



## **Botanical Survey Results**

Mayers Flat Farms  
(APN: 211-372-006)

**Prepared by:**

Kyle Wear  
Botanical Consultant  
kyle\_wear@suddenlink.net  
(707) 601-1725

**Prepared for:**

Timberland Resource Consultants  
165 South Fortuna Blvd.  
Fortuna, CA 95540

**Date:**

October 2021

**TABLE OF CONTENTS**

|  | <u>Page</u> |
|--|-------------|
| <b>1. INTRODUCTION</b> .....                         | 1           |
| <b>2. DEFINITIONS</b> .....                          | 1           |
| 2.1. Special Status Plants.....                      | 1           |
| 2.2. Special Status Plant Communities.....           | 1           |
| 2.3. Wetlands.....                                   | 1           |
| 2.4. Invasive Plants.....                            | 1           |
| <b>3. ENVIRONMENTAL SETTING</b> .....                | 2           |
| 3.1. Project Location.....                           | 2           |
| 3.2. Soil, Topography, and Hydrology.....            | 2           |
| 3.3. Vegetation.....                                 | 2           |
| <b>4. METHODS</b> .....                              | 2           |
| 4.1. Scoping.....                                    | 2           |
| 4.2. Survey.....                                     | 4           |
| <b>5. RESULTS</b> .....                              | 4           |
| 5.1. Special Status Plants.....                      | 4           |
| 5.2. Special Status Natural Communities.....         | 4           |
| 5.3. Wetlands.....                                   | 14          |
| 5.4. Invasive Plants.....                            | 14          |
| <b>6. POTENTIAL FOR FALSE NEGATIVE SURVEYS</b> ..... | 14          |
| <b>7. IMPACT ASSEMENT AND RECOMMENDATIONS</b> .....  | 15          |
| <b>8. REFERENCES</b> .....                           | 15          |

**List of Figures**

|                                      |    |
|--------------------------------------|----|
| Figure 1. Location Map.....          | 3  |
| Figure 2. Survey Coverage Map.....   | 10 |
| Figure 3. Vegetation Impact Map..... | 16 |

**List of Tables**

|   |    |
|---|----|
| Table 1. Special Status Plant Scoping List..... | 5  |
| Table 2. Plant List.....                        | 11 |

**Appendices**

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

## 1. INTRODUCTION

This botanical survey was conducted at Mayers Flat Farms (APN: 211-372-006) to identify special status plants and plant communities that could be impacted by development on the parcel for cannabis cultivation. This report also addresses wetlands and invasive plants.

The project includes eleven greenhouses with a total cultivation area of 41,300 square feet in addition to a 3,900-square-foot propagation area and several structures related to drying and storage (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. Wetlands

The Army Corps of Engineers defines wetlands as:

“...areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

### 2.4. 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 2021). 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 off Dyerville Loop Road near Myers Flat on the Myers Flat 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 types mapped on the parcel are Yorknorth-Windynip complex and Sproulish-Canoecreek-Redwohly complex (United States Department of Agriculture, Natural Resource Conservation Service 2021) (Appendix B). The soils are derived from sandstone, mudstone, schist, and conglomerate parent material.

The project area ranges from a relatively flat ridge to an approximately 25% generally southwest-facing slope. The parcel includes wetlands and tributaries of Elk Creek, which drains into the South Fork Eel River.

#### 3.3. Vegetation

The parcel includes coniferous forest, grasslands, and seasonal wetlands. Most of the proposed cultivation is on existing cultivation footprints or in previously graded areas.

The forest on the parcel includes a canopy of Douglas-fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus* var. *densiflorus*). There are scattered Oregon white oak (*Quercus garryana*) trees around the forest/grassland edge. Other common trees include canyon live oak (*Quercus chrysolepis*) and California bay (*Umbellularia californica*).

The grasslands are generally dominated by non-native grasses including harding grass (*Phalaris aquatica*), wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), Mediterranean barley (*Hordeum marinum*), six weeks grass (*Festuca myuros*), and dogtail grass (*Cynosurus echinatus*). There is a native grass component that includes California oatgrass (*Danthonia californica*) and blue wildrye (*Elymus glaucus* ssp. *glaucus*). Other native plants noted in the grasslands include California poppy (*Eschscholzia californica*) and miniature lupine (*Lupinus bicolor*).

