

UP 19-05, IS 19-09, Attachment 3, Biological Review

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**BIOLOGICAL RESOURCE ASSESSMENT  
WITH BOTANICAL SURVEY  
and DELINEATION OF WATERS OF THE U.S.  
for the  
SCOTTS VALLEY BAND OF POMO INDIANS  
APN 009-021-07  
LAKE COUNTY, CALIFORNIA**

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**July 1, 2019**

**Prepared by  
Northwest Biosurvey**



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## 1.0 PROJECT DESCRIPTION

**1.1 Proposed Project:** This biological resource assessment and survey covers a parcel of approximately 34.6 acres which is proposed for additional development, including a solar project. The site lies approximately 6 miles southeast of Kelseyville, California.

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 taxa<sup>1</sup>. 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".

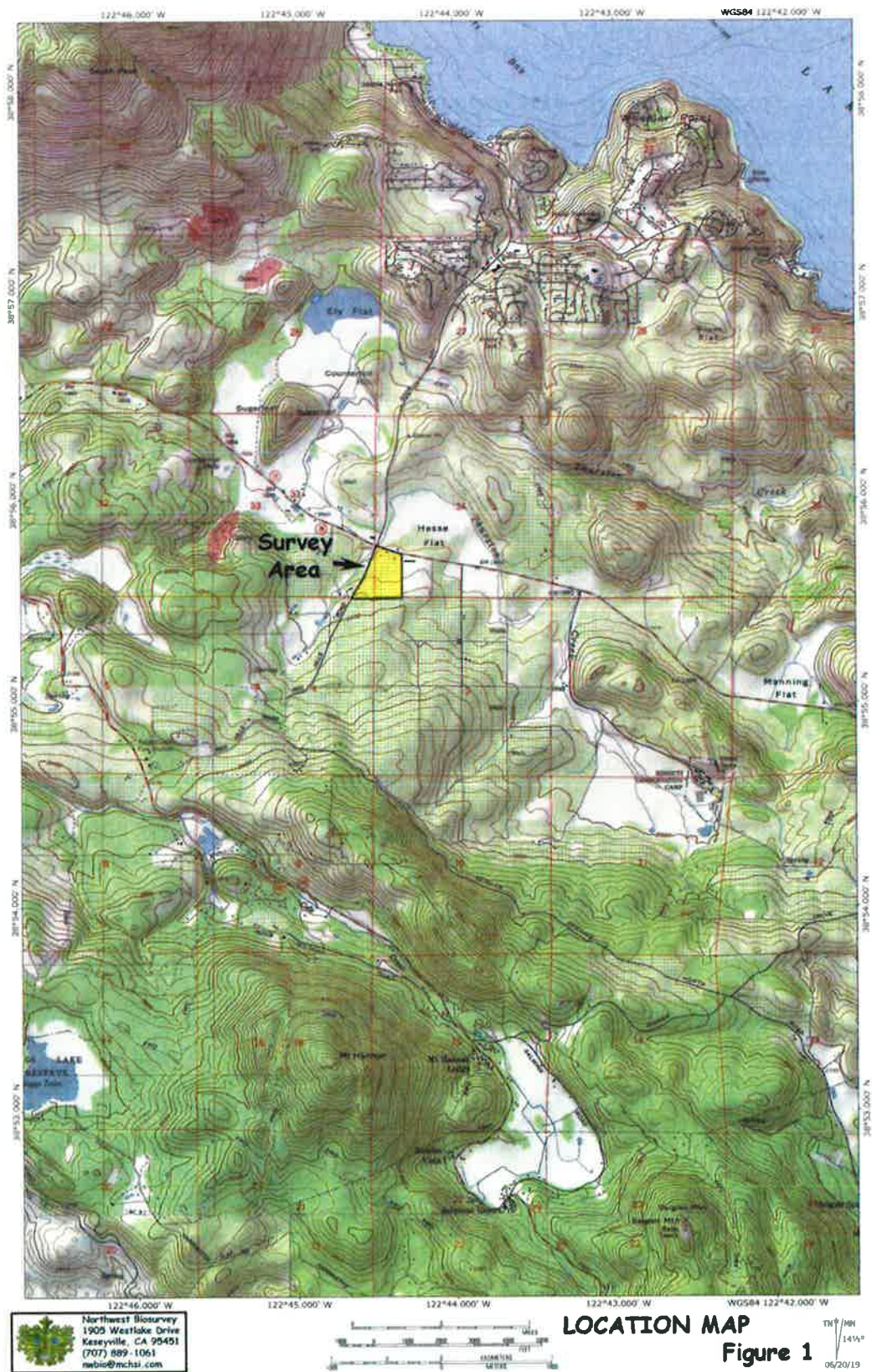
A delineation of waters of the U.S. was conducted as part of the assessment. Due to the fact that delineations are prepared with a standard format for U.S. Army Corps of Engineers review, the delineation is provided in its own section (Appendix C).

**1.2 Location:** The project site is located at 7130 Red Hills Road, Clearlake Highlands, California, 95451 (APN 009-021-07; T13N R8W Sec. 34, Clearlake Highlands, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.

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<sup>1</sup> Many sensitive plants and wildlife are subspecies or varieties which are taxonomic subcategories of species. The term "taxa" refers to species and their sub-specific categories.





## 2.0 ASSESSMENT METHODOLOGY

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

The analysis includes the following site characteristics:

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

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

- California Department of Fish and Wildlife (CDFW), *California Natural Diversity Database (CNDDDB)*; RareFind 5, 2019
- California Native Plant Society's (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (2019 edition)
- 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.

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

**2.1 Botanical Survey Methods:** A full, in-season floristic-level survey was conducted for the project site. The CNDDDB report and maps for the Clearlake Highlands quadrangle were referenced prior to the survey. Vegetation communities were identified based on the nomenclature of *A Manual of California Vegetation* (Sawyer et al. 2009) as modified by the California Native Plant Society (CNPS) and mapped on a 1"=85' aerial photo. Vegetation community names are based on an assessment of dominant cover species.

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

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

**2.3 Survey Dates:** Site visits for in-season floristic surveys, mapping, and the delineation were made on April 10 and June 28, 2019.

**2.4 Biological Assessment Staff:** The assessment, botanical field surveys, plant taxonomy, and the delineation were conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky has over 30 years of experience as a biologist in the government and private sectors. He completed his wetland delineation training under Terry Huffman of Huffman & Associates, Inc.

Field surveys, GIS mapping, additional database review, and final report preparation were conducted by Leigh Zalusky. Leigh Zalusky has a Bachelor of Science Degree in Computer Engineering from the University of California, Davis. He has developed extensive skills in plant taxonomy and ecology while managing and assisting in the development of the Seigler Valley Wetland Mitigation Bank and while assisting



Northwest Biosurvey staff in field surveys and vegetation mapping over the past four years.

Database review, pre-survey research, and report preparation were conducted by Danielle Zalusky. Ms. Zalusky has 15 years of experience as a planner in local government and the private sector and 16 years as a field biologist. She has a Bachelor of Arts Degree all course work toward an M.A. Degree in Rural and Town Planning from Chico State University. Prior to joining Northwest Biosurvey in 2002, Ms. Zalusky was a senior planner for the Lake County Community Development Department.

### **3.0 SITE CHARACTERISTICS**

**3.1 Topography and Drainage:** The site is located along the Highway 29 corridor in narrow valley terrain between the northeastern toe of the Mayacamas Mountains and the southern slope of Mount Konocti. This corridor consists of a series of isolated flats and small basins either drained internally or connected to Thurston Creek, which drains to the isolated basin of Thurston Lake. This property is drained along its eastern edge by an excavated ditch which flows north to State Highway 29 and then east to an unnamed tributary to Thurston Creek. The property drops approximately 80 feet in elevation from north to south into Hess Flat at an elevation of 1,880 feet msl (mean sea level).

**3.2 Soils:** The survey area contains a single soil type, which is weathered from obsidian formations and is described as follows:

▪ **Glenview-Arrowhead complex, 5-15% slopes (soil unit 138):**

This unit is on volcanic hills. Native vegetation is mainly brush with scattered conifers. The unit contains about 60% Glenview very gravelly loam and 20% Arrowhead extremely gravelly sandy loam. The Glenview soil is very deep and well drained. It formed in material weathered from obsidian. Permeability is moderately slow and runoff is medium. The Arrowhead soil is moderately deep and well drained, and formed in material weathered from obsidian. Permeability is slow and runoff is medium. The hazard of erosion is moderate for both soils.

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

**TABLE 1. AREAS OF VEGETATION TYPES**

VEGETATION TYPE	ACRES	PERCENT OF TOTAL
Interior Live Oak Woodland	1.55	4.48
Mixed Chaparral	1.48	4.28
Walnut Orchard	29.80	86.18
Ruderal	1.75	5.06
<b>Total</b>	<b>34.58</b>	<b>100.0%</b>

▪ **Interior Live Oak:**

This community consists of a remnant stand of interior live oak woodland along an ephemeral drainage on the eastern edge of the property. It is heavily dominated by interior live oak trees (*Quercus wislizeni* var. *wislizeni*) to a height of 50 feet. Due to its narrow width, sufficient sunlight penetrates this community to support a dense shrub layer. This consists of both common and Stanford manzanita (*Arctostaphylos manzanita* ssp. *manzanita*; *A. stanfordiana* ssp. *stanfordiana*) with sub-dominant contributions from scrub oak shrubs (*Quercus berberidifolia*) and birch-leaf mountain mahogany (*Cercocarpus betuloides* var. *betuloides*) in the more open areas. The ground cover is primarily leaf litter with low growing poison oak (*Toxicodendron diversilobum*).

