca myuros	rattail sixweeks grass
Festuca subulata	bearded fescue
Galium nuttallii	climbing bedstraw
Gilia capitata capitata	bluefield gilia
Heteromeles arbutifolia	toyon
Hordeum jubatum	foxtail barley
Hypericum scouleri	Scouler's St. John's wort
Iris spp.	iris
Juncus spp.	rush
Logfia gallica	narrowleaf cottonrose
Pedicularis densiflora	Indian warrior
Penstemon heterophyllus	blue penstemon
Phacelia spp.	waterleaf
Phalaris arundinacea	reed canary grass
Pinus attenuata	knobcone pine
Pinus ponderosa	ponderosa pine
Quercus berberidifolia	scrub oak
Quercus douglasii	blue oak
Quercus kelloggii	black oak
Quercus wislizenii	interior live oak
Rhus aromatica	skunkbrush
Rosa spp.	rose
Rubus discolor	Himalaya berry
Rumex acetosella	sheep sorrel
Salvia sonomensis	creeping sage
Sambuca nigra	black elder
Sanicula crassicaulis	Pacific sanicle
Toxicodendron diversilobum	poison oak
Toxicoscordion venenosum	meadow death camas
Torillis arvensis	hedge parsley
Verbascum thapsus	*common mullein*

Impacts Assessment and Mitigation Measures
No special species were noted during the survey.

Submitted by: Darcie Mahoney

Darcie Mahoney, Licensed Forester #2397
Author and Surveyor of Botanical Report, 23 June 2015

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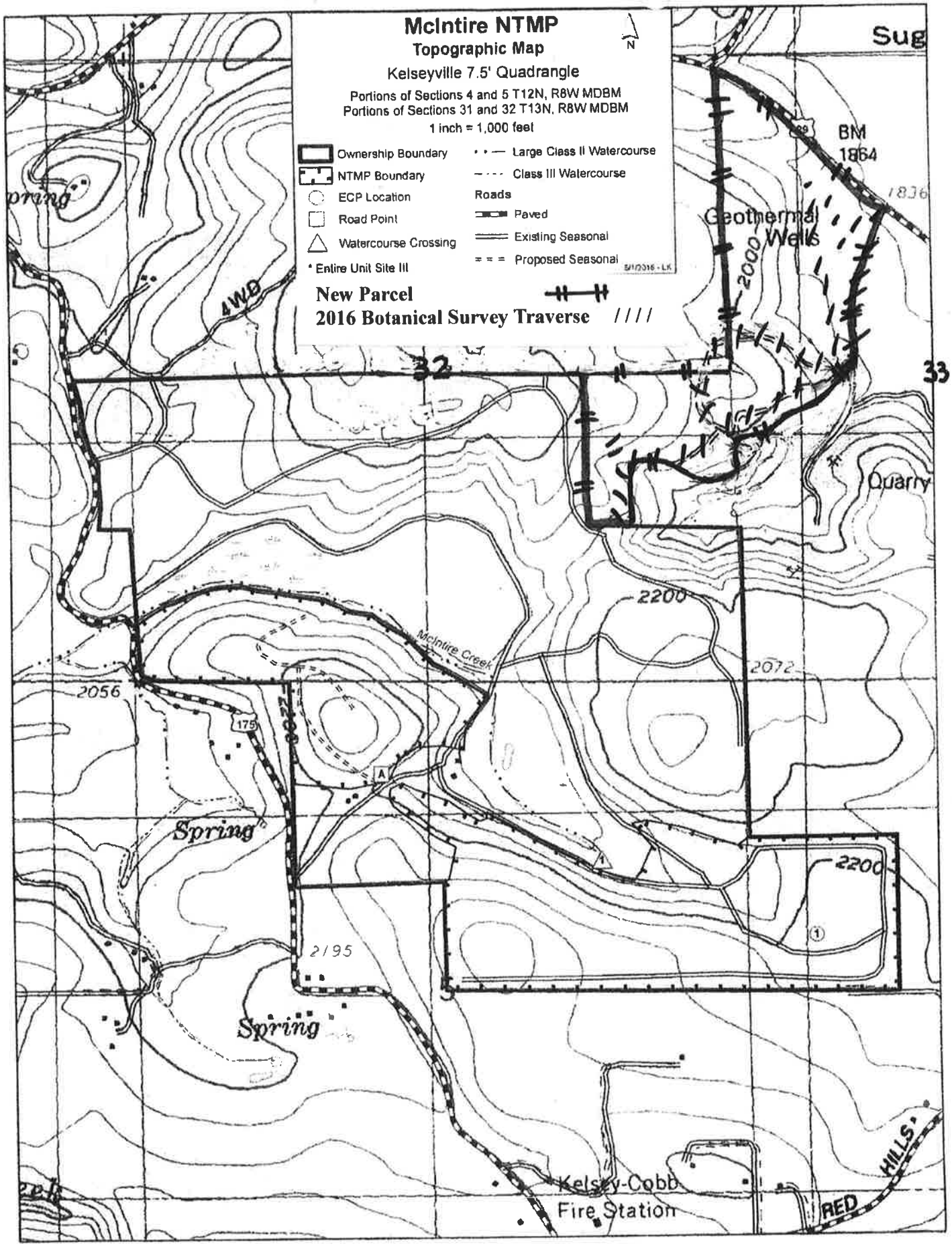
McIntire NTMP
Topographic Map
Kelseyville 7.5' Quadrangle
Portions of Sections 4 and 5 T12N, R8W MDBM
Portions of Sections 31 and 32 T13N, R8W MDBM
1 inch = 1,000 feet
Ownership Boundary
NTMP Boundary
ECP Location
Road Point
Watercourse Crossing
* Entire Unit Site III
Large Class II Watercourse
Class III Watercourse
Roads
Paved
Existing Seasonal
Proposed Seasonal
New Parcel
2016 Botanical Survey Traverse
Sug
BM
1864
1836
Geothermal
Wells
2000
4WD
32
33
Quarry
2200
McIntire Creek
2072
2056
175
200
A
Spring
2200
1
2195
Spring
Kelsey-Cobb
Fire Station
HILLS
RED

