



Botanical Survey Results

Humboldt Heritage Farm (APN: 216-281-015)

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1. INTRODUCTION

This botanical survey was conducted to address potential impacts to sensitive botanical resources from commercial cannabis cultivation on APN: 216-281-015 in Alderpoint.

The project includes expansion of the existing cultivation area on the parcel (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

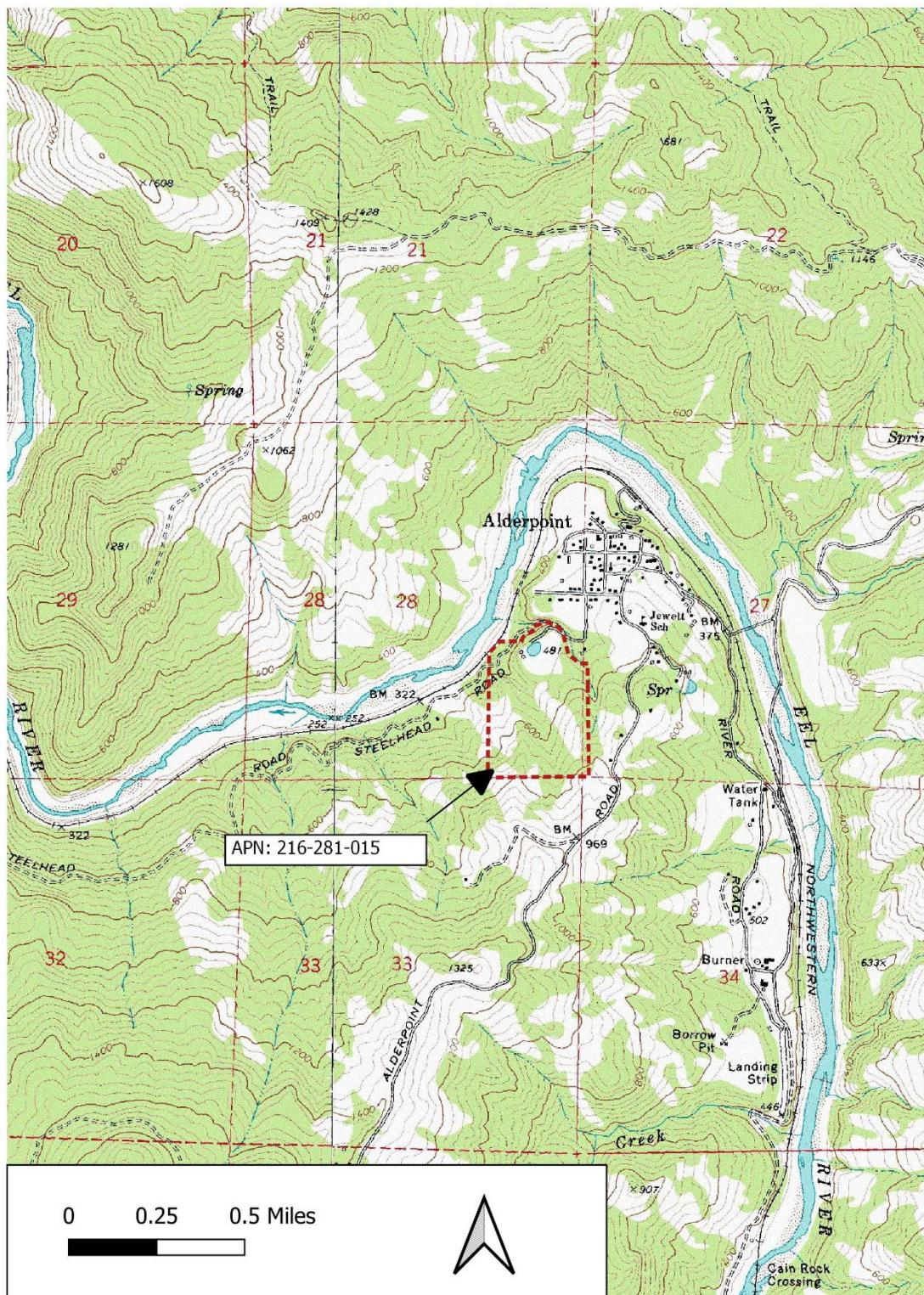
3.1. Project Location

The parcel is located at 845 Steelhead Road in Alderpoint on the Alderpoint 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 in the project area is mapped as Parkland, dry-Garberville, dry complex, which is composed of alluvium from sediment rock (United States Department of Agriculture, Natural Resource Conservation Service 2022) (Appendix B).

