Aquatic Resources Impact Assessment

APN: 214-142-012

Prepared by:

Kyle Wear
Botanical Consultant
kyle_wear@suddenlink.net
(707) 601-1725

Prepared for:

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

March 2022

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1. INTRODUCTION

This aquatic resource impact assessment was conducted on APN: 214-142-012 to address the requirement in the February 5, 2021, Cleanup and Abatement Order (R1-2021-0003) (COA) issued by the North Coast Regional Water Control Board (Water Board) to provide:

> "An assessment of any direct and indirect impact to any waters of the state on the Property, including, but not limited to, rivers, streams, seeps, springs, bogs, and wetlands, caused by unauthorized activities, including all areas that have been developed or distributed…"

The subsequent October 4, 2021, Water Board Notice of Violation (NOV) recommends:

> "…complete a comprehensive impact assessment to determine whether wetlands or other aquatic resources were impacted at any current or past cultivation sites on the Property."

Impacts to aquatic resources at two of the cultivation sites (B and C) were addressed in the 2019 Aquatic Resources Delineation. This report includes similar impact assessment of five additional sites on the property (A, D, E, F, and G) and will serve as a basis for a Cleanup, Restoration, and Monitoring Plan (CRMP).

2. DEFINITIONS

2.1. 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."

2.2. Waters of the State
Waters of the state are regulated by the State Water Resources Control Board (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's definition of a wetland is:

> *"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."*

2.3. Streamside Management Areas
The Humboldt County Streamside Management Areas and Wetlands Ordinance recognizes Streamside Management Areas (SMAs) along all streams and wetlands.

The SMAs for streams are defined as:

> "One hundred (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."
>
> "Fifty (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."

The SMAs for wetlands are defined as:

> Seasonal wetlands = fifty (50) feet
> Perennial wetlands = one hundred fifty (150) feet

The Water Board *Cannabis Cultivation Policy* (Water Board 2019) also includes setbacks from aquatic resources. These include:

> Perennial watercourses, waterbodies, or springs = 150 feet
> Intermittent (Class II) watercourses or wetlands = 100 feet
> Ephemeral (Class III) watercourses = 50 feet

3. ENVIRONMENTAL SETTING

3.1. Project Location

The parcel is located approximately 3.5 miles northeast of Redway on the Miranda USGS quadrangle (Section 25, T3S, R3E) in Humboldt County (Figure 1).

3.2. Soil, Topography, and Hydrology

The soil type mapped on the parcel is Coyoterock-Yorknorth, 15 to 50 percent slopes (United States Department of Agriculture, Natural Resource Conservation Service 2022). This soil type is derived from sandstone, mudstone, and schist parent material. The parcel includes several streams, wetlands, and ponds that are tributary to the South Fork Eel River.

4. METHODS

4.1. Aquatic Resources

Site visits were conducted on September 1, 2021, and January 27, 2022. Five current and past cultivation sites were evaluated for potential impacts to aquatic resources (Figure 2). Where present, wetlands were delineated by Kyle Wear, M.A. Mr. Wear has over 25 years of experience conducting floristic surveys and other botanical work in northern California and over 15 years of experience conducting wetland delineations. Mr. Wear is also trained in wetland delineation by the Wetland Training Institute.

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)* (Army Corps 2010). A positive wetland determination is made when all three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) are present.

Streams are delineated based on their Ordinary High Water Mark following *A Guide to Ordinary High Water Mark (OHWN) Delineation for Non-Perennial Streams in the Western Mountains, Valleys and Coast Region* (Army Corps 2014). The County Streamside Management Areas and Wetlands Ordinance also considers the top of the bank and any associated riparian vegetation when establishing watercourse boundaries.

Seven sample plots were evaluated for hydrophytic vegetation, hydric soil, and wetland hydrology at three of the sites where wetlands were identified (Appendix A). The wetland boundaries were mapped with a handheld GPS unit.

Figure 1. Location Map.