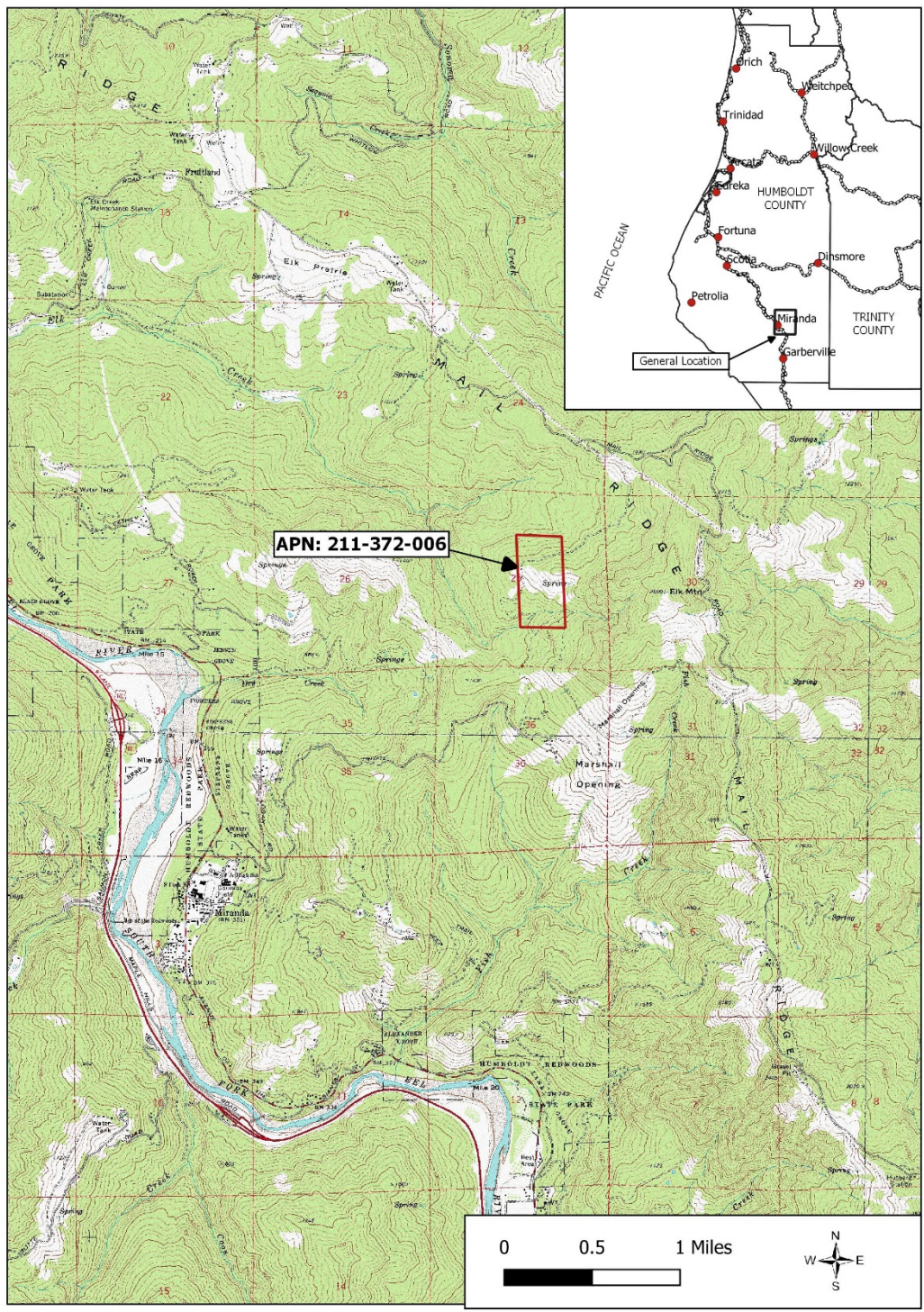
The wetlands are dominated by rushes (*Juncus patens* and *J. effusus*). Other plants in the wetlands include pennyroyal (*Mentha pelugium*), nut grass (*Cyperus eragrostis*), and green leaved sedge (*Carex feta*).

### 4. METHODS

#### 4.1. Scoping

A list of special status plants that could potentially occur on the parcel was generated by consulting the *California Natural Diversity Database* (CDFW 2021) and the *CNPS Inventory of Rare and Endangered Plants* (CNPS 2021a). The scoping list includes special status plants with

Figure 1. Location Map.



documented occurrences on the Myers Flat 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 2021b) is provided in Appendix C.

#### **4.2. Survey**

The survey was conducted by Kyle Wear, M.A. Mr. Wear has over 25 years of experience conducting botanical surveys and other biological work in northern California. Mr. Wear is trained in wetland delineation by the Wetland Training Institute.

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). The project area was surveyed on April 15, May 28, and July 29, 2021. 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 2021b).

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 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 on the surveys. A list of all plants observed on the surveys is provided in Table 2.

#### **5.2. Special Status Natural Communities**

The forest on the parcel is consistent with Douglas fir – tanoak forest and woodland alliance, which has a rarity ranking of G3 S3 and is considered a special status natural community.

The grasslands on the parcel are generally dominated by non-native grasses as described in Section 3.3. California oatgrass (*Danthonia californica*) and blue wildrye (*Elymus glaucus*) are present in the grasslands at approximately 1-5% cover overall. However, there are areas that were noted outside the project footprint with higher cover (10-30+%). Cover of *Danthonia californica* would need to be 10% or higher to meet the criteria for Idaho fescue - California

Table 1. Special Status Plant Scoping List.

| <b>Scientific Name<br/>Common Name</b>                                  | <b>Listing<br/>Status</b> | <b>Blooming<br/>Period</b>    | <b>Habitat</b>  | <b>Potential to Occur in<br/>project area</b>  |
|---|---------------------------|-------------------------------|---|--|
| <i>Astragalus agnicidus</i><br>Humboldt County milk-<br>vetch           | 1B.1,<br>CE               | Apr-Sep                       | Broadleafed upland<br>forest, North Coast<br>coniferous forest-<br>openings, disturbed<br>areas, sometimes<br>roadsides                     | High-along roads and<br>disturbed areas,<br>potential seed bank<br>present                                   |
| <i>Carex arcta</i><br>northern clustered<br>sedge                       | 2B.2                      | Jun-Sep                       | Bogs and fens, North<br>Coast coniferous forest<br>(mesic)  | Unlikely-not<br>associated with upland<br>grassland, more<br>potential in wetlands<br>on parcel              |
| <i>Castilleja ambigua</i> var.<br><i>ambigua</i><br>johnny-nip          | 4.2                       | Mar-Aug                       | Coastal bluff scrub,<br>Coastal prairie, Coastal<br>scrub, Marshes and<br>swamps, Valley and<br>foothill grassland,<br>Vernal pools margins | Moderate-in<br>grasslands  |
| <i>Coptis laciniata</i><br>Oregon goldthread                            | 4.2                       | (Feb)Mar-<br>May(Sep-<br>Nov) | Meadows and seeps,<br>North Coast coniferous<br>forest (streambanks)-<br>Mesic  | Unlikely-typically<br>occurs in riparian<br>habitat  |
| <i>Cypripedium</i><br><i>fasciculatum</i><br>clustered lady's-slipper   | 4.2                       | Mar-Aug                       | Lower montane<br>coniferous forest, North<br>Coast coniferous forest-<br>usually serpentinite<br>seeps and streambanks                      | Unlikely-not<br>associated with<br>grasslands, more<br>potential in forest and<br>along streams on<br>parcel |
| <i>Epilobium</i><br><i>septentrionale</i><br>Humboldt County<br>fuchsia | 4.3                       | Jul-Sep                       | Broadleafed upland<br>forest, North Coast<br>coniferous forest-sandy<br>or rocky  | Unlikely- typical rocky<br>not habitat present   |
| <i>Erigeron biolettii</i><br>streamside daisy                           | 3                         | Jun-Oct                       | Broadleafed upland<br>forest, Cismontane<br>woodland, North Coast<br>coniferous forest-rocky,<br>mesic                                      | Unlikely-typical rocky<br>mesic habitat, maybe<br>more potential<br>elsewhere on parcel                      |
| <i>Erigeron robustior</i><br>robust daisy                               | 4.3                       | Jun-Jul                       | Lower montane<br>coniferous forest,<br>Meadows and seeps-<br>sometimes serpentinite   | Unlikely-not<br>associated with upland<br>grassland, more<br>potential in wetlands<br>on parcel              |
| <i>Erythronium oregonum</i><br>giant fawn lily                          | 2B.2                      | Mar-<br>Jun(Jul)              | Cismontane woodland,<br>Meadows and seeps-  | Unlikely-typically not<br>associated with  |

