

BOTANICAL AND AQUATIC RESOURCES SURVEY



522 Brown Road (APN: 211-374-013)

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SUMMARY

A survey for sensitive botanical and aquatic resources was conducted on a portion of 522 Brown Road (APN: 211-374-013) on March 28, 2020. The report also provides rationale for moving an existing cultivation site to a new location and recent unpermitted grading along the northern edge of the parcel that partially impacted an emergent wetland.

No special status plants or natural communities were observed. The new proposed cultivation site is disturbed grassland dominated by non-native grasses and other herbaceous plants and is poor habitat for most rare plants. It is recommended the pampas grass at the existing cultivation site be removed to prevent further spread of this highly invasive species.

Four wetland features with a total area of 0.83 acre were delineated in the northern portion of the property. The parcel also includes ephemeral and intermittent streams and an existing pond. The cultivation area to be relocated is within 100-foot buffer from the adjacent intermittent stream. Moving the site out of the buffer is environmentally beneficial because it is too close to the stream and potentially damaging to aquatic resources.

An approximately 3,914 square foot area was graded along the northern edge of the parcel that impacted approximately 572 square feet to emergent wetland. It is recommended the layer of gravel be removed and the area be restored to its original topography and that erosion control and revegetation be implemented.

1. INTRODUCTION

This report presents the results of a botanical and aquatic resources survey conducted on a portion of 522 Brown Road (APN: 211-374-013) on March 28, 2020. The purpose of the survey was to identify special status plants and natural communities, wetlands, and other aquatic resources and establish required setbacks for a proposed new cannabis cultivation area on the parcel.

The report also addresses two other subjects related to the natural resources on the parcel. These include an assessment of potential environmental benefits of relocating a cannabis cultivation area out of a stream buffer to the new location and an assessment of the impacts of recent unpermitted grading along the northern parcel boundary.

2. DEFINITIONS

2.1 Botanical Resources

Special Status Plants

Special status plants include taxa that are listed under the Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA), in addition to plants that meet the definition of

rare or endangered under the California Environmental Quality Act (CEQA). This includes plants with California Rare Plant Ranks (CRPR) of 1A, 1B, 2A, or 2B or other species that warrant consideration based on local or biological significance.

Special Status Plant Communities

Special status plant communities are communities with limited distribution that may be vulnerable to environmental impacts. Natural Communities recognized as sensitive are provided on the Sensitive *Natural Communities List* (California Department of Fish and Wildlife 2018 (CDFW)). The list is based on the vegetation classification in *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009). Natural communities with G or S ranks of 3 or lower are considered sensitive. However, they may not warrant protection under CEQA unless they are considered high quality. Human disturbance, invasive species, logging, and grazing are common factors considered when judging whether the stand is high quality and warrants protection.

2.2 Aquatic Resources

Waters of the United States

Waters of the United States are regulated by the U.S Army Corps of Engineers (Army Corps) under the Clean Water Act. Waters of the United States include, but are not limited to, territorial seas, waters used for interstate or foreign commerce and their tributaries, and waters adjacent to the aforementioned, including wetlands.

Army Corps jurisdiction in waters such as creeks and rivers includes the area below the ordinary high water mark, which is the line on the bank established by fluctuations of water that leave physical characteristics such as a distinct line on the bank, shelving, destruction of terrestrial vegetation, and presence of debris.

The Army Corps 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.”

Waters of the State

Waters of the state are regulated by the State Water Resources Control Board (State Water Board) under the Porter-Cologne Water Quality Control Act. Waters of the state are defined as:

"..... any surface water or groundwater, including saline waters, within the boundaries of the state."

Waters of the State includes water in both natural and artificial channels.

The Water Board defines an area as wetland as:

“An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.”

Streamside Management Areas

The Humboldt County General Plan (Humboldt County 2017) recognizes Streamside Management Areas (SMAs) along all streams, which are defined as:

“100 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of perennial streams.”

“50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of intermittent streams.”

3. ENVIRONMENTAL SETTING

Project Location

The parcel is located at 522 Brown Road approximately 3.5 miles northeast of Myers Flat on the Myers Flat USGS quadrangle (Section 23, T2S, R3E) (Figure 1).