CNPS California Native Plant S Rare and Endangered Plant Inventory

Plant List

81 matches found. *Click on scientific name for details*

Search Criteria

Found in Lake County, Elevation is above 1840 or below 2160 feet, Community = Chaparral

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank	Habitat in Plan?
Allium fimbriatum var. purdyi	Purdy's onion	Alliaceae	perennial bulbiferous herb	4.3	S3	G4G5T3	N
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	S2	G4T2	N
Antirrhinum subcordatum	dimorphic snapdragon	Plantaginaceae	annual herb	4.3	S3	G3	Y
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	4.3	S3S4	G3G4	Y
Arabis modesta	modest rockcress	Brassicaceae	perennial herb	4.3	S3	G3	N
Arabis oregana	Oregon rockcress	Brassicaceae	perennial herb	4.3	S3	G3G4Q	N
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	S3	G5T3	Y
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	Ericaceae	perennial evergreen shrub	1B.1	S2	G3T2	Y
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	4.2	S3	G3	N
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	4.2	S3	G3	Y
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	S4	G4	N
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	1B.2	S3	G4T3	N
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	4.3	S4	G4T4	N
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2	N
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	S3?	G3?	N
Brodiaea rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	S2	G2	Y
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	4.3	S3	G3	Y
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S4	G4	N
Calycadenia micrantha	small-flowered calycadenia	Asteraceae	annual herb	1B.2	S2	G2	Y
Calyptridium quadripetalum	four-petaled pussypaws	Montiaceae	annual herb	4.3	S4	G4	Y
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	4.2	S3	G4T3	Y

Calystegia collina ssp. tridactylosa	three-fingered morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.2	S1	G4T1	N
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G5T2	N
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S1	G1	N
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	S2	G2	N
Ceanothus sonomensis	Sonoma ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	S2	G2	N
Chlorogalum pomeridianum var. minus	dwarf soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S2S3	G5T2T3	N
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	1B.2	S2	G5T2	N
Clarkia gracilis ssp. tracyi	Tracy's clarkia	Onagraceae	annual herb	4.2	S3	G5T3	Y
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	4.3	S4	G4	Y
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	S3	G4G5T3	Y
Cryptantha dissita	serpentine cryptantha	Boraginaceae	annual herb	1B.2	S2	G2	N
Delphinium uliginosum	swamp larkspur	Ranunculaceae	perennial herb	4.2	S3	G3	N
Eriastrum brandegeeae	Brandegee's eriastrum	Polemoniaceae	annual herb	1B.1	S1	G1Q	Y
Eriastrum tracyi	Tracy's eriastrum	Polemoniaceae	annual herb	3.2	S3	G3Q	N
Erigeron greenei	Greene's narrow-leaved daisy	Asteraceae	perennial herb	1B.2	S3	G3	N
Eriogonum nervulosum	Snow Mountain buckwheat	Polygonaceae	perennial rhizomatous herb	1B.2	S2	G2	N
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	4.2	S4	G4	N
Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	4.2	S3	G3	N
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	1B.2	S2S3	G2G3	N
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	S4	G4	Y
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss	1B.3	S2	G2	N
Harmonia hallii	Hall's harmonia	Asteraceae	annual herb	1B.2	S2	G2	N
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	4.3	S3	G3	N
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	4.2	S3	G3Q	N
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	1B.2	S3	G3	N
Hesperolinon bicarpellatum	two-carpellate western flax	Linaceae	annual herb	1B.2	S3	G3	N
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	1B.2	S2	G2	N
Hesperolinon tehamense	Tehama County western flax	Linaceae	annual herb	1B.3	S2	G2	N
Horkelia bolanderi	Bolander's horkelia	Rosaceae	perennial herb	1B.2	S1	G1	Y

Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2B.1	S3	G3	N
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	S2	G2	N
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	4.2	S3	G3	Y
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	4.2	S3	G3	N
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	4.2	S3	G4T4	N
Lomatium hooveri	Hoover's lomatium	Apiaceae	perennial herb	4.3	S3	G3	N
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	4.3	S3	G3	N
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	S2	G2	Y
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	3.3	S3	G3Q	N
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3S4	G3G4	Y
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss	4.3	S4	G5	N
Mimulus glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	4.3	S3	G3	N
Mimulus nudatus	bare monkeyflower	Phrymaceae	annual herb	4.3	S4	G4	N
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	4.3	S4	G4	N
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	4.2	S4	G4	N
Navarretia jepsonii	Jepson's navarretia	Polemoniaceae	annual herb	4.3	S4	G4	N
Navarretia linearifolia ssp. pinnatisecta	pinnate-leaved navarretia	Polemoniaceae	annual herb	4.3	S4	G4G5T4	Y
Navarretia subuligera	awl-leaved navarretia	Polemoniaceae	annual herb	4.3	S4	G4	N
Orobanche valida ssp. howellii	Howell's broomrape	Orobanchaceae	perennial herb (parasitic)	4.3	S4	G4T4	N
Senecio clevelandii var. clevelandii	Cleveland's ragwort	Asteraceae	perennial herb	4.3	S3	G4?T3Q	N
Streptanthus barbiger	bearded jewelflower	Brassicaceae	annual herb	4.2	S3	G3	N
Streptanthus batrachopus	Tamalpais jewelflower	Brassicaceae	annual herb	1B.3	S2	G2	N
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	Brassicaceae	perennial herb	1B.2	S2	G2T2	N
Streptanthus drepanoides	sickle-fruit jewelflower	Brassicaceae	annual herb	4.3	S4	G4	N
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	1B.2	S2	G2	Y
Streptanthus morrisonii ssp. elatus	Three Peaks jewelflower	Brassicaceae	perennial herb	1B.2	S2	G2T2	N
Streptanthus vernalis	early jewelflower	Brassicaceae	annual herb	1B.2	S1	G1	N
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	S3	G3	N
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	1B.2	S1S2	G1G2	Y
Triteleia lugens	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	4.3	S4?	G4?	N
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2B.3	S3?	G4G5	N

CNPS California Native Plant S Rare and Endangered Plant Inventory

Plant List

61 matches found. *Click on scientific name for details*

Search Criteria

Found in Lake County, Elevation is above 1840 or below 2160 feet, Community = Cismontane woodland

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank	Habitat in Plan?
Allium fimbriatum var. purdyi	Purdy's onion	Alliaceae	perennial bulbiferous herb	4.3	S3	G4G5T3	N
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	S2	G4T2	N
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	S3	G5T3	Y
Asclepias solanoana	serpentine milkweed	Apocynaceae	perennial herb	4.2	S3	G3	N
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	4.2	S3	G3	Y
Astragalus clevelandii	Cleveland's milk-vetch	Fabaceae	perennial herb	4.3	S4	G4	N
Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	Fabaceae	annual herb	1B.2	S3	G4T3	N
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	4.3	S4	G4T4	N
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2	N
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	1B.2	S3?	G3?	N
Brodiaea rosea	Indian Valley brodiaea	Themidaceae	perennial bulbiferous herb	1B.1	S2	G2	Y
California macrophylla	round-leaved filaree	Geraniaceae	annual herb	1B.2	S3?	G3?	N
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	4.2	S4	G4	N
Calystegia collina ssp. tridactylosa	three-fingered morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.2	S1	G4T1	N
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G5T2	N
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	1B.1	S1	G1	N
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	1B.2	S2	G5T2	N
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	4.3	S4	G4	Y
Cordylanthus tenuis ssp. brunneus	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	S3	G4G5T3	Y