| <b>Scientific Name<br/>Common Name</b>                              | <b>Listing<br/>Status</b> | <b>Blooming<br/>Period</b> | <b>Habitat</b>   | <b>Potential to Occur in<br/>project area</b>   |
|---|---------------------------|----------------------------|--|---|
|   |                           |                            | sometimes serpentinite,<br>rocky, openings   | grasslands, more<br>potential along<br>streams and forest on<br>parcel  |
| <i>Erythronium revolutum</i><br>coast fawn lily                     | 2B.2                      | Mar-<br>Jul(Aug)           | Bogs and fens,<br>Broadleafed upland<br>forest, North Coast<br>coniferous forest-Mesic,<br>streambanks                           | Unlikely-typically not<br>associated with<br>grasslands, more<br>potential along<br>streams and forest on<br>parcel |
| <i>Fritillaria purdyi</i><br>Purdy's fritillary                     | 4.3                       | Mar-Jun                    | Chaparral, Cismontane<br>woodland, Lower<br>montane coniferous<br>forest-usually<br>serpentinite                                 | Unlikely-not<br>associated with<br>grasslands   |
| <i>Gilia capitata ssp.</i><br><i>pacifica</i><br>Pacific gilia      | 1B.2                      | Apr-Aug                    | Coastal bluff scrub,<br>Chaparral (openings),<br>Coastal prairie, Valley<br>and foothill grassland                               | High-in grasslands  |
| <i>Hemizonia congesta</i><br><i>ssp. tracyi</i><br>Tracy's tarplant | 4.3                       | May-Oct                    | Coastal prairie, Lower<br>montane coniferous<br>forest, North Coast<br>coniferous forest-<br>openings, sometimes<br>serpentinite | High-in grasslands  |
| <i>Howellia aquatilis</i><br>water howellia                         | 2B.2,<br>FT               | Jun                        | Marshes and swamps<br>(freshwater)   | Unlikely-parcel lacks<br>marshes and swamps   |
| <i>Kopsiopsis hookeri</i><br>small groundcone                       | 2B.3                      | Apr-Aug                    | North Coast coniferous<br>forest   | Unlikely-not<br>associated with<br>grasslands, more<br>potential in forest<br>understory on parcel                  |
| <i>Lathyrus glandulosus</i><br>sticky pea                           | 4.3                       | Apr-Jun                    | Cismontane woodland  | Moderate-High-along<br>roads  |
| <i>Leptosiphon acicularis</i><br>bristly leptosiphon                | 4.2                       | Apr-Jul                    | Chaparral, Cismontane<br>woodland, Coastal<br>prairie, Valley and<br>foothill grassland  | High-in grasslands  |
| <i>Leptosiphon latisectus</i><br>broad-lobed<br>leptosiphon         | 4.3                       | Apr-Jun                    | Broadleafed upland<br>forest, Cismontane<br>woodland   | High-in grasslands  |
| <i>Lilium kelloggii</i><br>Kellogg's lily                           | 4.3                       | May-Aug                    | Lower montane<br>coniferous forest, North  | Moderate-along roads  |



| <b>Scientific Name<br/>Common Name</b>  | <b>Listing<br/>Status</b> | <b>Blooming<br/>Period</b> | <b>Habitat</b>  | <b>Potential to Occur in<br/>project area</b>  |
|---|---------------------------|----------------------------|---|--|
|   |                           |                            | Coast coniferous forest-<br>Openings, roadsides   |  |
| <i>Lilium rubescens</i><br>redwood lily   | 4.2                       | Apr-<br>Aug(Sep)           | Broadleafed upland<br>forest, Chaparral, Lower<br>montane coniferous<br>forest, North Coast<br>coniferous forest, Upper<br>montane coniferous<br>forest-Sometimes<br>serpentinite, sometimes<br>roadsides | High-along roads   |
| <i>Lilium<br/>washingtonianum ssp.<br/>purpurascens</i><br>purple-flowered<br>Washington lily | 4.3                       | Jun-Aug                    | Chaparral, Lower<br>montane coniferous<br>forest, Upper montane<br>coniferous forest-often<br>serpentinite  | Unlikely-not<br>associated with<br>grasslands  |
| <i>Listera cordata</i><br>heart-leaved<br>twayblade   | 4.2                       | Feb-Jul                    | Bogs and fens, Lower<br>montane coniferous<br>forest, North Coast<br>coniferous forest  | Unlikely-not<br>associated with<br>grasslands, more<br>potential in forest<br>understory on parcel |
| <i>Lycopodium clavatum</i><br>running-pine  | 4.1                       | Jun-<br>Aug(Sep)           | Lower montane<br>coniferous forest<br>(mesic), Marshes and<br>swamps, North Coast<br>coniferous forest<br>(mesic)-<br>often edges, openings,<br>and roadsides   | Unlikely-not<br>associated with<br>grasslands, typically<br>more mesic redwood<br>forest           |
| <i>Lycopus uniflorus</i><br>northern bugleweed  | 4.3                       | Jul-Sep                    | Bogs and fens, Marshes<br>and swamps  | Unlikely-not<br>associated with<br>grasslands, more<br>potential in wetlands<br>on parcle          |
| <i>Meesia triquetra</i><br>three-ranked hump<br>moss  | 4.2                       | Jul                        | Bogs and fens,<br>Meadows and seeps,<br>Subalpine coniferous<br>forest, Upper montane<br>coniferous forest<br>(mesic)-soil  | Unlikely-not<br>associated with<br>grasslands, occurs in<br>higher elevation<br>habitat.           |
| <i>Mitellastr a caulescens</i><br>leafy-stemmed<br>mitrewort                                  | 4.2                       | (Mar)Apr-<br>Oct           | Broadleafed upland<br>forest, Lower montane<br>coniferous forest,<br>Meadows -and seeps,  | Unlikely-not<br>associated with<br>grasslands  |

