

**BIOLOGICAL RESOURCE ASSESSMENT
WITH BOTANICAL SURVEY**

For

Wood Forest Material Processing

Facility

755 E. Hwy 20

Upper Lake, CA

Lake County, California

July 15, 2023

Updated: February 20, 2024

Prepared for: Scotts Valley Band of Pomo Indians
1005 Parallel Drive
Lakeport, CA 949

Prepared by: Lawrence Ray,
nativeplantguy@msn.com
Ecological Consultant
201 Navigator Drive Scotts
Valley, CA 95066

CONTENTS

<u>Section</u>	<u>Page</u>
1.0 PROJECT DESCRIPTION	1
1.1 Project Location	1,2
1.2 Proposed Project.....	2,3
2.0 ASSESSMENT METHODOLOGY	4,5
2.1 Botanical Survey Methods.....	5
2.2 Delineation methods	5
2.3 Survey Dates	5
2.4 Biological Assessment Staff	5
3.0 SITE CHARACTERISTICS	6
3.1 Topography and Drainage	6
3.2 Soils	6-7
3.3 Vegetation Types	10-12
4.0 PRE-SURVEY RESEARCH RESULTS	13
4.1 CNPS Electronic Inventory Analysis	13
4.2 California Natural Diversity Database	13
4.3 Sensitive Wildlife Habitat Analysis Results	20
4.4 Wildlife Assessment	20-24
5.0 FIELD SURVEY RESULTS	25
5.1 Botanical Field Survey Results	25,26
6.0 SUMMARY AND RECOMMENDATIONS	27
6.1 Summary	27
6.2 Potential Impacts and Proposed Mitigation	28-30
7.0 BIBLIOGRAPHY	30-32

FIGURES AND TABLES

<u>Section</u>		<u>Page</u>
Figure 1	Location Map	1
Figure 2	Proposed Project Drawing	2
Figure 3	Soils Map.....	8
Figure 4	Vegetation	9
Table 1	Plant Communities and Alliances	10
Table 2	CNPS Plants	14, 15
Table 3	CNDDDB Sensitive Plant and Wildlife Species	16-19
Table 4	Flora	25, 26
APPENDIX A	CWHR Results	35-43

1.0 PROJECT DESCRIPTION

1.1 The project is located in Upper Lake California at 755 E. Hwy 20, Upper Lake, CA. See **Figure 1:** Site Location below. Lake County Parcel #004-010-04 and zoned APZ-SC-WW-FF. Located at 1,336 ft in elevation at GPS 39.15884/122.89998 at the approximate center of the parcel.

The Scotts Valley Band of Pomo Indians (SVBPI) has received grant funding from the US Department of Commerce’s Economic Development Administration (“EDA”) to support the development of a new Biomass Processing facility, to be located in an unincorporated area of Lake County immediately southeast of the community of Upper Lake, in Lake County, California. Situated on 5 acres of the 42.6-acre parcel of land, the area to be used is 5 acres, approximately 1,000 ft to the southwest of State Highway 20 (SR 20). The northern property line parallels SR 20 with the eastern property corner located across from Old Lucerne Rd. (Figure 1). The parcel is owned by Lake County Watershed Protection District that has provided a long-term lease to SVBPI.

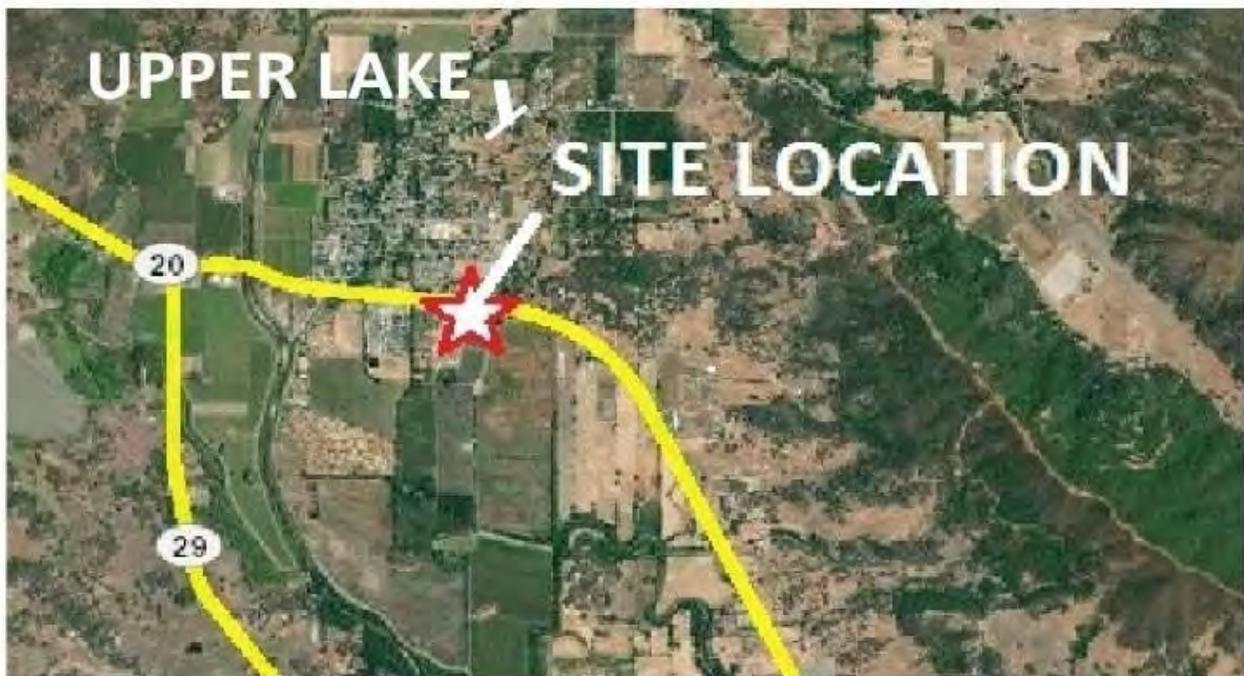
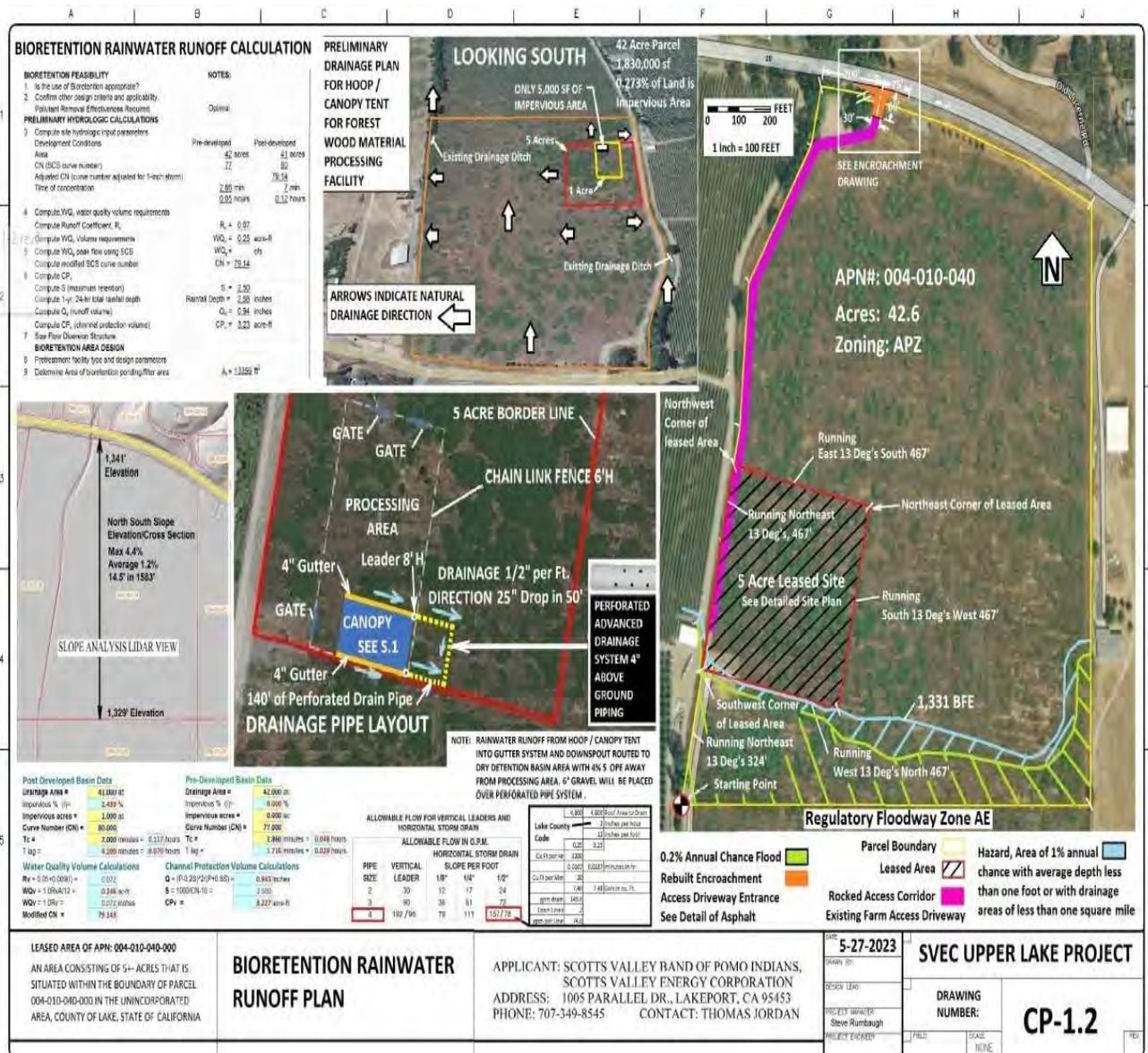


Figure 1: Site Location

The local permitting agency is requesting completion of a botanical survey and assessment of biological resources on the property as part of the California Environmental Quality Act (CEQA) review required for new development. The initial phase of this assessment evaluates the potential of the property to contain sensitive plant and wildlife habitat. The second phase consists of field surveys, including a botanical survey listing all plant taxa¹. The biological resource assessment will determine whether the property contains sensitive plants or potentially contains sensitive wildlife requiring mitigation under the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). As used here, the terms sensitive plant or wildlife includes all state or federal rare, threatened, or endangered species and all species listed in the California Natural Diversity Database (CNDDDB) list of “Special Status Plants, Animals, and Natural Communities”.