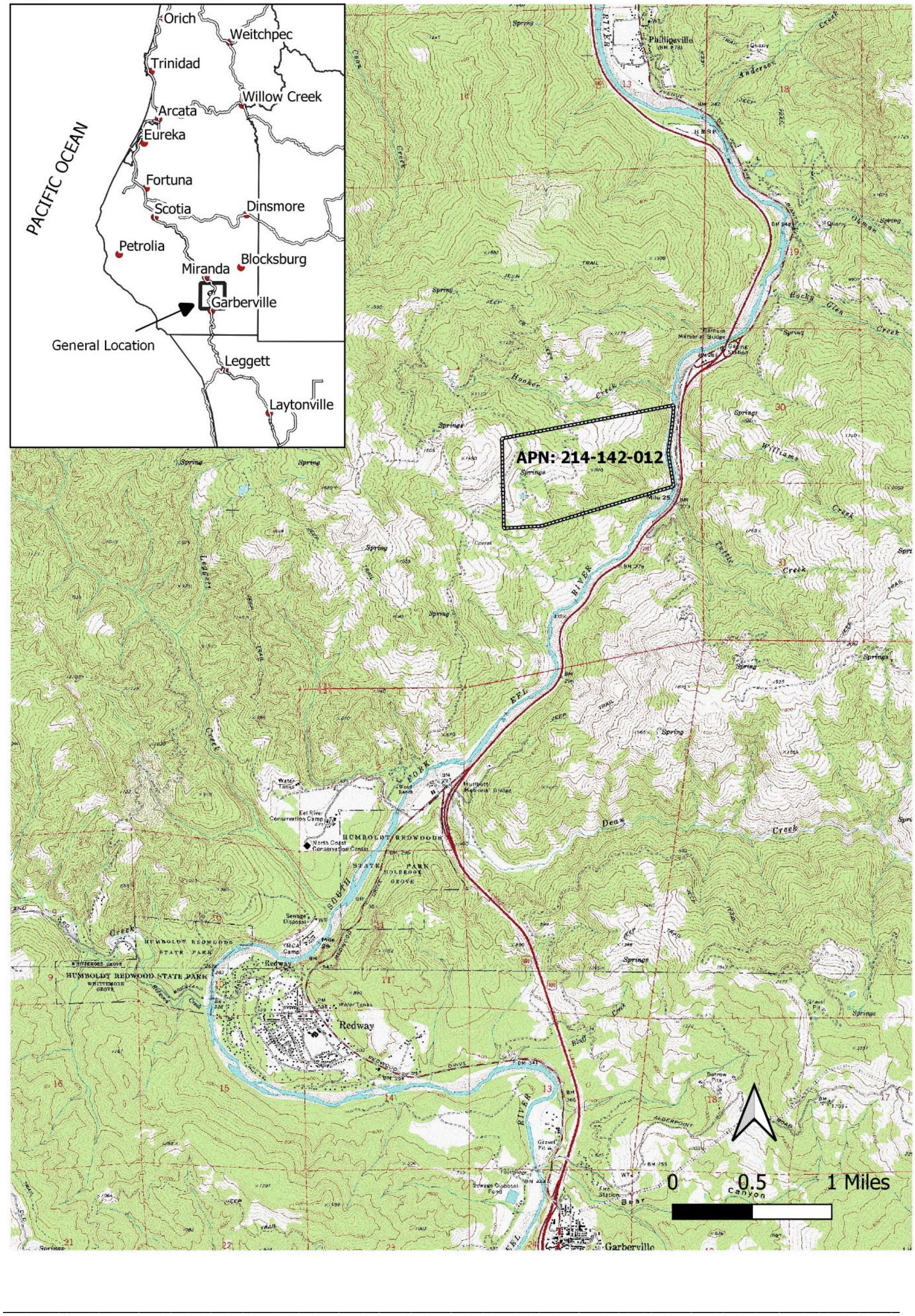


Figure 2. Cultivation Site Map.

4.2. Impact Assessment

National Agricultural Imagery Program (NAIP) and Google Earth images were evaluated to compare the pre-and post-development conditions of the sites. The following images were evaluated, but are not necessarily provided in the figures, photos, or discussion in this report:

<u>NAIP Images</u>: 2005, 2009, 2012, 2014, 2016, 2018, and 2020
<u>Google Earth</u>: 11/2004, 12/2005, 6/2009, 9/2010, 8/2012, 5/2014, 10/2015, and 4/2019

The delineated wetland boundary shapefile was overlaid on and pre-and post-disturbance NAIP images. Additional wetlands visible in the pre-disturbance images were hand digitized; these areas were identified based on their similar colors and patterns to the undisturbed adjacent wetlands in the images. Polygon area calculations were made with QGIS 3.10 software. While every attempt was made to make this as accurate as possible, the resolution of the photos, accuracy of the base maps, and other factors could affect the accuracy of the maps and calculations.