▪ **Mixed Chaparral:**

This dense shrub community occupies the southeastern corner of the property. While much of it remains intact along the southern property boundary, the shrub layer has been cleared elsewhere, leaving a scattered upper canopy of knobcone pines (*Pinus attenuata*). The shrub layer is recovering through stump sprouting. The community supports a heterogeneous mix of common manzanita, deerbrush (*Ceanothus integerrimus*), interior live oak shrub<sup>2</sup> (*Quercus wislizeni* var. *frutescens*), poison oak, and coyote brush (*Baccharis pilularis*). The community includes a scattered upper canopy of knobcone pine. The ground cover within undisturbed areas consists of leaf litter.

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<sup>2</sup> The distinction between interior live oak trees (*Quercus wislizeni* var. *wislizeni*) and shrubs (*Q. wislizeni* var. *frutescens*) appears to be subjective, at least in field and lab identifications not involving genetic testing. Differences in plant height appear to be far more dependent on soil depth, soil moisture, aspect, and fire history than on genetic variation. The taxonomic distinction is not used in this report. We base the distinction between shrubland and woodland on community structure.

- **Walnut Orchard:**

The majority of the property (86-percent) is occupied by a fallow walnut orchard. This orchard appears to be regularly disked leaving a substrate of exposed earth.

- **Ruderal:**

This term refers to areas disturbed by human activity including roads and structures. The property is occupied by three residences, a parking lot, and roadways.





## 4.0 PRE-SURVEY RESEARCH RESULTS

**4.1 CNPS Electronic Inventory Analysis:** A California Native Plant Society (CNPS) analysis was conducted for all plants with federal and state regulatory status, and all non-status plants on the CNPS Lists 1B through 4. The query included all plants within this area of Lake County occurring within the plant communities identified on the project site. The inventory lists species potentially occurring at the site; these are listed in **Table 2**. These species were included in the list of potentially sensitive species specifically searched for during field surveys. It is important to note that this list includes species for which appropriate habitat is not present on the parcel (including vernal pool species, etc.). The CNPS database search does not allow fine-tuning for specific soil types and many specific habitats.

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



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

**Selected CNPS Plants by Scientific Name:**

***Scotts Valley Band of Pomo APN 009-021-07***

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Antirrhinum virga</i>	twig-like snapdragon	Plantaginaceae	perennial herb	4.3	None	None	Jun-Jul	Chaparral, Lower montane coniferous forest
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	Ericaceae	perennial evergreen shrub	1B.3	None	None	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest
<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	Ericaceae	perennial evergreen shrub	1B.1	None	None	Feb-Apr	Chaparral, Lower montane coniferous forest (openings)
<i>Brasenia schreberi</i>	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	2B.3	None	None	Jun-Sep	Marshes and swamps (freshwater)
<i>Calochortus uniflorus</i>	pink star-tulip	Liliaceae	perennial bulbiferous herb	4.2	None	None	Apr-Jun	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest
<i>Calyptidium quadripetalum</i>	four-petaled pussypaws	Montiaceae	annual herb	4.3	None	None	Apr-Jun	Chaparral, Lower montane coniferous forest
<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	4.3	None	None	Jul-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland
<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	Polemoniaceae	annual herb	1B.1	None	None	Apr-Aug	Chaparral, Cismontane woodland
<i>Eryngium constancei</i>	Loch Lomond button-celery	Apiaceae	annual / perennial herb	1B.1	CE	FE	Apr-Jun	Vernal pools
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	CE	None	Apr-Aug	Marshes and swamps (lake margins), Vernal pools
<i>Hesperolinon adenophyllum</i>	glandular western flax	Linaceae	annual herb	1B.2	None	None	May-Aug	Chaparral, Cismontane woodland, Valley and foothill grassland
<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	Linaceae	annual herb	1B.2	None	None	May-Jul	Chaparral (serpentine)
<i>Hesperolinon didymocarpum</i>	Lake County western flax	Linaceae	annual herb	1B.2	CE	None	May-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
<i>Horkelia bolanderi</i>	Bolander's horkelia	Rosaceae	perennial herb	1B.2	None	None	(May)Jun-Aug	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
<i>Imperata brevifolia</i>	California satintail	Poaceae	perennial rhizomatous herb	2B.1	None	None	Sep-May	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub
<i>Lasthenia burkei</i>	Burke's goldfields	Asteraceae	annual herb	1B.1	CE	FE	Apr-Jun	Meadows and seeps (mesic), Vernal pools
<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
<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	Limnanthaceae	annual herb	4.2	None	None	Mar-May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mouse-tail	Ranunculaceae	annual herb	3.1	None	None	Mar-Jun	Valley and foothill grassland, Vernal pools (alkaline)
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	Polemoniaceae	annual herb	1B.1	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	Polemoniaceae	annual herb	1B.1	CT	FE	May-Jun	Vernal pools (volcanic ash flow)
<i>Navarretia leucocephala</i> ssp. <i>pliantha</i>	many-flowered navarretia	Polemoniaceae	annual herb	1B.2	CE	FE	May-Jun	Vernal pools (volcanic ash flow)
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	2B.2	None	None	Jun-Jul	Marshes and swamps (assorted freshwater)
<i>Sedella leiocarpa</i>	Lake County stonecrop	Crassulaceae	annual herb	1B.1	CE	FE	Apr-May	Cismontane woodland, Valley and foothill grassland, Vernal pools
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	Malvaceae	perennial herb	1B.2	None	None	(Jun)Jul-Aug	Meadows and seeps, Riparian forest
<i>Toxicoscordion fontanum</i>	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps

Scientific Name	Common Name	Family	Lifeform	CRPR	CESA	FESA	Blooming Period	Habitat
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	2B.3	None	None	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest

**Key for Table 2:**

**CNPS Rare Plant Throat 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.
- 3 = Plants about which we need more information (Review List)
- 3.1 = Plants about which we need more information (Review List); seriously threatened in California
- 3.2 = Plants about which we need more information (Review List); moderately threatened in California
- 3.3 = Plants about which we need more information (Review List); not very threatened in California
- 4.1 = Plants of limited distribution (watch list); seriously threatened in California
- 4.2 = Plants of limited distribution (watch list); moderately threatened in California
- 4.3 = Plants of limited distribution (watch list); not very threatened in California

**State and Federal Status:**

- CESA = California Endangered Species Act
- FESA = Federal Endangered Species Act
- SR = State. Rare
- ST = State. Threatened
- SSC = CDFW Species of Special Concern
- WL = CDFW Watch List
- FT = Federal Threatened
- SE = State Endangered.
- SD = State Delisted
- FP = CDFW Fully Protected
- FE = Federal Endangered
- FD = Federal Delisted

**TABLE 3. CNDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE CLEARLAKE HIGHLANDS, CALIF. 7½' QUADRANGLE**

Habitat Type	Habitat Present
Coastal and Valley Freshwater Marsh	No
Northern Basalt Flow Vernal Pool	No
Northern Volcanic Ash Vernal Pool	No
Clear Lake Drainage Resident Trout Stream	No

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS*/NatureServe Status	Blooming Season	Habitat Present
<i>Antirrhinum virga</i>	twig-like snapdragon	Chaparral, lower montane coniferous forest, /rocky, openings, often serpentinite; --/--/4.3	June-July per. herb	Habitat not present
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	Chaparral, cismontane woodland, lower montane conif. forest/volcanic; --/--/1B.3	March-May everg. shrub	Habitat not present
<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	Chaparral, lower montane coniferous forest/rocky, often serpentinite; --/--/1B.1	Feb.-April ann. herb	Habitat not present
<i>Brasenia schreberi</i>	watershield	Marshes & swamps/freshwater; --/--/2B.3	June-Sept. rhizom. herb, aquatic	Habitat not present
<i>Calochortus uniflorus</i>	pink star-tulip	Northern Coastal scrub, North Coastal coniferous forest, mixed evergreen forest, redwood forest, closed-cone pine forest/ wetland-riparian; --/--/4.2	Apr-June per. herb	Habitat not present
<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	Chaparral, lower montane coniferous forest/sandy or gravelly, usually serpentinite; --/--/4.3	April-June ann. herb	Habitat not present
<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	Closed-cone coniferous forest, chaparral, cismontane woodland/usually serpentinite; --/--/4.3	July-Aug. ann. herb	Habitat not present
<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	Chaparral, cismontane woodland, valley & foothill grassland/barren volcanic soils, often in open areas; --/--/1B.1	April-Aug. ann. herb	Habitat not present
<i>Eryngium constancei</i>	Loch Lomond button-celery	Volcanic ash flow vernal pools; FE/SE/1B.1	April-June ann./per. herb	Habitat not present

Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS/NatureServe Status	Blooming Season	Habitat Present
<i>Gratiola heterosepala</i>	Doggs Lake hedge-hyssop	Freshwater marsh, marshes & swamps (freshwater), vernal pools, sometimes lake margins/clay; --/SE/1B.2	April-Aug. ann. herb	Habitat not present
<i>Harmonia hallii</i>	Hall's harmonia	Chaparral/serpentine hills & ridges, open rocky areas; --/-/1B.2	April-June ann. herb	Habitat not present
<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	Valley and foothill grassland, foothill woodland/often serpentine; --/-/4.3	July-Nov. ann. herb	Habitat not present
<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	Chaparral/serpentine barrens at edge of chaparral; --/-/1B.2	May-July ann. herb	Habitat not present
<i>Horkelia bolanderi</i>	Bolander's horkelia	Lower montane conif. forest, chaparral, meadows & seeps, valley & foothill grassland/grassy margins of vernal pools and meadows; --/-/1B.2	June-Aug. per. herb	Habitat not present
<i>Imperata brevifolia</i>	California satintail	Chaparral, coastal scrub, meadows & seeps (alkali), riparian scrub/mesic or riparian sites; --/-/2B.1	Sept.-May rhiz. herb	Habitat not present
<i>Lasthenia burkei</i>	Burke's goldfields	Meadows and seeps, vernal pools, swales; FE/SE/1B.1	April-June 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	Poor habitat present
<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	Chaparral, cismontane woodland, valley & foothill grassland, vernal pools/vernally mesic; --/-/4.2	March-May (June) ann. herb	Habitat not present
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	Valley foothill grassland, coastal sage scrub, freshwater wetlands, wetland-riparian/vernal pools; --/-/3.1	March-June ann. herb	Habitat not present
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	Cismontane woodland, lower montane conif. forest, meadows & seeps, valley & foothill grassland, vernal pools, swales/adobe or alkaline soils; --/-/1B.1	May-July ann. herb	Habitat not present
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	Volcanic ash flow vernal pools; FE/ST/1B.1	May-June ann. herb	Habitat not present
<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	many-flowered navarretia	Volcanic ash flow vernal pools; FE/SE/1B.2	May-June ann. herb	Habitat not present
<i>Piperia michaeilii</i>	Michael's rein orchid	Foothill woodland, yellow pine forest, northern coastal scrub, coastal sage scrub, closed-cone pine forest.; --/-/4.2	April-Aug per. herb	Habitat not present