| <b>Scientific Name<br/>Common Name</b>                                  | <b>Listing<br/>Status</b> | <b>Blooming<br/>Period</b> | <b>Habitat</b>   | <b>Potential to Occur in<br/>project area</b>  |
|---|---------------------------|----------------------------|--|--|
|   |                           |                            | North Coast coniferous forest mesic, sometimes roadsides   |  |
| <i>Montia howellii</i><br>Howell's montia                               | 2B.2                      | (Jan-Feb)Mar-May           | Meadows and seeps, North Coast coniferous forest, Vernal pools-vernally mesic, sometimes roadsides                               | Moderate-along roads, but site is mostly too dry                                       |
| <i>Navarretia leucocephala</i> ssp. <i>bakeri</i><br>Baker's navarretia | 1B.1                      | Apr-Jul                    | Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools-Mesic       | Unlikely-not associated with upland grassland, more potential in wetlands on parcel    |
| <i>Packera bolanderi</i> var. <i>bolanderi</i><br>seacoast ragwort      | 2B.2                      | (Jan-Apr)May-Jul(Aug)      | Coastal scrub, North Coast coniferous forest-Sometimes roadsides   | Moderate-along roads/roadcuts  |
| <i>Piperia candida</i><br>white-flowered rein orchid                    | 1B.2                      | (Mar)May-Sep               | Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest-sometimes serpentinite                 | Unlikely-not associated with grasslands, more potential in forest understory on parcel |
| <i>Pityopus californicus</i><br>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, more potential in forest understory on parcel |
| <i>Pleuropogon refractus</i><br>nodding semaphore grass                 | 4.2                       | (Mar)Apr-Aug               | Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest-Mesic                         | Unlikely-occurs in riparian habitat  |
| <i>Ribes roezlii</i> var. <i>amictum</i><br>hoary gooseberry            | 4.3                       | Mar-Apr                    | Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest                 | Moderate-along roads and open areas  |
| <i>Sanicula tracyi</i><br>Tracy's sanicle                               | 4.2                       | Apr-Jul                    | Cismontane woodland, Lower montane coniferous forest, Upper  | Unlikely-maybe some potential in grasslands  |

| <b>Scientific Name<br/>Common Name</b>                          | <b>Listing<br/>Status</b> | <b>Blooming<br/>Period</b> | <b>Habitat</b>  | <b>Potential to Occur in<br/>project area</b>  |
|---|---------------------------|----------------------------|---|--|
|   |                           |                            | montane coniferous forest-openings  |  |
| <i>Sidalcea malachroides</i><br>maple-leaved checkerbloom       | 4.2                       | (Mar)Apr-Aug               | Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland- Often in disturbed areas | Moderate-in grasslands, along roads, edges   |
| <i>Sidalcea malviflora ssp. patula</i><br>Siskiyou checkerbloom | 1B.2                      | (Apr)May-Aug               | Coastal bluff scrub, Coastal prairie, North Coast coniferous forest- often roadcuts   | High-in grasslands   |
| <i>Tracyina rostrata</i><br>beaked tracyina                     | 1B.2                      | May-Jun                    | Chaparral, Cismontane woodland, Valley and foothill grassland   | High-in grasslands   |
| <i>Usnea longissima</i><br>Methuselah's beard lichen            | 4.2                       |                            | Broadleafed upland forest, North Coast coniferous forest-On tree branches; usually on old growth hardwoods and conifers               | Unlikely-not associated with grasslands, more potential in conifer and hardwood branches on parcel |
| <i>Wyethia longicaulis</i><br>Humboldt County wyethia           | 4.3                       | May-Jul                    | Broadleafed upland forest, Coastal prairie, Lower montane coniferous forest- sometimes roadsides                                      | High-in 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)

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.



