



Botanical Survey Results

1340 Bell Spring Road (APN: 216-082-006)

Prepared by:

Kyle Wear
Botanical Consultant
wearkyle@gmail.com
(707) 601-1725

Prepared for:

Kevin Peak
P.O. Box 1951
Redway, CA 95560

Date:

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TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION	1
2. DEFINITIONS	1
2.1. Special Status Plants.....	1
2.2. Special Status Plant Communities.....	1
2.3. Invasive Plants.....	1
3. ENVIRONMENTAL SETTING	1
3.1. Project Location.....	1
3.2. Soil, Topography, & Hydrology.....	1
3.3. Vegetation.....	3
4. METHODS	3
4.1. Scoping.....	3
4.2. Survey	3
5. RESULTS	9
5.1. Special Status Plants.....	9
5.2. Special Status Natural Communities.....	9
5.3. Invasive Plants.....	9
6. POTENTIAL FOR FALSE NEGATIVE SURVEYS	9
7. IMPACT ASSEMENT AND RECOMMENDATIONS	11
8. REFERENCES	11

List of Figures

Figure 1. Location Map.....	2
Figure 2. Survey Coverage Map.....	8

List of Tables

Table 1. Special Status Plant Scoping List.....	4
Table 2. Plant List.....	10

APPENDICES

- A. Site Plan
- B. NRCS Soil Map
- C. Special Status Natural Community Scoping List

1. INTRODUCTION

This botanical survey was conducted to address potential impacts to sensitive botanical resources from new cannabis development at 1340 Bell Springs Road, near Garberville. The project includes additional grading and construction of greenhouses in the northeast corner of APN: 216-082-006 (Appendix A).

2. DEFINITIONS

2.1. Special Status Plants

Special status plants include those listed as rare, threatened, or endangered under the federal Endangered Species Act and/or the California Endangered Species Act. Additionally, impacts to taxa with California Rare Plant Ranks (CRPR) of 1A, 1B, 2A, and 2B must be analyzed in environmental documents related to the California Environmental Quality Act (CEQA), or those considered functionally equivalent to CEQA. Impacts to plants with CRPRs of 3 and 4 should also be addressed. Protection measures for populations of these taxa may be warranted if they are determined to have local or biological significance.

2.2. Special Status Plant Communities

Special status plant communities are communities with limited distribution that may be vulnerable to environmental impacts. Updated information on California natural communities, including rarity rankings, is provided in *A Manual of California Vegetation Online Edition* (CNPS 2021). Natural communities with G or S ranks of 3 or lower are considered sensitive.

2.3. Invasive Plants

Invasive species are non-native plants and animals whose introduction causes or is likely to cause environmental or economic damage or harm to human health. Invasive species can cause a decline of endangered species and native diversity through direct competition and by alteration of ecological processes. The California Invasive Plant Council (Cal-IPC) maintains a list of plants considered invasive in California (Cal-IPC 2022). For the purposes of this report only plants with Cal-IPC ratings of “High” were considered.

3. ENVIRONMENTAL SETTING

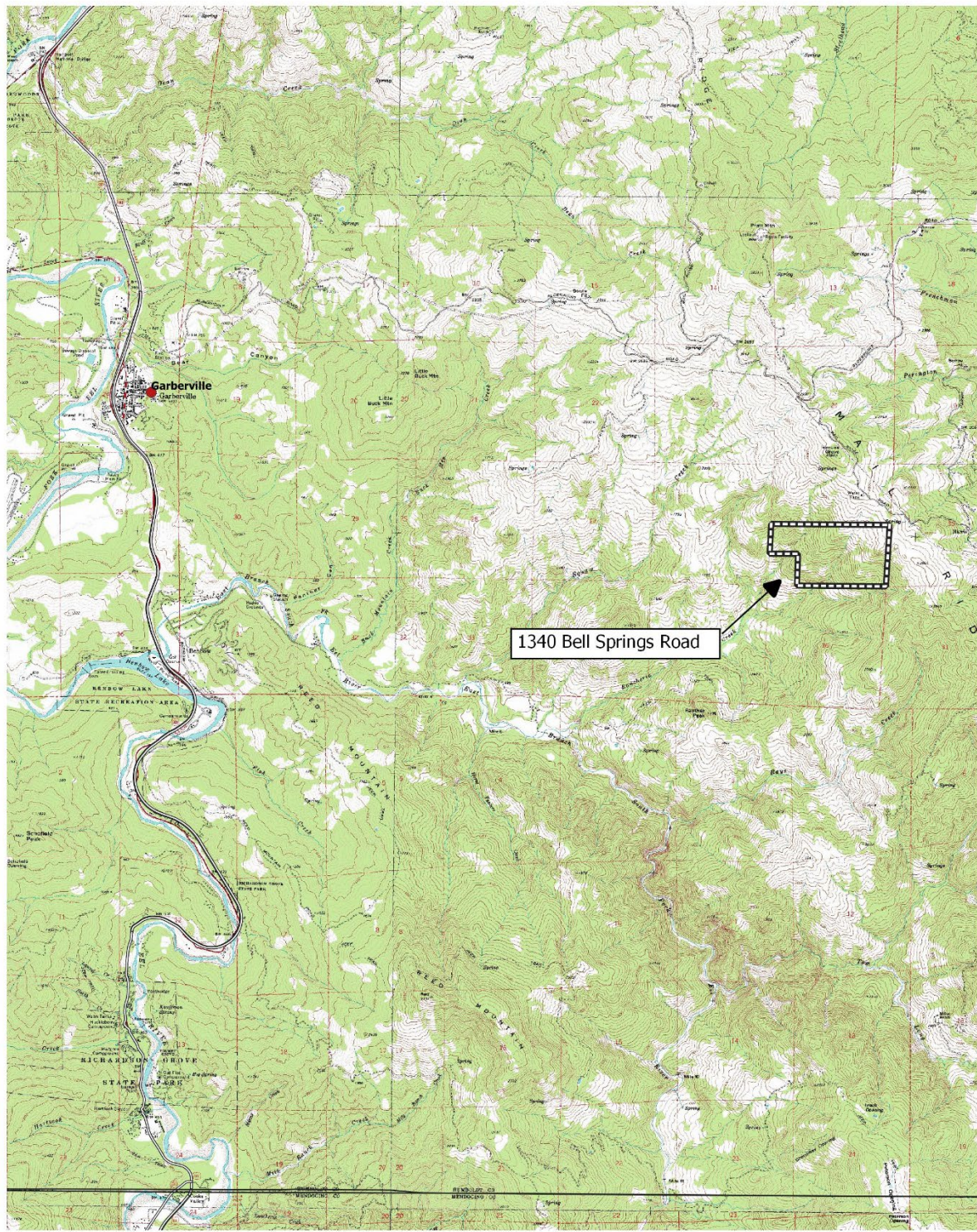
3.1. Project Location

The parcel is located at 1340 Bell Springs Road on the Harris USGS quadrangle in Humboldt County (Figure 1).