Plant Species	Common Name	Habitat Requirements, Fed/State/CNPS*/NatureServe Status	Blooming Season	Habitat Present
<i>Potamogeton zosteriformis</i>	eel-grass pondweed	Marshes & swamps, ponds, lakes & streams; --/--/2B.2	June-July ann. herb	Habitat not present
<i>Sedella leiocarpa</i>	Lake County stonecrop	Cismontane woodland, valley & foothill grassland, vernal pools/vernally mesic depressions in volcanic outcrops; FE/SE/1B.1	April-May ann. herb	Habitat not present
<i>Sidalcea oregana ssp. hydrophila</i>	marsh checkerbloom	Marshes & seeps, riparian forest/mesic; --/--/1B.2	July-Aug. per. herb	Habitat not present
<i>Toxicoscordion fontanum</i>	marsh zigadenus	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps/vernally mesic, often serpentinite; --/--/4.2	April-July bulb. herb	Habitat not present
<i>Viburnum ellipticum</i>	oval-leaved viburnum	Chaparral, cismontane woodland, lower montane coniferous forest; --/--/2B.3	May-June decid. shrub	Poor habitat present

\*See CNPS list for key

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<i>Pyrgulopsis ventricosa</i>	Clear Lake pyrg (snail)	Freshwater; inhabits springs and small spring-fed streams; G1/S1	year-round	Habitat not present
<i>Dubiraphia brunnescens</i>	brownish dubiraphian riffle beetle	Aquatic; inhabits exposed, wave-washed willow roots in shallow water. Known only from NE shore of Clear Lake; G1/S1	year-round	Habitat not present
<i>Hedychridium milleri</i>	Borax Lake cuckoo wasp	External parasite of wasp and bee larva. Endemic to Central California. Possibly extirpated; G1?/S1?	year-round	Habitat not present
<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	Habitat not present
<i>Lavinia symmetricus ssp. 4</i>	Clear Lake – Russian River roach	Closely-related species found either in tributaries to Clear Lake, Lake County, or the Russian River and its tributaries; SSC/G4(T2-Imperiled)/S2S3	year-round	Habitat not present
<i>Archoplites interruptus</i>	Sacramento perch	Warm water: sloughs, slow-moving rivers, ponds; SSC/G2G3/S1	year-round	Habitat not present
<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	Habitat not present

Wildlife Species	Common Name	Habitat Requirements, Status	Season Present	Habitat Present
<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	Habitat not present
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Densely foliated riparian thickets of willow and other deciduous trees and shrubs; FT/SE/G5/S1	year-round	Habitat not present
<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	Poor habitat present
<i>Ardea herodias</i>	great blue heron	Shallow ponds and estuaries, & salt and fresh emergent wetlands; G5/S4	sometimes migratory	Habitat not present
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	Roosts in open near relatively mesic sites, mainly montane forest habitats; SSC/G3/S2	year-round	Habitat not present
<i>Myotis lucifugus</i>	little brown bat	Roost in hollow trees, caves (in winter), human made features. Habitats are widely varied and include bogs, forested or herbaceous wetlands, riparian habitats, woodlands, chaparral, grasslands, orchards and fields in more urban areas. They forage over water; G3/S2S3	Migratory; usually hibernate during winter	Habitat not present
<i>Myotis yumanensis</i>	Yuma myotis	Open conifer forests and riparian woodlands with nearby water. Roosts may be found in caves, mines, under bridges, and buildings; G5/S4	year-round	Habitat not present
<i>Antrozous pallidus</i>	pallid bat	Open, dry habitats, forest habitats, in caves, tunnels, buildings, bridges; sensitive to human disturbance; SSC/G5/S3	local migrant	Poor habitat present

**Key:**

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

**NatureServe Conservation Status:**

G1/S1 = Global/State Critically Imperiled  
G2/S2 = Global/State Imperiled  
G3/S3 = Global/State Vulnerable  
G4/S4 = Global/State Apparently Secure  
G5/S5 = Global/State Secure  
SNR=Not rated  
FC=Federal Candidate

**4.3 Wildlife Habitat Analysis Results:** The Wildlife Habitat Relationships analysis lists a number of native wildlife species as potentially occurring on the site based on the geographic location and wildlife habitats present. Selected sensitive species are included in the wildlife assessment based on local knowledge and experience. The complete WHR results are presented in **Appendix B**.

**4.4 Wildlife Assessment:** Based on the pre-survey research conducted for this study, a total of seventeen sensitive wildlife species need to be accounted for within the project area. These consist of the species identified as present within the Clearlake Highlands quadrangles by the CNDDDB, along with applicable sensitive species listed as potentially present by the WHR analysis. 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.

▪ **Clear Lake Pyrg (*Pyrgulopsis ventricosa*):**

This small snail is found within the Seigler Creek drainage in the south end of the Clear Lake basin. No suitable habitat is present within the survey area.

▪ **Brownish dubiraphian riffle beetle (*Dubiraphia brunnescens*):**

Known only from the northeastern shore of Clear Lake, Lake County, this beetle inhabits exposed, wave-washed willow roots. This species is not present within the survey area due to the lack of suitable water resources.

▪ **Borax Lake cuckoo wasp (*Hedychridium milleri*):**

The cuckoo wasp is a parasite of wasp and bee larvae, laying its eggs in the nest of the host insect. There is only one account of this subspecies from 1963 from this locality (Borax Lake); it is endemic to Central California and is unlikely to be present within the survey area.

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

This species is known from accounts in the San Francisco Bay Area. It occupies ponds and shallow waters of streams, lakes, or marshes. This species is listed here because it is identified in an adjacent quadrangle near Boggs Lake in Lake County. There are no suitable water resources present within the survey area to support this species.

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

▪ **Clear Lake-Russian River roach (*Lavinia symmetricus ssp. 4*):**

▪ **Sacramento perch (*Archoplites interruptus*):**

All of these fish require access to Clear Lake, which is not provided by the short-term ephemeral channels on the property.

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

These frogs are relatively common along the shaded banks of perennial headwater streams, and they are heavily dependent on the presence of perennial water and are seldom far from pools where they can seek shelter from predation. The short-term ephemeral channels within the parcel do not meet these requirements.

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

These turtles prefer slow or ponded water with sheltering vegetation but will range widely through less suitable habitat in search of these sites. When present, pond turtles are readily observed basking along shorelines or on logs in shallow water. There are no suitable water resources present within the survey area to support this species.

- **Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*):**

This bird requires deciduous riparian thickets or forests with dense low-level foliage adjacent to water for cover and nesting; willows and cottonwoods are nearly always a component. Their preferred nesting habitat is valley foothill riparian adjacent to larger streams or rivers such as are found in the lowlands of the Central Valley, and around Clear Lake. This species has state endangered status while nesting. The survey area does not contain suitable riparian habitat to support this species.

- **Great egret (*Ardea alba*):**

- **Great blue heron (*Ardea herodias*):**

All of these birds require proximity to large bodies of water or wetlands where they have access to fish and amphibians, their main sources of food. All build large stick nests close to water; herons and cormorants in this region are found around Clear Lake in large rookeries. No large stick nests were observed in the project area and the site lacks suitable tall structures for nests.

- **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 California Fully Protected status of these raptors pertains to nesting pairs with an emphasis on protecting nesting habitat. No suitable nesting habitat occurs within the project area although kites may hunt over the property.

- **Townsend's western big-eared bat (*Corynorhinus townsendii ssp. townsendii*):**
- **Little brown bat (*Myotis lucifugus*):**
- **Yuma myotis (*Myotis yumanensis*):**

All of these bat species prefer cool mesic habitats distant from human activity. Preferred habitat does not occur within the project area.

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

Optimal habitat for pallid bats consists of open, dry habitats with rocky areas, but they are also found in oak savanna grasslands, and in open forest and woodlands with access to riparian and open water for feeding and drinking in northern California. Foraging occurs over open country. The shrubby oaks on the property provide poor habitat for the bats and they are unlikely to be present.

## 5.0 FIELD SURVEY RESULTS

**5.1 Botanical Field Survey Results:** Table 4 presents the results of the floristic-level botanical survey within the survey area. Each of the sensitive plant taxa potentially occurring at the sites and listed in Tables 2 and 3 was specifically searched for during the survey. The survey identified a total of 60 plant taxa on the property, including native and introduced plants.

The relatively small number of species identified is a result of the small survey area, the lack of diversity within the ruderal areas and orchard, and the small palette size of the natural plant communities.

No plants with sensitive status were discovered during the in-season floristic-level botanical surveys.