A delineation of waters of the U.S. was not conducted due to the lack of water, hydric soil and wetlands plants not present on the parcel. A wetland is defined as 1. The presence of water 2. Hydric soils and 3. Wetland plants. The presence of woody riparian species and the evidence of water flow does qualify as potential wetland. Riparian areas are considered sensitive areas and are to be protected. Setback requirements would not be needed for the existing riparian area as depicted in **Section 3.3, Vegetation Types and graphically on Figure 4, Vegetation Types**). **Figure 2** of this report illustrates that the riparian area will not be altered or encroached upon in any significant way from the actions proposed in the project.

Figure 2: Proposed Project



1.2 Proposed Project

The facility will operate as a central processing system for forest thinning biomass collected in Lake County. The site, which will include sorting, grinding/shredding, milling, processing, and on-site bioenergy/biochar production equipment, will transform incoming biomass into a form that is ready for multiple, economically resilient downstream uses. These will include processing of wood for offsite production of firewood, pellet based fuels, engineered woods, and bioenergy production. Once fully constructed and operational, the biomass processing facility will connect forest biomass material collection efforts to downstream markets for wood products.

The facility will support the development of markets for locally derived forest biomass, to support forest fuel reduction, improved ecological function, and other positive-impact forest management activities. Concurrently, the project will support new jobs and economic development activities / support revenue generation for the SVBPI. To this end, the facility will be designed to process, store, and convert incoming forest biomass into useable / saleable products, while also enabling the conversion of biomass to 100% renewable electricity on site. This electricity production will be used to power the operation of onsite equipment.

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 species present. The analysis includes the following site characteristics:

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

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

- California Department of Fish and Wildlife (CDFW), *California Natural Diversity Database (CNDDDB)*; RareFind 5, 2021
- California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California (v9-01 0.0)*
- California Department of Fish and Wildlife, *California Wildlife Habitat Relationships System (CWHR Version 9.0)*

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

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

In addition, the California Department of Fish and Wildlife (CDFW) "Protocols for the Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Species Natural Communities" (March 20, 2018) was incorporated into field methodology. No special status plants nor suitable habitat was encountered during field surveys.

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.).

Sensitive plants and wildlife are subspecies or varieties which are taxonomic subcategories of species. The term “taxa” refers to species and their sub-specific categories.

2.1 Botanical Survey Methods: An in-season botanical survey was conducted for the project site. The CNDDDB report and maps for the Upper Lake, CA quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evens, 2009), and mapped on a 1"=600' aerial photo (due to the large size of the survey area). Vegetation type names are based on an assessment of dominant cover species.

Plants occurring on the site were identified using *The Jepson Manual, Higher Plants of California*, 2012. Where necessary, species names were updated based on the 6th edition, *CNPS Inventory of Rare and Endangered Plants of California*. A map of the vegetation types at the site is provided in **Figure 4**.

2.2 Delineation Methods: As a part of the botanical survey, careful attention was paid to the presence of wetland indicators as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Arid West 2008 Supplement*. Plant taxonomy and nomenclature is from the *Jepson Manual, Higher Plants of California*, 2012. Other texts, such as Munz's *A California Flora and Supplement*, 1973, and Mason's *Flora of the Marshes of California*, 1957, were used as supplemental texts. The survey included use of lidar mapped overlays and an extensive foot survey. No areas were encountered that were found to possess the necessary attributes to be determined as wetlands.

2.3 Survey Dates: Site visits for the plant surveys, vegetation mapping, and the delineation were conducted on May 21/22, and June 29/30, 2023.

2.4 Biological Assessment Staff: The field surveys, plant taxonomy, and vegetation mapping, were conducted by Lawrence Ray principal biologist. Mr. Ray has a Master of Science Degree in Ecology from the Antioch University/UC Berkeley and a Bachelor of Science Degree in Environmental Studies from the Antioch University. He has over 35 years of experience as a biologist in the government and private sectors. Support staff was provided by Austin Ray who holds an AA Degree in Horticulture from Cabrillo College.

3.0 SITE CHARACTERISTICS

3.1 Site Topography and Drainage: The existing project site has a 4 degree to flat slope, ranging from 1,334 feet above mean sea level (msl) in the northwestern corner to 1,330 ft msl along the southern side of the overall parcel. The site was historically used for farming (vineyard). The site has been fallowed for several years, however, and is currently vegetated with blackberry thickets and other primarily nonnative vegetation.

Drainage from the area surrounding the project site is illustrated on **Figure 2; Proposed Project, Bioretention Rainwater Runoff Plan**. The diagram shows a series of drain-pipes and retention structures designed to retain and absorb rainwater into the soil. The Cole Variant clay loam soil is dense and resists erosion (see description in 3.2 Soils).

A dashed" blueline" appears on the soils map (Figure 3; Soils Map) and Vegetation Map(Figure 4), entering at the north central boundary at Hwy 20, turning to the east and continuing south along the eastern portion of the parcel

A careful investigation looking for the presence of this unnamed stream found no evidence of it. Further field investigations and discussions with neighboring landowners revealed the presence of a culvert and ditch conveying water to the drainage ditch previously mentioned to the west. The culvert is located at datum 122.90058/39.1622 and flows approximately 45 yards to the western ditch at datum 122.900111/39.16127.

This ditch is illustrated on **Figure 4** as a yellow line and is not located on the parcel, but within the Hwy 20 CalTrans State Hwy Right of Way. No water crossings are located on this parcel.

3.2 Soils: Based on the *Soil Surveys of Lake County California* prepared by the U.S. Resource Conservation Service, the survey area contains the follo Figure 3; wing soil types:

124-Cole Variant clay loam. This very deep, moderately well drained soil is on flood plains. It formed in alluvium derived from mixed rock sources. Slope is 0 to 2 percent. The vegetation in areas not cultivated is mainly annual grasses, forbs, and a few scattered oaks. Elevation is 1,300 to 2,400 feet. The average annual precipitation is 25 to 35 inches, the average annual air temperature is 55 to 59 degrees F, and the average frost-free period is 150 to 205 days.

Typically, the surface layer is grayish brown clay loam8 inches thick. The underlying material to a depth of 60 inches or more is dark gray and grayish brown clay.

Included in this unit are small areas of Clear Lake, Lupoyoma, and Still soils. Also included are small areas of soils that are similar to this Cole Variant soil but have , a calcareous substratum. Included areas make up about20 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Cole Variant soil is slow. Available water capacity is 8 to 10 inches. Effective rooting depth is 60 inches or more. Surface runoff is slow, and the hazard Of erosion is slight. The shrink-swell potential is high. This soil is subject to rare periods of flooding or ponding during prolonged, high-intensity storms.

Most areas of this unit are used for orchards, vineyards, and hay and pasture. Some areas are used for homesite development. The major crops grown on this unit are wine grapes, pears, and walnuts. Irrigation commonly is used for maximum production of these crops. The main limitations are the slow permeability and the hazard of flooding or ponding. Because of the slow permeability, the application of irrigation water should be regulated so that water does not stand on the surface for long periods. Capital improvements should be designed to withstand flooding.

If this unit is used for hay and pasture, the main limitation is slow permeability.

The application of irrigation water should be regulated so that water does not stand on the surface for long periods of time and damage the crops.

If this unit is used for homesite development, the main limitations are the slow permeability, high shrink-swell potential, low load bearing capacity, and the hazard of flooding. Increasing the size of the septic tank absorption field or using a specially designed sewage disposal system can help to compensate for the slow permeability. The high shrink-swell potential and the low load bearing capacity of the soil should be considered when designing and constructing foundations, concrete structures, and paved areas. The effects of shrinking and swelling can be reduced by maintaining a constant soil moisture content around the foundation area and by backfilling with material that has low shrink-swell potential. If the soil in this unit is used as a base for roads and streets, it can be mixed with sand and gravel to increase its strength and stability. Dikes and channels that have outlets for floodwater can be used to protect buildings and onsite sewage disposal systems from flooding. Roads and streets should be located above the expected flood level.

This map unit is in capability unit IIs-3 (14), irrigated, and IIIs-3 (14), nonirrigated.

158-Lupoyoma silt loam, protected. This very deep, moderately well drained soil is on flood plains. It formed in alluvium derived from mixed rock sources.

Slope is 0 to 2 percent. The vegetation in areas not cultivated is mainly annual grasses and scattered oaks. Elevation is 800 to 1,450 feet. The average annual precipitation is 25 to 40 inches, the average annual air temperature is 55 to 59 degrees F, and the average frost-free period is 150 to 205 days.

Typically, the surface layer is brown silt loam 31 inches thick. The underlying material to a depth of 84 inches is brown and very dark grayish brown silt loam. In some areas the surface layer is loam.