5. RESULTS AND DISCUSSION

There were impacts to aquatic resources at four of the five sites. This includes filling of seasonal wetlands and Class III stream channels (Table 1).

Table 1. Impact Summary.

	TOTAL		WETLAND		STREAM
Site	**Square Feet**	**Acres**	**Square Feet**	**Acres**	**Feet**
A	88,375	2.029	0	0	158
D	84,368	1.937	673	0.015	0
E	45,436	1.043	0	0	220
F	16,309	0.374	0	0	0
G	13,257	0.304	1,511	0.035	68
TOTAL	247,745	5.687	2,184	0.050	446

5.1. Site A

5.1.1 Aquatic Resources

The site is currently used for cultivation and includes a mixed light greenhouse and generators. There is a feature in the undisturbed area near the top of the cutbank that includes a small gulch above a small seasonal wetland (Figure 3). The feature is an erosional feature or earthflow sag and is not continuous with the impacted area. The feature is obscured by adjacent upland vegetation canopy and is not visible in aerial images. The small wetland is dominated by rushes (*Juncus effusus* [FACW] and *J. Patens* [FACW]) (Sample Point 1). The soil is 10yr 2/2 with 7.5yr redox concentrations and meets hydric soil indicator F6 (Redox Dark Surface). This area was sampled in September 2021 during a drought year; however, the small feature includes secondary hydrology indicators B10 (Drainage Patters), D2 (Geomorphic Position), and D5 (FAC-Neutral Test).

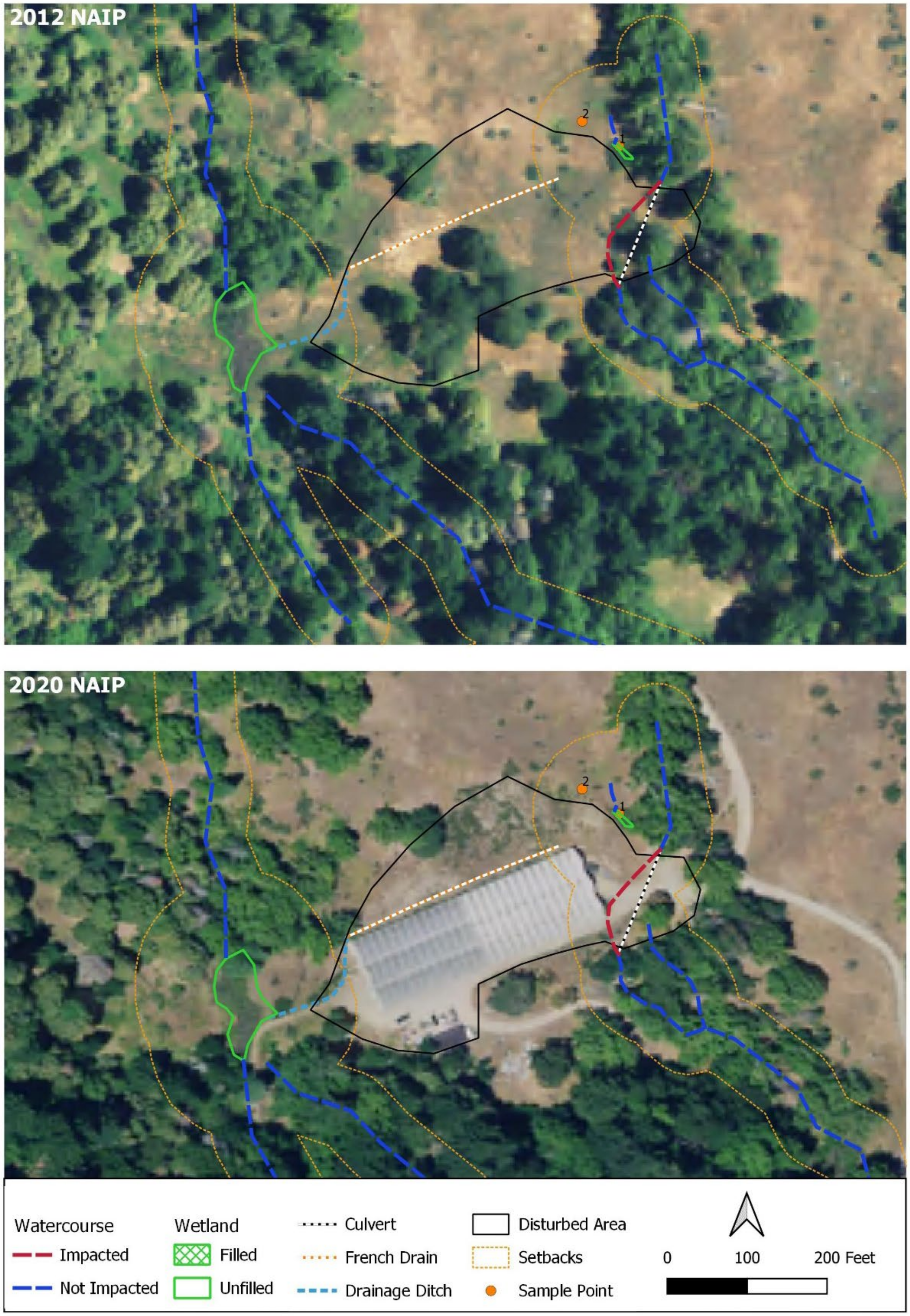
The adjacent upland includes grasslands with orchard grass (*Dactylis glomerata* [FACU]), rattlesnake grass (*Briza maxima* [UPL]), and Mediterranean barley (*Hordeum marinum* [FAC]) (Sample Point 2). There are also stands of coyote brush (*Baccharis pilularis* [UPL]), Douglas-fir (*Pseudotsuga menziesii* [FACU]), Oregon white oak (*Quercus garryana* [FACU]), buckeye (*Aesculus californica* [UPL]), and California bay (*Umbellularia californica* [FAC]). The upland soil is generally 10yr 2/2 and lacks redox features or other hydric soil indicators.