**TABLE 4. FLORA FOR APN 009-021-07**

Habit	Species	Common Name	Family	Origin
forb	<i>Anthriscus caucalis</i>	bur chervil	Apiaceae	A
forb	<i>Torilis arvensis</i>	field hedge parsley	Apiaceae	A
forb	<i>Asclepias californica</i>	California milkweed	Apocynaceae	N
forb	<i>Asclepias fascicularis</i>	narrow-leaved milkweed	Apocynaceae	N
forb	<i>Anaphalis margaritacea</i>	pearly everlasting	Asteraceae	N
forb	<i>Centaurea melitensis</i>	tocalote, Napa star thistle	Asteraceae	A
forb	<i>Centaurea solstitialis</i>	yellow star thistle	Asteraceae	A
forb	<i>Micropus californicus</i>	cottontop	Asteraceae	N
forb	<i>Brassica nigra</i>	black mustard	Brassicaceae	A
forb	<i>Cardamine breweri</i>	Brewer's bittercress	Brassicaceae	N
forb	<i>Croton setigerus</i>	turkey mullein	Euphorbiaceae	N
forb	<i>Euphorbia oblongata</i>	eggleaf spurge	Euphorbiaceae	A
forb	<i>Vicia villosa</i> ssp. <i>villosa</i>	winter vetch, hairy vetch	Fabaceae	A
forb	<i>Erodium cicutarium</i>	red-stem storksbill	Geraniaceae	A
forb	<i>Hypericum concinnum</i>	gold-wire	Hypericaceae	N
forb	<i>Marrubium vulgare</i>	horehound	Lamiaceae	A
forb	<i>Salvia sonomensis</i>	Sonoma creeping sage	Lamiaceae	N
forb	<i>Chlorogalum pomeridianum</i>	wavyleaf soap plant	Liliaceae	N
forb	<i>Eschscholzia californica</i>	California poppy	Papaveraceae	N
forb	<i>Rumex crispus</i>	curly dock	Polygonaceae	A
forb	<i>Ranunculus muricatus</i>	spiny-fruit buttercup	Ranunculaceae	A
forb	<i>Reseda luteola</i>	Dyer's rocket	Resedaceae	A
forb	<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw, graceful bedstraw	Rubiaceae	N

Habit	Species	Common Name	Family	Origin
forb	<i>Pedicularis densiflora</i>	warrior's plume, Indian warrior	Scrophulariaceae	N
forb	<i>Verbascum thapsus</i>	woolly mullein	Scrophulariaceae	A
grass	<i>Aira caryophyllea</i>	silver European hairgrass	Poaceae	A
grass	<i>Avena barbata</i>	slender wild oat	Poaceae	A
grass	<i>Bromus hordeaceus</i>	soft chess	Poaceae	A
grass	<i>Bromus madritensis ssp. rubens</i>	red brome	Poaceae	A
grass	<i>Elymus caput-medusae</i>	medusahead	Poaceae	A
grass	<i>Elymus multisetus</i>	big squirreltail	Poaceae	N
grass	<i>Festuca microstachys</i>	desert fescue, small fescue	Poaceae	N
grass	<i>Poa bulbosa</i>	bulbous bluegrass	Poaceae	A
shrub	<i>Sambucus nigra ssp. caerulea</i>	blue elderberry	Adoxaceae	N
shrub	<i>Rhus trilobata</i>	basket bush, skunkbrush	Anacardiaceae	N
shrub	<i>Toxicodendron diversilobum</i>	poison oak	Anacardiaceae	N
shrub	<i>Baccharis pilularis</i>	coyote brush, chaparral broom	Asteraceae	N
shrub	<i>Arctostaphylos crustacea ssp. crustacea</i>	brittle-leaf manzanita	Ericaceae	N
shrub	<i>Arctostaphylos manzanita ssp. manzanita</i>	common manzanita	Ericaceae	N
shrub	<i>Arctostaphylos stanfordiana ssp. stanfordiana</i>	Stanford manzanita	Ericaceae	N
shrub	<i>Cytisus multiflorus</i>	Spanish broom	Fabaceae	A
shrub	<i>Cytisus scoparius</i>	Scotch broom	Fabaceae	A
shrub	<i>Quercus berberidifolia</i>	California scrub oak	Fagaceae	N
shrub	<i>Quercus wislizeni var. frutescens</i>	interior live oak	Fagaceae	N
shrub	<i>Eriodictyon californicum</i>	California yerba santa	Hydrophyllaceae	N
shrub	<i>Ceanothus cuneatus var. cuneatus</i>	buckbrush	Rhamnaceae	N
shrub	<i>Ceanothus integerrimus</i>	deerbrush, blue blossom	Rhamnaceae	N

Habit	Species	Common Name	Family	Origin
shrub	<i>Ceanothus integerrimus</i>	deerbrush	Rhamnaceae	N
shrub	<i>Frangula californica</i> ssp. <i>californica</i>	California coffeeberry	Rhamnaceae	N
shrub	<i>Adenostoma fasciculatum</i>	chamise	Rosaceae	N
shrub	<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch-leaf mountain mahogany	Rosaceae	N
shrub	<i>Heteromeles arbutifolia</i>	toyon	Rosaceae	N
shrub	<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	A
tree	<i>Quercus lobata</i>	California valley oak	Fagaceae	N
tree	<i>Quercus wislizeni</i> var. <i>wislizeni</i>	interior live oak	Fagaceae	N
tree	<i>Juglans regia</i>	English walnut	Juglandaceae	A
tree	<i>Olea europaea</i>	European olive	Oleaceae	A
tree	<i>Pinus attenuata</i>	knobcone pine	Pinaceae	N
tree	<i>Pinus ponderosa</i>	ponderosa pine	Pinaceae	N
vine	<i>Marah fabaceus</i>	California manroot	Cucurbitaceae	N

A=Alien, N=Native

## 6.0 DELINEATION OF WATERS OF THE U.S.

6.1 The discussion of waters of the U.S. and Aquatic Resources is discussed in Appendix C, along with a map of possible aquatic resources.

## 7.0 SUMMARY AND RECOMMENDATIONS

7.1 **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 *Wildlife Habitat Relationships System*
- Vegetation mapping
- Delineation of waters of the U.S.

**Sensitive Plants:** A total of 60 native and introduced plant taxa were identified on the property during the in-season, floristic-level botanical surveys. No sensitive taxa were identified. 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.

The relatively small number of species identified is a product of the lack of diversity within the ruderal areas and the orchard, and the small parcel size of the natural plant communities.

**Sensitive Wildlife:** A total of seventeen sensitive wildlife species were assessed for potential occurrence at the site because of inclusion in the CNDDDB database for the Clearlake Highlands quadrangle and the WHR database. The species listed include insects, isopods, aquatic reptiles and amphibians, raptors, and small mammals. The site does not contain perennial streams or ponded water of any type, making it unsuitable for any of the listed aquatic species. The lack of roosting structures makes it poor habitat for nesting raptors and roosting bats.

**Possible Waters of the U.S.:** Two short-term ephemeral drainages were mapped on the parcel. This is discussed in Appendix C, Aquatic Resources Report.

## **7.2 Recommendations:**

### **1. Sensitive Plants and Wildlife:**

**Potential Impacts:** No plants with sensitive regulatory status were found on this parcel during the in-season, floristic-level botanical survey conducted for this project. Due to the current agricultural and ruderal (developed) nature of this property, the potential for wildlife with sensitive regulatory status to occur there is very low. Consequently, the proposed project does not have a significant potential to adversely impact plants or wildlife with sensitive regulatory status. Additionally, the use of this property by local wildlife would be minimal and the proposed project is unlikely to cause adverse impacts to them.

### **2. Waters of the U.S.**

**Potential Impact:** The survey area contains approximately 0.1357 acre of stream channels. Placement of fill within any possible waters of the U.S. mapped in Appendix C, Figure 1 would be regulated under the Clean Water Act.

**Proposed Mitigation for Impacts to Waters of the U.S.:** 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.

### **3. Erosion Control:**

**Potential Impacts:** Vegetation clearing and grading activities have a potential to result in sediment runoff into waterways.

**Proposed Mitigation:** All work should incorporate extensive erosion control measures consistent with Lake County Grading Regulations. 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.