Included in this unit are small areas of Cole Variant, Kelsey, and Maywood Variant soils and Xerofluvents. Xerofluvents are along drainageways. Also included are soils that are similar to this Lupoyoma soil but are well drained. Included areas make up about 15 percent of the total acreage. The percentage varies from one area to another.

Permeability of this Lupoyoma soil is moderately slow. Available water capacity is 8.5 to 11.0 inches. Effective rooting depth is 60 inches or more. Surface runoff is very slow, and the hazard of erosion is slight. This soil is subject to rare periods of flooding in winter and early in spring. Some areas are not subject to flooding because of the development of flood control structures. This unit is used mainly for orchards, vineyards, and hay and pasture. It is also used for homesite development.

The main crops grown on the unit are pears, walnuts, and wine grapes (fig. 3). The main limitation is the hazard of flooding. Capital improvements should be designed to withstand flooding.

This unit is well suited to hay and pasture.

If this unit is used for homesite development, the main limitations are the moderately slow permeability and the hazard of flooding. If this unit is used for septic tank absorption fields, increasing the size of the absorption field or using a specially designed sewage disposal system can help to compensate for the moderately slow permeability. Dikes and channels that have outlets for floodwater can be used to protect buildings and onsite sewage disposal systems from flooding. Roads and streets should be located above the expected flood level.

This map unit is in capability class I (14), irrigated, and capability unit IIc-1 (14), nonirrigated.



Figure 3; Soils Map

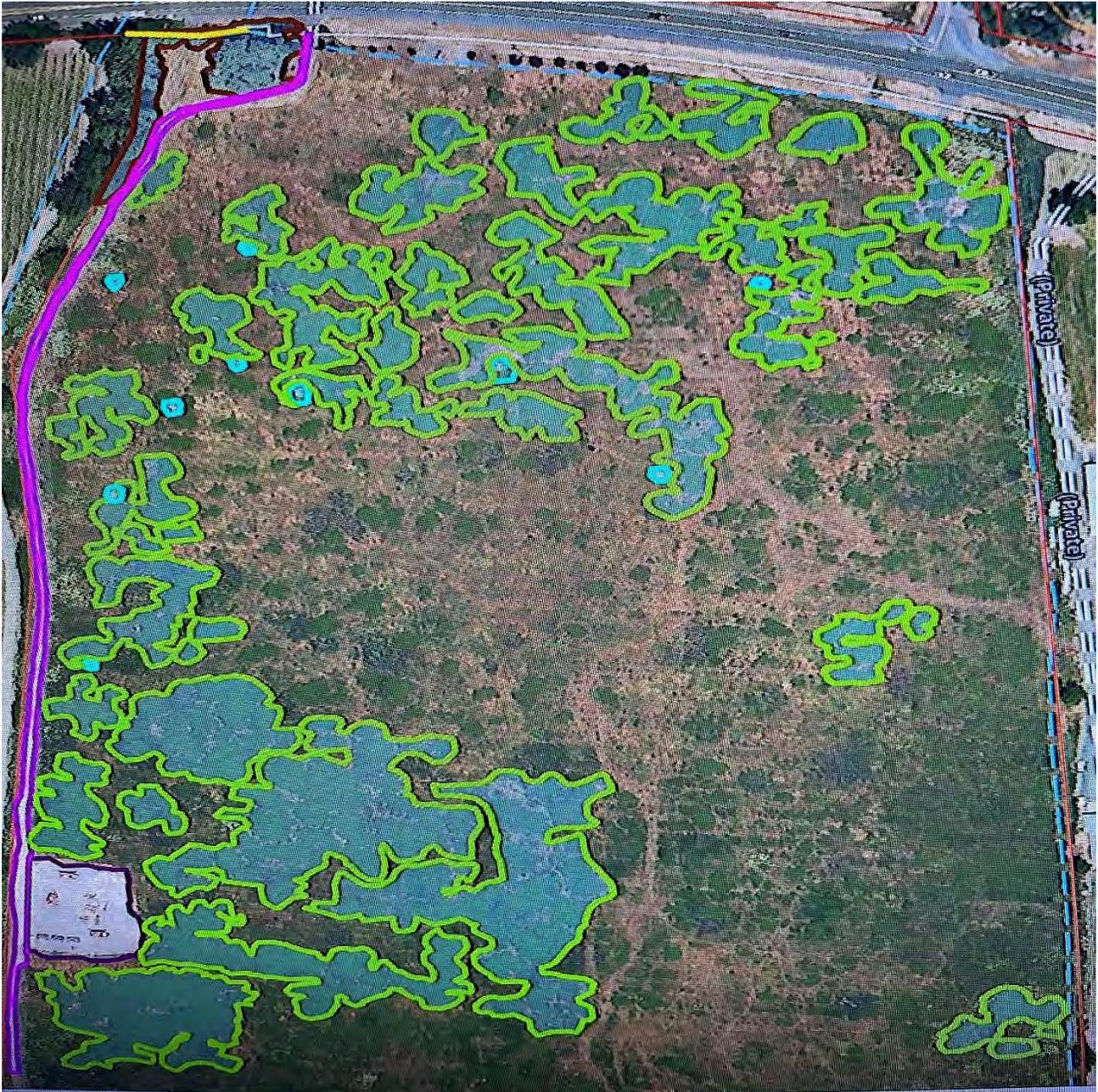


Figure 4: Vegetation Types

Figure 4 Legend

1. *Rubus armeniacus* (light green polygons)
2. Annual brome- all other areas (no polygons)
3. Valley oak woodlands (Brown polygon)
4. *Salix exigua* (light blue polygons)
5. Ruderal (pink and purple polygons)
6. Roadside drainage ditch (former blue-line)

TABLE 1. PLANT COMMUNITIES AND OTHER COVER TYPES PRESENT

3.0 Vegetation Types: The entire property was mapped for vegetation in order to provide project context. The project contains sixteen plant communities or vegetation types based on or derived from the "Standardized Classification" scheme described in the California Native Plant Society (CNPS) *A Manual of California Vegetation*. These vegetation types and other cover types are listed in **Table 1**. They are described below and shown in the vegetation map provided in **Figure 4**.

It is important to note that these are highly dynamic communities, changing seasonally and annually based on overall rain year. The vegetation map provided in **Figure 4** should be considered as a "snapshot" of the vegetative cover on this property as it occurred during the growing season of 2023. Community boundaries – and occasionally presence – can be expected to change on the more level ground due to even slight changes in hydrology.

Table 1: Vegetative Cover

COVER TYPE	Total Acres of Cover Type on Property	Percent of Property Supporting Cover Type
Rubus armeniacus, Himalayan black berry brambles	10.68	25
Annual brome grasslands Bromus(diandrus,hordeaceus)	30.64	72
Valley Oak woodlands	0.37	0.9
Salix exigua Sandbar willow thickets	0.47	1.1
Ruderal non-specific waste area	0.44	1
Total	42.6	100.00

1. ***Rubus armeniacus* Himalayan blackberry brambles:**

Himalayan blackberry occurs as dense, impenetrable brambles along berms and beneath the canopy of riparian woodlands. The community is homogenous and too dense to permit other shrubs or an herbaceous ground cover. Small patches occur within the Annual brome grasslands, #2 veg type.

1A. Poison Hemlock Patches:

This vegetation type exists in association with *Rubus armeniacus* described above. While poison hemlock occurs as scattered individuals and small patches throughout the mesic plant communities on the property, it occurs as dense, relatively homogenous patches along the access road and in a few locations along the drainage channel along the western edge of the property. There is also a dense patch in the NE corner extending south on the eastern edge of the property line.

2. **Annual brome grasslands/*Bromus (diandrus, hordeaceus) – Brachypodium distachyon****Bromus diandrus*, *B. hordeaceus*, or *Brachypodium distachyon* is dominant or co- dominant with non-natives in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Herbs < 75 cm; cover is intermittent to continuous. **Habitats:** All topographic settings in foothills, waste places, rangelands, openings in woodlands. **Elevation:** 0-2200 m.

This highly variable and heterogeneous grassland community is typically dominated by Mediterranean barley (*Hordeum marinum ssp. gussoneanum*) but includes a broad mix, often in small dominant patches, of other grass and forb species. These include soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*) perennial rye, foxtail barley (*Hordeum jubatum*), orchard morning glory, pallid owl clover (*Castilleja lineariloba*), white lawn clover (*Trifolium repens*), and many other upland forbs and grasses. This grassland often invades surrounding upland communities as a low ground cover. Small patches of *Rubus armeniacus* occur within the Annual brome vegetation type.

2A. Harding Grass Sward:

Pure stands of this grass are mixed within the Annual Brome grasslands previously described. This tall, invasive bunch grass occupies areas that would qualify biologically as wetland but due to changes in the federal list of wetland indicator plants, the species no longer has status as a wetland indicator. Consequently, areas dominated by this plant do not qualify under the Corps of Engineers wetland definition as Waters of the U.S. Harding grass (*Phalaris aquatica*) dominates this community as large hummocks of previous years' stems and leaves. The distribution can vary from dense stands to moderately (3-5') spaced plants within a matrix of the surrounding plant community. On this property it occurs within a matrix of annual brome grassland.

- **3. *Quercus lobata* Woodland Alliance (Valley Oak Woodland):**

This mature woodland community occurs along the north-western corner near Hwy 20 and along the excavated channel along the western edge of the property. It is likely that this woodland was once far more extensive on the uplands of the property prior to its conversion to agricultural use.