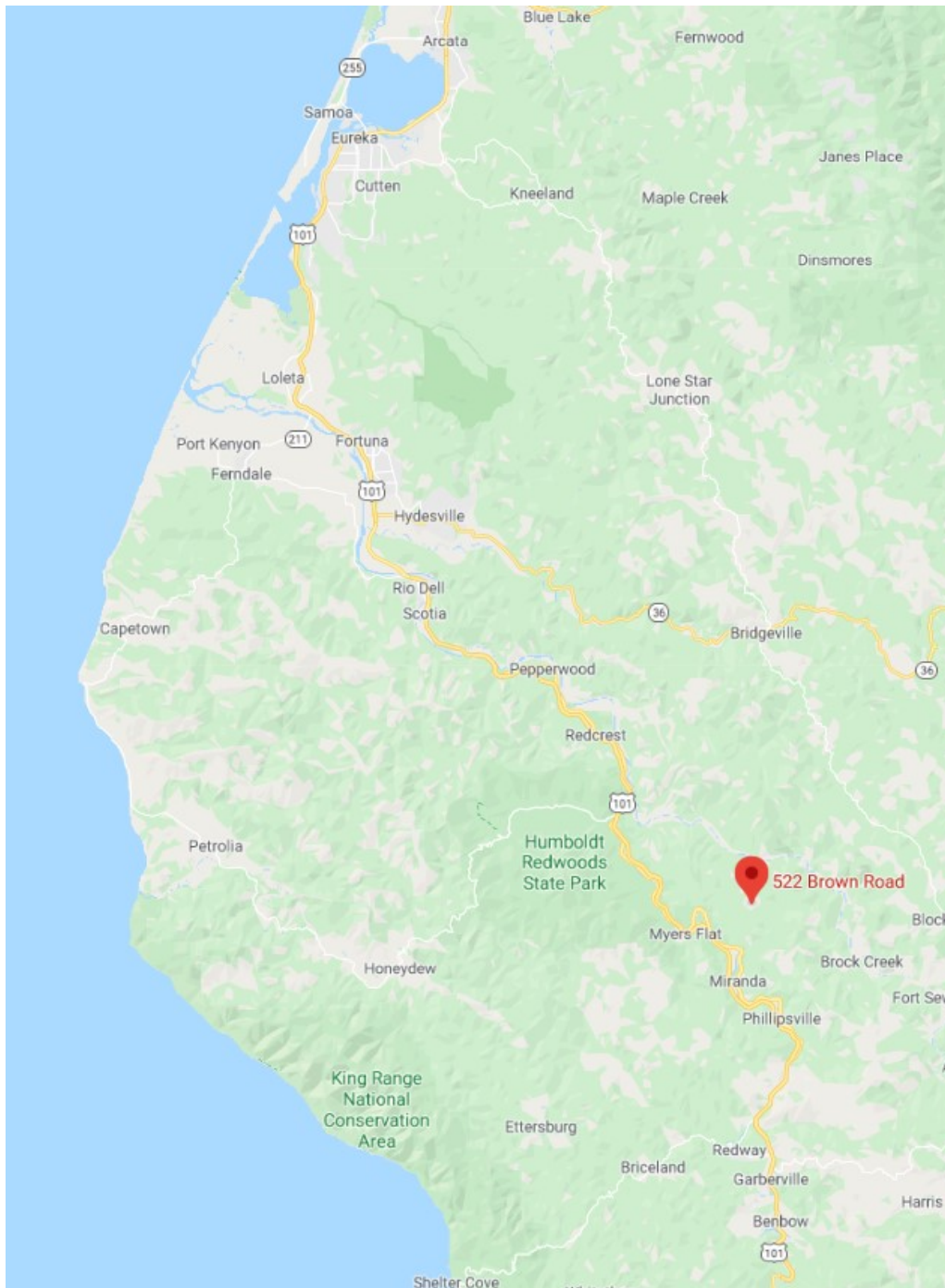
Soil, Topography, and Hydrology

The soil types mapped on the parcel include Windynip-Rainbear complex, 15 to 50% slopes and Sproulish-Canoecreek-Redwohly complex, 15 to 50% slopes (United States Department of Agriculture, Natural Resource Conservation Service 2020). These soil types are derived by sandstone and mudstone parent material. Both soil types, including their minor components, have non-hydric soil ratings. The parcel is on an approximately 13% south facing slope. The elevation ranges from 760-960 feet above sea level. The parcel includes a pond, emergent wetlands, and streams that drain into Elk Creek, a tributary of the South Fork Eel River.

4. METHODS

The botanical survey and wetland delineation were conducted on March 28, 2020 by Kyle Wear, M.A. Mr. Wear has over 20 years of experience conducting floristic surveys and other botanical work in northern California and over ten years of experience conducting wetland delineations. Mr. Wear is also trained in wetland delineation by the Wetland Training Institute.

Figure 1. Location Map.



4.1. Botanical Survey

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 2020) and the *CNPS Inventory of Rare and Endangered Plants* (California Native Plant Society 2020). The scoping list includes special status plants with documented occurrences on the Myers Flat USGS quadrangle or adjacent quadrangles; the list may include other taxa known to occur in habitat similar to the project area in Humboldt County (Appendix A).

Survey

The survey was floristic in nature and followed methods outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). The March 28, 2020 survey was relatively early in the season; however, it was seasonally appropriate for Howell's montia (*Montia howellii*), the only plant determined to have moderate potential of occurring in the disturbed grassland habitat proposed for the new cultivation area. 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, 2nd Edition* (Sawyer et al. 2009). A survey route map is provided in Appendix B.

4.2. Aquatic Resources

Wetlands

Federal, State, and County wetland delineation methods follow the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers 2010). A positive wetland determination is made when all three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) are present.