Figure 1. Location Map.



The project area is on a relatively flat terrace along the Eel River. The elevation is approximately 480 feet above sea level.

3.3. Vegetation

The project area is a mowed grassy field with predominantly non-native grasses on other herbaceous plant including rattlesnake grass (*Briza maxima*), orchard grass (*Dactylis glomerata*), soft chess (*Bromus hordeaceus*), rough cat's-ear (*Hypochaeris radicata*), and English plantain (*Plantago lanceolata*). There is a relatively small native grass component of California oatgrass (*Danthonia californica*). There forested areas around the field are a mix of Douglas-fir (*Pseudotsuga menziesii*) and hardwoods including California bay (*Umbellularia californica*), madrone (*Arbutus menziesii*), and oaks (*Quercus* spp.). There is an instream pond not being used for cannabis near the project areas with cattails (*Typha latifolia*), nut-grass (*Cyperus eragrostis*), water plantain (*Alisma* sp.), and pondweed (*Potamogeton* sp.).

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 Alderpoint 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 C.

4.2. Survey

The survey was conducted by Kyle Wear, M.A. on June 5, and July 8, 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 in grasslands would be recognizable and identifiable (generally, but not necessarily

Table 1. Special Status Plant Scoping List.

Scientific Name Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Allium hoffmannii</i> Beegum onion	4.3	Jun-Jul	Lower montane coniferous forest (serpentinite)	None-occurs on serpentine
<i>Anisocarpus scabridus</i> scabrid alpine tarplant	1B.3	Jul-Aug(Sep)	Upper montane coniferous forest (metamorphic, rocky)	None-occurs in higher elevation habitat
<i>Arctostaphylos hispidula</i> Howell's manzanita	4.2	Mar-Apr	Chaparral (sandstone, serpentinite)	None-occurs on serpentine
<i>Arctostaphylos manzanita ssp. elegans</i> Konocti manzanita	1B.3	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest-Volcanic	None-occurs on volcanic soil
<i>Arnica spathulata</i> Klamath arnica	4.3	May-Aug	Lower montane coniferous forest (serpentinite)	None-occurs on serpentine
<i>Astragalus rattanii var. rattanii</i> Rattan's milk-vetch	4.3	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest- Gravelly, Streambanks	Unlikely-not associated with grassland
<i>Brasenia schreberi</i> watershield	2B.3	Jun-Sep	Marshes and swamps	Unlikely-not associated with grassland
<i>Calycadenia micrantha</i> small-flowered calycadenia	1B.2	Jun-Sep	Chaparral, Meadows and seeps, Valley and foothill grassland-Roadsides, Rocky, Scree, Serpentinite (sometimes), Talus	High-occurs in grassland
<i>Carex praticola</i> northern meadow sedge	2B.2	May-Jul	Meadows and seeps	None-occurs in wetlands
<i>Carex scabriuscula</i> Siskiyou sedge	4.3	May-Jul	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest-Mesic, Seeps (sometimes), Serpentinite (sometimes)	None-occurs in higher elevation wetlands
<i>Claytonia serpenticola</i> serpentine spring beauty	4.3	Apr-Jun(Jul)	Subalpine coniferous forest, Upper montane coniferous forest-Openings (usually), Rocky, Serpentinite (usually)	None-occurs in higher elevation habitat
<i>Collomia tracyi</i> Tracy's collomia	4.3	Jun-Jul	Broadleafed upland forest, Lower montane coniferous forest-Rocky, Serpentinite (sometimes)	Unlikely-not associated with grassland
<i>Cypripedium fasciculatum</i> clustered lady's-slipper	4.2	Mar-Aug	Lower montane coniferous forest, North Coast coniferous forest-Seeps (usually), Serpentinite (usually), Streambanks	Unlikely-not associated with grassland
<i>Cypripedium montanum</i> mountain lady's-slipper	4.2	Mar-Aug	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest	Unlikely-not associated with grassland