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## ***APPENDIX A***

### **CNDDDB SENSITIVE PLANT AND WILDLIFE SPECIES WITHIN THE SURROUNDING CALIF. 7½' QUADS.**

### Surrounding 9-Quad List: Clearlake Highlands Quadrangles

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Benmore Canyon	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Benmore Canyon	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Benmore Canyon	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Benmore Canyon	<i>Asclepias solanoana</i>	serpentine milkweed	None	None	-	4.2
Benmore Canyon	<i>Harmonia hallii</i>	Hall's harmonia	None	None	-	1B.2
Benmore Canyon	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Benmore Canyon	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	-	1B.2
Benmore Canyon	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Benmore Canyon	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Benmore Canyon	<i>Malacothamnus helleri</i>	Heller's bush-mallow	None	None	-	3.3
Benmore Canyon	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	None	None	-	4.2
Benmore Canyon	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
Benmore Canyon	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Benmore Canyon	<i>Eriogonum tripodum</i>	tripod buckwheat	None	None	-	4.2
Benmore Canyon	<i>Potamogeton zosteriformis</i>	eel-grass pondweed	None	None	-	2B.2
Benmore Canyon	<i>Horkelia bolanderi</i>	Bolander's horkelia	None	None	-	1B.2
Clk Highlands	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Clk Highlands	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Clk Highlands	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Clk Highlands	<i>Ardea alba</i>	great egret	None	None	-	-
Clk Highlands	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Clk Highlands	<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Threat	End	-	-
Clk Highlands	<i>Strix occidentalis caurina</i>	northern spotted owl	Threat	Threat	-	-
Clk Highlands	<i>Archoplites interruptus</i>	Sacramento perch	None	None	SSC	-
Clk Highlands	<i>Lavinia exilicauda chi</i>	Clear Lake hitch	None	Threat	-	-
Clk Highlands	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	None	None	SSC	-
Clk Highlands	<i>Hedychridium milleri</i>	Borax Lake cuckoo wasp	None	None	-	-
Clk Highlands	<i>Dubiraphia brunnescens</i>	brownish dubiraphian riffle beetle	None	None	-	-
Clk Highlands	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Clk Highlands	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Clk Highlands	<i>Myotis lucifugus</i>	little brown bat	None	None	-	-
Clk Highlands	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Clk Highlands	<i>Pyrgulopsis ventricosa</i>	Clear Lake pyrg	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Clk Highlands	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Clk Highlands	Clear Lake Drainage Resident Trout Strm	Clear Lake Drainage Resident Trout Strm	None	None	-	-
Clk Highlands	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	-	-
Clk Highlands	Northern Basalt Flow Vernal Pool	Northern Basalt Flow Vernal Pool	None	None	-	-
Clk Highlands	Northern Volcanic Ash Vernal Pool	Northern Volcanic Ash Vernal Pool	None	None	-	-
Clk Highlands	<i>Eryngium constancei</i>	Loch Lomond button-celery	End	End	-	1B.1
Clk Highlands	<i>Harmonia hallii</i>	Hall's harmonia	None	None	-	1B.2
Clk Highlands	<i>Hemizonia congesta</i> ssp. <i>calyculata</i>	Mendocino tarplant	None	None	-	4.3
Clk Highlands	<i>Lasthenia burkei</i>	Burke's goldfields	End	End	-	1B.1
Clk Highlands	<i>Brasenia schreberi</i>	watershield	None	None	-	2B.3
Clk Highlands	<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None	-	2B.3
Clk Highlands	<i>Sedella leiocarpa</i>	Lake County stonecrop	End	End	-	1B.1
Clk Highlands	<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konociti manzanita	None	None	-	1B.3
Clk Highlands	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	None	None	-	1B.1
Clk Highlands	<i>Calochortus uniflorus</i>	pink star-tulip	None	None	-	4.2
Clk Highlands	<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	None	None	-	4.2
Clk Highlands	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	None	None	-	1B.2
Clk Highlands	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	None	None	-	1B.2
Clk Highlands	<i>Toxicoscordion fontanum</i>	marsh zigadenus	None	None	-	4.2
Clk Highlands	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	None	None	-	4.3
Clk Highlands	<i>Piperia michaelii</i>	Michael's rein orchid	None	None	-	4.2
Clk Highlands	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Clk Highlands	<i>Antirrhinum virga</i>	twig-like snapdragon	None	None	-	4.3
Clk Highlands	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	None	End	-	1B.2
Clk Highlands	<i>Imperata brevifolia</i>	California satintail	None	None	-	2B.1
Clk Highlands	<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	None	None	-	1B.1
Clk Highlands	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Clk Highlands	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	-	1B.1
Clk Highlands	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	End	Threat	-	1B.1
Clk Highlands	<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	many-flowered navarretia	End	End	-	1B.2
Clk Highlands	<i>Potamogeton zosteriformis</i>	eel-grass pondweed	None	None	-	2B.2
Clk Highlands	<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	None	None	-	3.1
Clk Highlands	<i>Horkelia bolanderi</i>	Bolander's horkelia	None	None	-	1B.2
Clearlake Oaks	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Clearlake Oaks	<i>Pandion haliaetus</i>	osprey	None	None	WL	-



QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Clearlake Oaks	Archoplites interruptus	Sacramento perch	None	None	SSC	-
Clearlake Oaks	Lavinia exilicauda chi	Clear Lake hitch	None	Threat	-	-
Clearlake Oaks	Dubiraphia brunnescens	brownish dubiraphian riffle beetle	None	None	-	-
Clearlake Oaks	Pekania pennanti	fisher - West Coast DPS	None	Threat	SSC	-
Clearlake Oaks	Antrozous pallidus	pallid bat	None	None	SSC	-
Clearlake Oaks	Corynorhinus townsendii	Townsend's big-eared bat	None	None	SSC	-
Clearlake Oaks	Myotis yumanensis	Yuma myotis	None	None	-	-
Clearlake Oaks	Gonidea angulata	western ridged mussel	None	None	-	-
Clearlake Oaks	Emys marmorata	western pond turtle	None	None	SSC	-
Clearlake Oaks	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	None	None	-	-
Clearlake Oaks	Hemizonia congesta ssp. calyculata	Mendocino tarplant	None	None	-	4.3
Clearlake Oaks	Layia septentrionalis	Colusa layia	None	None	-	1B.2
Clearlake Oaks	Brasenia schreberi	watershield	None	None	-	2B.3
Clearlake Oaks	Arctostaphylos manzanita ssp. elegans	Konocti manzanita	None	None	-	1B.3
Clearlake Oaks	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Clearlake Oaks	Calyptridium quadripetalum	four-petaled pussypaws	None	None	-	4.3
Clearlake Oaks	Leptosiphon acicularis	bristly leptosiphon	None	None	-	4.2
Clearlake Oaks	Potamogeton zosteriformis	eel-grass pondweed	None	None	-	2B.2
Kelseyville	Rana boylei	foothill yellow-legged frog	None	Cand Threat	SSC	-
Kelseyville	Taricha rivularis	red-bellied newt	None	None	SSC	-
Kelseyville	Progne subis	purple martin	None	None	SSC	-
Kelseyville	Pandion haliaetus	osprey	None	None	WL	-
Kelseyville	Calasellus californicus	An isopod	None	None	-	-
Kelseyville	Lindieriella occidentalis	California lindieriella	None	None	-	-
Kelseyville	Lavinia exilicauda chi	Clear Lake hitch	None	Threat	-	-
Kelseyville	Lavinia symmetricus ssp. 4	Clear Lake - Russian River roach	None	None	SSC	-
Kelseyville	Bombus caliginosus	obscure bumble bee	None	None	-	-
Kelseyville	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	None	None	-	-
Kelseyville	Erethizon dorsatum	North American porcupine	None	None	-	-
Kelseyville	Emys marmorata	western pond turtle	None	None	SSC	-
Kelseyville	Clear Lake Drainage Cyprinid/Catostomid Stm	Clear Lake Drainage Cyprinid/Catostomid Stm	None	None	-	-
Kelseyville	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
Kelseyville	Clear Lake Drainage Seasonal Lakefish Spawn Stm	Clear Lake Drainage Seasonal Lakefish Spawn Stm	None	None	-	-
Kelseyville	Northern Volcanic Ash Vernal Pool	Northern Volcanic Ash Vernal Pool	None	None	-	-
Kelseyville	Harmonia hallii	Hall's harmonia	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Kelseyville	<i>Lasthenia burkei</i>	Burke's goldfields	End	End	-	1B.1
Kelseyville	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Kelseyville	<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	None	None	-	3.2
Kelseyville	<i>Azolla microphylla</i>	Mexican mosquito fern	None	None	-	4.2
Kelseyville	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	-	1B.2
Kelseyville	<i>Streptanthus barbiger</i>	bearded jewelflower	None	None	-	4.2
Kelseyville	<i>Brasenia schreberi</i>	watershield	None	None	-	2B.3
Kelseyville	<i>Legenere limosa</i>	legenere	None	None	-	1B.1
Kelseyville	<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	None	None	-	1B.3
Kelseyville	<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	Raiche's manzanita	None	None	-	1B.1
Kelseyville	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
Kelseyville	<i>Monardella viridis</i>	green monardella	None	None	-	4.3
Kelseyville	<i>Trichostema ruygtii</i>	Napa bluecurls	None	None	-	1B.2
Kelseyville	<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	None	None	-	4.2
Kelseyville	<i>Hesperolinon adenophyllum</i>	glandular western flax	None	None	-	1B.2
Kelseyville	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	None	None	-	1B.2
Kelseyville	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	None	None	-	4.3
Kelseyville	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	None	None	-	4.2
Kelseyville	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Kelseyville	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	None	End	-	1B.2
Kelseyville	<i>Orcuttia tenuis</i>	slender Orcutt grass	Threat	End	-	1B.1
Kelseyville	<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	None	None	-	1B.1
Kelseyville	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Kelseyville	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	End	Threat	-	1B.1
Kelseyville	<i>Navarretia leucocephala</i> ssp. <i>pleantha</i>	many-flowered navarretia	End	End	-	1B.2
Kelseyville	<i>Potamogeton zosteriformis</i>	eel-grass pondweed	None	None	-	2B.2
Kelseyville	<i>Horkelia bolanderi</i>	Bolander's horkelia	None	None	-	1B.2
Lower Lake	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Lower Lake	<i>Taricha rivularis</i>	red-bellied newt	None	None	SSC	-
Lower Lake	<i>Aquila chrysaetos</i>	golden eagle	None	None	FP ; WL	-
Lower Lake	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Lower Lake	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Lower Lake	<i>Lavinia exilicauda</i> chi	Clear Lake hitch	None	Threat	-	-
Lower Lake	<i>Lavinia symmetricus</i> ssp. 4	Clear Lake - Russian River roach	None	None	SSC	-
Lower Lake	<i>Saldula usingeri</i>	Wilbur Springs shorebug	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Lower Lake	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Lower Lake	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Lower Lake	<i>Myotis lucifugus</i>	little brown bat	None	None	-	-
Lower Lake	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	-
Lower Lake	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Lower Lake	<i>Lomatium hooveri</i>	Hoover's lomatium	None	None	-	4.3
Lower Lake	<i>Harmonia hallii</i>	Hall's harmonia	None	None	-	1B.2
Lower Lake	<i>Lasthenia burkei</i>	Burke's goldfields	End	End	-	1B.1
Lower Lake	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Lower Lake	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	-	1B.2
Lower Lake	<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	None	None	-	1B.2
Lower Lake	<i>Fritillaria pluriflora</i>	adobe-lily	None	None	-	1B.2
Lower Lake	<i>Hesperolinon sharsmithiae</i>	Sharsmith's western flax	None	None	-	1B.2
Lower Lake	<i>Malacothamnus helleri</i>	Heller's bush-mallow	None	None	-	3.3
Lower Lake	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Lower Lake	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	-	1B.1
Lower Lake	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	End	Threat	-	1B.1
Lower Lake	<i>Potamogeton zosteriformis</i>	eel-grass pondweed	None	None	-	2B.2
Lower Lake	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Lucerne	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Lucerne	<i>Taricha rivularis</i>	red-bellied newt	None	None	SSC	-
Lucerne	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	-
Lucerne	<i>Branta hutchinsii leucopareia</i>	cackling (=Aleutian Canada) goose	Delisted	None	WL	-
Lucerne	<i>Ardea herodias</i>	great blue heron	None	None	-	-
Lucerne	<i>Falco mexicanus</i>	prairie falcon	None	None	WL	-
Lucerne	<i>Pandion haliaetus</i>	osprey	None	None	WL	-
Lucerne	<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	WL	-
Lucerne	<i>Archoplites interruptus</i>	Sacramento perch	None	None	SSC	-
Lucerne	<i>Lavinia exilicauda chi</i>	Clear Lake hitch	None	Threat	-	-
Lucerne	<i>Dubiraphia brunnescens</i>	brownish dubiraphian riffle beetle	None	None	-	-
Lucerne	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Lucerne	<i>Lasionycteris noctivagans</i>	silver-haired bat	None	None	-	-
Lucerne	<i>Margaritifera falcata</i>	western pearlshell	None	None	-	-
Lucerne	<i>Anodonta oregonensis</i>	Oregon floater	None	None	-	-
Lucerne	<i>Gonidea angulata</i>	western ridged mussel	None	None	-	-