Six representative sample points were evaluated for hydrophytic vegetation, hydric soil, and wetland hydrology. Wetland determination data forms are provided in Appendix C. Two of the sample points were on the recently graded area, the other points were paired across wetland boundaries and represent the variation in topography and vegetation in the wetland and adjacent upland habitat.

Hydrophytic Vegetation

The presence of hydrophytic vegetation is determined by the wetland indicator status of each plant species present using the *Western Mountains Valleys and Coast 2016 Regional Wetland Plant List* (U.S. Army Corps of Engineers 2016). The indicator status of plants is based on the estimated probability of the species occurring in wetlands. The indicator status categories are:

Obligate Wetland Plants (OBL)	Almost always occur in wetlands	>99% frequency
Facultative Wetland Plants (FACW)	Usually occur in wetlands	67%-99%
Facultative Plants (FAC)	Equally occur wetlands and non-wetlands	33%-67%
Facultative Upland Plants (FACU)	Sometimes occur in wetlands	1%-33%
Obligate Upland Plants (UPL)	Rarely occur in wetlands	<1%

If more than 50% of the dominant plants across all vegetation strata (i.e. trees, shrubs, herbs) are OBL, FACW, or FAC, the vegetation is considered to be hydrophytic. Dominance of plants within the plots is determined using the “50/20” rule. This method involves estimating absolute cover of each plant in each vegetation stratum. Dominant plants include the plants with the highest cover that collectively, or individually account for 50% of the total vegetation cover. Additional plants are considered dominant if their cover is at least 20%.

Hydric Soil

Indicators of hydric soil include, but are not limited to, a strong hydrogen sulfide (rotten egg) odor, redox concentrations, depleted matrix, and high organic matter content. Soil colors are determined by using a standard Munsell soil color chart (Gretag Macbeth 2000).

Wetland Hydrology

Indicators of wetland hydrology include, but are not limited to, surface water, high water table, soil saturation, sediment deposits, soil cracks, and oxidized root channels along living roots.

Other Aquatic Resources

Other Aquatic Resources include streams, rivers, ponds, lakes, and other waterbodies with an ordinary highwater mark and any associated riparian vegetation.

5. RESULTS AND DISCUSSION

5.1. Botanical Resources

Special Status plants

No special status plants were encountered in the relocation or elsewhere on the parcel. A list of all plants encountered is provided in Appendix D

As discussed in section 4.1 above, the survey was relatively early in the season; however, it was seasonally appropriate for Howell’s montia (*Montia howellii*), the only special status plant on the scoping list likely to occur in the relocation area.

Pampas grass (*Cortaderia jubata*) was observed at the remaining cultivation site (See Appendix B). Pampas grass is a highly invasive species. It is recommended this species be controlled to prevent further spread. This species has a ranking of “high” by the California Invasive Plant Council (California Invasive Plant Council 2020).

More information and potential control measures can be found at: <https://www.cal-ipc.org/plants/profile/cortaderia-jubata-profile/>

Special Status Natural Communities

No special status natural communities were observed on the parcel. The parcel includes grasslands dominated by non-native herbaceous plants and Douglas-fir forest.

Common species in the grasslands include sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), six weeks grass (*Festuca myuros*), clover (*Trifolium* sp.), and hairy cat's-ear (*Hypochaeris radicata*). The wetlands in the grasslands are generally dominated by rushes (*Juncus* spp.). The proposed new cultivation area is within disturbed grassland habitat adjacent to the residence.

Other habitat on the parcel includes coniferous forest dominated by Douglas-fir (*Pseudotsuga menziesii*). The forest is consistent with Douglas-fir forest (*Pseudotsuga menziesii* Forest Alliance). The canopy also includes oaks (*Quercus* spp.), madrone (*Arbutus menziesii*), and California bay (*Umbellularia californica*). The understory includes huckleberry (*Vaccinium ovatum*) and native herbaceous species such as sword fern (*Polystichum munitum*), woodland madia (*Anisocarpus madioides*), and Pacific snakeroot (*Sanicula crassicaulis*).

5.2. Aquatic Resources

Wetlands

A total of 0.83 acre of emergent wetland identified in the northwest section of the parcel. (Figure 2). The mapped polygons are generally within the area shown as wetland of the Humboldt County *Web GIS* application (Appendix E). The same polygon is shown on the *National Wetlands Inventory* (U.S. Fish and Wildlife Service 2020)

The vegetation is hydrophytic. Dominant plants include rushes (*Juncus effusus* and *J. patens* [FACW]), pennyroyal (*Mentha pulegium* [OBL]), nut-grass (*Cyperus eragrostis* [FACW]), and velvet grass (*Holcus lanatus* [FAC]).

The soil meets hydric soil indicator F6 (Depleted Matrix). The soil color in the sample pits was 10yr 4/1, 4/2, with distinct and prominent redox features.

The water table and soil saturation were within 12 inches of the surface meeting wetland hydrology indicators A2 (High Water Table) and A3 Saturation. The eastern-most wetland feature was saturated with groundwater to the soil surface.

