

**Attachment # 2**  
**Biological Assessment/Report**

# **BIOLOGICAL ASSESSMENT**

**5330 OLD HIGHWAY 53 & 5345 JONES AVENUE  
APN 040-340-050 & 040-340-060**

**LAKE COUNTY, CALIFORNIA**

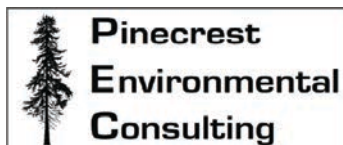
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PROJECT № LAK079



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## 1.0 INTRODUCTION

### 1.1 PURPOSE

The purpose of this reconnaissance-level Biological Assessment (BA) is to evaluate the existence of special-status species (SSS) and/or habitats, as well as assess the potential for SSS listed in Appendix A to occur on or near the site of commercial development activities, pursuant to applicable regulations from County of Lake and the State of California. This BA also analyzes the potential for jurisdictional wetlands and other waters of the State to exist onsite, and classifies landforms that may potentially convey sediment to waters of the State including dry creeks, washes, swales, gullies, and other erosional features. Also included is a set of Best Management Practices (BMPs) that are adapted from a variety of sources including state and local ordinances.

### 1.2 LOCATION

#### 1.2.1 Site Overview

The project site is located at two parcels assigned street addresses 5330 Old CA-53 and 5345 Jones Avenue in the incorporated town of Clearlake (Figure 1). The property is comprised of Assessor's Parcel Numbers (APN) 040-340-050 & 040-340-060, and are deeded 0.6 & 0.4 acres, respectively. The property is located in Section 27, Township 13 North, Range 7 West, on the USGS Clearlake Highlands 7.5-minute quadrangle (Figure 2). The approximate latitude and longitude of the centroid of the property is 38.9449 (N), -122.6306 (W). The property is under the jurisdiction of the North Coast Regional Water Quality Control Board (RWQCB), and the Northern Region (District 1) of the California Department of Fish & Wildlife (CDFW), and is located in a very low priority groundwater basin as designated by the California Department of Water Resources (DWR).

#### 1.2.2 Federal Critical Habitat

Federal Critical Habitat (FCH) is designated by the U.S. Fish & Wildlife Service (USFWS) and provides special protections for habitats considered important for long-term population persistence of endangered or threatened species. There is no FCH onsite for any animal or plant species. The nearest FCH is located 5.7 miles to the south and 8.3 miles to the southwest for Slender Orcutt Grass (*Orcuttia tenuis*). The next nearest FCH is located 10 miles southwest of the parcel for Northern Spotted Owl (*Strix occidentalis*). There is no other FCH within 10 miles of the project parcel.

#### 1.2.3 Special-Status Species Occurrences

Special-status species (SSS) are those species that receive special protections under either local, State, or Federal law and include both State and Federally Endangered and Threatened species of animals and plants, as well as candidate listing species and other species or populations of special concern for which additional information is required. The California Natural Diversity Database (CNDDDB) provides information on most known SSS occurrences in the State of California. A description of the habitat

requirements and likelihood of occurrence of potential SSS on the project site based the CNDDDB database, published scientific literature, and the expertise of PEC staff, is provided in Appendix A, with a description of the nearest locality of all SSS known from within a 5 mile radius around the project site. Additionally, map-based representation of all of the SSS within an approximately 5 mile radius around the project site is provided in Appendices B & C.

### **1.2.3.1 SSS Animals**

There are 14 unique special-status animal species known from within 5 miles of the project parcel (Appendices A-C). The nearest known occurrences of special-status animal species are Brownish dubiraphian riffle beetle (*Dubiraphia brunnescens*), Clear Lake hitch (*Lavinia exilicauda chi*), Clear Lake tulle perch (*Hysterothorax traskii lagunae*), Sacramento perch (*Archoplites interruptus*), and Western ridged mussel (*Gonidea angulata*) located approximately 0.2 miles west of the project parcel in Clear Lake. The next nearest known occurrence of special-status animal species is Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) located approximately 0.8 miles northwest of the project parcel near Clear Lake. The next nearest known occurrence of special-status animal species is Foothill yellow-legged frog (*Rana boylei*; FYLF) located approximately 1.7 miles southeast of the project parcel near Cache Creek.

### **1.2.3.2 SSS Plants**

There are a total of 17 special-status plant species within 5 miles of the project parcel (Appendices A & C). There is one special-status plant species whose CNDDDB polygon overlaps with project parcel, Eel-grass pondweed (*Potamogeton zosteriformis*), that is an aquatic species known from Clear Lake. The next nearest known occurrence of special-status plant species is Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*) located approximately 0.4 miles north of the project parcel near CA-53. The next nearest known occurrences of special-status plant species are Few-flowered navarretia (*Navarretia leucocephala* spp. *pauciflora*) and Hall's harmonia (*Harmonia hallii*) located approximately 1.3 miles south of the project parcel along CA-53.

## **1.2.4 Landforms & Topography**

The topography of the site is slightly sloped, with grades between 2% and 5%, as measured by Suunto PM5 handheld clinometer (Figure 2). The maximum elevation of the site is 1,354 feet above sea level at the northwest of the site, and the minimum elevation is 1,380 feet above sea level at the southeast of the site (Figure 3). Water passing offsite eventually enters a vegetated roadside ditch (Figure 4) that infiltrates locally. Subsurface flow eventually enters Clear Lake, 0.2 miles to the west (Figure 1). From the spillway of the Cache Creek Dam, Cache Creek flows east through the inner Coast Ranges for 51 miles before emerging into the Central Valley near Esparto. From there Cache Creek continues east for 28 miles before entering the Yolo Bypass west of the City of Sacramento. From there water flows south into the Sacramento River which flows south for approximately 40 miles before emptying into Suisun Bay and the Pacific Ocean (Figure 1). More information about wetlands and watercourses onsite is provided in §2.4, below.

## 1.3 METHODS

### 1.3.1 Records Search & Literature Review

Based on a review of the literature and relevant databases, we compiled a list of special-status plant and animal species that are known to occur within Lake County, or that occupy habitats that are known to be present on or near the project site (Appendices A-C). Sources of information referenced include the California Department of Fish & Wildlife (CDFW) *California Natural Diversity Database* (CNDDDB 2021), U.S. Fish and Wildlife Service Environmental Conservation Online System (USFWS 2021), the California Native Plants Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2021), the CDFW *Habitat Relationships System* (HRS), and the knowledge of PEC staff familiar with the species and habitats of Lake County. Additional information on sensitive habitats including wetlands was obtained from the USFWS National Wetlands Inventory (NWI 2021), and the County of Lake *Geographic Information System Portal* (Lake Co. 2021). Plant species included here are State or Federally Endangered or Threatened species, and/or considered rare by CDFW, and/or are recognized as special-status species (SSS) by CNPS and/or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or CDFW species of special concern (SSC), and/or CDFW fully protected species (FPS). In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the U.S. Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish & Game Code.

### 1.3.2 Field Surveys

A wildlife and botanical survey was conducted at the site on April 29, 2021. The weather was warm and sunny at the time of the survey, that began at 1:30 PM. The temperature at the start of the survey was 77 degF, relative humidity was 35 %, and wind gust speed was 2-4 mph, as measured with Kestrel 3000 handheld weather station. Approximately 2" of rain fell the preceding month, and most annual species were actively flowering. Starting in the northwest corner, the entire project site was surveyed on foot by PEC biologist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Plant voucher specimens were taken of any species that were not identifiable in the field, and that were not likely to be special-status. The majority of species were identifiable at the time of the survey, although many had to be identified based on vegetative parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters.

## 2.0 RESULTS

### 2.1 REGIONAL ECOLOGICAL SETTING

Using field surveys, a review of published literature, and the knowledge of PEC staff, all of the natural communities present on and around the project site were assessed. Regionally, the dominant vegetation type is developed light residential developments, with interspersed oak trees, and grasslands in steeper hillslopes (Figure 2).

### 2.2 NATURAL COMMUNITIES WITHIN THE PROJECT SITE

The onsite communities consist entirely of ruderal grassland with mostly weedy forbs and non-native grass species (Figure 3). The specific community descriptions below are organized based on the zones that were surveyed. We have used as guidance the *Manual of California Vegetation* (Sawyer et al. 2009) to guide community classification.

#### 2.2.1 Ruderal Grassland

Species in the grassland portion of the site were primarily weedy species due to the history of development and/or use of the site. There are only a few trees, mostly concentrated on the perimeter of the south fenceline, including Blue oak (*Quercus douglasii*) to 8" DBH, Interior live oak (*Quercus wislizeni*) to 4" DBH, and one Valley oak (*Quercus lobata*) to 10" DBH. The location of the Valley oak is shown in Figure 3 and should not be removed if possible. Other shrubby species occur around the perimeter of the property and include Yerba Santa (*Eriodictyon californicum*), common manzanita (*Arctostaphylos manzanita*), and cherry (*Prunus avium*).