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Lucerne	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	*
Lucerne	Clear Lake Drainage Cyprinid/Catostomid Stm	Clear Lake Drainage Cyprinid/Catostomid Stm	None	None	*	*
Lucerne	Clear Lake Drainage Seasonal Lakefish Spawn Stm	Clear Lake Drainage Seasonal Lakefish Spawn Stm	None	None	*	*
Lucerne	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	None	None	*	*
Lucerne	<i>Layia septentrionalis</i>	Colusa layia	None	None	*	1B.2
Lucerne	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	*	1B.2
Lucerne	<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	None	None	*	1B.3
Lucerne	<i>Lupinus antoninus</i>	Anthony Peak lupine	None	None	*	1B.2
Lucerne	<i>Hesperolinon adenophyllum</i>	glandular western flax	None	None	*	1B.2
Lucerne	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	None	None	*	1B.2
Lucerne	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	*	4.2
Lucerne	<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	None	None	*	4.3
Lucerne	<i>Potamogeton zosteriformis</i>	eel-grass pondweed	None	None	*	2B.2
Middletown	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	*
Middletown	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	End	FP	*
Middletown	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	*
Middletown	<i>Lasionycteris noctivagans</i>	silver-haired bat	None	None	-	*
Middletown	<i>Lasiurus cinereus</i>	hoary bat	None	None	-	*
Middletown	<i>Myotis yumanensis</i>	Yuma myotis	None	None	-	*
Middletown	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	*
Middletown	Northern Basalt Flow Vernal Pool	Northern Basalt Flow Vernal Pool	None	None	*	*
Middletown	<i>Lomatium repostum</i>	Napa lomatium	None	None	*	4.3
Middletown	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	*	1B.2
Middletown	<i>Harmonia hallii</i>	Hall's harmonia	None	None	*	1B.2
Middletown	<i>Helianthus exilis</i>	serpentine sunflower	None	None	*	4.2
Middletown	<i>Hemizonia congesta</i> ssp. <i>congesta</i>	congested-headed hayfield tarplant	None	None	*	1B.2
Middletown	<i>Lasthenia burkei</i>	Burke's goldfields	End	End	*	1B.1
Middletown	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	*	1B.2
Middletown	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	*	1B.2
Middletown	<i>Legenere limosa</i>	legenere	None	None	*	1B.1
Middletown	<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Mt. Saint Helena morning-glory	None	None	*	4.2
Middletown	<i>Sedella leiocarpa</i>	Lake County stonecrop	End	End	*	1B.1
Middletown	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	*	4.2
Middletown	<i>Astragalus rattanii</i> var. <i>jepsonianus</i>	Jepson's milk-vetch	None	None	*	1B.2
Middletown	<i>Trifolium hydrophilum</i>	saline clover	None	None	*	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Middletown	Calochortus uniflorus	pink star-tulip	None	None	-	4.2
Middletown	Erythronium helenae	St. Helena fawn lily	None	None	-	4.2
Middletown	Hesperolinon bicarpellatum	two-carpellate western flax	None	None	-	1B.2
Middletown	Hesperolinon didymocarpum	Lake County western flax	None	End	-	1B.2
Middletown	Hesperolinon sharsmithiae	Sharsmith's western flax	None	None	-	1B.2
Middletown	Castilleja rubicundula var. rubicundula	pink creamsacs	None	None	-	1B.2
Middletown	Erythranthe nudata	bare monkeyflower	None	None	-	4.3
Middletown	Gratiola heterosepala	Boggs Lake hedge-hyssop	None	End	-	1B.2
Middletown	Calamagrostis ophitidis	serpentine reed grass	None	None	-	4.3
Middletown	Orcuttia tenuis	slender Orcutt grass	Threat	End	-	1B.1
Middletown	Collomia diversifolia	serpentine collomia	None	None	-	4.3
Middletown	Leptosiphon acicularis	bristly leptosiphon	None	None	-	4.2
Middletown	Leptosiphon jepsonii	Jepson's leptosiphon	None	None	-	1B.2
Middletown	Leptosiphon latisectus	broad-lobed leptosiphon	None	None	-	4.3
Middletown	Navarretia cotulifolia	cotula navarretia	None	None	-	4.2
Middletown	Navarretia jepsonii	Jepson's navarretia	None	None	-	4.3
Middletown	Navarretia leucocephala ssp. bakeri	Baker's navarretia	None	None	-	1B.1
Middletown	Navarretia leucocephala ssp. plieantha	many-flowered navarretia	End	End	-	1B.2
Middletown	Navarretia paradoxinota	Porter's navarretia	None	None	-	1B.3
Middletown	Delphinium uliginosum	swamp larkspur	None	None	-	4.2
The Geysers	Dicamptodon ensatus	California giant salamander	None	None	SSC	-
The Geysers	Rana boylei	foothill yellow-legged frog	None	Cand Threat	SSC	-
The Geysers	Taricha rivularis	red-bellied newt	None	None	SSC	-
The Geysers	Progne subis	purple martin	None	None	SSC	-
The Geysers	Lavinia symmetricus ssp. 4	Clear Lake - Russian River roach	None	None	SSC	-
The Geysers	Hysteroecarpus traskii pomo	Russian River tule perch	None	None	SSC	-
The Geysers	Entosphenus tridentatus	Pacific lamprey	None	None	SSC	-
The Geysers	Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS	Threat	None	-	-
The Geysers	Bombus occidentalis	western bumble bee	None	None	-	-
The Geysers	Emys marmorata	western pond turtle	None	None	SSC	-
The Geysers	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
The Geysers	Asclepias solanoana	serpentine milkweed	None	None	-	4.2
The Geysers	Harmonia hallii	Hall's harmonia	None	None	-	1B.2
The Geysers	Layia septentrionalis	Colusa layia	None	None	-	1B.2
The Geysers	Cryptantha dissita	serpentine cryptantha	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
The Geysers	<i>Streptanthus barbiger</i>	bearded jewelflower	None	None	-	4.2
The Geysers	<i>Streptanthus brachiatus</i> ssp. <i>brachiatus</i>	Socrates Mine jewelflower	None	None	-	1B.2
The Geysers	<i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i>	Hoffman's bristly jewelflower	None	None	-	1B.3
The Geysers	<i>Calystegia collina</i> ssp. <i>oxyphylla</i>	Mt. Saint Helena morning-glory	None	None	-	4.2
The Geysers	<i>Calystegia collina</i> ssp. <i>tridactylosa</i>	three-fingered morning-glory	None	None	-	1B.2
The Geysers	<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	Konocti manzanita	None	None	-	1B.3
The Geysers	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
The Geysers	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
The Geysers	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
The Geysers	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
The Geysers	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
The Geysers	<i>Hesperolinon adenophyllum</i>	glandular western flax	None	None	-	1B.2
The Geysers	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	None	None	-	1B.2
The Geysers	<i>Calyptidium quadrupetalum</i>	four-petaled pussypaws	None	None	-	4.3
The Geysers	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	None	None	-	4.2
The Geysers	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
The Geysers	<i>Antirrhinum virga</i>	twig-like snapdragon	None	None	-	4.3
The Geysers	<i>Calamagrostis ophitidis</i>	serpentine reed grass	None	None	-	4.3
The Geysers	<i>Panicum acuminatum</i> var. <i>thermale</i>	Geysers panicum	None	End	-	1B.2
The Geysers	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
The Geysers	<i>Eriastrum brandegeae</i>	Brandegee's eriastrum	None	None	-	1B.1
The Geysers	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
The Geysers	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	End	Threat	-	1B.1
The Geysers	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
The Geysers	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Whispering Pines	<i>Dicamptodon ensatus</i>	California giant salamander	None	None	SSC	-
Whispering Pines	<i>Rana boylei</i>	foothill yellow-legged frog	None	Cand Threat	SSC	-
Whispering Pines	<i>Rana draytonii</i>	California red-legged frog	Threat	None	SSC	-
Whispering Pines	<i>Taricha rivularis</i>	red-bellied newt	None	None	SSC	-
Whispering Pines	<i>Progne subis</i>	purple martin	None	None	SSC	-
Whispering Pines	<i>Bombus occidentalis</i>	western bumble bee	None	None	-	-
Whispering Pines	<i>Antrozous pallidus</i>	pallid bat	None	None	SSC	-
Whispering Pines	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	SSC	-
Whispering Pines	<i>Lasiurus blossevillii</i>	western red bat	None	None	SSC	-
Whispering Pines	<i>Lasiurus cinereus</i>	hoary bat	None	None	-	-



QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Whispering Pines	<i>Myotis evotis</i>	long-eared myotis	None	None	-	-
Whispering Pines	<i>Myotis thysanodes</i>	fringed myotis	None	None	-	-
Whispering Pines	<i>Emys marmorata</i>	western pond turtle	None	None	SSC	-
Whispering Pines	Central Valley Drng Rainbow Trout/Cyprinid Stm	Central Valley Drng Rainbow Trout/Cyprinid Stm	None	None	-	-
Whispering Pines	Clear Lake Drainage Resident Trout Stm	Clear Lake Drainage Resident Trout Stm	None	None	-	-
Whispering Pines	<i>Grimmia torenii</i>	Toren's grimmia	None	None	-	1B.3
Whispering Pines	<i>Mielichhoferia elongata</i>	elongate copper moss	None	None	-	4.3
Whispering Pines	<i>Chlorogalum pomeridianum</i> var. minus	dwarf soaproot	None	None	-	1B.2
Whispering Pines	<i>Eryngium constancei</i>	Loch Lomond button-celery	End	End	-	1B.1
Whispering Pines	<i>Asclepias solanoana</i>	serpentine milkweed	None	None	-	4.2
Whispering Pines	<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	None	None	-	1B.2
Whispering Pines	<i>Helianthus exilis</i>	serpentine sunflower	None	None	-	4.2
Whispering Pines	<i>Layia septentrionalis</i>	Colusa layia	None	None	-	1B.2
Whispering Pines	<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	None	None	-	1B.2
Whispering Pines	<i>Cryptantha dissita</i>	serpentine cryptantha	None	None	-	1B.2
Whispering Pines	<i>Arabis blepharophylla</i>	coast rockcress	None	None	-	4.3
Whispering Pines	<i>Streptanthus brachiatus</i> ssp. brachiatus	Socrates Mine jewelflower	None	None	-	1B.2
Whispering Pines	<i>Streptanthus brachiatus</i> ssp. hoffmanii	Freed's jewelflower	None	None	-	1B.2
Whispering Pines	<i>Streptanthus hesperidis</i>	green jewelflower	None	None	-	1B.2
Whispering Pines	<i>Downingia willamettensis</i>	Cascade downingia	None	None	-	2B.2
Whispering Pines	<i>Legenere limosa</i>	legenere	None	None	-	1B.1
Whispering Pines	<i>Calystegia collina</i> ssp. oxyphylla	Mt. Saint Helena morning-glory	None	None	-	4.2
Whispering Pines	<i>Sedella leiocarpa</i>	Lake County stonecrop	End	End	-	1B.1
Whispering Pines	<i>Carex praticola</i>	northern meadow sedge	None	None	-	2B.2
Whispering Pines	<i>Arctostaphylos manzanita</i> ssp. elegans	Konocti manzanita	None	None	-	1B.3
Whispering Pines	<i>Arctostaphylos stanfordiana</i> ssp. raichei	Raiche's manzanita	None	None	-	1B.1
Whispering Pines	<i>Astragalus breweri</i>	Brewer's milk-vetch	None	None	-	4.2
Whispering Pines	<i>Astragalus clevelandii</i>	Cleveland's milk-vetch	None	None	-	4.3
Whispering Pines	<i>Astragalus rattanii</i> var. jepsonianus	Jepson's milk-vetch	None	None	-	1B.2
Whispering Pines	<i>Lupinus sericatus</i>	Cobb Mountain lupine	None	None	-	1B.2
Whispering Pines	<i>Erythronium helenae</i>	St. Helena fawn lily	None	None	-	4.2
Whispering Pines	<i>Fritillaria purdyi</i>	Purdy's fritillary	None	None	-	4.3
Whispering Pines	<i>Hesperolinon adenophyllum</i>	glandular western flax	None	None	-	1B.2
Whispering Pines	<i>Hesperolinon bicarpellatum</i>	two-carpellate western flax	None	None	-	1B.2

QUAD NAME	SCIENTIFIC NAME	COMMON NAME	FED.	CAL.	CDFG	CNPS
Whispering Pines	<i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	marsh checkerbloom	None	None	-	1B.2
Whispering Pines	<i>Calyptridium quadripetalum</i>	four-petaled pussypaws	None	None	-	4.3
Whispering Pines	<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	serpentine bird's-beak	None	None	-	4.3
Whispering Pines	<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i>	Pennell's bird's-beak	End	Rare	-	1B.2
Whispering Pines	<i>Erythranthe nudata</i>	bare monkeyflower	None	None	-	4.3
Whispering Pines	<i>Antirrhinum subcordatum</i>	dimorphic snapdragon	None	None	-	4.3
Whispering Pines	<i>Antirrhinum virga</i>	twig-like snapdragon	None	None	-	4.3
Whispering Pines	<i>Penstemon newberryi</i> var. <i>sonomensis</i>	Sonoma beardtongue	None	None	-	1B.3
Whispering Pines	<i>Calamagrostis ophitidis</i>	serpentine reed grass	None	None	-	4.3
Whispering Pines	<i>Imperata brevifolia</i>	California satintail	None	None	-	2B.1
Whispering Pines	<i>Panicum acuminatum</i> var. <i>thermale</i>	Geysers panicum	None	End	-	1B.2
Whispering Pines	<i>Collomia diversifolia</i>	serpentine collomia	None	None	-	4.3
Whispering Pines	<i>Leptosiphon acicularis</i>	bristly leptosiphon	None	None	-	4.2
Whispering Pines	<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon	None	None	-	4.2
Whispering Pines	<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	None	None	-	1B.2
Whispering Pines	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	None	None	-	1B.1
Whispering Pines	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	few-flowered navarretia	End	Threat	-	1B.1
Whispering Pines	<i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	many-flowered navarretia	End	End	-	1B.2
Whispering Pines	<i>Eriogonum nervulosum</i>	Snow Mountain buckwheat	None	None	-	1B.2
Whispering Pines	<i>Delphinium uliginosum</i>	swamp larkspur	None	None	-	4.2
Whispering Pines	<i>Ceanothus confusus</i>	Rincon Ridge ceanothus	None	None	-	1B.1
Whispering Pines	<i>Ceanothus divergens</i>	Calistoga ceanothus	None	None	-	1B.2
Whispering Pines	<i>Horkelia bolanderi</i>	Bolander's horkelia	None	None	-	1B.2

**Key for Table:**

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

CDFW / State and Federal Status:

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

State and Federal Status:

- Threat = Threatened
- End = Endangered
- Prop = Proposed
- Cand = Candidate
- Cand End/Threat = State Candidate for Endangered/Threatened

## ***APPENDIX B***

### **REGIONAL WHR DATABASE RESULTS**



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

**SPECIES SUMMARY REPORT**

FE = Federal Endangered  
 FT = Federal Threatened

CF = California Fully Protected  
 CP = California Protected

PT = Federally-Proposed Threatened  
 FC = Federal Candidate

CD = CDF Sensitive  
 HA = Harvest

CE = California Endangered 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
B251	BAND-TAILED PIGEON			HA NATIVE
B277	COMMON POORWILL			NATIVE
B317	HAMMOND'S FLYCATCHER			NATIVE
B337	HORNED LARK			NATIVE
B348	WESTERN SCRUB-JAY			NATIVE
B391	WRENTIT			NATIVE
B425	ORANGE-CROWNED WARBLER			NATIVE
B437	TOWNSEND'S WARBLER			NATIVE
B495	LARK SPARROW			NATIVE
B499	SAVANNAH SPARROW	CE	SC	NATIVE
B543	LESSER GOLDFINCH			NATIVE
B798	WHITE-THROATED SPARROW			NATIVE
B799	HARRIS'S SPARROW			NATIVE
M006	ORNATE SHREW	FE	SC	NATIVE
M034	HOARY BAT			NATIVE
M037	TOWNSEND'S BIG-EARED BAT		SC	BL FS NATIVE
M055	YELLOW-PINE CHIPMUNK			NATIVE
M059	SONOMA CHIPMUNK			NATIVE
M075	GOLDEN-MANTLED GROUND SQUIRREL			NATIVE
M117	DEER MOUSE		SC	NATIVE

M119	BRUSH MOUSE					NATIVE
M120	PINYON MOUSE					NATIVE
M134	CALIFORNIA VOLE	FE	CE	SC	BL	NATIVE
R071	DESERT NIGHTSNAKE					NATIVE