The wetland boundary in the graded area was delineated based on the adjacent vegetation and soil on the flat. The northern and western parts of the wetland feature were still intact, making it possible to locate the wetland boundary along the west and north sides of the graded area. There are no wetland indicators on the south side of the graded area, indicating the wetland

Figure 2. Aquatic Resources Map.



did not extent south of it. The boundary on the graded area was established based on presence or absence of hydric soil under the gravel (Sample Points 3 & 4). A recent Google Earth image was also evaluated. The wetland is visible in the photo, but it is difficult to see the precise boundary (Appendix F). It does appear most of the graded area was upland.

Other Aquatic Resources

The streams on the parcel were mapped and classified by another consultant. The alignments were moved slightly in some areas based on GPS data collected on March 28, 2020.

5.3. Cultivation Site Relocation Assessment

Relocating the cultivation area out of the stream buffer will be environmental beneficial because it is currently too close to the creek and could damage aquatic resources through erosion and pollution. The existing cultivation area is on a slope and is potentially subject to erosion resulting in delivery of sediment and nitrogen rich runoff to the watershed. The new location is on a flat directly adjacent to the residence in a disturbed area outside the stream and wetland setbacks. Additionally, the new cultivation area is closer to the residence and other structures and will likely concentrate human activities to that area which could reduce noise and disturbance to wildlife elsewhere on parcel.

5.4. Unpermitted Graded Area

Approximately 3,914 square feet was recently graded along the northern property line. Most of the area is in upland, however an estimated 572 square feet is within emergent wetland. The graded soil appears to have been moved elsewhere, thus there does not appear to be any wetland fill (other than a thin layer of gravel), only disturbance to soil and vegetation. All of the graded area is within the wetland and stream setbacks and should be restored to its original condition. Currently the flats are compacted on the surface and there is a layer of gravel. Although this likely helps with stabilization, it may make it more difficult for plants to establish on the flats. Additionally, the topsoil with the seedbank has been removed which could also slow revegetation. The following is recommended:

- Remove the layer of gravel.
- Recontour the flats to their original topography using the original topsoil if it is still available.
- Mulch and reseed the exposed soil.
- Apply erosion control measure such as straw swaddles.

It may be more ideal to conduct this work closer to the next rainy season so the seeds will be in place for rain in the fall as it is presently near the end of the current wet season. If seeds germinated near the end of this season, they could desiccate over the summer.

It is also recommended a qualified geologist or engineer be consulted and that and that the County and other agencies be contacted to determine the permitting requirements for the project.

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Appendix A. Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat- Micro Habitat	Potential to Occur in New Cultivation Area
<i>Astragalus agnicidus</i>	Humboldt County milk-vetch	1B.1	Apr-Sep	Broadleafed upland forest, North Coast coniferous forest-openings, disturbed areas, sometimes roadsides	Unlikely. Not associated with grassland.
<i>Carex arcta</i>	northern clustered sedge	2B.2	Jun-Sep	Bogs and fens, North Coast coniferous forest (mesic)	Unlikely. Area is not wetlands.
<i>Erythronium oregonum</i>	giant fawn lily	2B.2	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps-sometimes serpentinite, rocky, openings	Unlikely. Area lacks typical mesic rocky habitat.
<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. Area lacks typical mesic rocky habitat.
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	1B.2	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland	Unlikely. Area is too disturbed.
<i>Howellia aquatilis</i>	water howellia	2B.2, FT	Jun	Marshes and swamps (freshwater)	Unlikely. Area is too dry.
<i>Kopsiopsis hookeri</i>	small groundcone	2B.3	Apr-Aug	North Coast coniferous forest	Unlikely. Area is not coniferous forest.
<i>Montia howellii</i>	Howell's montia	2B.2	(Jan-Feb)Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools-vernally mesic, sometimes roadsides	Moderate-Occurs in disturbed areas. Also potential on access road.
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	2B.2	(Jan-Apr)May-Jul(Aug)	Coastal scrub, North Coast coniferous forest-Sometimes roadsides	Unlikely. Plant does not occur 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-sometimes serpentinite	Unlikely. Area is not coniferous forest.
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	1B.2	(Apr)May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest-often roadcuts	Unlikely. Area is likely too disturbed. Would have be

Appendix A (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat- Micro Habitat	Potential to Occur in New Cultivation Area
					recognizable to genus at the time of the survey.
Tracyina rostrata	beaked tracyina	1B.2	May-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	Unlikely. Area it likely too disturbed.