The woodland is dominated by mature California valley oak (*Quercus lobata*) with sub-dominant Oregon ash (*Fraxinus latifolia*). Red willow (*Salix laevigata*), Fremont cottonwood (*Populus fremontii*) and boxelder (*Acer negundo* var. *californicum*) are also present as scattered trees throughout the lower canopy. The shrub layer is sparse, probably due to active maintenance along the property edges. Where present, it consists of poison oak (*Toxicodendron diversilobum*) and Himalayan blackberry (*Rubus armeniacus*). In more mesic (shaded and moist soil) sites, California wild grape (*Vitis californica*) festoons the shrub layer and lower branches of the tree canopy. The ground cover consists of the surrounding herb layer varying from annual brome grassland to foxtail.

4. *Salix exigua* Shrubland Alliance; Sandbar willow thickets

This plant type is occupying low pools and slow draining depressions that may be seasonally wet during the rainy season and dry up once spring has arrived due to the slow draining soil of the northern portion of the parcel.

- **5. Ruderal:**

This term refers to areas disturbed by human activity and are consequently not vegetated. On this property this consists of the access road and the equipment storage area in the SW corner of the parcel.

4.0 PRE-SURVEY RESEARCH RESULTS

4.1 CNPS On-Line 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 the 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. The CNPS database search does not allow fine tuning for specific soil types and many specific habitats.

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

4.2 California Natural Diversity Database: The California Natural Diversity Database (CNDDDB) and CDFW RareFind 5 data and maps for the Upper Lake 7½' and adjacent quadrangles 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.

California Department of Fish and Wildlife, California Wildlife Habitat Relationships System (CWHR), Version 9.0The CNDDDB and RareFind 5 databases consist of maps and records of all known populations of sensitive plants and wildlife in California. This data is continually updated by the CDFW with new sensitive species population data. The CNPS database produces a list of sensitive plants potentially occurring at a site based on the various site characteristics listed above. While use of the CNPS inventory does not in itself eliminate the need for an in-season botanical survey, it can, when used in conjunction with other information, provide an exceptionally 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 distinctive features such as presence of water, snags, cover, and food (fruit, seeds, insects, etc.).

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

Selected CNPS Plants by Scientific Name:

Wood Forest Material Processing Facility, Upper Lake, California

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat/Micro-Habitat
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	None	None	Mar-Jun	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland
<i>Arctostaphylos manzanita ssp. elegans</i>	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	None	None	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest
<i>Astragalus breweri</i>	Brewer's milk-vetch	Fabaceae	annual herb	4.2	None	None	Apr-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland
<i>Brasenia schreberi</i>	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	2B.3	None	None	Jun-Sep	Marshes and swamps
<i>Erythranthe nudata</i>	bare monkeyflower	Phrymaceae	annual herb	4.3	None	None	May-Jun	Chaparral, Cismontane woodland
<i>Fritillaria purdyi</i>	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	4.3	None	None	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest
<i>Hesperolinon adenophyllum</i>	glandular western flax	Linaceae	annual herb	1B.2	None	None	May-Aug	Chaparral, Cismontane woodland, Valley and foothill grassland
<i>Layia septentrionalis</i>	Colusa layia	Asteraceae	annual herb	1B.2	None	None	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland
<i>Leptosiphon acicularis</i>	bristly leptosiphon	Polemoniaceae	annual herb	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat/Micro-Habitat
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	Polemoniaceae	annual herb	4.3	None	None	Apr-Jun	Broadleaved upland forest, Cismontane woodland
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	4.2	None	None	Feb-May	Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland, Vernal pools
<i>Tracyina rostrata</i>	beaked tracyina	Asteraceae	annual herb	1B.2	None	None	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland

Key for Table 2:

CNPS Rare Plant-Threat Rank Definitions:

- 1B.1 = Rare, threatened, or endangered in California and elsewhere; seriously threatened in California
- 1B.2 = Rare, threatened, or endangered in California and elsewhere; moderately 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; moderately threatened in Calif.
- 2B.3 = Rare, threatened, or endangered in Calif., but more common elsewhere; not very threatened in Calif.

California Natural Diversity Database: The California Natural Diversity Database (CNDDB) and CDFW RareFind 5 data and maps for the Lower Lake 7½' and adjacent quadrangles 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 then in equadrangles in the vicinity of this property.

State and Federal Status:

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

SR = State. Rare

SE = State Endangered.

ST = State. Threatened

SD = State Delisted

SSC = CDFW Species of Special Concern

FP = CDFW Fully Protected

WL = CDFW Watch List

FE = Federal Endangered

FT = Federal Threatened

FD = Federal Deliste

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

Habitat Type	Habitat Present
Upland, drainage canal, Ag field	Yes, along canal

Plant Species	Common Name	Habitat Requirements/ Fed-State-CNPS* Status	Blooming Season/Form	Habitat Present
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	Coastal bluff scrub, cismontane woodland, valley & foothill grassland; --/--/1B.2	March-June ann. herb	Grassland habitat present; not found during surveys
<i>Arctostaphylos manzanita ssp. elegans</i>	Konocti manzanita	Chaparral, cismontane woodland, lower montane conif. forest/volcanic; --/--/1B.3	March-May everg. shrub	Habitat not present
<i>Astragalus breweri</i>	Brewer's milk-vetch	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (open, often gravelly)/often serpentinite, volcanic; --/--/4.2	April-June ann. herb	Poor habitat present
<i>Brasenia schreiberi</i>	watershield	Marshes & swamps/freshwater; --/--/2B.3	March-Sept rhizom. herb	Habitat not present
<i>Clarkia gracilis ssp. tracyi</i>	Tracy's clarkia	Chaparral/openings, usually serpentinite; --/--/4.2	April-June ann. herb	Habitat not present
<i>Cryptantha dissita</i>	serpentine cryptantha	Chaparral/serpentine outcrops; --/--/1B.2	April-June ann. herb	Habitat not present
<i>Erythranthe nudata</i>	bare monkeyflower	Chaparral, cismontane woodland, serpentinite seeps; --/--/4.3	May-June ann. herb	Habitat not present
<i>Fritillaria purdyi</i>	Purdy's fritillary	Chaparral, cismontane woodland, lower montane coniferous forest; usually serpentinite; --/--/4.3	March-June bulb. herb	Habitat not present
<i>Hesperolinon adenophyllum</i>	glandular western flax	Chaparral, cismontane woodland, valley & foothill grassland/usually serpentine chaparral; -/--/1B.2	May-Aug. ann. herb	Habitat not present
<i>Layia septentrionalis</i>	Colusa layia	Chaparral, cismontane woodland, valley & foothill grassland/sandy or serpentine; --/--/1B.2	April-May ann. herb	Habitat not present
<i>Leptosiphon acicularis</i>	bristly leptisiphon	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland; --/--/4.2	April-July ann. herb	Habitat not present

Plant Species	Common Name	Habitat Requirements/ Fed-State-CNPS* Status	Blooming Season/Form	Habitat Present
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	Broad-leaved upland forest, cismontane woodland; --/--/4.3	April-June ann. herb	Habitat not present
<i>Plagiobothrys lithocaryus</i>	Mayacamas popcorn-flower	Chaparral, cismontane woodland, valley & foothill grassland; mesic; --/--/1A/GH/SH (presumed extinct)	April-May ann. herb	Habitat not present
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools/mesic--/--/4.2	Feb.-May ann. herb (aquatic)	Poor habitat present; not found during surveys
<i>Tracyina rostrata</i>	beaked tracyina	Cismontane woodland, valley & foothill grassland; --/--/1B.2	May-June ann. herb	Poor habitat present; not found during surveys

*See CNPS list for key

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Gonidea angulata</i>	western ridged mussel	Freshwater mussel: inhabits creeks and rivers of all sizes. Can be found on substrates varying from firm mud to coarse particles; is rarely found in lakes or reservoirs; G3/S1S2	year-round	Habitat is not present on the site
<i>Andrena blennospermatis</i>	Blennosperma vernal pool andrenid bee	Ground nests in uplands near vernal pools; G2/S2	year-round	Habitat is not present on site
<i>Bombus occidentalis</i>	western bumblebee	Once common in the western U.S., these bees are important pollinators of both wild plants and crops. Threats to be bee include insecticides, loss of habitat, climate change and diseases from commercial bee rearing. G4/S1	year-round	Habitat may be present on project site. Not found during surveys
<i>Dubiraphia brunnescens</i>	brownish dubiraphian riffle beetle	Inhabits exposed, wave-washed willow roots in shallow water. Known only from NE shore of Clear Lake; G1/S1	year-round	Habitat is not present on site
<i>Archoplites interruptus</i>	Sacramento perch	Warm water: sloughs, slow-moving rivers, ponds. Has not be found in Clear Lake since 1937; SSC/G2G3/S1	year-round	Habitat is not present on site