Table 2. Plant List.

| Scientific Name                            | Common Name         |
|--|---------------------|
| <i>Achillea millefolium</i>                | common yarrow       |
| <i>Acmispon americanus var. americanus</i> | lotus               |
| <i>Acmispon parviflorus</i>                | lotus               |
| <i>Aira caryophyllea</i>                   | European hairgrass  |
| <i>Anisocarpus madioides</i>               | woodland madia      |
| <i>Anthoxanthum odoratum</i>               | sweet vernal grass  |
| <i>Arbutus menziesii</i>                   | Pacific madrone     |
| <i>Arrhenatherum elatius</i>               | tall oatgrass       |
| <i>Avena barbata</i>                       | slender wild oat    |
| <i>Baccharis pilularis</i>                 | coyote brush        |
| <i>Bellis perennis</i>                     | English daisy       |
| <i>Briza maxima</i>                        | rattlesnake grass   |
| <i>Bromus diandrus</i>                     | ripgut grass        |
| <i>Bromus hordeaceus</i>                   | soft chess          |
| <i>Calandrinia cilata</i>                  | red maids           |
| <i>Calystegia sp.</i>                      | morning glory       |
| <i>Cardamine californica</i>               | milk maids          |
| <i>Carduus pycnocephalus</i>               | Italian thistle     |
| <i>Carex feta</i>                          | feta sedge          |
| <i>Carex gynodynamis</i>                   | Olney's hairy sedge |
| <i>Centaurea solstitialis</i>              | yellow starthistle  |
| <i>Chamomilla suaveolens</i>               | pineapple weed      |
| <i>Chloroglaum pomeridianum</i>            | soaproot            |
| <i>Cirsium vulgare</i>                     | bull thistle        |
| <i>Claytonia perfoliata</i>                | miner's lettuce     |
| <i>Convolvulus arvensis</i>                | field bindweed      |
| <i>Croton setigerus</i>                    | dove weed           |
| <i>Cryptantha sp.</i>                      | cryptantha          |
| <i>Cynoglossum grande</i>                  | hound's-tongue      |
| <i>Cynosurus echinatus</i>                 | dogtail grass       |
| <i>Cyperus eragrostis</i>                  | nut-grass           |
| <i>Dactylis glomerata</i>                  | orchard grass       |
| <i>Danthonia californica</i>               | California oatgrass |
| <i>Daucus carota</i>                       | Queen Anne's lace   |
| <i>Daucus pusillus</i>                     | rattlesnake weed    |
| <i>Dichelostemma capitatum</i>             | blue dicks          |
| <i>Elymus glaucus ssp. glaucus</i>         | blue wildrye        |

| Scientific Name   | Common Name               |
|---|---------------------------|
| <i>Epilobium brachycarpum</i>                               | parched fireweed          |
| <i>Eriophyllum lanatum</i>                                  | woolly sunflower          |
| <i>Erodium botrys</i>                                       | long-beaked storksbill    |
| <i>Eschscholzia californica</i>                             | California poppy          |
| <i>Festuca arundinacea</i>                                  | tall fescue               |
| <i>Festuca californica</i>                                  | California fescue         |
| <i>Festuca myuros</i>                                       | rattail sixweeks grass    |
| <i>Festuca perennis</i>                                     | rye grass                 |
| <i>Fragaria vesca</i>                                       | wood strawberry           |
| <i>Galium aparine</i>                                       | goose grass               |
| <i>Galium</i> sp.   | bedstraw                  |
| <i>Gastridium phleoides</i>                                 | nit grass                 |
| <i>Geranium dissectum</i>                                   | cut-leaved geranium       |
| <i>Hemizonia congesta</i> ssp. <i>luzulaefolia</i>          | Hayfield tarweed          |
| <i>Hieracium albiflorum</i>                                 | white hawkweed            |
| <i>Holcus lanatus</i>                                       | common velvet grass       |
| <i>Hordeum marinum</i>                                      | Mediterranean barley      |
| <i>Hypericum perforatum</i>                                 | St. John's-wort           |
| <i>Hypochaeris radicata</i>                                 | hairy cat's-ear           |
| <i>Iris purdyi</i>  | Purdy's iris              |
| <i>Juncus bufonius</i>                                      | common toad rush          |
| <i>Juncus effusus</i>                                       | common rush               |
| <i>Juncus patens</i>  | spreading rush            |
| <i>Lasthenia californica</i> ssp. <i>californica</i>        | California Goldfields     |
| <i>Lathyrus vestitus</i>                                    | wood pea                  |
| <i>Lepidium</i> sp.   | peppergrass or pepperwort |
| <i>Leucanthemum vulgare</i>                                 | ox-eye daisy              |
| <i>Limnanthes douglasii</i>                                 | Douglas' meadowfoam       |
| <i>Linum bienne</i>   | western blue flax         |
| <i>Logfia gallica</i>                                       | narrow-leaved filago      |
| <i>Lonicera hispidula</i>                                   | hairy honeysuckle         |
| <i>Lupinus bicolor</i>                                      | miniature lupine          |
| <i>Luzula comosa</i>  | common wood rush          |
| <i>Lysimachia arvensis</i>                                  | scarlet pimpernel         |
| <i>Madia sativa</i>   | coast tarweed             |
| <i>Mentha pulegium</i>                                      | pennyroyal                |
| <i>Micropus californicus</i>                                | slender cottonweed        |
| <i>Notholithocarpus densiflorus</i> var. <i>densiflorus</i> | tanoak                    |
| <i>Osmorhiza berteroi</i>                                   | sweet-cicely              |