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

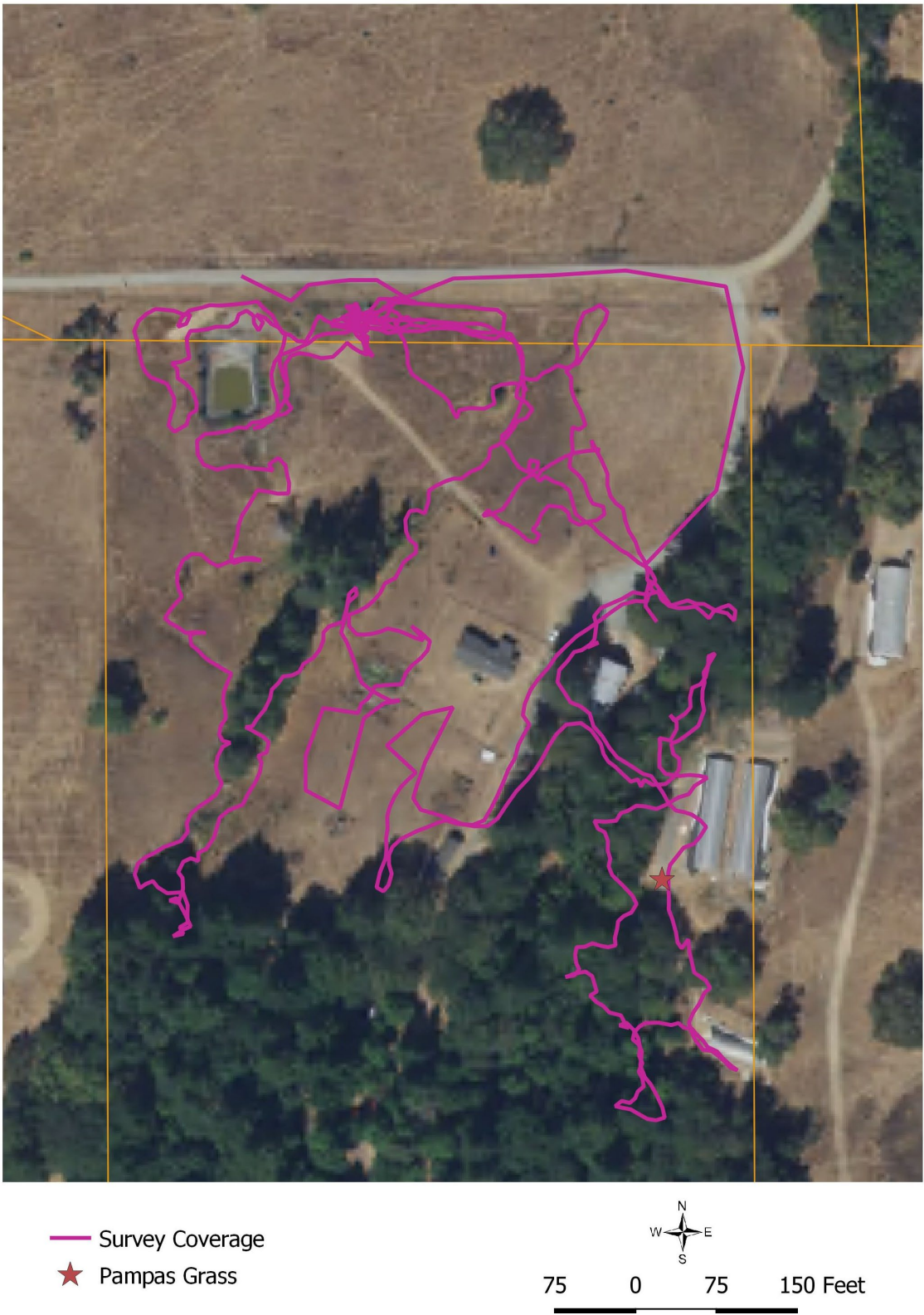
Threat Ranks

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)

Appendix B. Route Map.



APPENDIX C

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 522 Brown Road City/County: Humboldt Sampling Date: 3-28-20
 Applicant/Owner: S. Richter State: CA Sampling Point: 1
 Investigator(s): K. Wear Section, Township, Range: 23, T2S, R3E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): A Lat: E 430969.8 Long: N 4459761.49 Datum: NAD 83
 Soil Map Unit Name: Windypip-Rainbow complex NWI classification: PEM1B
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No <u> </u>	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No <u> </u>
Hydric Soil Present?	Yes <u>X</u>	No <u> </u>			
Wetland Hydrology Present?	Yes <u>X</u>	No <u> </u>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100%</u> (A/B)
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u> </u> = Total Cover					
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Total % Cover of:	Multiply by:
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	OBL species <u> </u>	x 1 = <u> </u>
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACW species <u> </u>	x 2 = <u> </u>
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FAC species <u> </u>	x 3 = <u> </u>
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	FACU species <u> </u>	x 4 = <u> </u>
<u> </u> = Total Cover				UPL species <u> </u>	x 5 = <u> </u>
				Column Totals:	<u> </u> (A) <u> </u> (B)
				Prevalence Index = B/A = <u> </u>	
Herb Stratum (Plot size: <u>10'-radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<u>X</u> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Holcus lanatus</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<u> </u> 2 - Dominance Test is >50%	
3. <u>Juncus patens</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	<u> </u> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Anthoxanthum odoratum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Rubus discolor</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<u> </u> 5 - Wetland Non-Vascular Plants ¹	
6. <u>Mentha perfoliata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Vicia sativa</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u>99</u> = Total Cover					
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Yes <u>X</u>	No <u> </u>
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>		
<u> </u> = Total Cover					
% Bare Ground in Herb Stratum <u> </u>					
Remarks:					