<i>Doellingeria glabrata</i> Siskiyou aster	4.3	Jun-Sep	Lower montane coniferous forest, Upper montane coniferous forest-Openings, Rocky	Unlikely-not associated with grassland
<i>Erigeron maniopotamicus</i> Mad River fleabane daisy	1B.2	May-Aug	Lower montane coniferous forest, Meadows and seeps-Disturbed areas, Openings, Roadsides, Rocky	Unlikely-typically higher elevation
<i>Erigeron robustior</i> robust daisy	4.3	Jun-Jul	Lower montane coniferous forest, Meadows and seeps-Serpentinite (sometimes)	Moderate-maybe some potential in grassland
<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 grassland
<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-occurs on serpentine
<i>Fritillaria glauca</i> Siskiyou fritillaria	4.2	(Apr-May)Jun-Jul	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest-Serpentinite, Slopes, Talus	None-occurs in higher elevation habitat
<i>Fritillaria purdyi</i> Purdy's fritillary	4.3	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest-Serpentinite (usually)	Unlikely-not associated with grassland
<i>Gilia capitata</i> ssp. <i>pacifica</i> Pacific gilia	1B.2	Apr-Aug	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	High-occurs in grasslands
<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)	High-occurs in grasslands
<i>Howellia aquatilis</i> water howellia	2B.2	Jun	Marshes and swamps	None-no marshes or swamps
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	4.3	Apr-Jun	Broadleafed upland forest, Cismontane woodland	Moderate-in grassland, 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)	Moderate-along roads, edges
<i>Lilium washingtonianum</i> ssp. <i>purpurascens</i>	4.3	Jun-Aug	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest-	Unlikely-not associated with grassland

purple-flowered Washington lily			Serpentinite (often)	
<i>Listera cordata</i> heart-leaved twayblade	4.2	Feb-Jul	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	Unlikely-not associated with grassland
<i>Lupinus constancei</i> Lassics lupine	1B.1, CE	Jul	Lower montane coniferous forest (serpentinite)	None-occurs on serpentine
<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-roads are rocked, too dry
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	1B.1	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools-Mesic	Moderate-occurs in grasslands
<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 grassland
<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 grassland
<i>Ptilidium californicum</i> Pacific fuzzwort	4.3	May-Aug	Lower montane coniferous forest, Upper montane coniferous forest	Unlikely-occurs in higher elevation habitat
<i>Sabulina decumbens</i> Lassics sandwort	1B.2	Jul	Lower montane coniferous forest, Upper montane coniferous forest-Serpentinite	None-occurs on serpentine
<i>Sanicula tracyi</i> Tracy's sanicle	4.2	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest-Openings	Moderate-maybe some potential in grasslands
<i>Sedum flavidum</i> pale yellow stonecrop	4.3	May-Jul	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, Upper montane coniferous forest-Openings, Rocky, Serpentinite, Talus, Volcanic	None-not associated with grassland
<i>Sedum laxum</i> ssp. <i>heckneri</i> Heckner's stonecrop	4.3	Jun-Jul	Lower montane coniferous forest, Upper montane coniferous forest-Gabbroic (sometimes), Serpentinite (sometimes)	None-not associated with grassland
<i>Silene bolanderi</i> Bolander's catchfly	1B.2	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows	Moderate-occurs in grasslands

			and seeps, North Coast coniferous forest- Openings (usually), Roadsides (sometimes), Rocky (sometimes), Serpentinite (sometimes)	
<i>Tracyina rostrata</i> beaked tracyina	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	High-occurs in grasslands
<i>Usnea longissima</i> Methuselah's beard lichen	4.2		Broadleafed upland forest, North Coast coniferous forest	None-not associated with grassland
<i>Viburnum ellipticum</i> oval-leaved viburnum	2B.3	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest	Unlikely-not associated with grassland

Endangered Species Act (ESA)**FE:** Federally Endangered**FT:** Federally Threatened**FR:** Federally RareCalifornia Endangered Species Act (CESA)**CE:** California Endangered**CT:** California Threatened**CR:** California RareCalifornia 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 distributionThreat 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 in the project area 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. The cover of California oatgrass is 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

Three plants with Cal-IPC ratings of High were observed on the property:

Himalayan blackberry (*Rubus armeniacus*)

French broom (*Genista monspessulana*)

yellow starthistle (*Centaurea solstitialis*)