3.2. Soil, Topography, Hydrology

There are no serpentine, volcanic, or other unique soil types on the parcel. The soil at the new cultivation areas is mapped as Yorknorth-Witherell complex, which is derived from sandstone and schist parent material. (United States Department of Agriculture, Natural Resource Conservation Service 2022) (Appendix B).

Figure 1. Location Map



The new cultivation sites are on relatively flat areas above steeper, generally southwest-facing slopes. The property drains into Rancheria Creek, a tributary of the East Branch South Fork Eel River. The elevation is approximately 2,600 feet above sea level.

3.3. Vegetation

The new cultivation areas are grassland dominated by dense stands of harding grass (*Phalaris aquatica*), as is much of the grassland on the property and surrounding landscape. The cover harding grass is often over 90%, mixed with other non-native grasses including dogtail grass (*Cynosurus echinatus*), wild oats (*Avena barbata*), soft chess (*Bromus hordeaceus*), and sweet vernal grass (*Anthoxanthum odoratum*). There is relatively low cover and diversity of native herbaceous plants in the grassland. The dominance of non-native vegetation is likely a result of past grazing and/or other past land use practices. There are nearby small stands of Douglas-fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), coyote bush (*Baccharis pilularis*).

4. METHODS

4.1. Scoping

A list of special status plants that could potentially occur in the project area was generated by consulting the *California Natural Diversity Database* (CDFW 2022) and the *CNPS Inventory of Rare and Endangered Plants* (CNPS 2022a). The scoping list includes special status plants with documented occurrences on the Harris USGS quadrangle or adjacent quadrangles (Table 1).

Special status natural communities that have potential to occur on the parcel include, but are not limited to, oak woodlands and special status native grassland communities. A full list of special status natural communities that occur in northwestern California queried from *A Manual of California Vegetation Online Edition* (CNPS 2022b) is provided in Appendix B.

4.2. Survey

The survey was conducted by Kyle Wear, M.A. on April 4, and July 3, 2022. Mr. Wear has over 25 years of experience conducting floristic surveys and other botanical work in northern California.

The survey was floristic and followed methods outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). A survey coverage map is provided in Figure 2. All plants were identified to the taxonomic level necessary to determine whether they are special status. Plant taxonomy generally follows *The Jepson Manual Vascular Plants of California, Second Edition* (Baldwin et. al. 2012), however the plant list may include more recent name changes. Plant communities were classified according to *A Manual of California Vegetation Online Edition* (CNPS 2022b).

The surveys were conducted at the time of year when plants on the scoping list with potential to occur on the parcel would be recognizable and identifiable (generally, but not necessarily

Table 1. Scoping List.

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i> Raiche's manzanita	1B.1	Feb-Apr	Chaparral, Lower montane coniferous forest-Rocky, Serpentinite (often)	None-usually on serpentine
<i>Arabis mcdonaldiana</i> McDonald's rockcress	1B.1, CE, FE	May-Jul	Lower montane coniferous forest, Upper montane coniferous forest-Serpentinite	None-occur on serpentine
<i>Astragalus agnicidus</i> Humboldt County milk-vetch	1B.1, CE, FE	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest-Disturbed areas, Openings, Roadsides (sometimes)	High-along roads, disturbed areas
<i>Astragalus rattanii</i> var. <i>rattanii</i> Rattan's milk-vetch	4.3	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest-Gravelly, Streambanks	Unlikely-no gravelly streambanks
<i>Calamagrostis bolanderi</i> Bolander's reed grass	4.2	May-Aug	Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest-Mesic	Moderate-along roads
<i>Calystegia atriplicifolia</i> ssp. <i>buttensis</i> Butte County morning-glory	4.2	May-Jul	Chaparral, Lower montane coniferous forest, Valley and foothill grassland-Roadsides (sometimes), Rocky	Moderate-along roads
<i>Carex arcta</i> northern clustered sedge	2B.2	Jun-Sep	Bogs and fens, North Coast coniferous forest	Unlikely-occurs in wetlands
<i>Ceanothus foliosus</i> var. <i>vineatus</i> Vine Hill ceanothus	1B.1	Mar-May	Chaparral	Unlikely-no chaparral
<i>Cypripedium californicum</i> California lady's-slipper	4.2	Apr-Aug(Sep)	Bogs and fens, Lower montane coniferous forest-Seeps, Serpentinite (usually), Streambanks	Unlikely-no streambanks, no serpentine
<i>Epilobium septentrionale</i> Humboldt County fuchsia	4.3	Jul-Sep	Broadleafed upland forest, North Coast coniferous forest-Rocky (sometimes), Sandy (sometimes)	Moderate-along roads
<i>Erigeron biolettii</i> streamside daisy	3	Jun-Oct	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest-Mesic, Rocky	Unlikely-no mesic rocky habitat