Herbaceous species comprise the majority of the parcel including the entire development area, and consist of dogstail grass (*Cynosurus echinatus*), wild oatgrass (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), hairgrass (*Aira caryophylla*), Zorro fescue (*Festuca myuros*), foxtail barley (*Hordeum murinum*), medusahead (*Elymus caput-medusae*), yellow star thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), Italian thistle (*Cirsium pycnocephalus*), prickly lettuce (*Lactuca serriola*), pineapple weed (*Matricaria discoidea*), hairy cat's ear (*Hypochaeris radicata*), field buttercup (*Ranunculus arvensis*), field bindweed (*Convolvulus arvensis*), English plantain (*Plantago lanceolata*), field parsley (*Torilis nodosa*), mountain dandelion (*Agoseris heterophylla*), crane's bill filaree (*Erodium botrys*), common geranium (*Geranium molle*), wild radish (*Raphanus sativa*), black mustard (*Brassica nigra*), and rose clover (*Trifolium hirtum*). Some native forbs exist including blow wives (*Achyrachaena mollis*), California poppy (*Eschscholzia californica*), Pacific sanicle (*Sanicula crassicaulis*), Fremont's star lily (*Toxicoscordion fremontii*), annual lupine (*Lupinus bicolor*), common fiddleneck (*Amsinckia intermedia*), butter lupine (*Lupinus luteolus*), pine bluegrass (*Poa secunda*), Ithuriel's spear (*Triteleia laxa*), chaparral honeysuckle (*Lonicera interrupta*), and blue dicks (*Dichelostemma capitata*).



## 2.3 WILDLIFE

Animal species observed directly and indirectly onsite were few due to the surrounding developments, but included turkey vulture (*Cathartes aura*), Brewer's blackbird (*Euphagus cyanocephalus*), Anna's hummingbird (*Calypte anna*), crow (*Corvus brachyrhynchos*), black-eyed junco (*Junco hyemalis*), house sparrow (*Passer domesticus*), and Western fence lizard (*Sceloporous occidentalis*).

## 2.4 WATERCOURSES & POTENTIAL WETLANDS

Jurisdictional watercourses onsite were classified according to the three-tier method used by the California Department of Forestry & Fire Protection (CALFIRE 2017) and included as a reference in Appendix E. Based on these criteria there are no jurisdictional watercourses onsite (Figure 3) and no culverts required to reach the proposed development area.

Potential wetlands onsite were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the Army Corps of Engineers *Wetland Delineation Manual* (ACOE 1987), however a protocol-level wetland delineation was not performed. For this BA, we identified potential wetlands in Figure 3 based on the presence of one of the three ACOE criteria, usually hydrophytic vegetation cover but sometimes soil indicators or hydrology or a combination of these. Based on these criteria there are no potentially jurisdictional wetlands onsite (Figure 3).

## 2.5 SOILS & LOCAL GEOMORPHOLOGY

The parent materials on the project parcel are typical of eastern shore of Clear Lake County, featuring eroded sandstone and silt alluvial deposits (USGS 1985). Sols onsite are mapped as Asbill clay loam, 8% to 15% (#104) with lesser proportions of Skyhigh (8%) and unnamed horizons (7%). There are no serpentine outcrops or serpentine-derived soils mapped onsite.

### 3.0 SUMMARY & CONCLUSIONS

No special-status plants were observed during the surveys performed at the site. There is one species whose CNDDDB polygons overlap with the project site, Eel-grass pondweed, although this is an aquatic species and the centroid of the polygon is located offsite in Clear Lake. The nearest terrestrial special-status plant species to the project parcel is Baker's navarretia. This species has no chance of existing onsite due to the lack of wetlands or vernal pools, which are the required habitat for this species. In general, the vegetation of the parcel is highly disturbed and it is clear that the site has been previously graded. The only plants that are worth protecting is a single Valley oak tree near the southwest corner. Otherwise the project as designed should have no impacts on special-status plant species or their habitats due to the lack of high quality habitat onsite.

No special-status animal species were observed during the surveys performed at the site. There is one special-status animal species whose CNDDDB polygon overlaps with the project, Western yellow-billed cuckoo. Although there are some small trees around the perimeter of the property, since they prefer riparian habitats, and due to the highly developed nature of this portion of Clearlake and the high traffic and availability of higher quality roosts outside the city limits makes it unlikely that this bird would choose to nest in any of the trees onsite. This bird also would not be likely to utilize any of the grassland onsite for foraging. Other animal species within several miles of the project site are primarily aquatic species associated with Clear Lake and would not be found onsite. For these reasons the project as designed should have no impacts on special-status animal species or their habitats due to the lack of high quality habitat onsite.

There are no jurisdictional watercourses or potentially jurisdictional wetlands identified onsite, and no direct routes for sediment to enter any waters of the State from the project site, thus we do not anticipate any impacts to wetlands or watercourses as a result of this project. There are no culvert crossings required to reach the cultivation area. The swale along Old Highway 53 is fully vegetated and does not exhibit scour or sediment transport and all water running off the site appears to infiltrate locally or be routed into municipal stormwater systems. During and after project implementation, as long as appropriate erosion control BMPs are implemented to the greatest extent practicable, no sediment discharge to waters of the State is anticipated. Anywhere revegetation after disturbance is required, native vegetation from local genotypes should be used if possible to encourage the use of the property by native wildlife. A list of suitable species and nurseries/vendors can be provided by PEC on request.

## **4.0 REGULATORY FRAMEWORK**

### **4.1 FEDERAL ENDANGERED SPECIES ACT**

The U.S. Fish & Wildlife Service (USFWS) has jurisdiction over federally-listed threatened and endangered species under the federal Endangered Species Act (FESA). The USFWS also maintains a list of 'proposed' species and candidate species that are not legally protected under the FESA, but are often included in their review of a project as they may become listed in the near future. The FESA protects listed animal species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands. Pursuant to the requirements of the FESA, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally-listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally-listed species will require formal consultation with the USFWS.

### **4.2 CALIFORNIA ENDANGERED SPECIES ACT**

The California Endangered Species Act (CESA) protects any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish & Wildlife (CDFW) has jurisdiction over state-listed species (California Fish & Game Code 2070). Take of state-listed species requires a permit from CDFW, which is granted only under strictly limited circumstances. Additionally, the CDFW maintains lists of "species of special concern" that are defined as animal species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed or proposed endangered or threatened species may be present in the project area and determine whether the proposed project may result in a significant impact on such species.

### **4.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT**

Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish & Game Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts, if it finds that the species meets the criteria of a threatened or endangered species.

#### **4.4 CLEAN WATER ACT**

Under Section 404 of the federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3(a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to Corps jurisdiction. In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the U.S. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with "minimal" impacts on wetlands or other waters of the U.S. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent "practicable" and provides an opportunity for public review of the project.

#### **4.5 CALIFORNIA WATER QUALITY REGULATORY PROGRAMS**

Pursuant to Section 401 of the federal Clean Water Act and the state's Porter-Cologne Act, projects that are regulated by the Corps must obtain water quality certification from the Regional Water Quality Control Board (RWQCB). This certification ensures that the project will uphold state water quality standards. The RWQCB sometimes asserts jurisdiction over wetlands that the Corps does not (e.g. certain isolated wetlands) and may impose mitigation requirements even if the Corps does not. The CDFW also exerts jurisdiction over the bed and banks of watercourses and water bodies according to provisions of Section 1601 to 1603 of the Fish & Game Code. The Fish & Game Code requires a Stream Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or water body.

## 5.0 REFERENCES

- Baldwin, B.G., et al. 2012. *The Jepson Manual: Vascular Plants of California*. University of California Press, Berkeley, CA.
- Cafferata, P. et al. 2017. *Designing Watercourse Crossings for Passage of 100-Year Flood Flows, Wood, and Sediment*. California Natural Resources Agency, Sacramento, CA.
- California Department of Fish & Wildlife (CDFW). 2021. *California Natural Diversity Database*. CDFW Wildlife and Habitat Data Analysis Branch, Sacramento, CA. <https://www.wildlife.ca.gov/data>.
- California Department of Fish & Wildlife (CDFW). 2018. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities*. Sacramento, CA.
- California Department of Forestry & Fire Protection (CALFIRE). 2017. *California Forest Practice Rules*. California Natural Resources Agency, Sacramento, CA.
- California Native Plant Society (CNPS). 2021. *Inventory of Rare and Endangered Plants*. CNPS, Sacramento, CA.
- County of Lake Assessor. 2021. *Geographical Information Systems (GIS) Databases*. County of Lake, Lakeport, CA.
- Natural Resources Conservation Service (NRCS). 2020. *SoilWeb*. University of California, Agricultural and Natural Resources, Davis, CA. <http://casoilresource.lawr.ucdavis.edu/gmap/>.
- Sawyer, J.O., T. Keeler-Wolf, J. Evens. 2009. *Manual of California Vegetation*. California Native Plant Society Press, Sacramento, CA.
- U.S. Department of Agriculture (USDA). 1985. *Soil Survey of Lake County, California*. Soil Conservation Service, Washington D.C.
- U.S. Army Corps of Engineers (ACOE). 1987. *Wetlands Delineation Manual*. Watershed Research Program Technical Report Y-87-1, Washington, D.C.
- U.S. Fish and Wildlife Service (USFWS). 2021. *Environmental Conservation Online System*. USFWS, Washington, DC. <https://ecos.fws.gov/ecp/>.
- U.S. Fish and Wildlife Service (USFWS). 2021. *National Wetlands Inventory*. USFWS, Washington, DC. <https://www.fws.gov/wetlands/>.
- U.S. National Weather Service (NWS). 2021. *National Climatic Data Center*. USNWS, Washington, DC. <https://w2.weather.gov/climate/>
- Weaver, W.E. et al. 2015. *Culvert Sizing Procedures for the 100-Year Peak Flow*. Mendocino County Resource Conservation District, Ukiah, CA.