Sampling Point: 1

HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 12" Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 10" (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 522 Brown Road City/County: Humboldt Sampling Date: 3-28-20
 Applicant/Owner: S. Richter State: CA Sampling Point: 2
 Investigator(s): K. Wear Section, Township, Range: 23, T2S, R3E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): A Lat: E 430974.09 Long: N 4459749.88 Datum: NAD83
 Soil Map Unit Name: Windyup-rainbear NWI classification: ① ~~2~~
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>	
Remarks: <u>① In area in NWI map mapped as PEM1B</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
Herb Stratum (Plot size: <u>10' - radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca myuros</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Holcus lanatus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Anthoxanthum odoratum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Juncus tenuis</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
5. <u>Trifolium repens</u> <u>Suttkernian</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
6. <u>Silene maritima</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
7. <u>Leucatherum vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
8. <u>Hypochaeris radicata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
9. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>162</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u> </u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks: <u> </u>				

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10yr 4/3							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 522 Brown Road City/County: Humboldt Sampling Date: 3-28-20
 Applicant/Owner: S. Richter State: CA Sampling Point: 3
 Investigator(s): K. Wear Section, Township, Range: 23, T2S, R3E
 Landform (hillslope, terrace, etc.): graded flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): A Lat: E 430972.35 Long: N 4459756.14 Datum: NAD83
 Soil Map Unit Name: Windyp- Rainbear NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes _____ No _____		
Remarks: <u>Plot is on graded flat devoid of vegetation, likely near original wetland boundary. Determination based on soil.</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____		Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____		Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____		OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
_____ = Total Cover				UPL species _____ x 5 = _____	
Herb Stratum (Plot size: _____)				Column Totals: _____ (A) _____ (B)	
1. _____	_____	_____	_____	Prevalence Index = B/A = _____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
3. _____	_____	_____	_____		1 - Rapid Test for Hydrophytic Vegetation
4. _____	_____	_____	_____		2 - Dominance Test is >50%
5. <u>N/A</u>	_____	_____	_____		3 - Prevalence Index is ≤3.0 ¹
6. _____	_____	_____	_____		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7. _____	_____	_____	_____		5 - Wetland Non-Vascular Plants ¹
8. _____	_____	_____	_____		Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____	_____	_____	_____		Hydrophytic Vegetation Present? Yes _____ No _____
11. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks: _____					

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	Compacted disturbed soil							
3+	10y4/1	80	7.5y5/6	20	c	m	L	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- ☐ Histosol (A1) ☐ Sandy Redox (S5)
☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6)
☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11) ☒ Depleted Matrix (F3)
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)
☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)
☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)

- ☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☐ High Water Table (A2) ☐ Salt Crust (B11)
☐ Saturation (A3) ☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5) ☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6) ☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology present on 3-28-20, but because of ~~disturbance~~ hydric soil, hydrology likely present during higher rainfall

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 522 Brown Rd. City/County: Humboldt Sampling Date: 3-28-20
 Applicant/Owner: S. Richter State: CA Sampling Point: 4
 Investigator(s): K. Wear Section, Township, Range: 23, T2S, R3E
 Landform (hillslope, terrace, etc.): graded flat Local relief (concave, convex, none): _____ Slope (%): 0
 Subregion (LRR): A Lat: E 430982.49 Long: N 44597560.70 Datum: NAD83
 Soil Map Unit Name: Windyup - Ranker NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>Area Plot is on graded flat devoid of vegetation</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
= Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
2. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes _____ No _____
% Bare Ground in Herb Stratum _____				
Remarks: _____				

Sampling Point: 4

HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

- Secondary Indicators (2 or more required)

- Field Observations:**

Wetland Hydrology Present? Yes No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 522 Brown Rd. City/County: Humboldt Sampling Date: 3-28-20
 Applicant/Owner: S. Richter State: CA Sampling Point: 5
 Investigator(s): K. Wear Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Slightly concave Slope (%): 5
 Subregion (LRR): A Lat: E 431022.3 Long: E 4454714.7 Datum: PEM13
 Soil Map Unit Name: Windyrip - Rainbear NWI classification: PEM1B
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>10' - radius</u>)				
1. <u>Elochea sp. Cmaerolachya?</u>	<u>10</u>	<u>Y</u>	<u>FACW or OBL</u>	
2. <u>Cyperus eragrostis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Mentha petragium</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Alopecurus lanatus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Hypochaeris radicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>Festuca myruos</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-6	10YR 5/1	75	7.5Y 5/4	25	C	LM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- ☐ Histosol (A1) ☐ Sandy Redox (S5)
☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6)
☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1)
☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11) ☒ Depleted Matrix (F3)
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)
☐ Sandy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7)
☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8)