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Erigeron robustior</i> robust daisy	4.3	Jun-Jul	Lower montane coniferous forest, Meadows and seeps-Serpentinite (sometimes)	Unlikely-no meadows or seeps
<i>Eriogonum kelloggii</i> Kellogg's buckwheat	1B.2, CE	(May)Jun-Aug	Lower montane coniferous forest	Unlikely-not associated with grasslands
<i>Erythronium citrinum</i> <i>var. citrinum</i> lemon-colored fawn lily	4.3	Mar-May	Chaparral, Lower montane - coniferous forest Serpentinite (usually)	Unlikely-not associated with grasslands
<i>Erythronium revolutum</i> coast fawn lily	2B.2	Mar-Jul(Aug)	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest-Mesic, Streambanks	Unlikely-not associated with grasslands
<i>Frangula purshiana</i> ssp. <i>ultramafica</i> Caribou coffeeberry	1B.2	May-Jul	Chaparral, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest-Serpentinite	None-occur on serpentine
<i>Fritillaria purdyi</i> Purdy's fritillary	4.3	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest-Serpentinite (usually)	Unlikely-no typical habitat, usually on serpentine
<i>Gentiana setigera</i> Mendocino gentian	1B.2	(Apr-Jul)Aug-Sep	Lower montane coniferous forest, Meadows and seeps-Mesic	Unlikely-not typical habitat, site is too dry
<i>Gilia capitata</i> ssp. <i>pacifica</i> Pacific gilia	1B.2	Apr-Aug	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	Moderate-in rocky areas along road, harding grass cover likely to high in grassland
<i>Hemizonia congesta</i> ssp. <i>tracyi</i> Tracy's tarplant	4.3	(Mar)May-Oct	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest -Openings, Serpentinite (sometimes)	Moderate-maybe some potential in grassland or along roads
<i>Howellia aquatilis</i> water howellia	2B.2, FD	Jun	Marshes and swamps	None-no marshes or swamps
<i>Kopsiopsis hookeri</i> small groundcone	2B.3	Apr-Aug	North Coast coniferous forest	None-not associated with grasslands

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Leptosiphon acicularis</i> bristly leptosiphon	4.2	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland	Moderate-along roads
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	4.3	Apr-Jun	Broadleafed upland forest, Cismontane woodland	Moderate-along roads
<i>Leptosiphon rattanii</i> Rattan's leptosiphon	4.3	May-Jul	Cismontane woodland, Lower montane coniferous forest	Moderate-along roads
<i>Lilium rubescens</i> redwood lily	4.2	Apr-Aug(Sep)	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest-Roadsides (sometimes), Serpentinite (sometimes)	Unlikely, maybe some potential along roads
<i>Listera cordata</i> heart-leaved twayblade	4.2	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	None-not associated with grassland
<i>Lomatium engelmannii</i> Engelmann's lomatium	4.3	May-Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest-Serpentinite	None-not associated with grasslands
<i>Lycopus uniflorus</i> northern bugleweed	4.3	Jul-Sep	Bogs and fens, Marshes and swamps	None-occurs in wetlands
<i>Montia howellii</i> Howell's montia	2B.2	(Feb)Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools-Roadsides (sometimes), Vernally Mesic	Unlikely-maybe some potential on roads, but site is likely too dry
<i>Piperia candida</i> white-flowered rein orchid	1B.2	(Mar)May-Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest-Serpentinite (sometimes)	Unlikely-not associated with grasslands

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Pityopus californicus</i> California pinefoot	4.2	(Mar- Apr)May- Aug	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest-Mesic	Unlikely-not associated with grasslands
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	1B.1, CT	Apr-Jun	Broadleafed upland forest, Meadows and seeps, North Coast coniferous forest-Mesic, Openings	Unlikely-not typically mesic habitat
<i>Ptilidium californicum</i> Pacific fuzzwort	4.3	May-Aug	Lower montane coniferous forest, Upper montane coniferous forest	Unlikely-not associated with grasslands
<i>Sedum eastwoodiae</i> Red Mountain stonecrop	1B.2	May-Jul	Lower montane coniferous forest (serpentinite)	None-occurs on serpentine
<i>Sidalcea malviflora ssp. patula</i> Siskiyou checkerbloom	1B.2	(Mar)May- Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	Moderate-maybe in grassland, along roads
<i>Silene bolanderi</i> Bolander's catchfly	1B.2	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest- Openings (usually), Roadsides (sometimes), Rocky (sometimes), Serpentinite (sometimes)	Unlikely-, harding grass cover likely toohigh
<i>Silene greenei ssp. angustifolia</i> Red Mountain catchfly	1B.2, CE	May-Jun	Chaparral, Lower montane coniferous forest-Peridotite, Rocky, Serpentinite (usually)	None-occur on serpentine
<i>Tracyina rostrata</i> beaked tracyina	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	Unlikely- cover of harding grass is likely too high
<i>Usnea longissima</i> Methuselah's beard lichen	4.2		Broadleafed upland forest, North Coast coniferous forest	None-no trees in project sites
<i>Viburnum ellipticum</i> oval-leaved viburnum	2B.3	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest	Unlikely-not associated with grasslands

SPECIAL STATUS PLANT LISTING STATUS

Endangered Species Act (ESA)

- FE: Federally Endangered
- FT: Federally Threatened
- FR: Federally Rare

California Endangered Species Act (CESA)