There is a Class III watercourse east of the graded flat. The cutbank includes seasonal bank seeps that drain into a French Drain along the base of the slope, then west into a drainage ditch, and into wetland associated with a Class II watercourse. The bank seeps are a result of daylighting groundwater that was otherwise well beneath the surface and are not natural wetland features.

5.1.2. Impact Assessment

The site was graded between August 2012 and May 2014. The total impacted area is approximately 88,375 square feet (2.029 acres). There has been concern raised that a part of the disturbed area that appears darker brownish green than the adjacent grassland in some of the pre-disturbance images could be wetland, especially the 2005 images. However, in the 2012 Google Earth image, which has higher resolution, the area appears to be grassland, coyote

Figure 3. Site A Aquatic Resources Map.



brush, oaks, and other hardwoods indicative of upland conditions (Appendix B). There is no evidence of rushes typically visible in the images in other wetlands on the property. Similar color is also present elsewhere on the same images in areas on the property that are undisturbed that are upland.

A July 2021 report by Trinity Valley Consulting Engineers indicates the Class III stream is diverted from its original channel into a culvert under the access road. This resulted in the filling of approximately 158 feet of the channel.

5.2. Site D

5.2.1. Aquatic Resources

There is a small seasonal wetland in a depression on an earthflow sag just west of the graded flat (Figure 4). Dominant plants in the wetland include nut grass (*Cyperus eragrostis* [FACW]), rush (*Juncus effusus* [FACW]), and pennyroyal (*Mentha pelugium* [OBL]) (Sample Point 6). The soil is generally 10yr 4/1 with 7.5yr redox concentrations and meets hydric soil indicator F3 (Depleted Matrix). The water table was approximately eight inches below the surface with saturation to approximately three inches. There was an algal mat over some of the wetland. Wetland hydrology indicators present included A2 (High Water Table), A3 (Saturation), and B4 (Algal Mat or Crust).

The adjacent upland is grassland with stands of orchard grass (*Dactylis glomerata* [FACU]) and other grasses (Sample Point 7). There are nearby stands of coyote brush (*Baccharis pilularis* [UPL]). Coyote brush is also establishing in the raised beds that remain on the flat.

There is a Class III stream near the southwest corner of the disturbed area. Like Site A, grading exposed the water table on the cutbank resulting in seasonal seeps that drain onto the flat, but these are not natural features.