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>Acmisspon americanus</i> var. <i>americanus</i>	lotus
<i>Agrostis</i> sp.	bent grass
<i>Aira caryophyllea</i>	European hairgrass
<i>Alisma lanceolata</i>	lanceleaf water plantain
<i>Arbutus menziesii</i>	Pacific madrone
<i>Arctostaphylos manzanita</i> ssp. <i>manzanita</i>	common manzanita
<i>Avena barbata</i>	slender wild oat
<i>Baccharis pilularis</i>	coyote brush
<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>Carex tumulicola</i>	foothill sedge
<i>Ceanothus integerrimus</i>	deer brush
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Chloroglaum pomeridianum</i>	soaproot
<i>Cichorium intybus</i>	chicory
<i>Cirsium vulgare</i>	bull thistle
<i>Croton setigerus</i>	dove weed
<i>Cynodon dactylon</i>	bermuda grass
<i>Cyperus eragrostis</i>	nut-grass
<i>Dactylis glomerata</i>	orchard grass
<i>Danthonia californica</i>	California oatgrass
<i>Dichelostemma multiflorum</i>	Many flowered brodiaea
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wildrye
<i>Erodium botrys</i>	long-beaked storksbill
<i>Festuca arundinacea</i>	tall fescue
<i>Festuca myuros</i>	rattail sixweeks grass
<i>Festuca perennis</i>	rye grass
<i>Genista monspessulana</i>	French broom
<i>Geranium molle</i>	dovefoot geranium
<i>Hemizonia congesta</i> ssp. <i>clevelandii</i>	Cleveland's tarweed
<i>Heteromeles arbutifolia</i>	toyon
<i>Hordeum jubatum</i>	foxtail barley
<i>Hordeum marinum</i>	Mediteranean barley
<i>Hypericum perforatum</i>	St. John's-wort
<i>Hypochaeris radicata</i>	hairy cat's-ear

Scientific Name	Common Name
<i>Juncus effusus</i>	common rush
<i>Juncus patens</i>	spreading rush
<i>Juncus tenuis</i>	slender rush
<i>Lathyrus vestitus</i>	wood pea
<i>Lepidium sp.</i>	peppergrass or pepperwort
<i>Lithrum sp.</i>	loosestrife
<i>Logfia gallica</i>	narrow-leaved filago
<i>Lupinus bicolor</i>	miniature lupine
<i>Lysimachia arvensis</i>	scarlet pimpernel
<i>Mentha pulegium</i>	pennyroyal
<i>Navarretia intertexta</i>	interwoven navarretia
<i>Pedicularis densiflora</i>	Indian warrior
<i>Phalaris aquatica</i>	harding grass
<i>Phoradendron leucarpum</i>	mistletoe
<i>Plantago coronopus</i>	cut-leaved plantain
<i>Plantago lanceolata</i>	English plantain
<i>Polygala californica</i>	California milkwort
<i>Potamogeton sp.</i>	pondweed
<i>Prunella vulgaris</i>	self-heal
<i>Quercus chrysolepis</i>	canyon live oak
<i>Quercus garryana</i>	Oregon white oak
<i>Quercus kelloggii</i>	California black oak
<i>Quercus wislizeni</i>	interior live oak
<i>Quercus XMorehus</i>	Oracle oak
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex acetosella</i>	sheep sorrel
<i>Rumex salicifolius</i>	willow dock
<i>Salix lasiandra</i> ssp. <i>lasiandra</i>	Pacific willow
<i>Sanicula crassicaulis</i>	Pacific snakeroot
<i>Sonchus oleraceus</i>	common sow thistle
<i>Spergularia rubra</i>	purple sand spurry
<i>Taraxacum officinale</i>	dandelion
<i>Torilis arvensis</i>	rattlesnake weed
<i>Toxicodendron diversilobum</i>	poison-oak
<i>Trifolium dubium</i>	little hop clover
<i>Trifolium pratense</i>	red clover
<i>Trifolium subterraneum</i>	subterranean clover
<i>Triteleia hyacinthina</i>	white hyacinth
<i>Typha latifolia</i>	broadleaf cattail

Scientific Name	Common Name
<i>Umbellularia californica</i>	California-bay
<i>Vicia sativa</i>	vetch
<i>Vitis californica</i>	California wild grape

7. IMPACT ASSESSMENT AND RECOMMENDATIONS

The project will not impact special status plants or natural communities.