- CE: California Endangered
- CT: California Threatened
- CR: California Rare

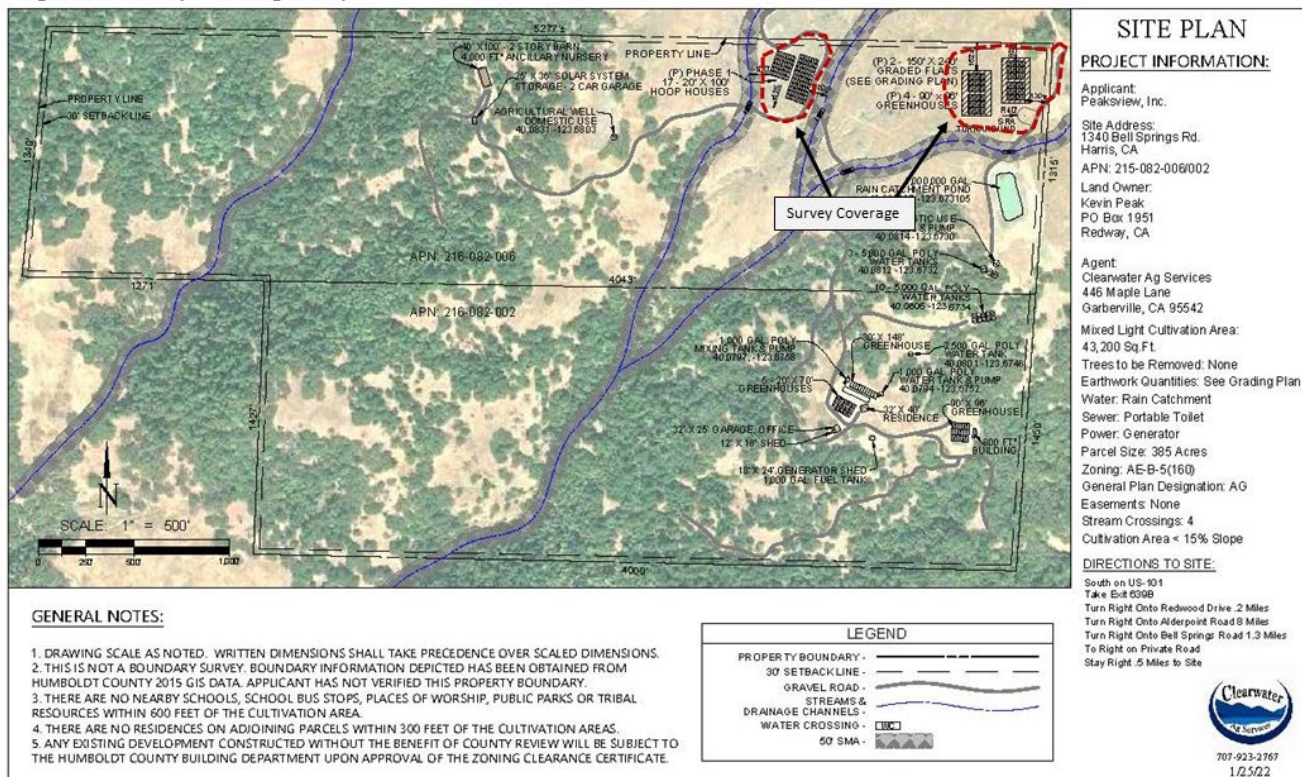
California Rare Plant Ranks

- 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A: Plants Presumed Extirpated in California, But Common Elsewhere
- 2B: California Rare Plant Rank 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3. Review List: Plants about which more information is needed.
- 4. Watch List: Plants of limited distribution

Threat Ranks

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Figure 2. Survey Coverage Map.



during the blooming period) and when other common plants would be identifiable so that a comprehensive plant list of the project area could be compiled.

5. RESULTS

5.1. Special Status Plants

No special status plants were encountered in the project area. A list of all plants recorded on the surveys is provided in Table 2.

5.2. Special Status Natural Communities

The vegetation described in Section 3.3 is not consistent with any special status natural communities. California oatgrass (*Danthonia californica*) was recorded along the road system but was restricted to a small area and is well below the minimum of 10% required to meet the membership rules for Idaho fescue - California oatgrass grassland (*Festuca idahoensis* - *Danthonia californica* Herbaceous Alliance).

5.3. Invasive Plants

Although the cultivation areas are dominated by non-native vegetation, no plants with Cal-IPC ratings of High were observed.

6. POTENTIAL FOR FALSE NEGATIVE SURVEYS

Potential factors that could result in lack of detection of special status plants include plants that have a seed bank on the site but currently no above ground individuals, grazing, disease, disturbance, and adverse climatic conditions.

Seeds of some species can persist for years or decades in the soil until suitable conditions occur for germination. Legumes such as Humboldt County milk-vetch (*Astragalus agnicidus*) can

persist for years or decades in seed bank and emerge after logging or other environmental changes. Plants that grow from underground structures such as bulbs and tubers, including white-flowered rein orchid (*Piperia candida*) and lilies (*Lilium* spp.), can remain dormant or suppressed under unfavorable conditions.

Plants can also be consumed by livestock, deer, or invertebrates or succumb to disease. These factors could damage identifying characters such as flowers and leaves or remove entire above ground portions of the plants resulting in negative detections.

There was below normal 2021/22 rainfall accumulation in the months prior to the 2022 surveys. However, rainfall in April and May were relatively normal for the time of year. Temperature, which is the primary factor controlling plant phenology, was relatively normal.

Table 2. Plant List.

Scientific Name	Common Name
<i>Acmispon americanus var. americanus</i>	lotus
<i>Agrostis sp.</i>	bent grass
<i>Aira caryophyllea</i>	European hairgrass
<i>Anthoxanthum odoratum</i>	sweet vernal grass
<i>Arrhenatherum elatius</i>	tall oatgrass
<i>Avena barbata</i>	slender wild oat
<i>Baccharis pilularis</i>	coyote brush
<i>Brassica nigra</i>	black mustard
<i>Briza maxima</i>	rattlesnake grass
<i>Brodiaea elegans</i>	harvest brodiaea
<i>Bromus diandrus</i>	ripgut grass
<i>Bromus hordeaceus</i>	soft chess
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Centaurea melitensis</i>	Maltese star thistle
<i>Cichorium intybus</i>	chicory
<i>Cirsium vulgare</i>	bull thistle
<i>Clarkia sp.</i>	clarkia
<i>Croton setigerus</i>	dove weed
<i>Cynosurus echinatus</i>	dogtail grass
<i>Dactylis glomerata</i>	orchard grass
<i>Danthonia californica</i>	California oatgrass
<i>Daucus pusillus</i>	rattlesnake weed
<i>Elymus glaucus ssp. glaucus</i>	blue wildrye
<i>Erodium botrys</i>	long-beaked storksbill
<i>Festuca myuros</i>	rattail sixweeks grass
<i>Festuca perennis</i>	rye grass
<i>Geranium sp.</i>	geranium
<i>Hordeum marinum</i>	Mediterranean barley
<i>Hypochaeris radicata</i>	hairy cat's-ear
<i>Juncus patens</i>	spreading rush
<i>Lactuca sp.</i>	wild lettuce
<i>Leontodon saxatilis</i>	hawkbit
<i>Linum bienne</i>	western blue flax
<i>Lupinus bicolor</i>	miniature lupine
<i>Madia exigua</i>	small tarweed
<i>Mentha pulegium</i>	pennyroyal
<i>Microseris laciniata</i>	cutleaf silverpuffs
<i>Phalaris aquatica</i>	harding grass

Scientific Name	Common Name
<i>Plantago lanceolata</i>	English plantain
<i>Polygonum aviculare</i>	prostrate knotweed
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Sonchus asper</i> ssp. <i>asper</i>	prickly sow thistle
<i>Sonchus oleraceus</i>	common sow thistle
<i>Spergularia rubra</i>	purple sand spurry
<i>Tragopogon porrifolius</i>	salsify
<i>Trifolium dubium</i>	little hop clover
<i>Trifolium glomeratum</i>	clustered clover
<i>Trifolium microcephalum</i>	maiden clover
<i>Trifolium subterraneum</i>	subterranean clover
<i>Umbellularia californica</i>	California-bay
<i>Verbascum thapsus</i>	woolly mullein

7. IMPACT ASSEMENT AND RECOMMENDATIONS

The project will not impact special status plants or natural communities. There are no recommendations.