| Scientific Name  | Common Name             |
|--|-------------------------|
| <i>Parentucellia viscosa</i>                             | yellow parentucellia    |
| <i>Pentagramma triangularis</i> ssp. <i>triangularis</i> | goldback fern           |
| <i>Perideria kelloggii</i>                               | kellogg's yampah        |
| <i>Phalaris aquatica</i>                                 | harding grass           |
| <i>Phoradendron leucarpum</i>                            | mistletoe               |
| <i>Plantago lanceolata</i>                               | English plantain        |
| <i>Plectritis congesta</i> ssp. <i>brachystemon</i>      | shortspur seablush      |
| <i>Polygala californica</i>                              | California milkwort     |
| <i>Polystichum munitum</i>                               | sword fern              |
| <i>Prunella vulgaris</i>                                 | self-heal               |
| <i>Pseudotsuga menziesii</i>                             | Douglas-fir             |
| <i>Psilocarphus tenellus</i>                             | woolly marbles          |
| <i>Pteridium aquilinum</i> var. <i>pubescens</i>         | bracken fern            |
| <i>Quercus chrysolepis</i>                               | canyon live oak         |
| <i>Quercus garryana</i>                                  | Oregon white oak        |
| <i>Ranunculus</i> sp.                                    | buttercup               |
| <i>Rosa</i> sp.  | rose                    |
| <i>Rubus leucodermis</i>                                 | white-stemmed raspberry |
| <i>Rubus ursinus</i>                                     | California blackberry   |
| <i>Rumex acetosella</i>                                  | sheep sorrel            |
| <i>Rumex crispus</i>                                     | curly dock              |
| <i>Rumex pulcher</i>                                     | fiddle dock             |
| <i>Sanicula bipinnatifida</i>                            | purple sanicle          |
| <i>Sanicula crassicaulis</i>                             | Pacific snakeroot       |
| <i>Scoliopus bigelovii</i>                               | slink-pod               |
| <i>Senecio minimus</i>                                   | coast fireweed          |
| <i>Sherardia arvensis</i>                                | field madder            |
| <i>Silybum marianum</i>                                  | milk thistle            |
| <i>Sisyrinchium bellum</i>                               | blue-eyed-grass         |
| <i>Sonchus oleraceus</i>                                 | common sow thistle      |
| <i>Spergularia rubra</i>                                 | purple sand spurry      |
| <i>Stachys ajugoides</i>                                 | hedge nettle            |
| <i>Stellaria media</i>                                   | common chickweed        |
| <i>Torilis arvensis</i>                                  | rattlesnake weed        |
| <i>Toxicodendron diversilobum</i>                        | poison-oak              |
| <i>Trifolium angustifolium</i>                           | narrow leaved clover    |
| <i>Trifolium dubium</i>                                  | little hop clover       |
| <i>Trifolium glomeratum</i>                              | clustered clover        |
| <i>Trifolium subterraneum</i>                            | subterranean clover     |

| Scientific Name                 | Common Name           |
|---------------------------------|-----------------------|
| <i>Triphysaria pusilla</i>      | dwarf orthocarpus     |
| <i>Triteleia hyacinthina</i>    | white hyacinth        |
| <i>Umbellularia californica</i> | California-bay        |
| <i>Vaccinium ovatum</i>         | evergreen huckleberry |
| <i>Vicia sativa</i>             | vetch                 |
| <i>Viola glabella</i>           | stream violet         |
| <i>Whipplea modesta</i>         | modesty               |

oatgrass grassland and *Elymus glaucus* would need to be at least 30% to meet the membership criteria for California brome - blue wildrye prairie. Although vegetation classification does not have a scale, these areas are relatively small and likely below a practical mapping unit.

### 5.3. Wetlands

A wetland delineation was conducted on the parcel in December 2018. The seasonal wetland polygons and 100-foot setbacks are shown on the plot plan (Appendix A).

### 5.4. Invasive Plants

No highly invasive plants were noted on the parcel.

## 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.

The climatic conditions were relatively dry in the spring of 2021 with lower-than-normal rainfall accumulation. Temperature, which is the primary factor controlling plant phenology, was within normal ranges. Although the spring was dry, plant phenology in general did not seem to be affected, many species were at peak bloom during typical timing.



## 7. IMPACT ASSEMENT AND RECOMMENDATIONS

Most of the project footprint is on already disturbed or developed areas. The additional grading will impact approximately 17,630 square feet (0.40 acre) of grassland (Figure 3). The grassland in these areas is dominated by harding grass and other non-native grasses with cover of California oatgrass and blue wildrye less than 5% cover and below cover criteria for special status grasslands.

The project will not impact Douglas fir – tanoak forest, oak trees, and is outside 100-foot wetland setbacks.

## 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) 2021. *California Natural Diversity Database (CNDDDB) 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. 2021. *The Cal-IPC Inventory*. <https://www.cal-ipc.org/plants/inventory>

California Native Plant Society (CNPS). 2021a. *Inventory of Rare and Endangered Plants*. <http://www.rareplants.cnps.org>

CNPS. 2021b. *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, 2<sup>nd</sup> Edition*. California Native Plant Society. Sacramento, CA.