Information on Himalayan blackberry, French broom, and yellow starthistle and potential control measures can be found at:

https://wric.ucdavis.edu/information/natural%20areas/wr_R/Rubus.pdf

https://wric.ucdavis.edu/information/natural%20areas/wr_C/Centaurea_solstitialis.pdf

https://wric.ucdavis.edu/information/natural%20areas/wr_G/Genista.pdf

8. REFERENCES

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APPENDIX A

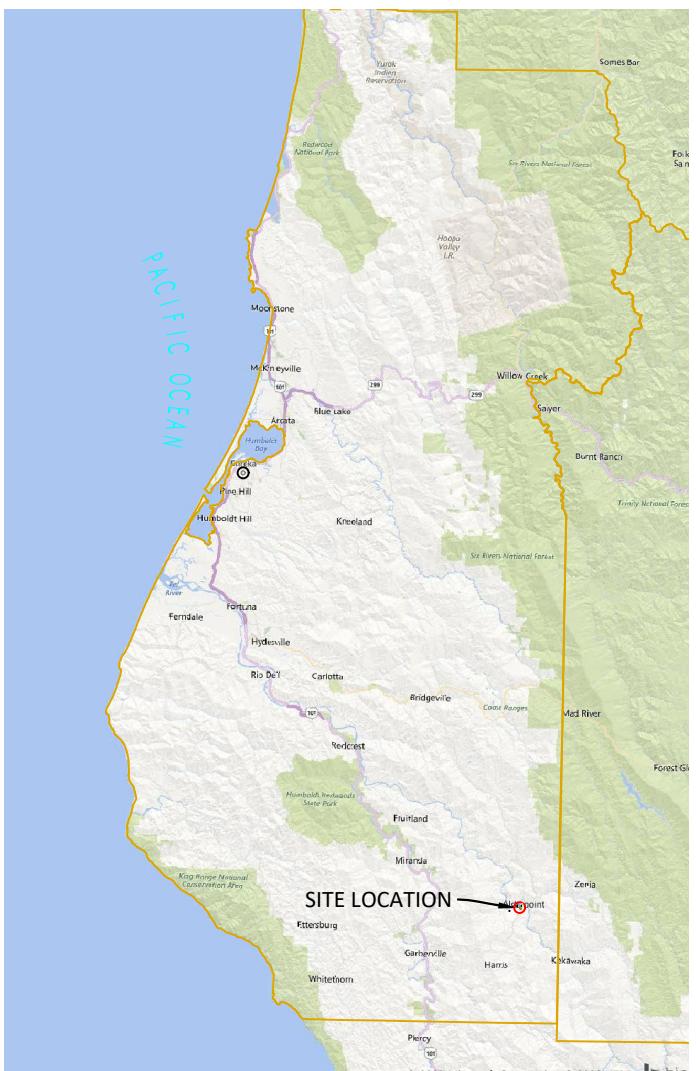
Site Plan

HUMBOLDT HERITAGE FARM MANAGEMENT, LLC

APN: 216-281-015

VICINITY MAP

1:10,000



PROJECT DIRECTIONS

FROM: EUREKA, CA IMAGE SOURCE: BING 2020

1. HEAD SOUTH ON US-101 S (62.7 MI)
2. TAKE EXIT 639B TOWARD REDWAY (0.2 MI)
3. TURN RIGHT ONTO REDWOOD DR (0.2 MI)
4. TURN RIGHT ONTO ALDERPOINT RD (16.8 MI)
5. TURN LEFT ONTO 6TH ST (0.1 MI)
6. TURN LEFT ONTO STEELHEAD RD (0.5 MI)