8. REFERENCES

Baldwin, B. C., D. H. Goldman, D. J. Keil, R. Patterson, and T.J. Roasatti. Eds. 2012. *The Jepson Manual, Vascular Plants of California, Second Edition*. University of California Press. Berkeley, CA.

California Department of Fish and Wildlife (CDFW) 2022. *California Natural Diversity Database (CNDDB) Commercial [d85]*. CDFW Biogeographic Information and Observation System (BIOS) <https://apps.wildlife.ca.gov/bios>

CDFW. 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. <https://www.wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants>

California Invasive Plant Council. 2022. *The Cal-IPC Inventory*. <https://www.cal-ipc.org/plants/inventory>

California Native Plant Society (CNPS). 2022a. *Inventory of Rare and Endangered Plants*. <http://www.rareplants.cnps.org>

CNPS. 2022b. *A Manual of California Vegetation Online Edition*. <https://vegetation.cnps.org/>

Sawyer, J.O., T. Keeler-Wolf and J.M Evans. 2009. *A Manual of California Vegetation, 2nd Edition*. California Native Plant Society. Sacramento, CA.

United States Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS). 2021. *Web Soil Survey*. <https://websoilsurvey.sc.egov.usda.gov>

APPENDIX A

Site Plan

SITE PLAN

PROJECT INFORMATION:

Applicant:
Peaksview, Inc.

Site Address:
1340 Bell Springs Rd.
Harris, CA

APN: 215-082-006/002

Land Owner:
Kevin Peak
PO Box 1951
Redway, CA

Agent:
Clearwater Ag Services
446 Maple Lane
Garberville, CA 95542

Mixed Light Cultivation Area:
43,200 Sq.Ft.

Trees to be Removed: None

Earthwork Quantities: See Grading Plan

Water: Rain Catchment

Sewer: Portable Toilet

Power: Generator

Parcel Size: 385 Acres

Zoning: AE-B-5(160)

General Plan Designation: AG

Easements: None

Stream Crossings: 4

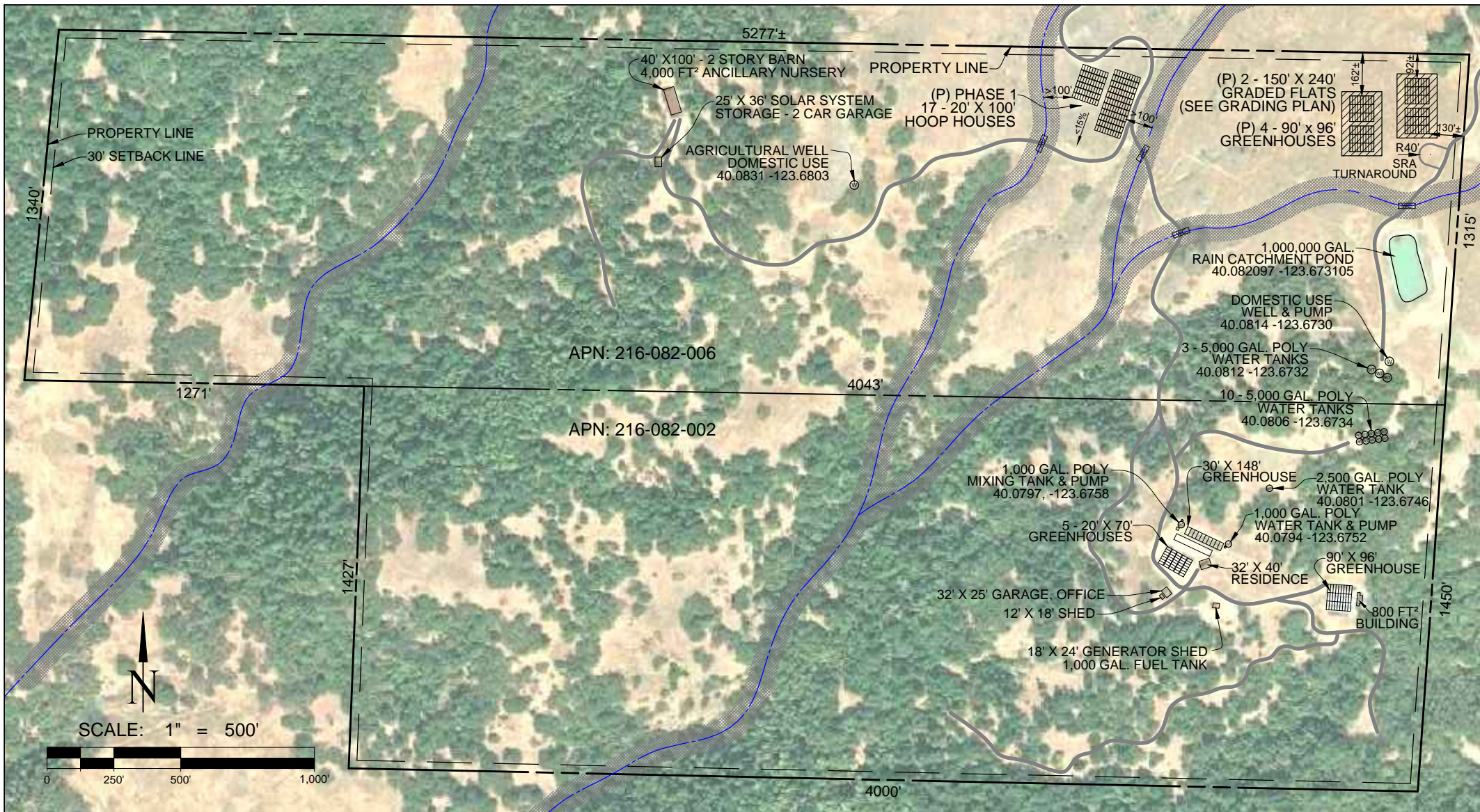
Cultivation Area < 15% Slope

DIRECTIONS TO SITE:

South on US-101
Take Exit 639B
Turn Right Onto Redwood Drive .2 Miles
Turn Right Onto Alderpoint Road 8 Miles
Turn Right Onto Bell Springs Road 1.3 Miles
To Right on Private Road
Stay Right .5 Miles to Site



707-923-2767
1/25/22



GENERAL NOTES:

1. DRAWING SCALE AS NOTED. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
2. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY INFORMATION DEPICTED HAS BEEN OBTAINED FROM HUMBOLDT COUNTY 2015 GIS DATA. APPLICANT HAS NOT VERIFIED THIS PROPERTY BOUNDARY.
3. THERE ARE NO NEARBY SCHOOLS, SCHOOL BUS STOPS, PLACES OF WORSHIP, PUBLIC PARKS OR TRIBAL RESOURCES WITHIN 600 FEET OF THE CULTIVATION AREA.
4. THERE ARE NO RESIDENCES ON ADJOINING PARCELS WITHIN 300 FEET OF THE CULTIVATION AREAS.
5. ANY EXISTING DEVELOPMENT CONSTRUCTED WITHOUT THE BENEFIT OF COUNTY REVIEW WILL BE SUBJECT TO THE HUMBOLDT COUNTY BUILDING DEPARTMENT UPON APPROVAL OF THE ZONING CLEARANCE CERTIFICATE.

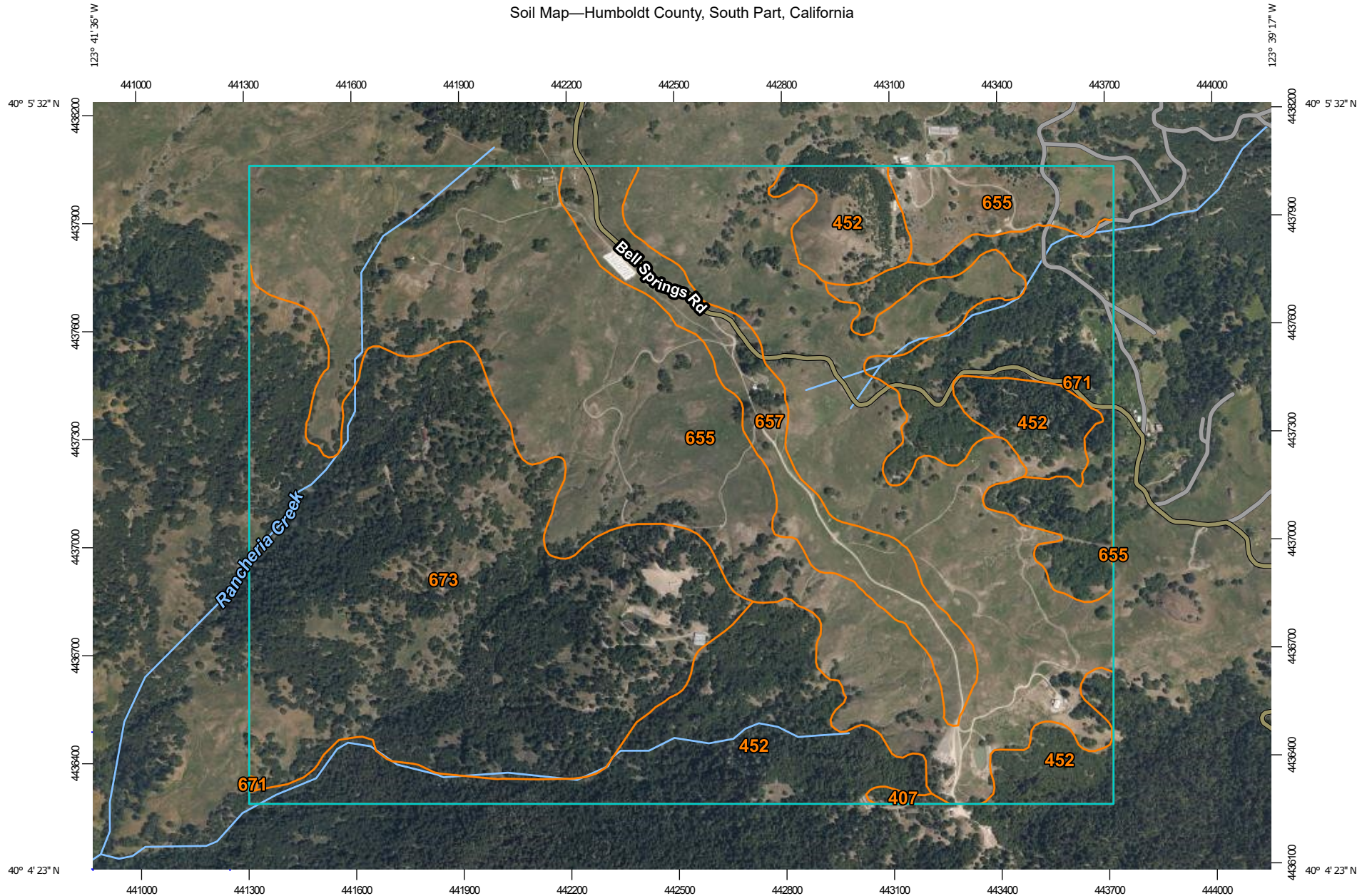
LEGEND

- PROPERTY BOUNDARY - [Dashed line]
- 30' SETBACK LINE - [Dotted line]
- GRAVEL ROAD - [Thick grey line]
- STREAMS & DRAINAGE CHANNELS - [Blue wavy line]
- WATER CROSSING - [WC in a box]
- 50' SMA - [Hatched area]