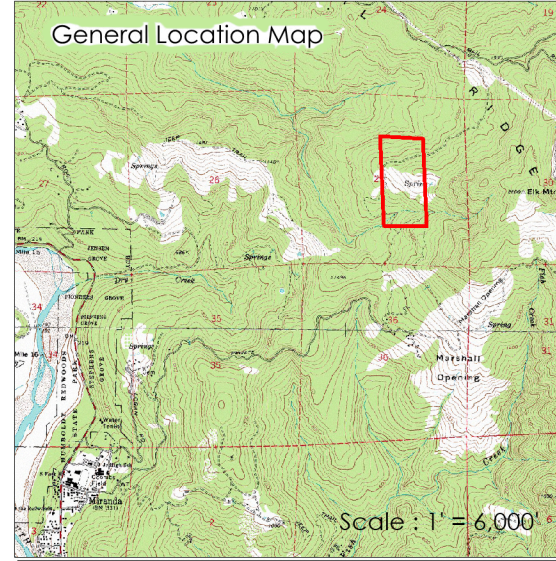
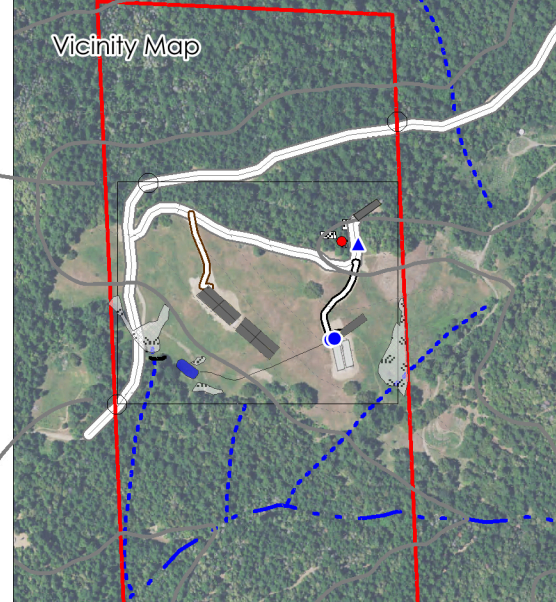
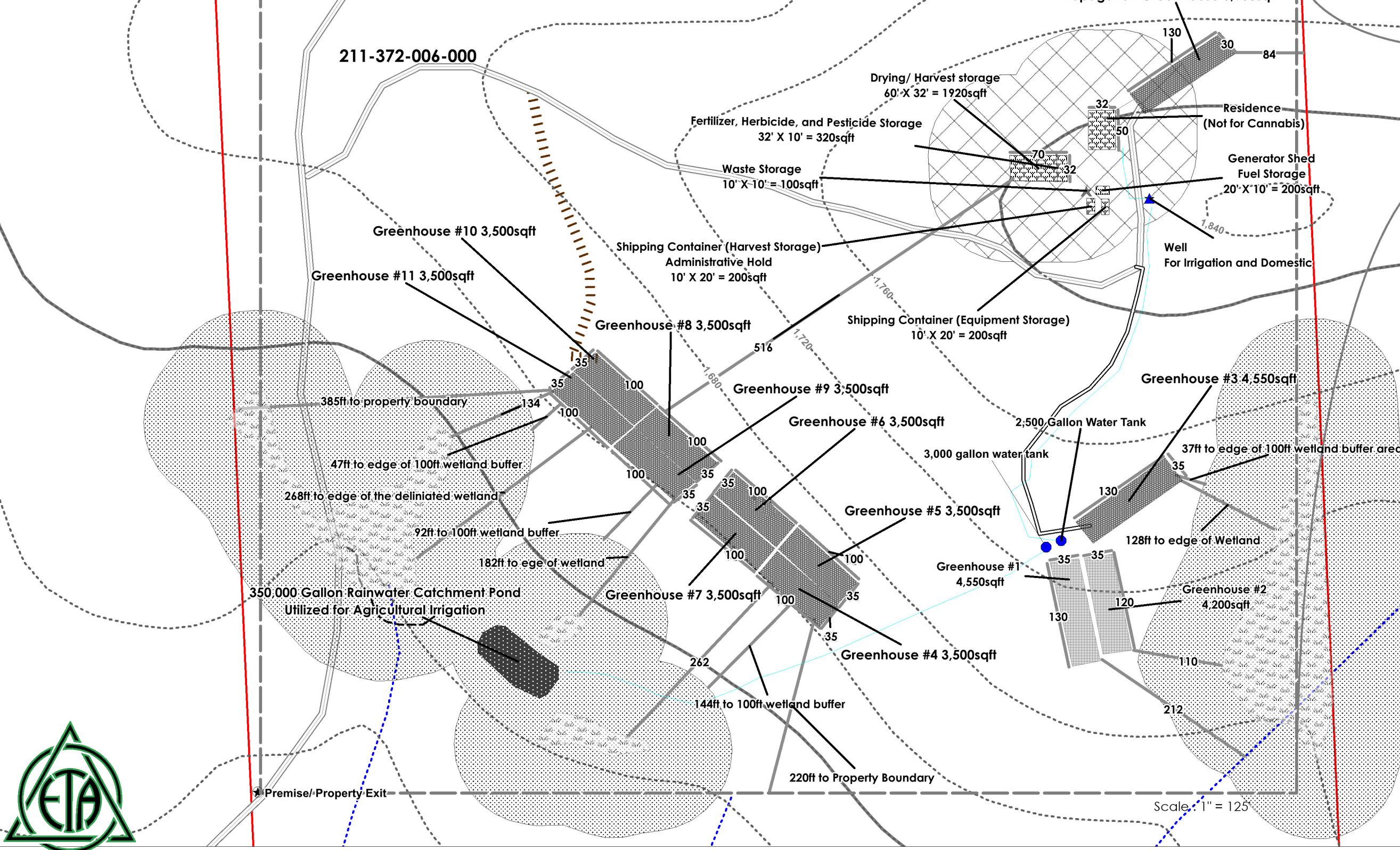
United States Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS). 2021. *Web Soil Survey*. <https://websoilsurvey.sc.egov.usda.gov>

Figure 3. Vegetation Impact Map.



# APPENDIX A. Plot Plan

# Humboldt County Plot Plan



**Legend**

- Property Boundary
- Premise
- Proposed Cultivation
- Delineated Wetland
- 100ft Wetland Buffer
- Existing Cultivation Area
- Structure
- 100ft Fire Prevention Setback
- Pond
- Water Line
- Myers Flat Topographic 40ft Interval
- Myers Flat Topographic 200ft Interval
- Measurement (US Survey Feet)

**Roads**

- Permanent
- Proposed
- Seasonal
- Trail

**Watercourse**

- Class I
- Class II
- Class III

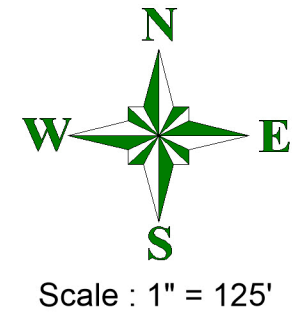
**Property Information**

Owner Name: MAYERS FLAT FARM INC  
 Mailing Address: PO BOX 2114 REDWAY CA 95560  
 APN : 211-372-006  
 Use Type: TIMBER PRESERVE  
 Use Code:7008  
 Lot Acres: 80