Eriastrum brandegeeae	Brandegee's eriastrum	Polemoniaceae	annual herb	1B.1	S1	G1Q	Y
Eriastrum tracyi	Tracy's eriastrum	Polemoniaceae	annual herb	3.2	S3	G3Q	N
Eriogonum tripodum	tripod buckwheat	Polygonaceae	perennial deciduous shrub	4.2	S4	G4	N
Erythronium helenae	St. Helena fawn lily	Liliaceae	perennial bulbiferous herb	4.2	S3	G3	N
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	1B.2	S2S3	G2G3	N
Fritillaria purdyi	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	S4	G4	Y
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss	1B.3	S2	G2	N
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	4.3	S3	G3	N
Helianthus exilis	serpentine sunflower	Asteraceae	annual herb	4.2	S3	G3Q	N
Hemizonia congesta ssp. calyculata	Mendocino tarplant	Asteraceae	annual herb	4.3	S3	G5T3	Y
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	1B.2	S3	G3	N
Hesperolinon drymarioides	drymaria-like western flax	Linaceae	annual herb	1B.2	S2	G2	N
Hesperolinon tehamense	Tehama County western flax	Linaceae	annual herb	1B.3	S2	G2	N
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	S2	G2	N
Leptosiphon acicularis	bristly leptosiphon	Polemoniaceae	annual herb	4.2	S3	G3	Y
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	4.3	S4	G4	N
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	4.2	S3	G4T4	N
Lomatium hooveri	Hoover's lomatium	Apiaceae	perennial herb	4.3	S3	G3	N
Lomatium repostum	Napa lomatium	Apiaceae	perennial herb	4.3	S3	G3	N
Lupinus sericatus	Cobb Mountain lupine	Fabaceae	perennial herb	1B.2	S2	G2	Y
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	3.2	S3S4	G3G4	Y
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss	4.3	S4	G5	N
Mimulus glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	4.3	S3	G3	N
Mimulus nudatus	bare monkeyflower	Phrymaceae	annual herb	4.3	S4	G4	N
Monardella viridis	green monardella	Lamiaceae	perennial rhizomatous herb	4.3	S4	G4	N
Navarretia cotulifolia	cotula navarretia	Polemoniaceae	annual herb	4.2	S4	G4	N
Navarretia jepsonii	Jepson's navarretia	Polemoniaceae	annual herb	4.3	S4	G4	N
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	1B.1	S2	G4T2	N
Navarretia subuligera	awl-leaved navarretia	Polemoniaceae	annual herb	4.3	S4	G4	N

Piperia leptopetala	narrow-petaled rein orchid	Orchidaceae	perennial herb	4.3	S4	G4	N
Plagiobryoides vinosula	wine-colored tufa moss	Bryaceae	moss	4.2	S2	G3G4	N
Pleuropogon californicus var. davyi	Davy's semaphore grass	Poaceae	perennial rhizomatous herb	4.3	S3	G5T3	N
Ribes roezlii var. amictum	hoary gooseberry	Grossulariaceae	perennial deciduous shrub	4.3	S4	G5T4	N
Sedella leiocarpa	Lake County stonecrop	Crassulaceae	annual herb	1B.1	S1	G1	N
Streptanthus brachiatus ssp. hoffmanii	Freed's jewelflower	Brassicaceae	perennial herb	1B.2	S2	G2T2	N
Streptanthus drepanoides	sickle-fruit jewelflower	Brassicaceae	annual herb	4.3	S4	G4	N
Streptanthus hesperidis	green jewelflower	Brassicaceae	annual herb	1B.2	S2	G2	Y
Streptanthus morrisonii ssp. kruckebergii	Kruckeberg's jewelflower	Brassicaceae	perennial herb	1B.2	S1	G2T1	N
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	S3	G3	N
Tracyina rostrata	beaked tracyina	Asteraceae	annual herb	1B.2	S1	G1	Y
Trichostema ruygtii	Napa bluecurls	Lamiaceae	annual herb	1B.2	S1S2	G1G2	Y
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2B.3	S3?	G4G5	N

Suggested Citation

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Elk, CA 95432
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STATEMENT

To: Bryant Stocking

Date: 23 June 2016

For: 2016 Botanical Survey

Date	Services	Hours
5/26/16	Field Survey	6.5
5/27/16	Office ID	3.5
6/22/16	Office ID & survey report/map	3.5

13.5 hrs. @ $55/hr = $742.50