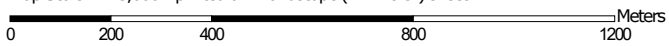
APPENDIX B

NRCA Soil Map

Soil Map—Humboldt County, South Part, California



Map Scale: 1:15,000 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils






 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humboldt County, South Part, California
 Survey Area Data: Version 10, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
407	Tannin-Wohly complex, 9 to 30 percent slopes	1.7	0.2%
452	Burgsblock-Coolyork-Tannin complex, 30 to 50 percent slopes	155.4	14.7%
655	Yorknorth-Witherell complex, 15 to 30 percent slopes	457.3	43.1%
657	Yorknorth-Witherell complex, 2 to 15 percent slopes	60.1	5.7%
671	Coolyork-Yorknorth complex, 5 to 30 percent slopes	89.5	8.4%
673	Coolyork-Yorknorth complex, 30 to 50 percent slopes	296.0	27.9%
Totals for Area of Interest		1,060.0	100.0%

APPENDIX C

Special Status Natural Community Scoping List

Scientific Name	Common Name	Global rarity	State rarity
<i>Abies grandis</i>	Grand fir forest	G4	S2.1
<i>Abronia latifolia</i> - <i>Ambrosia chamissonis</i>	Dune mat	G3	S3
<i>Acer macrophyllum</i>	Bigleaf maple forest and woodland	G4	S3
<i>Acer negundo</i>	Box-elder forest and woodland	G5	S2.2
<i>Aesculus californica</i>	California buckeye groves	G3	S3
<i>Alnus incana</i>	Mountain alder thicket	G4	S3
<i>Alnus viridis</i>	Sitka alder thickets	G5	S3?
<i>Alopecurus geniculatus</i>	Water foxtail meadows	G3?	S3?
<i>Arbutus menziesii</i>	Madrone forest	G4	S3.2
<i>Arctostaphylos bakeri</i>	Stands of Baker manzanita	G1	S1.2
<i>Arctostaphylos</i> (<i>canescens</i> , <i>manzanita</i> , <i>stanfordiana</i>)	Hoary, common, and Stanford manzanita chaparral	G3	S3
<i>Arctostaphylos montana</i>	Mount Tamalpais manzanita chaparral	G2	S2
<i>Arctostaphylos</i> (<i>nummularia</i> , <i>sensitiva</i>)	Glossy leaf manzanita chaparral	G2	S2
<i>Arctostaphylos patula</i> - <i>Arctostaphylos nevadensis</i>	Green leaf manzanita - Pinemat manzanita chaparral	G5	S3
<i>Argentina egedii</i>	Pacific silverweed marshes	G4	S2
<i>Bolboschoenus maritimus</i>	Salt marsh bulrush marshes	G4	S3
<i>Bromus carinatus</i> - <i>Elymus glaucus</i>	California brome - blue wildrye prairie	G3	S3
<i>Calamagrostis nutkaensis</i>	Pacific reed grass meadows	G4	S2
<i>Calocedrus decurrens</i>	Incense cedar forest and woodland	G4	S3.2
<i>Carex</i> (<i>aquatilis</i> , <i>lenticularis</i>)	Water sedge and lakeshore sedge meadows	G5	S3
<i>Carex barbarae</i>	White-root beds	G2?	S2?
<i>Carex densa</i>	Dense sedge marshes	G2?	S2?
<i>Carex echinata</i>	Star sedge fens	G4?	S3?
<i>Carex integra</i>	Small-fruited sedge meadows	G4?	S2?
<i>Carex luzulina</i>	Woodland sedge fens	G3	S2?
<i>Carex nudata</i>	Torrent sedge patches	G3	S3
<i>Carex obnupta</i>	Slough sedge swards	G4	S3
<i>Carex</i> (<i>pansa</i> , <i>praegracilis</i>)	Sand dune sedge swaths	G4?	S3?
<i>Carex serratodens</i>	Twotooth sedge seeps	G3	S3?
<i>Ceanothus</i> (<i>oliganthus</i> , <i>tomentosus</i>)	Hairy leaf - woolly leaf ceanothus chaparral	G3	S3
<i>Cephalanthus occidentalis</i>	Button willow thickets	G5	S2
<i>Chamaecyparis lawsoniana</i>	Port Orford cedar forest and woodland	G3	S3.1
<i>Chrysolepis chrysophylla</i>	Golden chinquapin thickets	G2	S2
<i>Chrysolepis sempervirens</i>	Bush chinquapin chaparral	G4	S3.3