5.2.2. Impact Assessment

Development of the site is first visible in 2018. Cultivation at the site appears to have ceased by 2019. The disturbed area is approximately 84,368 square feet (1.937 acres). Approximately 673 square feet (0.015 acre) of the wetland visible on pre-disturbance images is under the toe of the fillslope.

The nearby Class III watercourse does not appear to have been impacted. The current top of the watercourse is consistent with pre-disturbance images (Appendix B).

5.3. Site E

5.3.1. Aquatic Resources

There are no wetlands near the site (Figure 5). There are stands of nut grass (*Cyperus eragrostis* [FACW]) on the flat associated with areas where runoff concentrates, but it is not a natural wetland feature. The surrounding grassland has upland vegetation with stands of orchard grass (*Dactylis glomerata* [FACU]), rattlesnake grass (*Briza maxima* [UPL]), Mediterranean barley (*Hordeum marinum* [FAC]), rough cat's-ear (*Hypochaeris radicata* [FACU]), and coyote brush

Figure 4. Site D Aquatic Resources Map.

Figure 5. Site E Aquatic Resources Map.

(*Baccharis pilularis* [UPL]). The surrounding trees include Douglas-fir (*Pseudotsuga menziesii* [FACU]), Oregon white oak (*Quercus garryana* [FACU]), and California bay (*Umbellularia californica* [FAC]).

There are five Class III streams northeast, east, and south of the disturbed area.

5.3.2. Impact Assessment

Grading occurred between 2009 and 2012. The site was used for cultivation until at least 2016. The total disturbed area is approximately 45,436 square feet (1.043 acres), which included approximately 220 feet of a Class III watercourse (Appendix B). There is no evidence of wetlands in the pre-disturbance images.

5.4. Site F

5.4.1. Aquatic Resources

There are no wetlands or streams near the site (Figure 6). There is a small patch of nut grass (*Cyperus eragrostis* [FACW]) and pennyroyal (*Mentha pelugium* [OBL]) associated with drainage from the flat, but it is not a natural feature. The surrounding grassland includes California oatgrass (*Danthonia californica* [FAC]), blue wildrye (*Elymus glaucus* [FACU]), rattlesnake grass (*Briza maxima* [UPL]), bracken fern (*Pteridium aquilinum* [FACU]), rough cat's-ear (*Hypochaeris radicata* [FACU]), and scattered coyote brush (*Baccharis pilularis* [UPL]). The surrounding trees include Douglas-fir (*Pseudotsuga menziesii* [FACU]), Oregon white oak (*Quercus garryana* [FACU]), madrone (*Arbutus menziesii* [UPL]), and California bay (*Umbellularia californica* [FAC]).

5.4.2. Impact Assessment

The site was graded between 2014 and 2016. The site was used for cultivation until at least 2018. The total impacted area is approximately 16,309 square feet (0.374 acre). No aquatic resources were impacted.