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Hysterocarpus traskii lagunae</i>	Clear Lake tule perch	Inhabit Clear Lake and Blue Lakes; require warm shallow lakes. Require cover provided by tules, rocks, other vegetation, etc.; SSC/G5T2/S2S3	year-round	Likely to be present in Clear Lake near project
<i>Lavinia exilicauda chi</i>	Clear Lake hitch	Found only in Clear Lake, Lake County and assoc. ponds. Spawns in streams flowing to Clear Lake; SSC/ST/G4/S1	year-round	Likely to be present in Clear Lake near project
<i>Rana boylei</i>	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	Unlikely to be present on the project site
<i>Emys marmorata</i>	western pond turtle	Aquatic turtle found in ponds, lakes, rivers, creeks, marshes & irrigation ditches with abundant vegetation and rocky or muddy bottoms; In woodland, forest, & grasslands; SSC/G3G4/S3	year-round	Unlikely to be seasonally present on the site
<i>Agelaius tricolor</i>	tricolored blackbird	Fresh emergent wetland (marshes) with cattails, tules, sedges. Largely endemic to California; SCE/G2G3/S1S2	year-round	Potentially present seasonally within the drainage ditch
<i>Ardea herodias</i>	great blue heron	Shallow ponds and estuaries, & salt and fresh emergent wetlands; G5/S4	sometimes migratory	Potentially present within the woodland community
<i>Ardea alba</i>	great egret	Fresh & saline emergent wetlands, swampy woods, tidal estuaries, mangroves, streams, ponds; also fields and meadows; G5/S4	sometimes migratory	Potentially present within the woodland community
<i>Egretta thula</i>	snowy egret	Shallow water such as fresh & saline emergent wetlands, ponds, shore. Nest in trees, shrubs, other vegetation; G5/S4	sometimes migratory	Potentially present within the woodland community
<i>Pandion haliaetus</i>	osprey	Large, fish-bearing waters usually in mixed conifer habitats/typically nests are within 15 miles of good fish-producing body of water; WL/G5/S4	sometimes migratory	Potentially present within the woodland community

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Phalacrocorax auritus</i>	double-crested cormorant	Along coast, inland lakes; fresh, salt & estuarine waters; WL/G5/S4	sometimes migratory	Potentially present within the woodland community
<i>Nycticorax nycticorax</i>	black-crowned night heron	Shallow freshwater and saltwater marshes, swamps, lakeshores, wooded streams, and ponds. Roosts by day in mangroves or swampy woodland. Often nests with other herons; G5/S3	migratory	Potentially present within the woodland community
<i>Elanus leucurus</i>	white-tailed kite	Open areas and marshes near woodlands and water; SFP/G5/S3	year-round	Potentially present within the woodland and grassland communities
<i>Haliaeetus leucocephalus</i>	bald eagle	Large bodies of water with adjacent snags. Nests in large old-growth or dominant live tree (often ponderosa pine) with open branches; FD/SE/SFP/G5/S2	wintering and nesting	May occur in the area hunting over Clear Lake but unlikely to nest on the property
<i>Pekania pennanti</i>	fisher, West Coast DPS	No. Coast conifer forest: old-growth conifer or riparian forests; cavities, snags, logs, rocky areas; SCT/SSC/G5/S3	year-round	Habitat does not occur in project area
<i>Taxidea taxus</i>	American badger	Dryer open stages of shrub, forest, & herbaceous habitats. Needs friable soils for burrows and open uncultivated ground; SSC/G5/S3	year-round	Habitat does not occur in project area

Key for Table 3:

SE/ST/SD=State
Endangered/Threatened/
Delisted

G1/S1 =
Global/State Critically
Imperiled

SC/SCD=State
Candidate for
Listing/Delisting

G2/S2 = Global/State Imperiled

SSC=CDFW Species of Special Concern

G3/S3 = Global/State Vulnerable

SFP=CDFW Fully Protected G4/S4 = Global/State Apparently Secure

WL=CDFW Watch List G5/S5 = Global/State Secure

FE/FT/FD=Federal Endangered/Threatened/Delisted SNR=Not rated

FPE/FPT/FPD/FP=Federal Proposed Endangered/Threatened/Delisting FC=Federal Candidate

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

4.4 Wildlife Assessment: Based on the pre-survey research conducted for this study, a total of 15 sensitive wildlife species need to be accounted for within the project area. These consist of the species identified as present within and adjacent to the Lower Lake quadrangle by the CNDDDB and CWHR, Version 9.0. Accepted protocol requires that all CNDDDB species in the surrounding U.S.G.S. quadrangle be discussed even though suitable habitat may not occur on the site.

▪ **Western bumble bee (*Bombus occidentalis*):**

Once common in the western and northwestern U.S., these bees are important pollinators of both wild plants and crops and has been commercially reared to pollinate crops such as greenhouse tomatoes and cranberries; they also have been an important pollinator of alfalfa, avocado, apples, cherries, blackberries, and blueberry. Since 1998 populations have declined due to insecticides, loss of habitat, climate change and diseases from commercial bee rearing. This bumblebee is a generic forager and its habitat requirements are non-specific. Identification of bees is based on their sex and markings.

▪ **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. Its food sources include plant genera *Baccharis*, *Cirsium*, *Lupinus*, *Lotus*, *Grindelia*, and *Phacelia*. There is a low potential for it to occur on the property.

▪ **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. Newts burrow in soil or debris near water, and emerge during fall rains to breed; and may migrate up to a mile or more between terrestrial habitat and stream breeding sites. They usually breed in flowing water, from late February through May. Appropriate habitat for newts does not occur within the streams on the project site. Streams on the surrounding slopes are short-term seasonal drainages, these drainages generally are unsuitable for this species.

- **Foothill yellow-legged frog (*Rana boylei*):**
 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. The drainage ditch may provide suitable habitat for this species. These frogs may spend dry summer months in shallows and backwaters after stream channels become dry, which do not appear to occur on this parcel.
- **Western pond turtle (*Emys 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. Stream channels are often used as movement corridors between waterways or ponds. While turtles may use the stream corridor, there is no suitable habitat on this parcel for them to remain.
- **White-tailed kite (*Elanus leucurus*):**
 Usually found near agricultural areas, the kite prefers open terrain near woodlands and water. These raptors hunt over open country and prefer large, deciduous trees surrounded by expanses of grassland, meadows, farmland, and/or wetlands for nesting and roosting sites. The property contains woodlands adjacent to expanses of open grasslands with nearby water (Clearlake); this would provide marginal habitat for kites for both nesting and hunting. This is a California Fully Protected species. All raptors are protected under the Migratory Bird Treaty Act and California Department of Fish and Wildlife code.
- **Northern harrier (*Circus cyaneus hudsonius*):**
 This raptor occurs in annual grassland and is also found at high elevations. It inhabits meadows, open grasslands and rangelands, and emergent wetlands; it prefers habitat such as the broad, open grasslands and wetlands of the Sacramento Valley where this species is commonly seen. It is seldom found in wooded or agricultural areas. Formerly called the “marsh hawk”, it nests on the ground in dense shrubby vegetation in and near wetlands. The harrier feeds on insects and small mammals, birds, etc., and competes with the red-tailed hawk for food. These raptors nest from April to August and have California Species of Concern status during that period. This parcel does not provide habitat for harriers.

- **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. Nests are usually within close proximity of large fish-producing water bodies. The stick nests constructed by this species are readily apparent when present. Ospreys prefer to nest near large bodies of water and are unlikely to nest on the property.
- **Tricolored blackbird (*Agelaius tricolor*):**
 These blackbirds are colony nesters in fresh emergent wetland habitat (tule or cattail marsh), but may also occur in dense blackberry or willow shrub communities adjacent to water. Cover is required for nesting. Proximity to insects is preferred, although food includes seeds and grain. Breeding occurs April through June. The species is usually readily observed when present and has a distinctive call. This site does not contain suitable habitat for this species.
- **Grasshopper sparrow (*Ammodramus savannarum*):**
 This sparrow is a summer resident in foothills and lowlands west of the Cascade-Sierra Nevada crest from Mendocino and Trinity counties to southern California. It occurs in dry, dense grasslands with scattered shrubs for singing perches. Grasshopper sparrows are secretive in winter. They need thick grasslands and forbs for cover, and nest in small depressions on the ground. They breed from April to mid-July. Sparrows feed primarily on insects but also eat other invertebrates, grains, and forb seeds. They search for food on the ground. They may be present in the grasslands.
- **Townsend's western big-eared bat (*Corynorhinus townsendii ssp. townsendii*):**
 This bat is a California Species of Special Concern. Physical traits include bilateral nose lumps and very large ears. The most restrictive resource required by this species is daytime roosting habitat. This bat prefers caves and mines and is easily observed when present, hanging from open surfaces in mines and caves. Less frequently it will roost in tunnels, bridges, or other human-made structures, or hollow trees. Roost sites may vary from year to year. These bats typically prefer relatively mesic (moist) habitat such as streams near woodland habitats and may travel long distances for foraging. The majority of their diet consists of moths. This species is extremely sensitive to disturbance of roosting sites: These sites are frequently abandoned after being visited by humans. This property contains a riparian corridor, however it is low quality habitat for this species.

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

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. 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, tarps, and other objects left by humans.

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. It is extremely sensitive to human disturbance of roosting sites. Populations in California have declined due to habitat destruction and use of pesticides. The project site contains oak woodlands with limited water, which may provide some habitat for this species.

- **Pacific fisher, West Coast DPS (*Martes pennanti*):**

Fishers are found mostly in dense coniferous or deciduous riparian habitats that include older trees and snags. Fishers are mainly carnivorous, eating smaller mammals, rodents, birds, carrion, and fruits. They hunt for prey on the ground and in trees. Cover is provided by cavities in large trees, snags and logs and their nests are built in protected cavities, brush-piles or logs. Young are born between February and May. Fishers are listed for a distant quad in the CNDDDB near Scotts Creek, but the species has not been reported in this area since 1941. While there is no chance that they occur on this parcel due to no dense forest on this parcel.

- **American badger (*Taxidea taxus*):**

Badgers are found mostly in drier open stages of shrub, forest, and herbaceous habitats with friable soils such as open grasslands, fields, and pastures. They are found from high alpine meadows to sea level and occur throughout the state except for the northern North Coast. This species is carnivorous, eating mostly fossorial rodents; they also will eat reptiles, insects, birds, eggs, and carrion. They dig burrows in friable or sandy soil for cover and nesting, and often reuse old burrows. Breeding occurs in late summer or fall. Nests are in areas with little overstory cover, often a grass-lined den, and young are born mostly in March and April. Young become independent in 5 or 6 months. The single occurrence mapped by CNDDDB within the Lakeport quadrangle is near the west boundary of the City of Lakeport on an unknown date. They would be unlikely to occur on this property.