- ☐ 2 cm Muck (A10)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
☒ High Water Table (A2) ☐ Salt Crust (B11)
☒ Saturation (A3) ☐ Aquatic Invertebrates (B13)
☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5) ☐ Stunted or Stressed Plants (D1) (LRR A)
☐ Surface Soil Cracks (B6) ☐ Other (Explain in Remarks)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Geomorphic Position (D2)
☐ Shallow Aquitard (D3)
☒ FAC-Neutral Test (D5)
☐ Raised Ant Mounds (D6) (LRR A)
☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____Water Table Present? Yes ☒ No ☐ Depth (inches): 1"Saturation Present? Yes ☒ No ☐ Depth (inches): SurfaceWetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: S22 Brown Road City/County: Humboldt Sampling Date: 3-28-20
 Applicant/Owner: S. Richter State: CA Sampling Point: 6
 Investigator(s): K. Wear Section, Township, Range: 23, T2S, R3E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): A Lat: E 431638.5 Long: E 4459722.2 Datum: _____
 Soil Map Unit Name: Windrip - Rainbear NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10'-rad.</u>)				
1. <u>Danthonia californica</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
2. <u>Taraxacum officinale</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Anthriscus odoratum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Festuca myuros</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
5. <u>Hypochaeris radicata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>Rumex acetosella</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
7. <u>Helianthus annuus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
8. <u>Un identifiable seedlings</u>	<u>10</u>	<u>N</u>	<u>.</u>	
9. _____				
10. _____				
11. _____				
<u>105</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Sampling Point: 6

HYDROLOGY

Western Mountains, Valleys, and Coast – Version 2.0

Appendix D. List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Acmispon parviflorus</i>	lotus
<i>Aesculus californica</i>	California buckeye
<i>Agrostis</i> sp.	bent grass
<i>Anisocarpus madioides</i>	woodland madia
<i>Anthoxanthum odoratum</i>	sweet vernal grass
<i>Arbutus menziesii</i>	Pacific madrone
<i>Artemesia douglasiana</i>	mugwort
<i>Athyrium filix-femina</i>	lady fern
<i>Avena barbata</i>	slender wild oat
<i>Baccharis glutinosa</i>	marsh baccharis
<i>Bellis perennis</i>	English daisy
<i>Briza maxima</i>	rattlesnake grass
<i>Bromus catharticus</i> var. <i>elatus</i>	Chilean brome
<i>Bromus hordeaceus</i>	soft chess
<i>Bromus laevipes</i>	woodland brome
<i>Cardamine californica</i>	milk maids
<i>Cardamine oligosperma</i>	western bittercress
<i>Carex tumulicola</i>	foothill sedge
<i>Cerastium glomeratum</i>	mouse ear chickweed
<i>Cirsium vulgare</i>	bull thistle
<i>Claytonia perfoliata</i>	miner's lettuce
<i>Cortaderia jubata</i>	pampas grass
<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>Eleocharis macrostachya</i>	creeping spike-rush
<i>Elymus caput-medusae</i>	Medusa head
<i>Erodium botrys</i>	long-beaked storksbill
<i>Eschscholzia californica</i>	California poppy
<i>Festuca arundinacea</i>	tall fescue
<i>Festuca myuros</i>	rattail sixweeks grass
<i>Fragaria vesca</i>	wood strawberry
<i>Galium aparine</i>	goose grass
<i>Galium</i> sp.	bedstraw
<i>Gaultheria shallon</i>	salal
<i>Geranium dissectum</i>	cut-leaved geranium

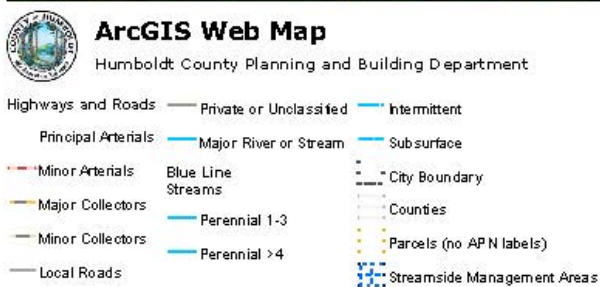
Appendix D(Cont.). List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Geranium molle</i>	dovefoot geranium
<i>Holcus lanatus</i>	common velvet grass
<i>Holodiscus discolor</i>	oceanspray
<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 effusus</i>	common rush
<i>Juncus patens</i>	spreading rush
<i>Juncus tenuis</i>	slender rush
<i>Leucanthemum vulgare</i>	ox-eye daisy
<i>Lonicera hispidula</i>	hairy honeysuckle
<i>Lotus corniculatus</i>	birdfoot trefoil
<i>Luzula sp.</i>	wood rush
<i>Mentha pulegium</i>	pennyroyal
<i>Oemleria cerasiformis</i>	oso berry
<i>Osmorhiza berteroi</i>	sweet-cicely
<i>Oxalis oregana</i>	redwood sorrel
<i>Pentagramma triangularis ssp. triangularis</i>	goldback fern
<i>Phalaris aquatica</i>	harding grass
<i>Pharodendron serotinum ssp. tomentosum</i>	mistletoe
<i>Poa annua</i>	annual bluegrass
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Polypodium glycyrrhiza</i>	licorice fern
<i>Polystichum munitum</i>	sword fern
<i>Prunella vulgaris</i>	self-heal
<i>Psilocarphus sp.</i>	woolyheads
<i>Pteridium aquilinum var. pubescens</i>	bracken fern
<i>Quercus garryana</i>	Oregon white oak
<i>Quercus kelloggii</i>	California black oak
<i>Ranunculus sp.</i>	buttercup
<i>Ribes roezlii</i>	Sierra gooseberry
<i>Rosa sp.</i>	rose
<i>Rubus armeniacus</i>	Himalayan blackberry
<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>Sanicula crassicaulis</i>	Pacific snakeroot