Scientific Name	Common Name	Global rarity	State rarity
<i>Corylus cornuta</i> var. <i>californica</i>	Hazelnut scrub	G3	S2?
<i>Darlingtonia californica</i>	California pitcher plant fens	G4?	S3
<i>Deschampsia cespitosa</i> - <i>Hordeum brachyantherum</i> - <i>Danthonia californica</i>	Coastal tufted hair grass - Meadow barley - California oatgrass wet meadow	GNR	S3
<i>Equisetum</i> (<i>arvense</i> , <i>variegatum</i> , <i>hyemale</i>)	Field horsetail - scouringrush horsetail - variegated scouringrush wet meadow	GNR	S3
<i>Eriophyllum staechadifolium</i> - <i>Erigeron glaucus</i> - <i>Eriogonum latifolium</i>	Seaside woolly-sunflower - seaside daisy - buckwheat patches	G3	S3
<i>Festuca idahoensis</i> - <i>Danthonia californica</i>	Idaho fescue - California oatgrass grassland	GNR	S3
<i>Frangula californica</i> - <i>Rhododendron occidentale</i> - <i>Salix breweri</i>	California coffee berry - western azalea scrub - Brewer's willow	G3	S3
<i>Frankenia salina</i>	Alkali heath marsh	G4	S3
<i>Fraxinus latifolia</i>	Oregon ash groves	G4	S3.2
<i>Garrya elliptica</i>	Coastal silk tassel scrub	G3?	S3?
<i>Glyceria</i> <i>occidentalis</i>	Northwest manna grass marshes	G3?	S3?
<i>Grindelia</i> (<i>camporum</i> , <i>stricta</i>)	Gum plant patches	G2	S2
<i>Hesperocyparis macnabiana</i>	McNab cypress woodland and forest	G3	S3.2
<i>Hesperocyparis pigmaea</i>	Mendocino pygmy cypress woodland	G1	S1
<i>Hesperocyparis sargentii</i>	Sargent cypress woodland	G3	S3.2
<i>Heterotheca</i> (<i>oregona</i> , <i>sessiliflora</i>)	Goldenaster patches	G3	S3
<i>Hydrocotyle</i> (<i>ranunculoides</i> , <i>umbellata</i>)	Mats of floating pennywort	G4	S3?
<i>Isoetes</i> (<i>bolanderi</i> , <i>echinospora</i> , <i>howellii</i> , <i>nuttallii</i> , <i>occidentalis</i>)	Quillwort beds	G3	S3?
<i>Juglans hindsii</i> and Hybrids	Hinds's™ walnut and related stands	G1	S1.1
<i>Juncus lescurii</i>	Salt rush swales	G3	S2?
<i>Juncus</i> (<i>oxymeris</i> , <i>xiphioides</i>)	Iris-leaf rush seeps	G2?	S2?
<i>Leymus cinereus</i> - <i>Leymus triticoides</i>	Ashy ryegrass - creeping ryegrass turfs	G3	S3
<i>Leymus mollis</i>	Sea lyme grass patches	G4	S2
<i>Lupinus chamissonis</i> - <i>Ericameria ericoides</i>	Silver dune lupine - mock heather scrub	G3	S3
<i>Morella californica</i>	Wax myrtle scrub	G3	S3
<i>Nassella</i> spp. - <i>Melica</i> spp.	Needle grass - Melic grass grassland	G3	S3
<i>Notholithocarpus densiflorus</i>	Tanoak forest	G4	S3.2
<i>Nuphar lutea</i>	Yellow pond-lily mats	G5	S3?
<i>Oenanthe sarmentosa</i>	Water-parsley marsh	G4	S2?
<i>Picea sitchensis</i>	Sitka spruce forest and woodland	G5	S2
<i>Pinus balfouriana</i>	Foxtail pine woodland	G3	S3

Scientific Name	Common Name	Global rarity	State rarity
<i>Pinus contorta</i> ssp. <i>contorta</i>	Beach pine forest and woodland	G5	S3
<i>Pinus muricata</i> - <i>Pinus radiata</i>	Bishop pine - Monterey pine forest and woodland	G3	S3.2
<i>Populus fremontii</i> - <i>Fraxinus velutina</i> - <i>Salix gooddingii</i>	Fremont cottonwood forest and woodland	G4	S3.2
<i>Populus trichocarpa</i>	Black cottonwood forest and woodland	G5	S3
<i>Pseudotsuga menziesii</i> - <i>Calocedrus decurrens</i>	Douglas fir - incense cedar forest and woodland	G3	S3
<i>Pseudotsuga menziesii</i> - <i>Notholithocarpus densiflorus</i>	Douglas fir - tanoak forest and woodland	G3	S3
<i>Quercus garryana</i> (tree)	Oregon white oak woodland and forest	G4	S3
<i>Quercus lobata</i>	Valley oak woodland and forest	G3	S3
<i>Quercus parvula</i> var. <i>shrevei</i>	Shreve oak forests	G2	S2
<i>Quercus wislizeni</i> - <i>Quercus chrysolepis</i> (shrub)	Canyon live oak - Interior live oak chaparral	G4	S3
<i>Rhododendron columbianum</i>	Western Labrador-tea thickets	G4	S2?
<i>Rubus</i> (<i>parviflorus</i> , <i>spectabilis</i> , <i>ursinus</i>)	Coastal brambles	G4	S3
<i>Ruppia</i> (<i>cirrhusa</i> , <i>maritima</i>)	Ditch-grass or widgeon-grass mats	G4?	S2
<i>Salix gooddingii</i> - <i>Salix laevigata</i>	Goodding's willow - red willow riparian woodland and forest	G4	S3
<i>Salix hookeriana</i>	Coastal dune willow thickets	G4	S3
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Shining willow groves	G4	S3.2
<i>Salix sitchensis</i>	Sitka willow thickets	G4	S3?
<i>Sarcocornia pacifica</i> (<i>Salicornia depressa</i>)	Pickleweed mats	G4	S3
<i>Schoenoplectus</i> (<i>acutus</i> , <i>californicus</i>)	Hardstem and California bulrush marshes	GNR	S3
<i>Schoenoplectus americanus</i>	American bulrush marsh	G5	S3.2
<i>Scirpus microcarpus</i>	Small-fruited bulrush marsh	G4	S2
<i>Selaginella</i> (<i>bigelovii</i> , <i>wallacei</i>)	Bushy spikemoss mats	G4	S3
<i>Sequoia sempervirens</i>	Redwood forest and woodland	G3	S3.2
<i>Sparganium</i> (<i>angustifolium</i>)	Mats of bur-reed leaves	G4	S3?
<i>Spartina foliosa</i>	California cordgrass marsh	G3	S3.2
<i>Stuckenia</i> (<i>pectinata</i>) - <i>Potamogeton</i> spp.	Pondweed mats	G3	S3?
<i>Torreyochloa pallida</i>	Floating mats of weak manna grass	G3	S3?
<i>Trifolium variegatum</i>	White-tip clover swales	G3?	S3?
<i>Tsuga heterophylla</i>	Western hemlock forest	G5	S2
<i>Umbellularia californica</i>	California bay forest and woodland	G4	S3
<i>Vaccinium uliginosum</i>	Bog blueberry wet meadows	G4	S3

Scientific Name	Common Name	Global rarity	State rarity
Vitis arizonica - Vitis girdiana	Wild grape shrubland	G3	S3
Zostera (marina, pacifica) Pacific Aquatic	Eelgrass beds	GNR	S3

Global (G) Rankings

G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.

G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.

G3 = 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.

G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.

G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world

State (S) Rankings

S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres

S1.1 = very threatened

S1.2 = threatened

S1.3 = no current threats known

S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 = very threatened

S2.2 = threatened

S2.3 = no current threats known

S3 = 21-80 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 = very threatened

S3.2 = threatened

S3.3 = no current threats known

S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.

S5 = Demonstrably secure to ineradicable in California.