**FIGURE 1: REGIONAL LOCATION**

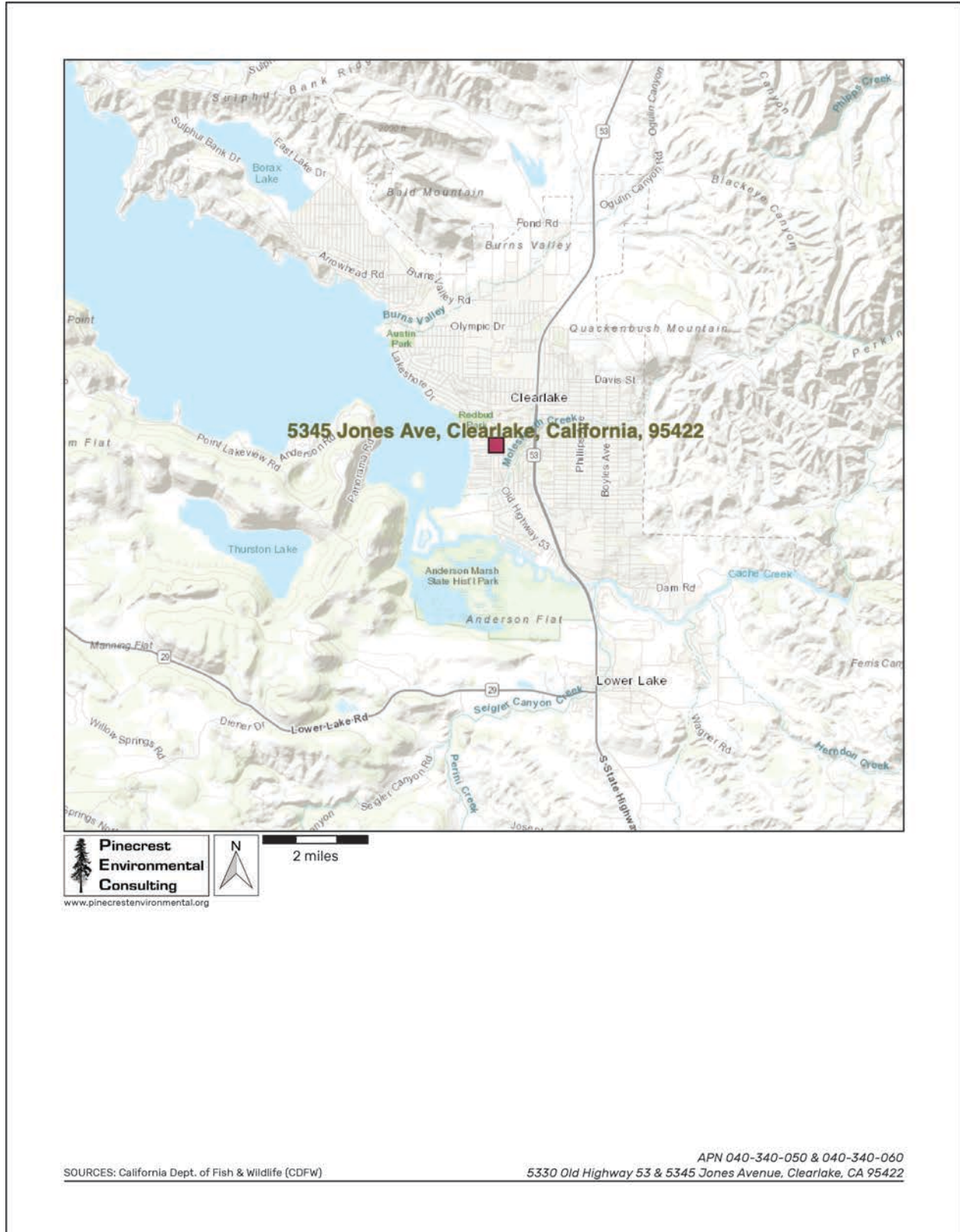
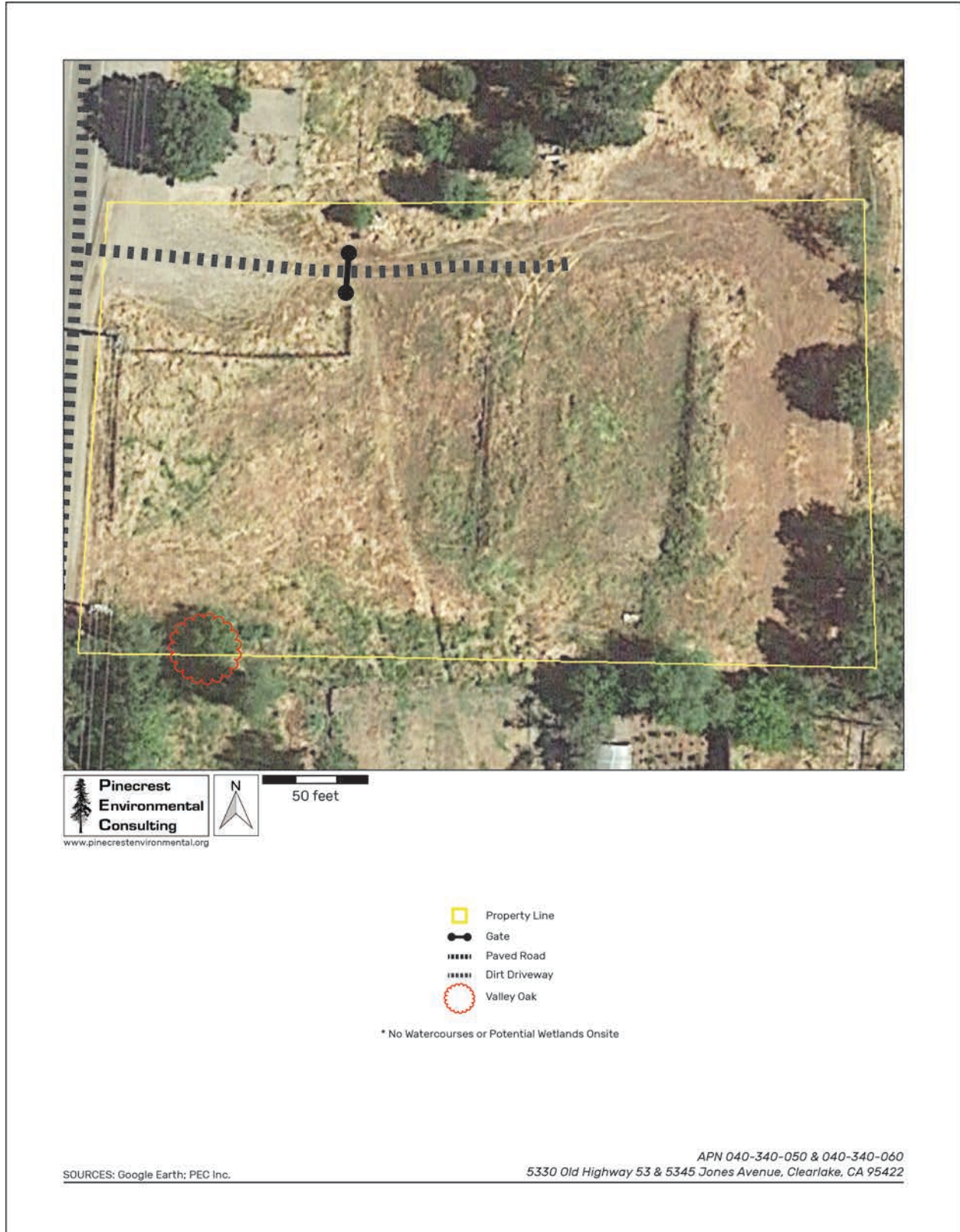


FIGURE 2: 40-FOOT CONTOURS



**FIGURE 3: WATERCOURSES**





**FIGURE 4: PHOTOGRAPH OF ROADSIDE SWALE**



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SOURCES: PEC Inc.

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**FIGURE 5: PHOTOGRAPH OF DRIVEWAY**



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**FIGURE 6: PHOTOGRAPH OF SOUTH FENCELINE**



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SOURCES: PEC Inc.

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**FIGURE 7: PHOTOGRAPH OF PROJECT AREA**



SOURCES: PEC Inc.

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5330 Old Highway 53 & 5345 Jones Avenue, Clearlake, CA 95422

**FIGURE 8: PHOTOGRAPH OF PROJECT AREA**



SOURCES: PEC Inc.