845 STEELHEAD RD

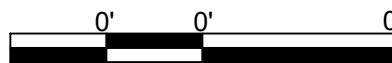
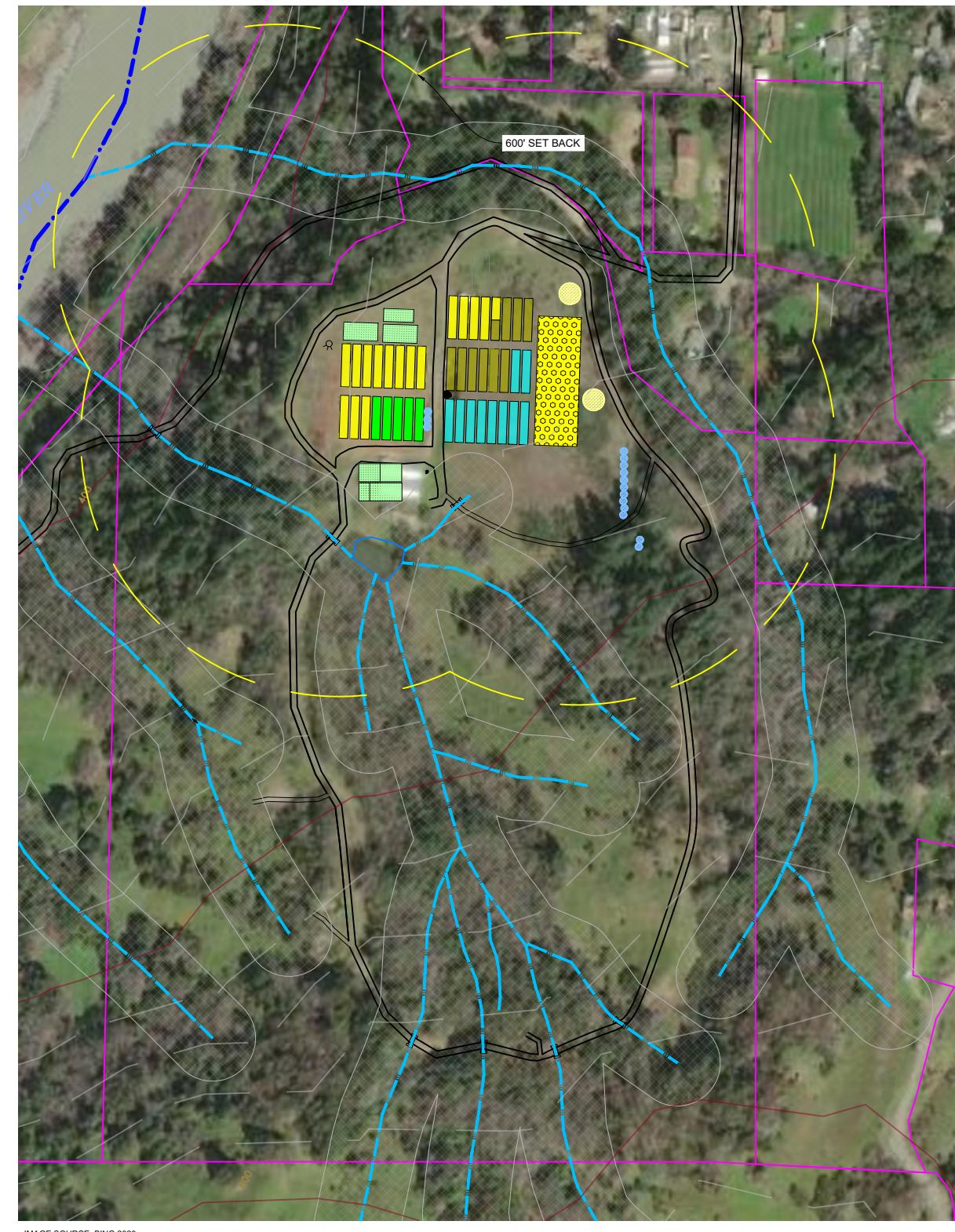
TRAVEL TIME

APPROXIMATELY: 1H 34 MIN (80.5 MI)

SHEET INDEX

CP-COVER PAGE
C1-PARCEL OVERVIEW
C2-INSET A

AERIAL MAP



GREEN
ROAD
CONSULTING



PROJECT INFORMATION

IAN AKSELSSEN

845 STEELHEAD RD ALDERPOINT, CA 95511

COVER PAGE

PROPERTY OWNER

ADDRESS

SHEET INFO

REVISIONS

NO.	NOTES	DATE
1	NOTES-INITIALS	00-00-00
2	NOTES-INITIALS	00-00-00
3	NOTES-INITIALS	00-00-00
4	NOTES-INITIALS	00-00-00
5	NOTES-INITIALS	00-00-00
6	NOTES-INITIALS	00-00-00