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

This large, primarily nocturnal rodent prefers conifer and hardwood forests and woodlands, but is also found in forested wetlands and chaparral. They can withstand extreme cold temperatures. Porcupines use downed logs and debris, as well as snags and tree hollows, as cover and dens. Food is vegetation including twigs, berries, roots, seeds, needles, and bark; porcupines commonly climb trees for food. The porcupine breeds from September to November or December, giving birth in the spring. Lifespan is relatively long.

Porcupines may occur in the area and on the property. This species is listed in the CNDDDB 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.

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

Bald eagles require large bodies of water with abundant fish, and adjacent snags or perches. They are known to fish in Clear Lake and nest in large structures near the lake. However, there is no suitable nesting or roosting habitat on the project site for this large bird.

Additionally, the presence of the woodland, grasslands, and marshes and wetlands adjacent to Clear Lake provide a wide variety of upland and wetland habitats used by many animal species. Small, medium, and large mammals with sensitive and non-sensitive status such as rodents, bats, rabbits, skunks, deer, as well as woodpeckers, wrens, warblers, red-tailed hawks, crows and ravens, owls and other passerines and raptors may inhabit or feed on this property.

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

Raptors and passerines lacking sensitive regulatory status but otherwise protected under the Migratory Bird Treaty Act may also be present on the property in their sensitive status.

5.0 FIELD SURVEY RESULTS

5.1 **Botanical Field Survey Results:** Table 4 presents the results of the botanical survey for the project. Each of the sensitive plant species potentially occurring at the site and listed in Tables 2 and 3 was specifically searched for during the surveys. The surveys identified a total of 42 plant taxa on the property.

TABLE 4. Flora of 755 E. Highway 20

Habitat	Scientific name	Common name	Family	Indicator status	origin
forb	<i>Conium maculatum</i>	poison hemlock	Apiaceae	FACW	A
forb	<i>Centaurea solstitialis</i>	yellow star thistle	Asteraceae	NI	A
forb	<i>Lactuca seriola</i>	prickly lettuce	Asteraceae	NI	A
forb	<i>Senecio vulgaris</i>	common butterweed	Asteraceae	FACU	A
forb	<i>Taraxacum officinale</i>	common dandelion	Asteraceae	FACU	A
forb	<i>Tragopogon porrifolius</i>	salsify	Asteraceae	NI	A
forb	<i>Brassica nigra</i>	black mustard	Brassicaceae	NI	A
forb	<i>Convolvulus arvensis</i>	orchard morning-glory	Convolvulaceae	NI	A
forb	<i>Dipsacus fullonum</i>	fuller's teasel	Dipsacaceae	FAC	A
forb	<i>Lotus corniculatus</i>	bird's-foot trefoil	Fabaceae	FAC	A
forb	<i>Melilotus indicus</i>	annual yellow sweetclover	Fabaceae	FACU	A
forb	<i>Trifolium dubium</i>	little hop clover	Fabaceae	UPL	A
forb	<i>Trifolium repens</i>	white lawn clover	Fabaceae	FACU	A
forb	<i>Vicia sativa ssp. nigra</i>	narrow-leaved vetch	Fabaceae	FACU	A
forb	Erodium botrys	Broad leaf filaree	Geraniaceae	NI	A
forb	<i>Erodium cicutarium</i>	red-stem storksbill	Geraniaceae	NI	A
forb	<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	FAC	A
forb	<i>Rumex crispus</i>	curly dock	Polygonaceae	FAC	A
grass	<i>Avena barbata</i>	slender wild oat	Poaceae	NI	A
grass	<i>Bromus diandrus</i>	ripgut brome, ripgut grass	Poaceae	NI	A
grass	<i>Bromus hordeaceus</i>	soft chess	Poaceae	FACU	A
grass	<i>Bromus hordeaceus</i>	soft chess	Poaceae	FACU	A
grass	<i>Elymus caput-medusae</i>	medusahead	Poaceae	NI	A
grass	<i>Elymus trachcaulus</i>	Slender wheat grass	Poaceae	FACU	A
grass	<i>Festuca arundinacea</i>	tall fescue	Poaceae	NI	A

grass	<i>Festuca perennis</i>	perennial ryegrass, Italian rye grass	Poaceae	FAC	A
grass	<i>Phalaris aquatica</i>	Harding grass	Poaceae	FACU	A
rush	<i>Juncus patens</i>	spreading rush	Juncaceae	FACW	N
sedge	<i>Carex preslii</i>	Presl's sedge	Cyperaceae	FACU	N
shrub	<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	FACW	A
tree	<i>Acer negundo var. californicum</i>	box elder	Aceraceae	FACW	N
tree	<i>Quercus lobata</i>	California valley oak	Fagaceae	FACU	N
tree	<i>Fraxinus latifolia</i>	Oregon ash	Oleaceae	FACW	N
tree	<i>Populus fremontii var. fremontii</i>	Fremont cottonwood	Salicaceae	FAC	N
tree	<i>Salix laevigata</i>	red willow	Salicaceae	FACW	N
forb	<i>Daucus carota</i>	Queen Anne's lace	Apiaceae	UPL	A
grass	<i>Phalaris angusta</i>	Timothy canarygrass	Poaceae	FAC	N
forb	<i>Dipsacus fullonum</i>	fuller's teasel	Dipsacaceae	FAC	A
vine	<i>Vitis vinifera</i>	Wine grape	Vitaceae	NI	A
	<i>Phytolacca americana</i>	pokeweed	Phytolaccaceae	NI	A
tree	<i>Prunus domentica</i>	Domestic plum	Rosaceae	NI	A
tree	<i>Platanus x acerifolia,</i>	London plane	Platanaceae	NI	A
tree	<i>Salix exigua</i>	Sandbar willow	Salicaceae	FACW	N

A=Alien, N=Native

*Wetland Indicator Status:

OBL = Occurs in wetlands 100% of time

FACW = Occurs in aquatic resources 67-99% of time

FAC = Occurs in aquatic resources 34-66% of time

FACU = Occurs in aquatic resources 1-33% of time

UPL = Upland species

NI = Non-indicator

6.0 SUMMARY AND RECOMMENDATIONS

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

- Review of current California Natural Diversity Database (CNDDDB) mapping of known sensitive plant and wildlife populations within the region.
- An analysis of the suitability of the site for sensitive plants and wildlife using the California Native Plant Society *On-line Inventory of Rare and Endangered Vascular Plants of California*, and the California Department of Fish and Wildlife's *California Wildlife Habitat Relations System*.
- A California Department of Fish and Wildlife protocol, floristic-level field survey of the plants occurring within the property.
- A delineation of waters of the U.S.

Sensitive Plants: A total of 42 native and introduced plant taxa were identified within the survey areas during the in-season botanical survey. As used here, the term sensitive includes species having state or federal regulatory status, included on Lists 1B through 4 by the California Native Plant Society, or otherwise listed in the California Natural Diversity Database.

Sensitive Wildlife: A total of 15 sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDDB database for the quadrangle and the CWHR database. Based on the habitat assessment, the following conclusions are made regarding species with sensitive regulatory status:

- Sensitive status species that have a potential to be present in their sensitive state:
Obscure bumble bee, Foothill yellow legged frog; Western pond turtle; White-tailed kite; Northern harrier; Tricolored blackbird; Grasshopper sparrow; Townsend's big-eared bat; Pallid bat; American badger; Pacific fisher; North American porcupine

Possible Waters of the U.S.: A small riparian area is adjacent to this parcel. It is of very low quality and does not exhibit all three criteria for designation as wetland.

6.2 Potential Impacts and Proposed Mitigation for Biological Resources:

(For all recommended mitigation measures accepted as conditions of approval, the text should be modified to use declarative language, i.e. “should” should become “shall”, etc.)

- **Habitat Fragmentation**

Potential Impacts: The proposed processing facility shown in Figure 2 are comparatively small and unlikely to significantly impair wildlife movement through the corridor. Use of outdoor lighting has a potential to disrupt wildlife movement, much of which occurs at night. Proposed lighting will be limited to 1 acre in low quality habitat and conforms with Dark Sky Approved fixtures.

Proposed Mitigation for Habitat Fragmentation:

Measure 1: The use of deer fencing should be restricted to the perimeters of the proposed facility. No deer fencing or other obstacles to wildlife passage will be installed that will restrict wildlife movement.

Measure 2: Outdoor lighting, if used, should be restricted to the processing facility and should be directed downward so as not to illuminate adjacent areas. All lighting being proposed conforms with IDA Dark Sky approved fixtures that will reduce impacts.

- **Woodland and Forest Resources**

Potential Impact: As shown in **Table 1**, the property contains a combined total of 0.37 acres of woodland. The proposed project design limits project components to the existing infrastructure areas and would not impact woodland resources.

Proposed Mitigation for Impacts to Woodland and Forest: No mitigation recommended if the project is constructed within the area proposed.

- Sensitive Plants and Wildlife

Potential Impacts:

Plants: No plants with sensitive regulatory status were found on the property during the floristic-level botanical survey.

Wildlife: The following wildlife species have a potential to be present on the property:

- Obscure bumble bee
- Western pond turtle
- White-tailed kite
- Northern harrier
- Grasshopper sparrow
- Pallid bat
- American badger
- North American porcupine

Use of pesticides resulting in drift has a potential to result in the incidental take of the obscure bumble bee, if present. Pesticide contamination of waterways or direct impacts to waterways has a potential to result in incidental take of foothill yellow-legged frog and/or western pond turtle downstream from the project area.