APN 040-340-050 & 040-340-060  
5330 Old Highway 53 & 5345 Jones Avenue, Clearlake, CA 95422

## APPENDIX A: SPECIAL-STATUS SPECIES CONSIDERED

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Lake County by PEC staff, from various State and Federal databases, and from the California Natural Diversity Database (CNDDDB). Known occurrences within 5 miles of the project site are shown in bold, and known occurrences within 2 miles have the locality described.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
<b>PLANTS</b>			
Adobe lily ( <i>Fritillaria pluriflora</i> )	—/—/1B.2	Valley grasslands, foothill woodland	<u>Low</u> : Some grassland or woodland habitat exists onsite.
Anthony peak lupine ( <i>Lupinus antoninus</i> )	—/—/1B.2	Montane forest	<u>None</u> : No suitable montane habitat exists onsite.
Baker's manzanita ( <i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i> )	—/—/1B.1	Serpentine chaparral	<u>None</u> : No serpentine habitat exists onsite.
Baker's meadowfoam ( <i>Limnanthes bakeri</i> )	—/ST/1B.1	Vernal pools, freshwater wetland	<u>None</u> : No suitable wetland habitat exists onsite.
<b>Baker's navarretia</b> ( <i>Navarretia leucocephala</i> ssp. <i>bakeri</i> )	—/—/1B.1	<b>Vernal pools</b>	<b><u>Very Low</u>: No vernal pool habitat exists onsite. Nearest known occurrence is XXX miles XXX of the parcel near XXX.</b>
Beaked tracyina ( <i>Tracyina rostrata</i> )	—/—/1B.2	Valley grassland, foothill woodland	<u>Low</u> : Some grassland habitat exists onsite.
<b>Bent flowered fiddleneck</b> ( <i>Amsinckia lunaris</i> )	—/—/1B.2	<b>Valley grassland, foothill woodland</b>	<b><u>Medium</u>: Some suitable grassland habitat exists onsite.</b>
Big scale balsamroot ( <i>Balsamorhiza macrolepis</i> )	—/—/1B.2	Valley grassland, foothill woodland, serpentine soils	<u>Low</u> : Some grassland habitat exists onsite.
<b>Bogg's Lake hedge-hyssop</b> ( <i>Gratiola heterosepala</i> )	—/—/1B.2	<b>Vernal pools, lake margins</b>	<b><u>Very Low</u>: No suitable wetland habitat exists onsite.</b>
<b>Bolander's horkelia</b> ( <i>Horkelia bolanderi</i> )	—/—/1B.2	<b>Yellow pine forest, grassland</b>	<u>Low</u> : No suitable forest habitat exists onsite.
<b>Brandegee's eriastrum</b> ( <i>Eriastrum brandegeae</i> )	—/—/1B.1	<b>Clearings in chaparral</b>	<u>Low</u> : No suitable chaparral habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bristly sedge ( <i>Carex comosa</i> )	—/—/2B.1	Freshwater marsh, riparian	<u>Very Low</u> : No suitable marsh habitat exists onsite.
Brownish beaked-rush ( <i>Rhynchospora capitellata</i> )	—/—/2B.2	Freshwater marsh, riparian	<u>Very Low</u> : No suitable wetland habitat exists onsite.
<b>Burke's goldfields</b> ( <i>Lasthenia burkei</i> )	<b>FE/SE/1B.1</b>	<b>Vernal pools, wet meadows</b>	<b><u>Very Low</u>: No suitable vernal pool habitat exists onsite.</b>
California alkali grass ( <i>Puccinellia simplex</i> )	—/—/1B.2	Alkali sink	<u>None</u> : No alkali wetland habitat exists onsite.
<b>California satintail</b> ( <i>Imperata brevifolia</i> )	—/—/2B.1	<b>Chaparral</b>	<b><u>Very Low</u>: No suitable chaparral habitat exists onsite.</b>
Calistoga ceanothus ( <i>Ceanothus divergens</i> )	—/—/1B.2	Chaparral	<u>Very Low</u> : No chaparral habitat exists onsite.
Cascade downingia ( <i>Downingia willamettensis</i> )	—/—/2B.2	Vernal pool	<u>None</u> : No vernal pool habitat exists onsite.
Clara Hunt's milk vetch ( <i>Astragalus claranus</i> )	—/—/1B.1	Serpentine grassland	<u>Very Low</u> : No serpentine habitat exists onsite.
Cobb Mountain lupine ( <i>Lupinus sericatus</i> )	—/—/1B.2	Chaparral, pine forest	<u>Very Low</u> : No chaparral habitat exists onsite.
<b>Colusa layia</b> ( <i>Layia septentrionalis</i> )	—/—/1B.2	<b>Chaparral, valley grassland, serpentine soils</b>	<b><u>Medium</u>: Some suitable grassland habitat exists onsite.</b>
Congested-headed hayfield tarplant ( <i>Hemizonia congesta</i> ssp. <i>congesta</i> )	—/—/1B.2	Grassland, coastal scrub	<u>Low</u> : Some grassland habitat exists onsite.
Deep scarred cryptantha ( <i>Cryptantha excavata</i> )	—/—/1B.1	Foothill woodland	<u>Very Low</u> : No woodland habitat exists onsite.
Dimorphic snapdragon ( <i>Antirrhinum subcordatum</i> )	—/—/4.3	Serpentine chaparral	<u>None</u> : No serpentine habitat exists onsite.
Drymaria-like western flax ( <i>Hesperolinon drymarioides</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Dwarf downingia ( <i>Downingia pusilla</i> )	—/—/2B.2	Vernal pools, freshwater wetland	<u>None</u> : No vernal pool habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Dwarf soaproot ( <i>Chlorogalum pomeridianum</i> var. <i>minus</i> )	—/—/1B.2	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.
Early jewelflower ( <i>Streptanthus vernalis</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No suitable serpentine outcrop habitat exists onsite.
<b>Eel-grass pondweed</b> ( <i>Potamogeton zosteriformis</i> )	—/—/2B.2	<b>Freshwater lakes, ponds</b>	<b><u>None</u>: No suitable pond habitat exists onsite. Nearest occurrence is 0.2 miles W of parcel in Clear Lake.</b>
<b>Few-flowered navarretia</b> ( <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> )	<b>FE/ST/1B.1</b>	<b>Vernal pools, wet meadows</b>	<b><u>Very Low</u>: No suitable vernal pool habitat exists onsite. Nearest known occurrence is 1.3 miles S of the parcel near CA-53.</b>
Franciscan onion ( <i>Allium peninsulare</i> var. <i>franciscanum</i> )	—/—/1B.2	Grassland	<u>Very Low</u> : Some grassland habitat exists onsite.
Freed's jewelflower ( <i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Geysers panicum ( <i>Panicum acuminatum</i> var. <i>thermale</i> )	—/—/1B.2	Riparian, chaparral seeps	<u>Very Low</u> : No suitable riparian habitat exists onsite.
Glandular western flax ( <i>Hesperolinon adenophyllum</i> )	—/—/1B.2	Serpentine chaparral	<u>Very Low</u> : No serpentine chaparral habitat exists onsite.
Grassleaf water plantain ( <i>Alisma gramineum</i> )	—/—/2B.2	Wetland, riparian	<u>Very Low</u> : No suitable wetland habitat exists onsite.
Green jewelflower ( <i>Streptanthus hesperidis</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Greene's narrow-leaved daisy ( <i>Erigeron greenei</i> )	—/—/1B.2	Serpentine grassland	<u>None</u> : No serpentine habitat exists onsite.
<b>Hall's harmonia</b> ( <i>Harmonia hallii</i> )	—/—/1B.2	<b>Serpentine outcrops</b>	<b><u>None</u>: No serpentine outcrop habitat exists onsite. Nearest known occurrence is 1.3 miles S of the parcel near CA-53.</b>
Hoffman's bristly jewelflower ( <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i> )	—/—/1B.3	Serpentine outcrops	<u>None</u> : No suitable serpentine outcrop habitat exists onsite.
Holly-leaved ceanothus ( <i>Ceanothus purpureus</i> )	—/—/1B.2	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.