DATE

8/27/20

DRAFTER

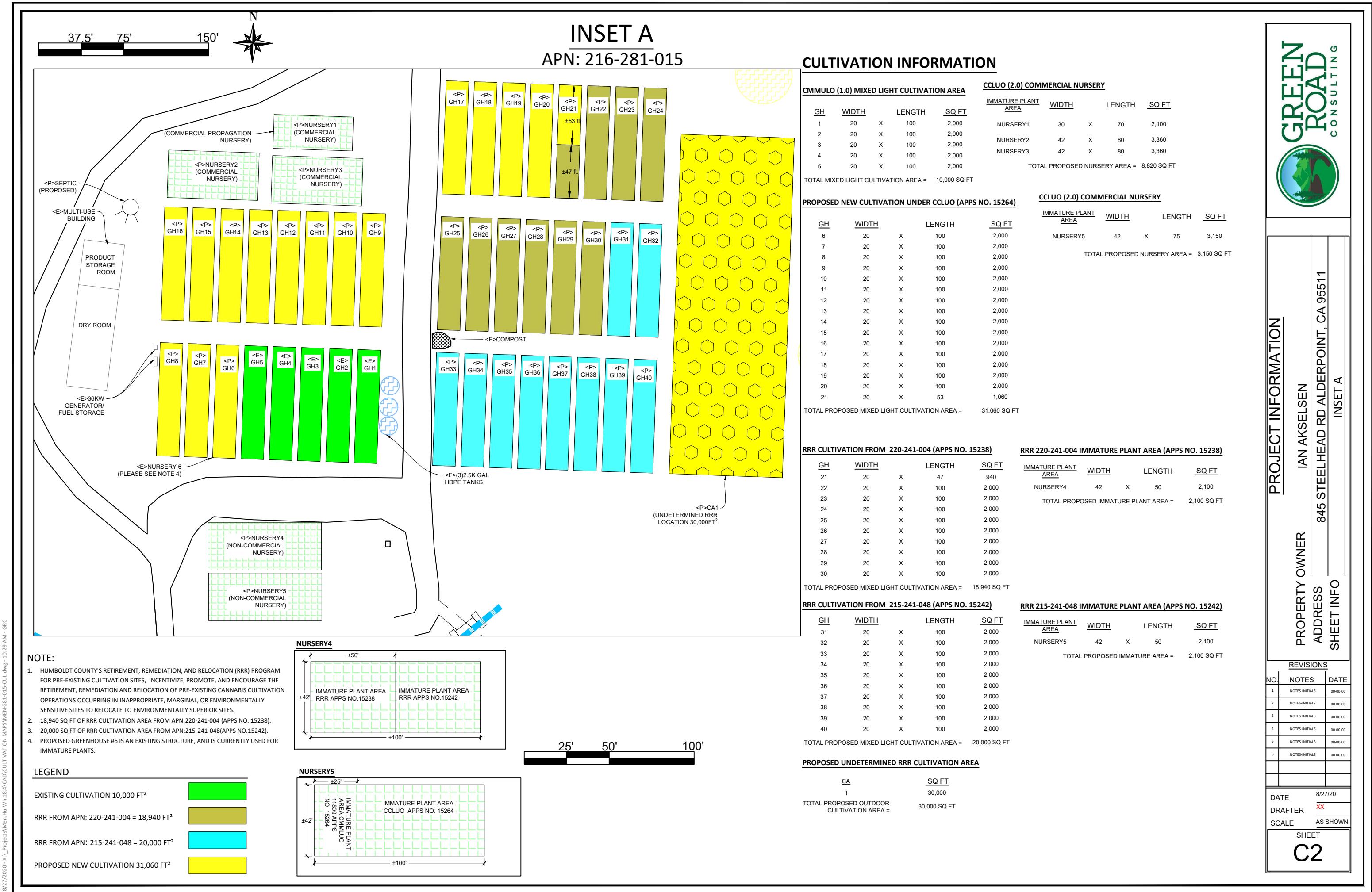
XX

SCALE

AS SHOWN

SHEET

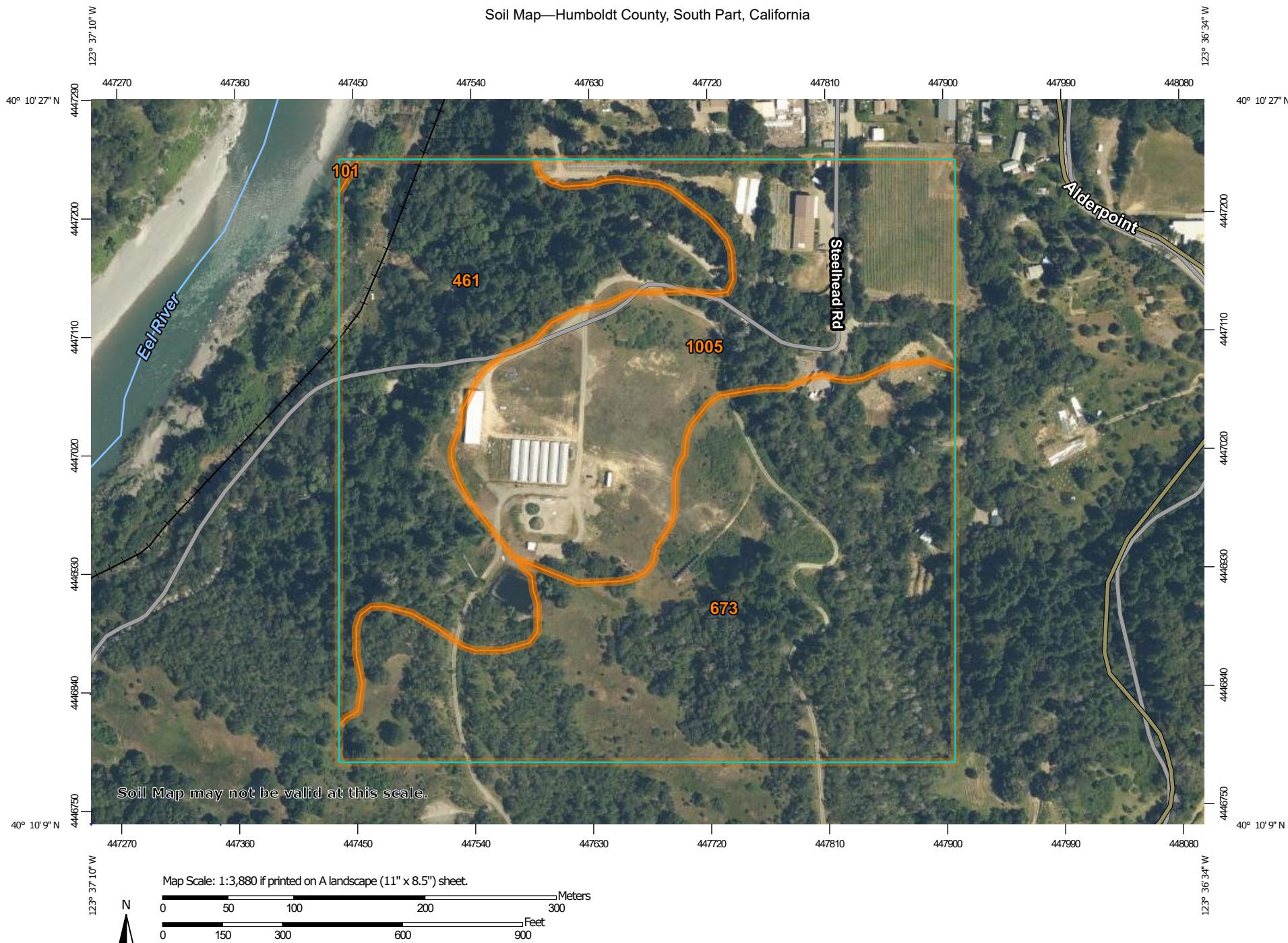
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APPENDIX B

NRCA Soil Map

Soil Map—Humboldt County, South Part, California

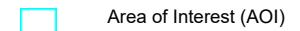


Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

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
101	Typic Udifluvents-Fluvents complex, 0 to 2 percent slopes	0.0	0.1%
461	Tannin-Burgsblock-Rockyglen complex, 30 to 50 percent slopes	14.7	27.5%
673	Coolyork-Yorknorth complex, 30 to 50 percent slopes	22.5	42.2%
1005	Parkland, dry-Garberville, dry complex, 2 to 9 percent slopes	16.1	30.2%
Totals for Area of Interest		53.4	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 egedi</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 (aquatilis, lenticularis)</i>	Water sedge and lakeshore sedge meadows	G5	S3
<i>Carex barbara</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 (pansa, praegracilis)</i>	Sand dune sedge swaths	G4?	S3?
<i>Carex serratodens</i>	Twotooth sedge seeps	G3	S3?
<i>Ceanothus (oliganthus, 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> Æ- <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 pygmaea</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</i> <i>hindsii</i> and Hybrids	Hindsâ€™s walnut and related stands	G1	S1.1
<i>Juncus</i> <i>lescurii</i>	Salt rush swales	G3	S2?
<i>Juncus</i> (<i>oxymeris</i> , <i>xiphoides</i>)	Iris-leaf rush seeps	G2?	S2?
<i>Leymus</i> <i>cinereus</i> - <i>Leymus</i> <i>triticoides</i>	Ashy ryegrass - creeping ryegrass turfs	G3	S3
<i>Leymus</i> <i>mollis</i>	Sea lyme grass patches	G4	S2
<i>Lupinus</i> <i>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>cirrhosa</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>Torreya</i> <i>ochloa 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
<i>Vitis arizonica</i> - <i>Vitis girdiana</i>	Wild grape shrubland	G3	S3
<i>Zostera (marina, pacifica)</i> 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.