Other sensitive species listed above depend primarily on woodland, forest, and grassland habitats. Woodland and forest habitat would not be impacted by this project. Impacts to grasslands would be minimal based on the current project design.

Proposed Mitigation for impacts to Wildlife:

Measure 3: To mitigate potential impacts to obscure bumble bee, foothill yellow-legged frog, and western pond turtle, State and Federal regulations on pesticide selection and use should be strictly followed. Pesticide use should not occur during periods when winds may transport spray to adjacent areas.

- Waters of the U.S.

Potential Impacts: As shown in **Figure 2**, the development would not significantly alter the existing riparian area.

Placement of fill within Waters of the U.S. may require a Nationwide permit by the Corps of Engineers (possibly a non-reporting permit under the Nationwide Permit Program), along with a 401 Water Quality Certification from the Regional Water Quality Control Board, and 1604 Stream Alteration Agreement from the California Department of Fish and Wildlife. The County of Lake may require stream setbacks

Erosion Control:

Potential Impacts: Vegetation clearing and grading activities have a potential to result in sediment runoff to the drainage ditch.

Proposed Mitigation: All work in or near waterways and wetlands should incorporate extensive erosion control measures consistent with Lake County Grading Regulations in order to avoid erosion and the potential for transport of sediments to the existing drainage ditch. Coverage under the National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges associated with a Construction Activity (General Permit) and a Storm Water Pollution Prevention Plan (SWPPP) may be required.

7.0 BIBLIOGRAPHY

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

Animal Diversity Web, University of Michigan Museum of Zoology. Internet site - <http://animaldiversity.ummz.umich.edu>.

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

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

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

Calflora Database. 2018. Internet site - www.calflora.org.

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

California Native Plant Society. 2018. Internet site – “Inventory of Rare and Endangered Plants (online edition, 8th Edition)”, Sacramento, CA; <http://www.cnps.org/inventory>.

California Department of Fish and Wildlife. 2013. California Interagency Wildlife Task Group. CWHR Version 9.0 personal computer program. Sacramento, CA.

California Department of Fish and Wildlife. 2018. *California Natural Diversity Database, RareFind 5*, Internet site - <https://map.dfg.ca.gov/rarefind>.

Clark, William S. et al. 2001. *Hawks of North America*. Peterson Field Guide Series. County of Lake. ESRI *ArcGIS Enterprise (Server and Portal) 10.5.1*.

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

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

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

Google Earth 2018. Aerial photos of Lake County.

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

Hilty, Jodi A., William Z. Lidecker Jr., Adina M. Merenlender. 2006. *Corridor Ecology: The Science and Practice of Linking Landscapes for Biodiversity Conservation*. Island Press.

Internet site. www.owling.com.

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

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

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

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

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

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

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. State of California, California Natural Resource Agency, Dept of Fish and Wildlife, March 20, 2018

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

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

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

Stebbins, Robert C. 2003. *Peterson Field Guides: Reptiles and Amphibians, Third Edition*.

The Peterson Field Guide Series. Houghton Mifflin Company.

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

U.S. Department of Agriculture, Natural Resources Conservation Service.
Soil Surveys for Lake County, California; Mendocino County-Eastern Part, California

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

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

U.S. Geological Survey. 2018. Quadrangle Maps, Upper Lake, Lower Lake, Middletown.

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

Xerces Society for Invertebrate Conservation. Internet site - www.xerces.org

APPENDIX A

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM RESULTS



CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

supported by the

CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP

and maintained by the

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Database Version: 9.0

SPECIES SUMMARY REPORT

FE = Federal Endangered CF = California Fully Protected PT = Federally-Proposed Threatened CD = CDF Sensitive
 FT = Federal Threatened CP = California Protected FC = Federal Candidate HA = Harvest
 CE = California Endangered SC = California Species of Special Concern BL = BLM Sensitive
 CT = California Threatened PE = Federally-Proposed Endangered FS = USFS Sensitive

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

ID	Species Name	Status	Native/Introduced
A004	CALIFORNIA GIANT SALAMANDER		NATIVE
A006	ROUGH-SKINNED NEWT		NATIVE
A007	CALIFORNIA NEWT	SC	NATIVE
A012	COMMON ENSATINA	SC BL FS	NATIVE
A014	CALIFORNIA SLENDER SALAMANDER		NATIVE
A020	SPECKLED BLACK SALAMANDER		NATIVE
A022	ARBOREAL SALAMANDER		NATIVE
A032	WESTERN TOAD		NATIVE
A039	PACIFIC TREEFROG		NATIVE
A048	COASTAL GIANT SALAMANDER		NATIVE
A071	CALIFORNIA RED-LEGGED FROG	FT SC	NATIVE
B003	COMMON LOON	SC	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
B057	CATTLE EGRET		NATIVE
B058	GREEN HERON		NATIVE
B059	BLACK-CROWNED NIGHT HERON		NATIVE
B067	TUNDRA SWAN		NATIVE
B071	SNOW GOOSE		HA NATIVE
B075	CANADA GOOSE		HA NATIVE
B076	WOOD DUCK		HA NATIVE
B077	GREEN-WINGED TEAL		HA NATIVE
B079	MALLARD		HA NATIVE

B080	NORTHERN PINTAIL		HA	NATIVE
B083	CINNAMON TEAL		HA	NATIVE
B084	NORTHERN SHOVELER		HA	NATIVE
B085	GADWALL		HA	NATIVE
B086	EURASIAN WIGEON		HA	NATIVE

ID	Species Name	Status			Native/Introduced
B087	AMERICAN WIGEON			HA	NATIVE
B089	CANVASBACK			HA	NATIVE
B091	RING-NECKED DUCK			HA	NATIVE
B093	GREATER SCAUP			HA	NATIVE
B094	LESSER SCAUP			HA	NATIVE
B101	COMMON GOLDENEYE			HA	NATIVE
B102	BARROW'S GOLDENEYE		SC	HA	NATIVE
B103	BUFFLEHEAD			HA	NATIVE
B104	HOODED MERGANSER			HA	NATIVE
B105	COMMON MERGANSER			HA	NATIVE
B106	RED-BREASTED MERGANSER			HA	NATIVE
B107	RUDDY DUCK			HA	NATIVE
B108	TURKEY VULTURE				NATIVE
B110	OSPREY			CD	NATIVE
B111	WHITE-TAILED KITE		CF	BL	NATIVE
B113	BALD EAGLE		CE CF	BL FS CD	NATIVE
B114	NORTHERN HARRIER		SC		NATIVE
B115	SHARP-SHINNED HAWK				NATIVE
B116	COOPER'S HAWK				NATIVE
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
B129	PEREGRINE FALCON		CF	CD	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
B158	KILLDEER				NATIVE
B165	GREATER YELLOWLEGS				NATIVE
B166	LESSER YELLOWLEGS				NATIVE
B199	WILSON'S SNIPE				NATIVE

B251	BAND-TAILED PIGEON		HA	NATIVE
B255	MOURNING DOVE		HA	NATIVE
B259	YELLOW-BILLED CUCKOO	CE	PT BL FS	NATIVE
B260	GREATER ROADRUNNER			NATIVE

ID	Species Name	Status		Native/Introduced
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
B281	VAUX'S SWIFT		SC	NATIVE
B282	WHITE-THROATED SWIFT			NATIVE
B287	ANNA'S HUMMINGBIRD			NATIVE
B291	RUFOUS HUMMINGBIRD			NATIVE
B292	ALLEN'S HUMMINGBIRD			NATIVE
B293	BELTED KINGFISHER			NATIVE
B294	LEWIS' S WOODPECKER			NATIVE
B296	ACORN WOODPECKER			NATIVE
B299	RED-BREASTED SAPSUCKER			NATIVE
B302	NUTTALL'S WOODPECKER			NATIVE
B303	DOWNY WOODPECKER			NATIVE
B304	HAIRY WOODPECKER			NATIVE
B305	WHITE-HEADED WOODPECKER			NATIVE
B307	NORTHERN FLICKER			NATIVE
B309	OLIVE-SIDED FLYCATCHER		SC	NATIVE
B311	WESTERN WOOD-PEWEE			NATIVE
B317	HAMMOND'S FLYCATCHER			NATIVE
B318	DUSKY FLYCATCHER			NATIVE
B320	PACIFIC-SLOPE FLYCATCHER			NATIVE
B321	BLACK PHOEBE			NATIVE
B323	SAY'S PHOEBE			NATIVE
B326	ASH-THROATED FLYCATCHER			NATIVE
B333	WESTERN KINGBIRD			NATIVE
B337	HORNED LARK			NATIVE
B338	PURPLE MARTIN		SC	NATIVE
B339	TREE SWALLOW			NATIVE
B340	VIOLET-GREEN SWALLOW			NATIVE