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Hoover's lomatium ( <i>Lomatium hooveri</i> )	—/—/4.2	Serpentine grassland	<u>Very Low</u> : No serpentine habitat exists onsite.
Indian Valley brodiaea ( <i>Brodiaea rosea</i> )	—/SE/3.1	Serpentine chaparral	<u>Very Low</u> : No serpentine habitat exists onsite.
Jepson's coyote thistle ( <i>Eryngium jepsonii</i> )	—/—/4.2	Wetlands, vernal pools	<u>None</u> : No wetland habitat exists onsite.
Jepson's dodder ( <i>Cuscuta jepsonii</i> )	—/—/1B.2	Coniferous forest, woodland	<u>Low</u> : No suitable forest habitat exists onsite.
Jepson's leptosiphon ( <i>Leptosiphon jepsonii</i> )	—/—/1B.2	Woodland	<u>Very Low</u> : Some woodland habitat exists onsite.
Jepson's milk-vetch ( <i>Astragalus rattanii</i> var. <i>jepsonianus</i> )	—/—/1B.2	Chaparral, serpentine grassland	<u>Low</u> : No suitable serpentine habitat exists onsite.
Keck's checkerbloom ( <i>Sidalcea keckii</i> )	FE/—/1B.1	Serpentine grassland	<u>None</u> : No serpentine grassland habitat exists onsite.
Kenwood marsh checkerbloom ( <i>Sidalcea oregana</i> ssp. <i>valida</i> )	FE/SE/1B.1	Freshwater wetlands	<u>None</u> : No suitable wetland habitat exists onsite.
<b>Konociti manzanita</b> ( <i>Arctostaphylos manzanita</i> ssp. <i>elegans</i> )	—/—/1B.3	<b>Chaparral, foothill woodland</b>	<u>Low</u> : No suitable chaparral habitat exists onsite.
Kruckeberg's jewelflower ( <i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
<b>Lake County stonecrop</b> ( <i>Sedella leiocarpa</i> )	FE/SE/1B.1	<b>Vernal pools</b>	<u>Very Low</u> : No vernal pool habitat exists onsite.
Lake County western flax ( <i>Hesperolinon didymocarpum</i> )	—/SE/1B.2	Serpentine grasslands	<u>None</u> : No suitable serpentine habitat exists onsite.
Lake Pillsbury checkerbloom ( <i>Sidalcea hickmanii</i> ssp. <i>pillsburiensis</i> )	—/—/1B.2	Chaparral	<u>None</u> : No suitable chaparral habitat exists onsite.
Legenere ( <i>Legenere limosa</i> )	—/—/1B.1	Vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
<b>Loch Lomond button-celery</b> ( <i>Eryngium constancei</i> )	FE/SE/1B.1	<b>Vernal pool, freshwater wetland</b>	<u>None</u> : No suitable vernal pool habitat exists onsite.
Many-flowered navarretia ( <i>Navarretia leucocephala</i> ssp. <i>pliantha</i> )	FE/SE/1B.2	Vernal pools	<u>Very Low</u> : No vernal pool habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
<b>Marsh checkerbloom</b> ( <i>Sidalcea oregana</i> ssp. <i>hydrophila</i> )	—/—/1B.2	Forest, riparian	<b>None:</b> No suitable riparian habitat exists onsite.
Mayacamas popcornflower ( <i>Plagiobothrys lithocaryus</i> )	—/—/A1	Foothill woodland, valley grassland	<u>Very Low:</u> Last observed in 1884 near present-day Lakeport.
Milo Baker's lupine ( <i>Lupinus milo-bakeri</i> )	—/ST/1B.1	Foothill woodland, disturbances	<u>Very Low:</u> No suitable woodland habitat exists onsite.
Most beautiful jewelflower ( <i>Streptanthus albidus</i> ssp. <i>peramoenus</i> )	—/—/1B.2	Serpentine outcrops	<u>None:</u> No serpentine outcrop habitat exists onsite.
Morrison's jewelflower ( <i>Streptanthus morrisonii</i> ssp. <i>morrisonii</i> )	—/—/1B.2	Serpentine outcrops	<u>None:</u> No serpentine outcrop habitat exists onsite.
Mt. St. Helena morning-glory ( <i>Calystegia collina</i> ssp. <i>oxyphylla</i> )	—/—/4.2	Serpentine chaparral	<u>None:</u> No serpentine habitat exists onsite.
Napa bluecurls ( <i>Trichostema ruygtii</i> )	—/—/1B.2	Chaparral, grassland	<u>Low:</u> Some grassland habitat exists onsite.
Napa checkerbloom ( <i>Sidalcea hickmanii</i> ssp. <i>napensis</i> )	—/—/1B.1	Chaparral, rock outcrops	<u>Very Low:</u> No chaparral habitat exists onsite.
Napa false indigo ( <i>Amorpha californica</i> var. <i>napensis</i> )	—/—/1B.2	Forest, woodland	<u>Very Low:</u> No woodland habitat exists onsite.
Narrow-anthered brodiaea ( <i>Brodiaea leptandra</i> )	—/—/1B.2	Foothill woodland, grassland	<u>Very Low:</u> Some grassland habitat exists onsite.
North Coast semaphore grass ( <i>Pleuropogon hooverianus</i> )	—/ST/1B.1	Vernal pools, wet meadows	<u>None:</u> No suitable wet meadow habitat exists onsite.
Northern California black walnut ( <i>Juglans hindsii</i> )	—/—/1B.1	Riparian	<u>Low:</u> No suitable riparian habitat exists onsite.
Northern meadow sedge ( <i>Carex praticola</i> )	—/—/2B.2	Freshwater wetlands	<u>None:</u> No suitable wetland habitat exists onsite.
Nuttall's ribbon-leaved pondweed ( <i>Potamogeton epihydrus</i> )	—/—/2B.2	Ponds and lakes	<u>None:</u> No suitable pond habitat exists onsite.
Oregon polemonium ( <i>Polemonium carneum</i> )	—/—/2B.2	Coastal scrub, yellow pine forest	<u>None:</u> No suitable habitat exists onsite.
<b>Oval-leaved viburnum</b> ( <i>Viburnum ellipticum</i> )	—/—/2B.3	Chaparral	<b>Very Low:</b> No suitable chaparral habitat exists onsite.