Appendix D(Cont.). List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Senecio minimus</i>	coast fireweed
<i>Senecio vulgaris</i>	common butterweed
<i>Sequoia sempervirens</i>	coast redwood
<i>Silybum marianum</i>	milk thistle
<i>Sonchus asper</i> ssp. <i>asper</i>	prickly sow thistle
<i>Sonchus oleraceus</i>	common sow thistle
<i>Stachys ajugoides</i>	hedge nettle
<i>Stellaria media</i>	common chickweed
<i>Toxicodendron diversilobum</i>	poison-oak
<i>Trifolium repens</i>	white clover
<i>Trifolium subterraneum</i>	subterranean clover
<i>Umbellularia californica</i>	California-bay
<i>Vaccinium ovatum</i>	evergreen huckleberry
<i>Vicia americana</i> var. <i>americana</i>	American vetch
<i>Vicia sativa</i>	vetch
<i>Woodwardia fimbriata</i>	giant chain fern
<i>Xanthium strumarium</i>	cocklebur

Appendix E. County Web GIS Map.



Printed: March 29, 2020 Web AppBuilder 2.0 for ArcGIS

Map Disclaimer:
While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

Source: NRC5, Humboldt County GIS, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix F. Google Earth Image of the Graded Area Before Disturbance.



Appendix G. Photos of the Project Area.



Photo 1. Recently graded area along Brown Road.



Photo 2. Emergent wetland direct adjacent to graded area.

Appendix G (Cont.). Photos of the Project Area.

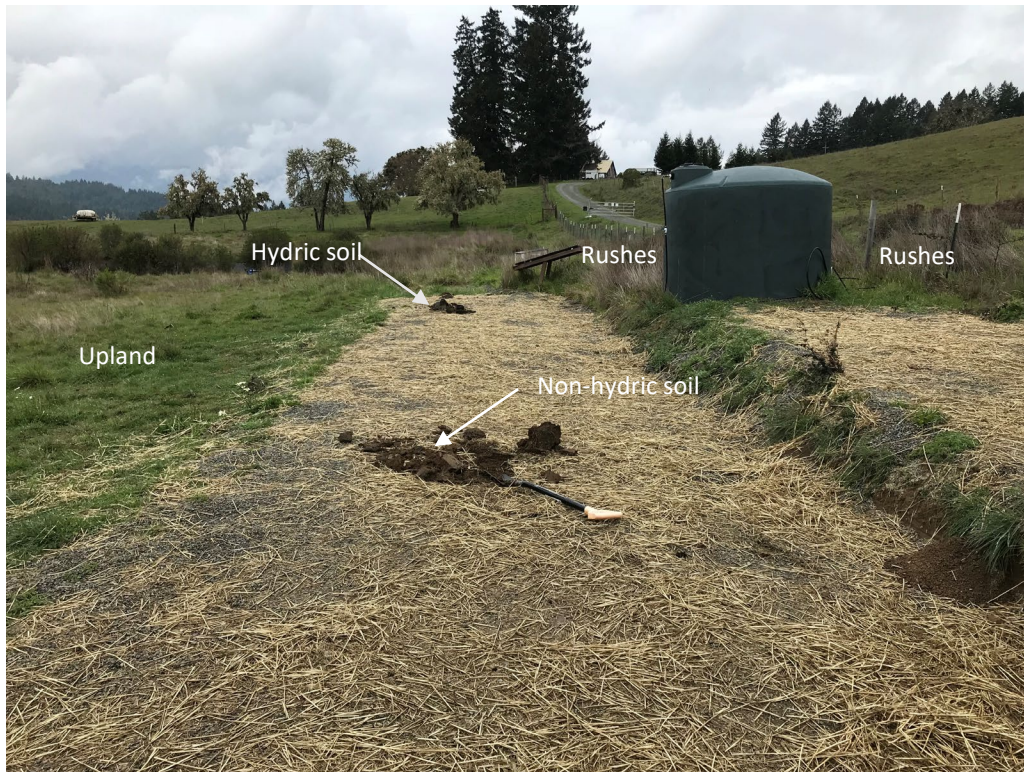


Photo 3. Soil pits on graded flat and adjacent vegetation.



Photo 4. Groundwater in Sample Point 1.

Appendix G (Cont.). Photos of the Project Area.



Photo 5. New cultivation area, looking southeast.



Photo 6. New cultivation area, looking north.