Total Number of Species: 24

#### Query Parameters

##### Included Locations

Lake Co

##### Included Location Seasons

Migrant, Summer, Winter, Yearlong

##### Included Habitats & (Stages)

Deciduous Orchard, Mixed Chaparral, Valley Oak Woodland

##### Habitat Suitability Threshold

Reproduction - Low, Cover - Low, Feeding - Low

##### Included Habitat Seasons

Migrant, Summer, Winter, Yearlong

##### Excluded Elements

Algae, Amphibians, Aquatics - Emergent, Aquatics - Submerged, Bank, Barren, Birds - Large, Bogs, Brush Pile, Burrow, Campground, Carrion, Cave, Cliff, Duff, Dump, Fern, Fish, Fungi, Grain, Grass/water, Invertebrates - Aquatic, Jetty, Kelp, Lakes, Lithic, Litter, Log - Large (hollow), Log - Large (rotten), Log - Large (sound), Log - Medium (hollow), Log - Medium (rotten), Log - Medium (sound), Mine, Mud Flats, Nest Box, Nest Island, Nest Platform, Pack Stations, Ponds, Riparian Inclusion, Rivers, Rock, Salt Ponds, Sand Dune, Shrub/grass, Shrub/water, Slash - Large (hollow), Slash - Large (rotten), Slash - Large (sound), Slash - Small, Snag - Large (rotten), Snag - Large (sound), Snag - Medium (rotten), Snag - Medium (sound), Snag - Small (rotten), Snag - Small (sound), Soil - Friable, Soil - Gravelly, Soil - Organic, Soil - Saline, Soil - Sandy, Springs, Springs - Hot, Springs - Mineral, Steep Slope, Streams - Intermittent, Streams - Permanent, Stump (rotten), Stump (sound), Talus, Tidepools, Tree - Broken Top Live, Tree - With Cavities, Tree - With Loose Bark, Tree/grass, Tree/shrub, Tree/water, Trees - Fir, Vernal Pools, Water, Water - Created Body, Water - Fast, Water - Slow, Water/agriculture, Wharf

**Included Species** All Species Included

**Included Special Statuses** Native



## ***APPENDIX C***

### **AQUATIC RESOURCES/DELINEATION REPORT**

## DELINEATION OF WATERS OF THE U.S.

### 1.0 **Methodology**

**1.1 Purpose of Delineation:** This delineation has been conducted at the request of the local permitting agency in order to determine the extent of possible waters of the U.S. on the project.

**1.2 Delineation Procedure:** This delineation has been conducted as prescribed in the *Corps of Engineers Wetlands Delineation Manual*, January 1987, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, 2008. 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; however, all nomenclature and wetland indicator status have been checked with the U.S. Army Corps of Engineers. 2016. *National Wetland Plant Lists: Arid West and California*.

The survey included use of Google satellite images, 7.5' USGS quadrangle maps, and LIDAR mapped overlays along with an extensive foot survey.

**1.3 Delineation Date:** Delineation fieldwork was completed on April 10, 2019.

**1.4 Delineation Staff:** The delineation was conducted by Steve Zalusky, Northwest Biosurvey principal biologist. Mr. Zalusky has a Master of Science Degree in Biology from the California State University at Northridge and a Bachelor of Science Degree in Zoology from the University of California at Santa Barbara. Mr. Zalusky has more than 35 years of experience as a biologist in the government and private sectors. He completed his wetland delineation training under Terry Huffman of Huffman & Associates, Inc.

Fieldwork, mapping, and report preparation were also conducted by Leigh Zalusky. Leigh Zalusky has a Bachelor of Science Degree in Computer Engineering from the University of California, Davis. Leigh also received formal delineation training under Terry Huffman of Huffman & Associates, Inc.

### 2.0 **Existing Conditions**

**2.1 Location:** The project site is located at 7130 Red Hills Road, Clearlake Highlands, California, 95451 (APN 009-021-07; T13N R8W Sec. 34, Kelseyville, Calif. 7½' Topographic Map). A location map is provided in **Figure 1**.

**2.2 Site Topography and Drainage:** The site is located along the Highway 29 corridor in narrow, valley terrain between the northeastern toe of the Mayacamas Mountains and the southern slope of Mount Konocti. This corridor consists of a series of isolated flats and small basins either drained interiorly or connected to Thurston Creek, which drains to the isolated basin of Thurston Lake. This property is drained along its eastern edge by an excavated ditch which flows north to State Highway 29 and then east to an unnamed tributary to Thurston Creek. The property drops approximately 80 feet in elevation from north to south into Hess Flat at an elevation of 1,880 feet msl (mean sea level).

**3.2 Soils:** Based on the *Soil Survey of Lake County, California* prepared by the U.S. Resource Conservation Service, the survey area contains the following soil types:

▪ **Glenview-Arrowhead complex, 5-15% slopes (soil unit 138):**

This unit is on volcanic hills. Native vegetation is mainly brush with scattered conifers. The unit contains about 60% Glenview very gravelly loam and 20% Arrowhead extremely gravelly sandy loam. The Glenview soil is very deep and well drained. It formed in material weathered from obsidian. Permeability is moderately slow and runoff is medium. The Arrowhead soil is moderately deep and well drained, and formed in material weathered from obsidian. Permeability is slow and runoff is medium. The hazard of erosion is moderate for both soils.

**3.0 Aquatic Resources Results**

**3.1 Waters of the U.S:** The results of the delineation are shown on the aerial photo base map provided in **Appendix C, Figure 1**. Waters of the U.S. within the property consist of intermittent stream channels and ephemeral drainages. No potential wetland resources were found.

The total area of all delineated aquatic resources is 0.136 acre. The delineation results are shown in **Table 1**.

**TABLE 1. POSSIBLE AQUATIC RESOURCES WITHIN THE SURVEY AREA**

Name	Cowardin Code	HGM Code	Waters Type	Latitude	Longitude	Length (ft)	Width (ft)	Area (acres)
<b>Stream Segments</b>								
ES1	R6		Isolate	38.927037°	-122.738945°	1689	3.5	0.1357
<b>Total Stream Segments:</b>								<b>0.1357</b>
<b>Total Possible Waters of U.S. Within Survey Area</b>								<b>0.1357</b>

#### 4.0 RECOMMENDATIONS

Any work proposed within the possible waters of the U.S. will require permits from the following:

- U.S. Army Corps of Engineers (Nationwide Permit)
- Regional Water Quality Control Board (Water Quality Certification 401 permit)
- California Department of Fish and Wildlife (1602 Stream Alteration Agreement)



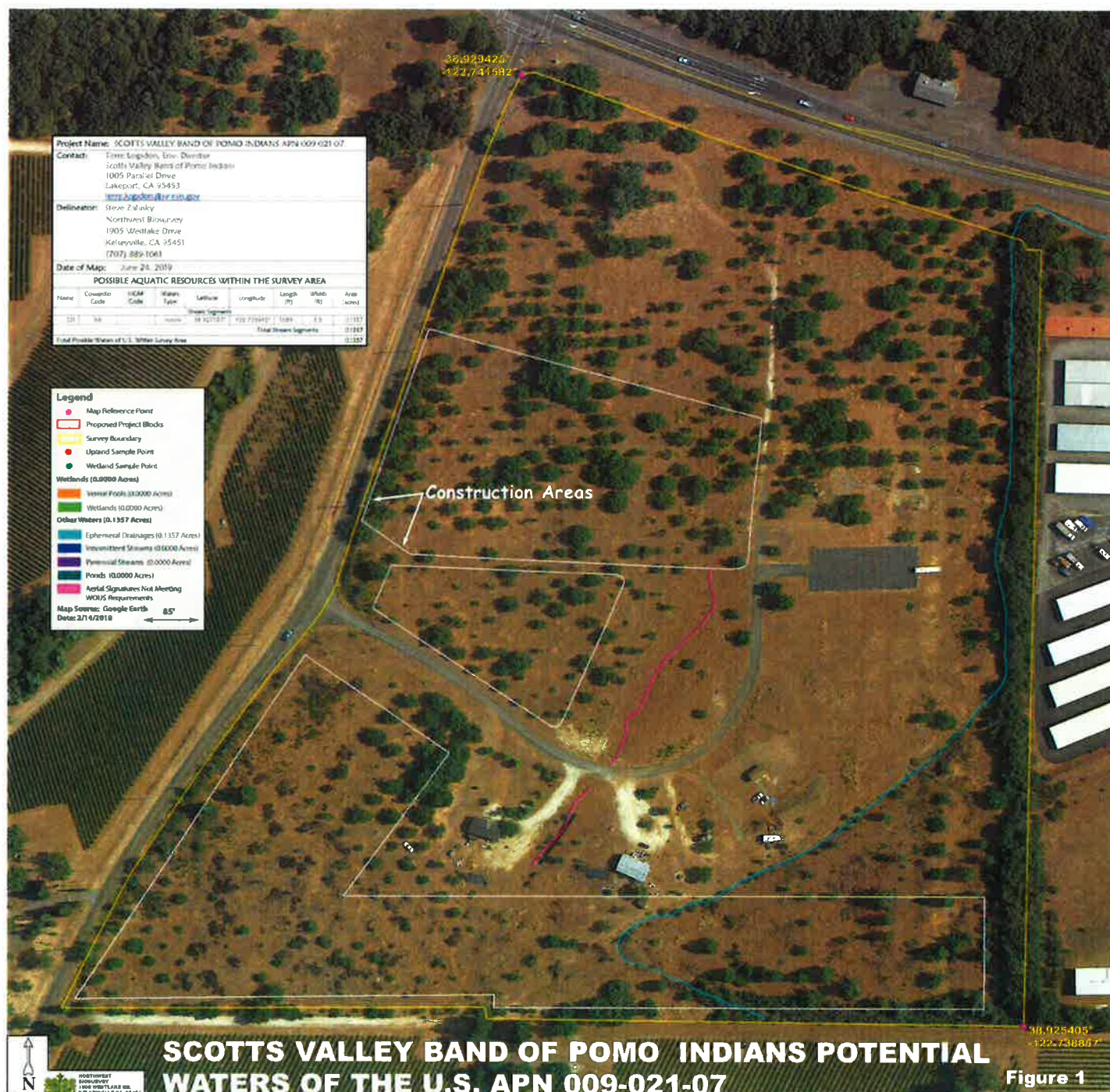


Figure 1