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Pappose tarplant ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	—/—/1B.2	Grassland, wetland	<u>Medium</u> : Some grassland habitat exists onsite.
Pennell's bird's beak ( <i>Cordylanthus tenuis</i> ssp. <i>capillaris</i> )	FE/SR/1B.2	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.
Peruvian dodder ( <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> )	—/—/1B.2	Grassland, chaparral; parasitic plant	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Pink creamsacs ( <i>Castilleja rubicundula</i> var. <i>rubicundula</i> )	—/—/1B.2	Grasslands	<u>Low</u> : Some grassland habitat exists onsite.
Porter's navarretia ( <i>Navarretia paradoxinota</i> )	—/—/1B.3	Grasslands, wetlands	<u>Low</u> : Some grassland habitat exists onsite.
Purdy's fritillaria ( <i>Fritillaria purdyi</i> )	—/—/4.3	Yellow pine forest, chaparral	<u>Very Low</u> : No chaparral habitat exists onsite.
Raiche's manzanita ( <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i> )	—/—/1B.1	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.
Rincon Ridge ceanothus ( <i>Ceanothus confusus</i> )	—/—/1B.1	Chaparral, foothill grassland	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Rincon Ridge manzanita ( <i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> )	—/—/1B.1	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Round-leaved filaree ( <i>California macrophylla</i> )	—/—/1B.2	Foothill grassland	<u>Low</u> : Some grassland habitat exists onsite.
Saline clover ( <i>Trifolium hydrophilum</i> )	—/—/1B.2	Wetland, riparian	<u>None</u> : No suitable wetland habitat exists onsite.
San Joaquin spearscale ( <i>Extriplex joaquinana</i> )	—/—/1B.2	Shadscale scrub, valley grassland	<u>None</u> : No alkalai scrub habitat exists.
Santa Rosa horkelia ( <i>Horkelia tenuiloba</i> )	—/—/1B.2	Chaparral	<u>Low</u> : No suitable chaparral habitat exists onsite.
Sebastopol meadowfoam ( <i>Limnanthes vinculans</i> )	FE/SE/1B.1	Freshwater wetland, vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
Serpentine cryptantha ( <i>Cryptantha dissita</i> )	—/—/1B.2	Serpentine chaparral	<u>Very Low</u> : No serpentine habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Serpentine daisy ( <i>Erigeron serpentinus</i> )	—/—/1B.3	Serpentine chaparral	<u>None</u> : No serpentine chaparral habitat exists onsite.
Sharsmith's western flax ( <i>Hesperolinon sharsmithiae</i> )	—/—/1B.2	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Shining navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>radians</i> )	—/—/1B.2	Vernal pools	<u>Very Low</u> : No suitable vernal pool habitat exists onsite.
Slender Orcutt grass ( <i>Orcuttia tenuis</i> )	FT/SE/1B.1	Grassland, freshwater wetlands	<u>Very Low</u> : No suitable wet meadow habitat exists onsite.
Small-flowered calycadenia ( <i>Calycadenia micrantha</i> )	—/—/1B.2	Foothill woodland	<u>Low</u> : Some suitable woodland habitat exists onsite.
Small groundcone ( <i>Kopsiopsis hookeri</i> )	—/—/2B.3	Redwood forest	<u>None</u> : No suitable forest habitat exists onsite.
Small pincushion navarretia ( <i>Navarretia myersii</i> ssp. <i>deminuta</i> )	—/—/1B.1	Wetlands	<u>Very Low</u> : No suitable wetland habitat exists onsite.
Snow Mountain buckwheat ( <i>Eriogonum nervulosum</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Socrates Mine jewelflower ( <i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine habitat exists onsite.
Sonoma beardtongue ( <i>Penstemon newberryi</i> var. <i>sonomensis</i> )	—/—/1B.3	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Sonoma ceanothus ( <i>Ceanothus sonomensis</i> )	—/—/1B.2	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Thin-lobed horkelia ( <i>Horkelia tenuiloba</i> )	—/—/1B.2	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Three-fingered morning glory ( <i>Calystegia collina</i> ssp. <i>tridactylosa</i> )	—/—/1B.2	Serpentine grassland	<u>Very Low</u> : No serpentine habitat exists onsite.
Three Peaks jewelflower ( <i>Streptanthus morrisonii</i> ssp. <i>elatus</i> )	—/—/1B.2	Serpentine outcrops	<u>None</u> : No serpentine outcrop habitat exists onsite.
Tracy's eriastrum ( <i>Eriastrum tracyi</i> )	—/SR/3.2	Chaparral, woodland	<u>Low</u> : No suitable chaparral habitat exists onsite.
Two-carpellate Western flax ( <i>Hesperolinon bicarpellatum</i> )	—/—/1B.2	Serpentine chaparral	<u>Very Low</u> : No suitable serpentine chaparral habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Vine Hill ceanothus ( <i>Ceanothus foliosus</i> var. <i>vineatus</i> )	—/—/1B.1	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Vine Hill manzanita ( <i>Arctostaphylos densiflora</i> )	—/SE/1B.1	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
<b>Watershield</b> ( <i>Brasenia schreberi</i> )	—/—/2B.3	<b>Pond, wetland</b>	<u>Very Low</u> : No suitable pond habitat exists in the project area.
White beaked-rush ( <i>Rhynchospora alba</i> )	—/—/2B.2	Wetlands, freshwater marsh	<u>None</u> : No suitable wetland habitat exists onsite.
White-flowered rein orchid ( <i>Piperia candida</i> )	—/—/1B.2	Yellow pine forest	<u>None</u> : No suitable forest habitat exists onsite.
Wolly meadowfoam ( <i>Limnanthes floccosa</i> ssp. <i>floccosa</i> )	—/—/4.2	Vernal pools	<u>None</u> : No vernal pool habitat exists onsite.
<b>MOSESSES, LICHENS &amp; LIVERWORTS</b>			
Angel's hair lichen ( <i>Ramalina thrausta</i> )	—/—/2B.1	Old growth conifer and hardwood forests	<u>None</u> : No suitable forest habitat exists onsite.
Coastal triquetrella ( <i>Triquetrella californica</i> )	—/—/1B.2	Forest, woodland	<u>Very Low</u> : Some woodland habitat exists onsite.
Elongate copper moss ( <i>Mielichhoferia elongata</i> )	—/—/4.3	Rocky substrates, riparian	<u>Very Low</u> : No riparian habitat exists onsite.
Methuselah's beard lichen ( <i>Dolichousnea longissima</i> )	—/—/4.2	Old growth conifer and hardwood forests	<u>None</u> : No suitable forest habitat exists onsite.
Slender silver moss ( <i>Anomobryum julaceum</i> )	—/—/4.2	Rocky substrates in forests, riparian	<u>Very Low</u> : No suitable riparian habitat exists onsite.
Torren's grimmia ( <i>Grimmia torenii</i> )	—/—/1B.3	Forest, woodland	<u>Very Low</u> : No woodland habitat exists onsite.
<b>FISH</b>			
Chinook Salmon Coastal California DPS ( <i>Oncorhynchus kisutch</i> )	FT/SE/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Clear Lake Drainage Resident Rainbow trout ( <i>Oncorhynchus mykiss</i> )	FE/SE/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable habitat exists in the project area.
<b>Clear Lake hitch</b> ( <i>Lavinia exilicauda chi</i> )	FE/SE/—	<b>Freshwater lakes and streams</b>	<u>None</u> : No suitable habitat exists in the project area. Nearest known occurrence is 0.2 miles W of the parcel in Clear Lake.
<b>Clear Lake tulle perch</b> ( <i>Hysterothorax traskii lagunae</i> )	—/SSC/—	<b>Freshwater lakes and streams</b>	<u>None</u> : No suitable habitat exists in the project area. Nearest known occurrence is 0.2 miles W of the parcel in Clear Lake.
Coho Salmon Central California Coast ESU ( <i>Oncorhynchus kisutch</i> )	FE/SE/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
<b>Sacramento perch</b> ( <i>Archoplites interruptus</i> )	—/SSC/—	<b>Low gradient sloughs and lakes</b>	<u>None</u> : No suitable habitat exists in the project area. Nearest known occurrence is 0.2 miles W of the parcel in Clear Lake.
Sacramento splittail ( <i>Pogonichthys macrolepidotus</i> )	—/SSC/—	Low gradient freshwater streams	<u>None</u> : No suitable streams exist onsite.
Steelhead Central California Coast DPS ( <i>Oncorhynchus mykiss irideus</i> )	FT/—/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
Steelhead Northern California DPS ( <i>Oncorhynchus mykiss irideus</i> )	FT/—/—	Freshwater streams, open ocean and estuaries	<u>None</u> : No suitable streams exist onsite.
<b>AMPHIBIANS &amp; REPTILES</b>			
California giant salamander ( <i>Dicamptodon ensatus</i> )	—/SSC/—	Wetlands and riparian areas	<u>None</u> : No suitable wetland habitat exists onsite.
<b>Foothill yellow-legged frog</b> ( <i>Rana boylei</i> )	—/SSC/—	<b>Wetlands, riparian, streams and ponds</b>	<u>Very Low</u> : No suitable breeding habitat onsite. Some very poor quality estivation habitat onsite. Nearest known occurrence is 1.7 miles S of the parcel in Cache Creek.
<b>Red bellied newt</b> ( <i>Taricha rivularis</i> )	—/SSC/—	<b>Woodland streams, riparian corridors</b>	<u>Very Low</u> : No suitable stream habitat exists onsite.
Western pond turtle ( <i>Emys marmorata</i> )	—/SSC/—	Slow-moving creeks, streams, ponds, rivers, ditches.	<u>None</u> : No suitable pond habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
INVERTEBRATES			
Behren's silverspot butterfly ( <i>Speyeria zerene behrensii</i> )	FE/SSC/—	Coastal prairie	<u>None</u> : Requires blue violet to reproduce; none onsite.
Blennosperma vernal pool andrenid bee ( <i>Andrena blennospermatis</i> )	—/SSC/—	Upland areas near vernal pools	<u>None</u> : No suitable vernal pool habitat exists onsite.
<b>Borax Lake cuckoo wasp</b> ( <i>Hedychridium milleri</i> )	—/SSC/—	<b>Lakes and streams</b>	<u>None</u> : No suitable lake or stream habitat exists onsite.
<b>Brownish dubiraphian riffle beetle</b> ( <i>Dubiraphia brunnescens</i> )	—/SSC/—	<b>Freshwater lakes and streams</b>	<u>None</u> : No suitable stream habitat exists onsite. Nearest known occurrence is 0.2 miles W of the parcel in Clear Lake.
California brackishwater snail ( <i>Tryonia imitator</i> )	—/SSC/—	Brackish wetlands	<u>None</u> : No suitable wetland habitat exists onsite.
California floater ( <i>Anodonta californiensis</i> )	—/SSC/—	Freshwater ponds, streams	<u>None</u> : No suitable stream habitat exists onsite.
California freshwater shrimp ( <i>Syncaris pacifica</i> )	FE/SE/—	Freshwater ponds	<u>None</u> : No suitable pond habitat exists onsite.
California linderiella ( <i>Linderiella occidentalis</i> )	—/SSC/—	Vernal pools	<u>None</u> : No vernal pool habitat exists onsite.
Clear Lake pyrg ( <i>Pyrgulopsis ventricosa</i> )	—/SSC/—	Freshwater streams	<u>None</u> : No suitable stream habitat exists onsite.
Crotch bumble bee ( <i>Bombus crotchii</i> )	—/SSC/—	Grassland, chaparral	<u>Medium</u> : Some grassland habitat exists onsite.
Leech's skyline diving beetle ( <i>Hydroporus leechi</i> )	—/SSC/—	Freshwater ponds	<u>None</u> : No suitable pond habitat exists onsite.
Myrtle silverspot butterfly ( <i>Speyeria zerene myrtleae</i> )	FE/SSC/—	Coastal prairie, chaparral	<u>None</u> : Requires western dog violet for reproduction; none onsite.
Monarch butterfly California overwintering Population #1 ( <i>Danaus plexippus</i> )	—/SSC/—	Large trees required for roosting.	<u>Low</u> : Some suitable trees for roosting onsite.
Obscure bumble bee ( <i>Bombus caliginosus</i> )	—/SSC/—	Grassland, foothill woodland, chaparral	<u>Medium</u> : Some grassland habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Opler's longhorn moth ( <i>Adela oplerella</i> )	—/SSC/—	Usually associated with <i>Platystemon</i> (creamcups)	<u>None</u> : No suitable host plants onsite.
Oregon floater ( <i>Anodonta oregonensis</i> )	—/SSC/—	Large freshwater streams	<u>None</u> : No suitable stream habitat exists onsite.
Ricksecker's water scavenger beetle ( <i>Hydrochara rickseckeri</i> )	—/SSC/—	Freshwater lakes and ponds	<u>None</u> : No suitable pond habitat exists onsite.
Serpentine cypress wood-boring beetle ( <i>Trachykele hartmani</i> )	—/SSC/—	Requires cypress trees in serpentine outcrops	<u>None</u> : No suitable host plants known from the project site.
Sonoma zerene fritillary ( <i>Speyeria zerene sonomensis</i> )	—/SSC/—	Grasslands and meadows with <i>Viola</i> plants	<u>None</u> : Requires <i>Viola</i> for reproduction; none onsite.
Unnamed isopod ( <i>Calasellus californicus</i> )	—/SSC/—	Freshwater wetlands	<u>None</u> : No suitable wetland habitat exists onsite.
Western bumblebee ( <i>Bombus occidentalis</i> )	—/SSC/—	Grassland	<u>Medium</u> : Some grassland habitat exists onsite.
<b>Western ridged mussel (<i>Gonidea angulata</i>)</b>	—/SSC/—	<b>Freshwater creeks and streams</b>	<u>None</u> : No suitable stream habitat exists onsite. Nearest known occurrence is 0.2 miles W of the parcel in Clear Lake.
Wilbur Springs minute moss beetle ( <i>Ochthebius recticulus</i> )	—/SSC/—	Shorelines of hot springs	<u>None</u> : No suitable hot spring habitat exists onsite.
Wilbur Springs shorebug ( <i>Saldula usingeri</i> )	—/SSC/—	Ponds	<u>None</u> : No suitable pond habitat exists onsite.
Wilbur Springs shore fly ( <i>Paracoenia calida</i> )	—/SSC/—	Hot sulphur springs	<u>None</u> : No suitable hot spring habitat exists onsite.
<b>BIRDS</b>			
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	—/SSC/—	Forages in open grasslands, nests in trees	<u>Low</u> : Some suitable nesting and foraging habitat exists.
Bank swallow ( <i>Riparia riparia</i> )	FE/SE/—	Typically found near lakes and streams	<u>None</u> : No suitable stream habitat exists onsite.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	—/SSC/—	Forages over open lakes and streams	<u>Very Low</u> : No suitable foraging or nesting habitat exists onsite.



Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Bell's sage sparrow ( <i>Artemisiospiza belli belli</i> )	—/SSC/—	Chaparral	<u>Very Low</u> : No suitable chaparral habitat exists onsite.
Black swift ( <i>Cypseloides niger</i> )	—/SSC/—	Cliff faces near water	<u>None</u> : No suitable stream habitat exists onsite.
Burrowing owl ( <i>Athene cunicularia</i> )	—/SSC/—	Grasslands with ground squirrel burrows	<u>Low</u> : No suitable grassland habitat exists onsite due to lack of ground squirrel or other burrows.
California black rail ( <i>Laterallus jamaicensis coturniculus</i> )	FE/SE/—	Coastal salt marshes and mudflats	<u>None</u> : No suitable salt marsh habitat exists onsite.
California horned lark ( <i>Eremophila alpestris actia</i> )	—/SSC/—	Herbaceous vegetation, chaparral	<u>Low</u> : Some suitable foraging and nesting habitat exists onsite.
Cooper's hawk ( <i>Accipiter cooperii</i> )	—/WL/—	Forages over open grassland	<u>Low</u> : No suitable nesting habitat exists onsite.
Double-crested cormorant ( <i>Phalacrocorax auritus</i> )	—/SSC/—	Forages in open water. Nests in trees and cliffs.	<u>None</u> : No suitable foraging or nesting habitat exists onsite.
Ferruginous hawk ( <i>Buteo regalis</i> )	—/SSC/—	Forages over open grassland. Nests in old-growth trees	<u>Low</u> : Some suitable foraging habitat exists onsite. No suitable nesting habitat.
<b>Golden eagle</b> ( <i>Aquila chrysaetos</i> )	—/SSC/—	<b>Forages over open grassland. Nests in old-growth trees</b>	<b><u>Low</u>: Some suitable foraging habitat. No suitable nesting habitat.</b>
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	—/SSC/—	Forages over open grassland	<u>Low</u> : Some suitable foraging and nesting habitat exists onsite.
Great blue heron ( <i>Ardea herodias</i> )	—/SSC/—	Nests in trees, forages in wetlands and grasslands	<u>None</u> : No suitable foraging or nesting habitat exists onsite.
Great egret ( <i>Ardea alba</i> )	—/SSC/—	Nests in trees, forages in wetlands and grasslands	<u>None</u> : No suitable foraging or nesting habitat exists onsite.
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	FT/SE/—	Old growth coniferous forest	<u>None</u> : No suitable old-growth forest habitat exists onsite.
Northern goshawk ( <i>Accipiter gentilis</i> )	—/SSC/—	Coniferous forest	<u>None</u> : No suitable forest habitat exists onsite.
Northern spotted owl ( <i>Strix occidentalis</i> )	FT/ST/—	Nests primarily in old growth forests	<u>None</u> : No suitable nesting or foraging habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
<b>Osprey</b> ( <i>Pandion haliaetus</i> )	—/WL/—	Areas with fish	<b>Very Low:</b> No suitable foraging habitat onsite. Some poor quality nesting habitat onsite.
Prairie falcon ( <i>Falco mexicanus</i> )	—/SSC/—	Forages over grasslands	<u>Low:</u> No suitable nesting habitat exists onsite. Some marginal foraging habitat.
Purple martin ( <i>Progne subis</i> )	FE/SE/—	Insectivorous, nests in cavities	<u>Low:</u> No suitable nesting habitat onsite. Some marginal foraging habitat onsite.
Sharp-shinned hawk ( <i>Accipiter striatus</i> )	—/SSC/—	Forest and woodland	<u>Very Low:</u> No suitable nesting habitat exists onsite.
Tricolored blackbird ( <i>Agelaius tricolor</i> )	—/SSC/—	Forages in grasslands and nests in freshwater marshes	<u>Low:</u> No suitable nesting habitat exists onsite. Some suitable foraging habitat.
<b>Western yellow-billed cuckoo</b> ( <i>Coccyzus americanus occidentalis</i> )	—/SE/—	<b>Woodland, riparian</b>	<b><u>Low:</u> No suitable nesting habitat exists onsite. Nearest known occurrence is 0.8 miles NW of the parcel near Clear Lake.</b>
White-tailed kite ( <i>Elanus leucurus</i> )	—/CFP/—	Prefers to nest in marshes next to deciduous forests.	<u>Low:</u> No suitable nesting habitat exists onsite.
Yellow breasted chat ( <i>Icteria virens</i> )	—/SSC/—	Dense shrubby growth, grasslands	<u>Low:</u> Some suitable grassland habitat exists onsite.
Yellow rail ( <i>Coturnicops noveboracensis</i> )	—/SSC/—	Breeds in marshes, forages in wet meadows	<u>None:</u> No suitable marsh habitat exists onsite.
Yellow warbler ( <i>Coturnicops noveboracensis</i> )	—/SSC/—	Riparian, shrubland, farmland	<u>Low:</u> No suitable scrub habitat exists onsite.
<b>MAMMALS</b>			
American badger ( <i>Taxidea taxus</i> )	—/SSC/—	Open grassland habitats with plenty of prey	<u>Low:</u> Some suitable den habitat exists onsite.
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	—/SSC/—	Forages over open areas, roosts in trees or caves	<u>Low:</u> Some suitable foraging habitat. Few suitable roosts in project area.
Fisher ( <i>Pekania pennanti</i> )	—/SSC/—	Forages and breeds primarily in forests	<u>Very Low:</u> No suitable forest habitat exists onsite.
Fringed myotis ( <i>Myotis thysanodes</i> )	—/SSC/—	Roosts in caves or buildings and forages in open habitats	<u>Very Low:</u> Some suitable foraging habitat. Few suitable roosts in project area.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Hoary bat ( <i>Lasiurus cinereus</i> )	—/SSC/—	Forages over open areas, roosts in trees or caves at high altitude	<u>Very Low</u> : Few suitable roosts in the project area. Primarily forages at high altitude.
Humboldt marten ( <i>Martes caurina humboldtensis</i> )	—/SSC/—	Forages and breeds in forests, typically near streams	<u>Very Low</u> : Some suitable den and foraging habitat exists onsite.
Long-eared myotis ( <i>Myotis evotis</i> )	—/SSC/—	Roosts in caves or buildings and forages in open habitats	<u>Low</u> : Some suitable foraging habitat. Few suitable roosts in project area.
Long-legged myotis ( <i>Myotis volans</i> )	—/SSC/—	Roosts in caves or buildings and forages in open habitats	<u>Very Low</u> : Some foraging habitat. Few suitable roosts in project area.
North American porcupine ( <i>Erethizon dorsatum</i> )	—/SSC/—	Require rocky areas or trees for dens, abundant open space for foraging	<u>Very Low</u> : Some suitable foraging and den habitat exists onsite.
<b>Pallid bat</b> ( <i>Antrozous pallidus</i> )	—/SSC/—	<b>Common in open dry habitats with rocky areas for roosting</b>	<u>Low</u> : <b>Some foraging habitat exists. Few suitable roosts in the project area.</b>
Silver haired bat ( <i>Lasionycteris noctivagans</i> )	—/SSC/—	Nocturnal, migratory, solitary, roosts in tree cavities	<u>Low</u> : Some suitable trees exist for roosting. Some foraging habitat exists.
Sonoma tree vole ( <i>Arborimus pomo</i> )	—/SSC/—	Old growth Douglas fir canopies	<u>None</u> : No suitable forest habitat exists onsite.
<b>Townsend's big-eared bat</b> ( <i>Corynorhinus townsendii</i> )	—/SSC/—	<b>Hibernate in mines or caves, roost in man made structures and caves</b>	<u>Low</u> : <b>No man-made structures exist suitable for roosting. Some habitat for foraging.</b>
Western red bat ( <i>Lasiurus blossevillii</i> )	—/SSC/—	Forages over open areas, roosts in trees or caves	<u>Very Low</u> : Little suitable roosting habitat. Some suitable foraging habitat.
Yuma myotis ( <i>Myotis yumanensis</i> )	—/SSC/—	Forages over open areas, roosts in trees or caves	<u>Very Low</u> : No suitable nesting habitat exists onsite. Some suitable foraging habitat exists onsite.
<b>HABITATS</b>			
Coastal & Valley Freshwater Marsh (CVFM)	—	—	<u>None</u> : No marsh habitat exists onsite.

Taxon	Status <sup>1</sup> Fed/State/CNPS	Habitat	Potential to Occur Within the Project Area
Northern Basalt Flow Vernal Pool (NBFVP)	—	—	<u>None</u> : No basalt flow vernal pool habitat exists onsite.
Northern Hardpan Vernal Pool (NHVP)	—	—	<u>None</u> : No hardpan vernal pool habitat exists onsite.
Northern Vernal Pool (NVP)	—	—	<u>None</u> : No vernal pool habitat exists onsite.
Sycamore Alluvial Woodland (SAW)	—	—	<u>None</u> : No woodland habitat exists onsite.
Valley Needlegrass Grassland (VNG)	—	—	<u>Low</u> : Some grassland habitat exists onsite.
Valley Oak Woodland (VOW)	—	—	<u>None</u> : No valley oaks exist onsite.
Valley Sink Scrub (VSS)	—	—	<u>None</u> : No sink habitat exists onsite.