B341	NORTHERN ROUGH-WINGED SWALLOW		NATIVE
B342	BANK SWALLOW	CT	BL
B343	CLIFF SWALLOW		NATIVE
B346	STELLER'S JAY		NATIVE

ID	Species Name	Status	Native/Introduced
B348	WESTERN SCRUB-JAY		NATIVE
B350	CLARK'S NUTCRACKER		NATIVE
B352	YELLOW-BILLED MAGPIE		NATIVE
B353	AMERICAN CROW		HA
B354	COMMON RAVEN		NATIVE
B356	MOUNTAIN CHICKADEE		NATIVE
B357	CHESTNUT-BACKED 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
B367	CANYON WREN		NATIVE
B368	BEWICK'S WREN		SC
B369	HOUSE WREN		NATIVE
B370	WINTER WREN		NATIVE
B372	MARSH WREN		SC
B375	GOLDEN-CROWNED KINGLET		NATIVE
B376	RUBY-CROWNED KINGLET		NATIVE
B377	BLUE-GRAY GNATCATCHER		NATIVE
B380	WESTERN BLUEBIRD		NATIVE
B381	MOUNTAIN BLUEBIRD		NATIVE
B382	TOWNSEND'S SOLITAIRE		NATIVE
B385	SWAINSON'S THRUSH		NATIVE
B386	HERMIT THRUSH		NATIVE
B389	AMERICAN ROBIN		NATIVE
B390	VARIED THRUSH		NATIVE
B391	WRENTIT		NATIVE
B393	NORTHERN MOCKINGBIRD		NATIVE
B398	CALIFORNIA THRASHER		NATIVE
B404	AMERICAN PIPIT		NATIVE
B407	CEDAR WAXWING		NATIVE
B408	PHAINOPEPLA		NATIVE
B410	LOGGERHEAD SHRIKE	FE	SC
B415	CASSIN'S VIREO		NATIVE
B417	HUTTON'S VIREO		SC

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

ID	Species Name	Status	Native/Introduced
B437	TOWNSEND'S WARBLER		NATIVE
B438	HERMIT WARBLER		NATIVE
B460	MACGILLIVRAY'S WARBLER		NATIVE
B461	COMMON YELLOWTHROAT	SC	NATIVE
B463	WILSON'S WARBLER		NATIVE
B467	YELLOW-BREASTED CHAT	SC	NATIVE
B471	WESTERN TANAGER		NATIVE
B475	BLACK-HEADED GROSBEAK		NATIVE
B477	LAZULI BUNTING		NATIVE
B482	GREEN-TAILED TOWHEE		NATIVE
B483	SPOTTED TOWHEE	SC	NATIVE
B484	CALIFORNIA TOWHEE	FT CE	NATIVE
B487	RUFIOUS-CROWNED SPARROW	SC	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
B501	GRASSHOPPER SPARROW	SC	NATIVE
B504	FOX SPARROW		NATIVE
B505	SONG SPARROW	SC	NATIVE
B506	LINCOLN'S SPARROW		NATIVE
B509	GOLDEN-CROWNED SPARROW		NATIVE
B510	WHITE-CROWNED SPARROW		NATIVE
B512	DARK-EYED JUNCO		NATIVE
B519	RED-WINGED BLACKBIRD	SC	NATIVE
B520	TRICOLORED BLACKBIRD	SC BL	NATIVE
B521	WESTERN MEADOWLARK		NATIVE
B522	YELLOW-HEADED BLACKBIRD	SC	NATIVE
B524	BREWER'S BLACKBIRD		NATIVE
B528	BROWN-HEADED COWBIRD		NATIVE
B532	BULLOCK'S ORIOLE		NATIVE
B536	PURPLE FINCH		NATIVE
B537	CASSIN'S FINCH		NATIVE
B538	HOUSE FINCH		NATIVE
B539	RED CROSSBILL		NATIVE

B542	PINE SISKIN		NATIVE
B543	LESSER GOLDFINCH		NATIVE
B544	LAWRENCE'S GOLDFINCH		NATIVE
B545	AMERICAN GOLDFINCH		NATIVE
B546	EVENING GROSBEAK		NATIVE
B548	CLARK'S GREBE		NATIVE
B554	PLUMBEOUS VIREO		NATIVE

ID	Species Name	Status		Native/Introduced
B656	RED PHALAROPE			NATIVE
B699	BARRED OWL			NATIVE
B773	AMERICAN REDSTART			NATIVE
B798	WHITE-THROATED SPARROW			NATIVE
B799	HARRIS'S SPARROW			NATIVE
B809	INDIGO BUNTING			NATIVE
M006	ORNATE SHREW	FE	SC	NATIVE
M012	TROWBRIDGE'S SHREW			NATIVE
M015	SHREW-MOLE			NATIVE
M018	BROAD-FOOTED MOLE		SC	NATIVE
M023	YUMA MYOTIS		BL	NATIVE
M025	LONG-EARED MYOTIS		BL	NATIVE
M027	LONG-LEGGED MYOTIS			NATIVE
M028	CALIFORNIA MYOTIS			NATIVE
M030	SILVER-HAIRED BAT			NATIVE
M031	CANYON BAT			NATIVE
M033	WESTERN RED BAT		SC FS	NATIVE
M034	HOARY BAT			NATIVE
M037	TOWNSEND'S BIG-EARED BAT		SC BL FS	NATIVE
M038	PALLID BAT		SC BL FS	NATIVE
M039	BRAZILIAN FREE-TAILED BAT			NATIVE
M045	BRUSH RABBIT	FE CE	HA	NATIVE
M047	AUDUBON'S COTTONTAIL		HA	NATIVE
M051	BLACK-TAILED JACKRABBIT		SC HA	NATIVE
M055	YELLOW-PINE CHIPMUNK			NATIVE
M057	SHADOW CHIPMUNK			NATIVE
M059	SONOMA CHIPMUNK			NATIVE
M072	CALIFORNIA GROUND SQUIRREL			NATIVE
M075	GOLDEN-MANTLED GROUND SQUIRREL			NATIVE
M077	WESTERN GRAY SQUIRREL		HA	NATIVE
M079	DOUGLAS' SQUIRREL		HA	NATIVE
M080	NORTHERN FLYING SQUIRREL		SC FS	NATIVE
M081	BOTTA'S POCKET GOPHER			NATIVE
M084	MAZAMA POCKET GOPHER			NATIVE

M105	CALIFORNIA KANGAROO RAT		SC			NATIVE
M112	AMERICAN BEAVER				HA	NATIVE
M113	WESTERN HARVEST MOUSE					NATIVE
M117	DEER MOUSE		SC			NATIVE
M119	BRUSH MOUSE					NATIVE
M127	DUSKY-FOOTED WOODRAT	FE	SC			NATIVE
M134	CALIFORNIA VOLE	FE	CE	SC	BL	NATIVE
M139	COMMON MUSKRAT				HA	NATIVE

ID	Species Name	Status				Native/Introduced
M146	COYOTE				HA	NATIVE
M147	RED FOX		CT		FS HA	NATIVE
M149	GRAY FOX				HA	NATIVE
M151	BLACK BEAR				HA	NATIVE
M152	RINGTAIL		CF			NATIVE
M153	RACCOON				HA	NATIVE
M154	MARTEN		SC		FS	NATIVE
M155	FISHER		SC		FC BL FS	NATIVE
M156	ERMINE				HA	NATIVE
M157	LONG-TAILED WEASEL				HA	NATIVE
M158	AMERICAN MINK				HA	NATIVE
M160	AMERICAN BADGER		SC		HA	NATIVE
M162	STRIPED SKUNK				HA	NATIVE
M163	NORTHERN RIVER OTTER		SC			NATIVE
M165	MOUNTAIN LION		SC			NATIVE
M166	BOBCAT				HA	NATIVE
M177	ELK				HA	NATIVE
M181	MULE DEER				HA	NATIVE
R004	WESTERN POND TURTLE		SC		BL FS	NATIVE
R022	WESTERN FENCE LIZARD					NATIVE
R023	COMMON SAGEBRUSH LIZARD				BL	NATIVE
R036	WESTERN SKINK		SC		BL	NATIVE
R039	TIGER WHIPTAIL					NATIVE
R040	SOUTHERN ALLIGATOR LIZARD					NATIVE
R042	NORTHERN ALLIGATOR LIZARD					NATIVE
R046	NORTHERN RUBBER BOA		CT		FS	NATIVE
R048	RING-NECKED SNAKE				FS	NATIVE
R049	COMMON SHARP-TAILED SNAKE					NATIVE
R051	NORTH AMERICAN RACER					NATIVE
R053	STRIPED RACER	FT	CT			NATIVE
R057	GOPHERSNAKE		SC			NATIVE
R058	EASTERN KINGSNAKE					NATIVE
R059	CALIFORNIA MOUNTAIN KINGSNAKE		SC		BL FS	NATIVE

R060	LONG-NOSED SNAKE					NATIVE
R061	COMMON GARTERSNAKE	FE	CE	CF	SC	NATIVE
R062	TERRESTRIAL GARTERSNAKE					NATIVE
R071	DESERT NIGHTSNAKE					NATIVE
R076	WESTERN RATTLESNAKE					NATIVE
R078	AQUATIC GARTERSNAKE					NATIVE

Total Number of Species: 283

Query Parameters

Included Locations

Lake Co

Included Location Seasons

Migrant, Summer, Winter, Yearlong

Included Habitats & (Stages)

Annual Grassland, Closed-cone Pine-cypress, Fresh Emergent Wetland, Lacustrine, Mixed Chaparral, Montane Hardwood, Ponderosa Pine, Valley Foothill Riparian, Wet Meadow

Habitat Suitability Threshold

Reproduction - Low, Cover - Low, Feeding - Low

Included Habitat Seasons

Migrant, Summer, Winter, Yearlong

Excluded Elements

Barren, Bogs, Brush Pile, Buildings, Campground, Cave, Dump, Fences, Jetty, Lakes, Lithic, Mine, Mud Flats, NestBox,

Nest Island, Nest Platform, Pack Stations, Rivers, Salt Ponds, Sand Dune, Shrub/agriculture, Soil - Saline, Soil -Sandy,

Springs - Hot, Springs - Mineral, Talus, Tidepools, Transmission Lines, Trees - Fir, Vernal Pools, Water - Fast,Wharf