**Cultivation Areas**

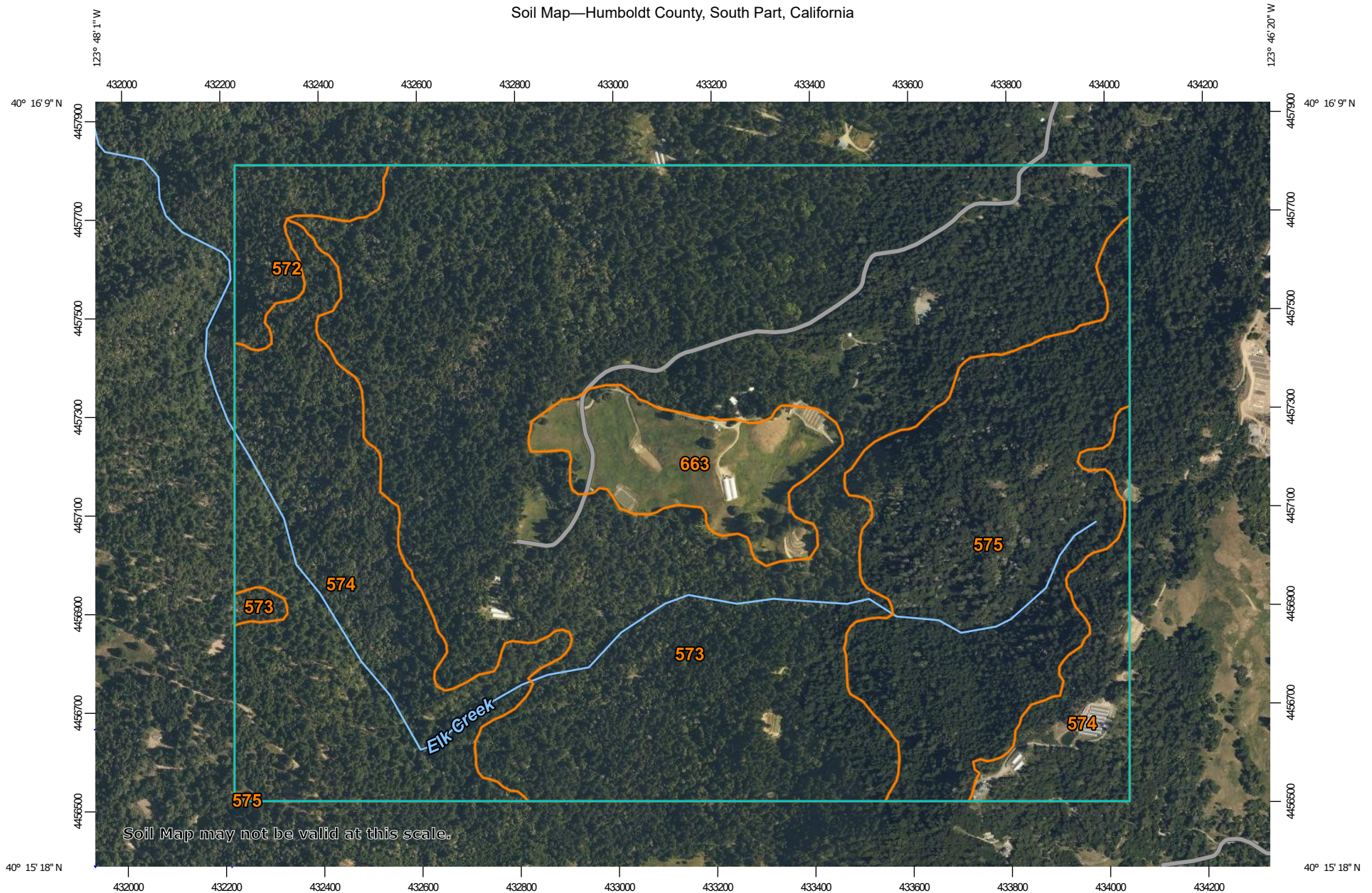
Total Cultivation : 41,300sqft

Greenhouse #1 : 130X35 4,550sqft  
 Greenhouse #2 : 120X35 4,200sqft  
 Greenhouse #3 : 130X35 4,550sqft<sup>OW</sup>  
 Greenhouse #4 : 100X35 3,500sqft  
 Greenhouse #5 : 100X35 3,500sqft  
 Greenhouse #6 : 100X35 3,500sqft  
 Greenhouse #7 : 100X35 3,500sqft  
 Greenhouse #8 : 100X35 3,500sqft  
 Greenhouse #9 : 100X35 3,500sqft  
 Greenhouse #10 : 100X35 3,500sqft  
 Greenhouse #11 : 100X35 3,500sqft  
 Propagation Greenhouse: 130X30ft 3,900sqft  
 (Propagation not accounted for in total sqft.)

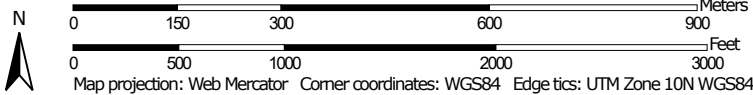


# APPENDIX B. NRCS Soil Map

Soil Map—Humboldt County, South Part, California



Map Scale: 1:10,900 if printed on A landscape (11" x 8.5") sheet.



## 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.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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 |
|------------------------------------|--|--------------|----------------|
| 572                                | Canocreek-Sproulis-Redwohly complex, 50 to 75 percent slopes       | 14.8         | 2.5%           |
| 573                                | Sproulis-Canocreek-Redwohly complex, 15 to 30 percent slopes, warm | 325.3        | 55.8%          |
| 574                                | Sproulis-Canocreek-Redwohly complex, 30 to 50 percent slopes, warm | 117.7        | 20.2%          |
| 575                                | Canocreek-Sproulis-Redwohly complex, 50 to 75 percent slopes, warm | 94.2         | 16.2%          |
| 663                                | Yorknorth-Windynip complex, 15 to 50 percent slopes                | 31.4         | 5.4%           |
| <b>Totals for Area of Interest</b> |  | <b>583.4</b> | <b>100.0%</b>  |



## 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.