<sup>1</sup> Status:

Federal

FE = Federally Endangered Species

FT = Federally Threatened Species

State

SE = State Endangered Species

ST = State Threatened Species

SSC = California Species of Special Concern

CFP = California Fully Protected Species

CNPS (applies to plants only)

List 1B = plants considered rare, threatened, or endangered in California and elsewhere

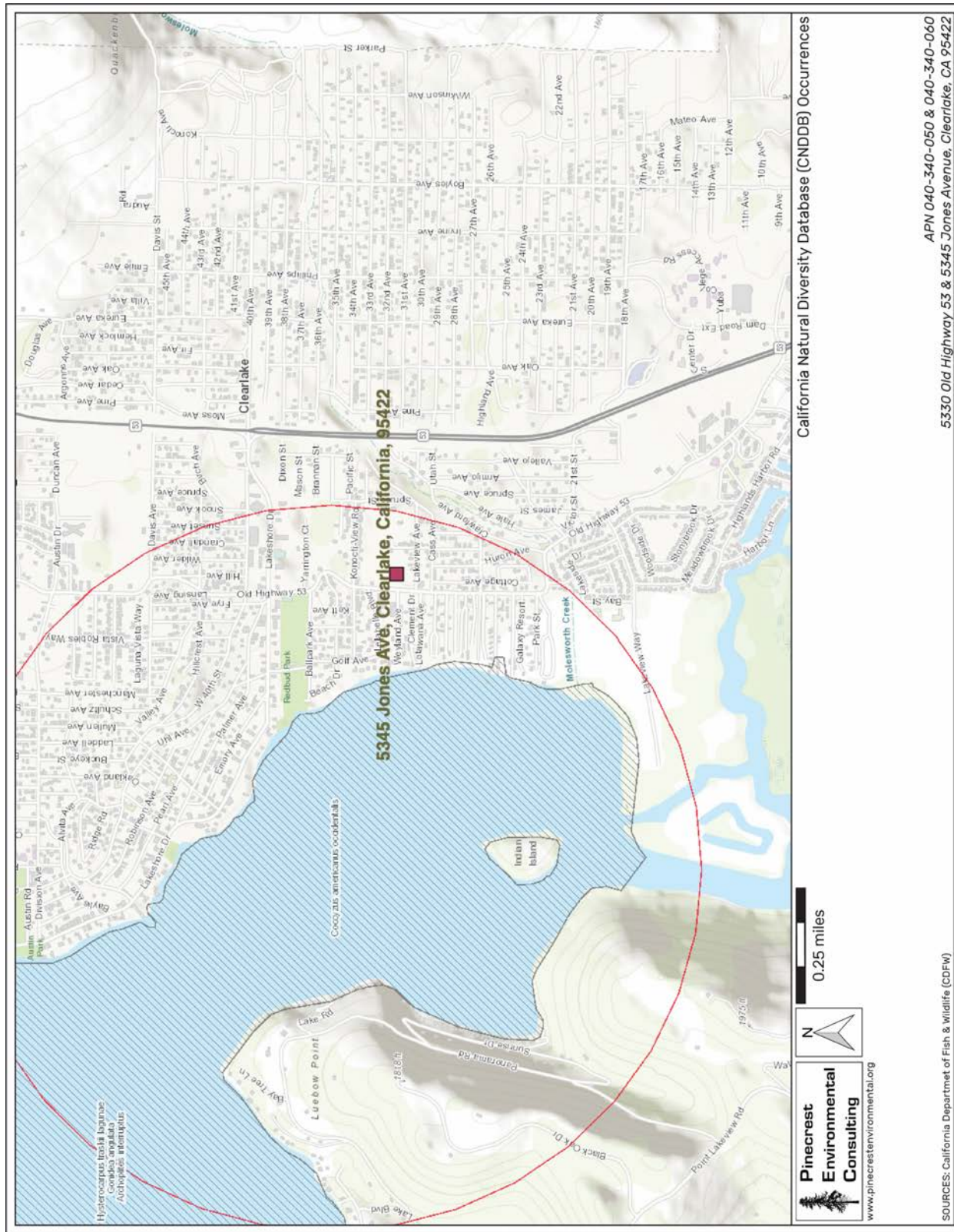
List 2B = plants rare, threatened or endangered in California, but more common elsewhere

List 3 = plant is likely rare but more information is required

List 4 = plants of limited distribution

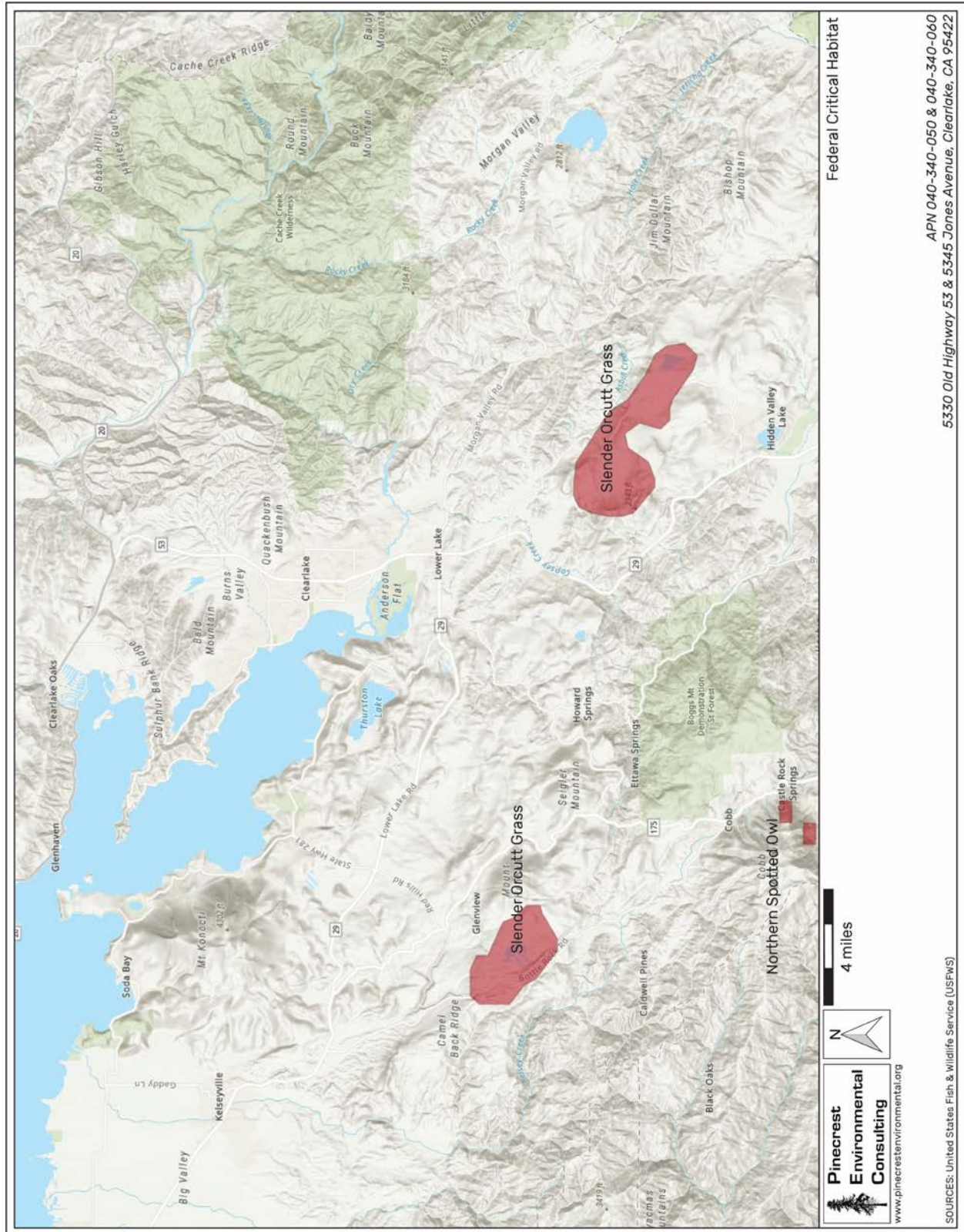
<sup>2</sup> USFWS

## APPENDIX B: CNDDDB OCCURRENCES MAP





## APPENDIX D: REGIONAL CRITICAL HABITAT MAP



APN 040-340-050 & 040-340-060  
5330 Old Highway 53 & 5345 Jones Avenue, Clearlake, CA 95422

Federal Critical Habitat



4 miles



SOURCES: United States Fish & Wildlife Service (USFWS)

## APPENDIX E: STREAM CLASSIFICATION CRITERIA

The following stream classification criteria were copied from the California Department of Forestry & Fire Protection *Forest Practice Rules* (CALFIRE 2017) and is widely used by many state and local agencies. Most state and local jurisdictions require setbacks of 50, 100, and 150 feet from Class III, II, and I streams, respectively, although greater setbacks may be required in some jurisdictions.

**Watercourse** – a natural or artificial channel through which water flows.

- Perennial watercourse (Class I\*):
  1. In the absence of diversions, water is flowing for more than nine months during a typical year,
  2. Fish always or seasonally present onsite or includes habitat to sustain fish migration and spawning, and/or
  3. Spring: an area where there is concentrated discharge of ground water that flows at the ground surface. A spring may flow any part of the year. For the purpose of this Policy, a spring does not have a defined bed and banks.
- Intermittent watercourse (Class II\*):
  1. In the absence of diversions, water is flowing for three to nine months during a typical year,
  2. Provides aquatic habitat for non-fish aquatic species,
  3. Fish always or seasonally present within 1,000 feet downstream, and/or
  4. Water is flowing less than three months during a typical year and the stream supports riparian vegetation.
- Ephemeral watercourse (Class III\*): In the absence of diversion, water is flowing less than three months during a typical year and the stream does not support riparian vegetation or aquatic life. Ephemeral watercourses typically have water flowing for a short duration after precipitation events or snowmelt and show evidence of being capable of sediment transport.
- Other watercourses (Class IV\*): Class IV watercourses do not support native aquatic species and are man-made, provide established domestic, agricultural, hydroelectric supply, or other beneficial use.

\*Except where more restrictive, stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).