5.5. Site G

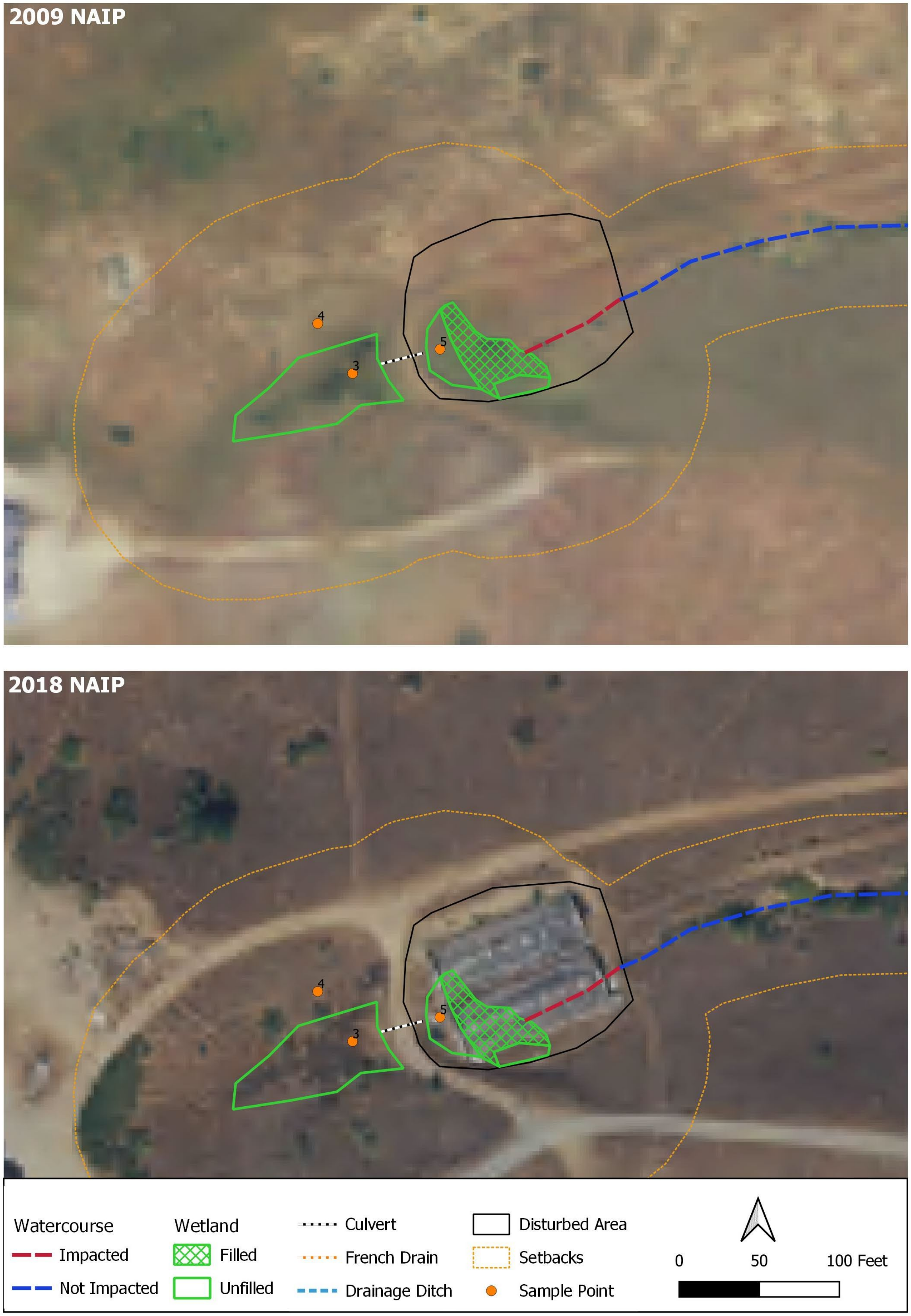
5.5.1. Aquatic Resources

There is a seasonal wetland directly west of the disturbed area (Figure 7). The wetland includes stands of rushes (*Juncus effusus* [FACW] and *J. Patens* [FACW]), nut grass (*Cyperus eragrostis* [FACW]), and pennyroyal (*Mentha pelugium* [OBL]) (Sample Points 3 and 5). The soil in the wetland is generally 10yr 4/1 with 7.5yr 5/6 redox concentrations. The soil meets hydric soil indicator F3 (Depleted Matrix). Wetland hydrology indicators present included A1 (Surface Water), A2 (High Water Table), and A3 (Saturation).

The adjacent upland includes stands of coyote brush (*Baccharis pilularis* [UPL]) and grassland with orchard grass (*Dactylis glomerata* [FACU]), harding grass (*Phalaris aquatica* [FACU]), six weeks fescue (*Festuca myuros* [FACU]), rattlesnake grass (*Briza maxima* [UPL]), and rough cat's

Figure 6. Site F Aquatic Resources Map.

Figure 7. Site G Aquatic Resources Map.



ear (*Hypochaeris radicata* [FACU]) (Sample Point 4). The soil is generally 10yr 3/3 without redox features or other hydric soil or wetland hydrology indicators.

A Class III watercourse flows east from the disturbed area.

5.5.2. Impact Assessment

The area was graded between June 2009 and September 2010 and used for cultivation until at least 2016. The total impacted area is approximately 13,257 square feet (0.304 acre). The wetland and upper extent of the Class III watercourse extend under the graded area in the pre-disturbance images. Approximately 1,511 square feet (0.035 acre) of wetland and approximately 68 feet of the Class III watercourse were filled. The road through the wetland was not included in the impacted area because it is visible in 2004 and is a baseline condition.

6. REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experimental Station.

GretagMacbeth. 2000. *Munsell Soil Color Charts*. New Winsdor, NY

State Water Resources Control Board. 2019. *Cannabis Cultivation Policy, Principals and Guidelines for Cannabis Cultivation.*

U.S. Army Corps of Engineers (Army Corps). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual. Western Mountains, Valleys, and Coast Region (Version 2.0),* ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/El TR-10-3. Vicksburg, MS. Army Corps of Engineer Research and Development Center.

Army Corps. 2014. *A Guide to Ordinary High Water Mark (OHWN) Delineation for Non-Perennial Streams in the Western Mountains, Valleys and Coast Region*. M.K. Mersel and R.W. Lichvar. ERDC/CRREL TR-14-13. Army Corps of Engineer Research and Development Center.

Army Corps. 2016. *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List.* Lichvar, R.W., D.L. Banks, and N.C. Melvin. The National Wetland Plant List: 2016 Update of Wetland Ratings. Phytoneuron 2016-30: 1-17.

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

APPENDIX A Wetland Determination Data Forms

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

Project/Site: APN: 214-142-012 City/County: Humboldt Sampling Date: 9-1-21

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 1

Investigator(s): Kyle Wear Section, Township, Range: 25, T3S, R3E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10

Subregion (LRR): A ~~Lat~~: E 431999.1 ~~Long~~: N 4446964.0 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Plot is in small depression or earthflow sag with drainage/erosion feature above

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 5x10 in feature)			
1. Baccharis pilularis	10	Yes	UPL
2. Toxicodendron diversilobum	20	Yes	FAC
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5x10 in feature)			
1. Juncus effusus	20	Yes	FACW
2. Juncus patens	10	Yes	FACW
3. Holcus lanatus	5	No	FAC
4. Carex tumulicola	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	37	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (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 = ____

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.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 yr 2/1		7.5 yr 6/6	5	C	M	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **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: APN: 214-142-012 City/County: Humboldt Sampling Date: 9-1-21

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 2

Investigator(s): Kyle Wear Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR): A ~~Lat~~: E 431985.0 ~~Long~~: N 4446973.6 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 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 ___	No X
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 20'-radius)			
1. Baccharis pilularis	20	Yes	UPL
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5'-radius)			
1. Dactylis glomerata	50	Yes	FACU
2. Festuca arundinacea	10	No	FAC
3. Briza maxima	10	No	UPL
4. Hordeum marinum	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
= Total Cover	80		
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum ______

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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 = ______

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.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 yr 2/2						Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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 X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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 X Depth (inches): ______

Water Table Present? Yes ___ No X Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ______

Wetland Hydrology Present? Yes ___ No X

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: APN: 214-142-012 City/County: Humboldt Sampling Date: 1-27-22

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 3

Investigator(s): Kyle Wear Section, Township, Range: 25, T3S, R3E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): A ~~Lat~~: E 432333.6 ~~Long~~: N 4447073.9 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 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 X	No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X	No ___	
Wetland Hydrology Present?	Yes X	No ___	

Remarks:
Plot is in swale feature

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	___ = Total Cover		
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
	___ = Total Cover		
Herb Stratum (Plot size: 5'-radius)			
1. Juncus effusus	30	Yes	FACW
2. Juncus patens	30	Yes	FACW
3. Mentha pelugium	10	No	OBL
4. Vicia sativa	10	No	UPL
5. Geranium sp.	5	No	?
6. Non-flowering grasses	10	No	?
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
	___ = Total Cover		
% Bare Ground in Herb Stratum ______			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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 = ______

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.

Hydrophytic Vegetation Present? Yes X No ___

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10 yr 2/2	100					Clay loam	
2+	10 yr 4/1	90	7.5 yr 5/6	5	C	M	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? **Yes** X **No** ______

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ______ No X Depth (inches): ______

Water Table Present? Yes X No ______ Depth (inches): 6”

Saturation Present? (includes capillary fringe) Yes X No ______ Depth (inches): surface

Wetland Hydrology Present? **Yes** X **No** ______

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

Remarks: 1-2” surface water lower near culvert

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

Project/Site: APN: 214-142-012 City/County: Humboldt Sampling Date: 1-27-21

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 4

Investigator(s): Kyle Wear Section, Township, Range: 25, T3S, R3E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10

Subregion (LRR): A ~~Lat~~: E 432327.0 ~~Long~~: N 4447083.4 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 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 ____	No X
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10' radius)			
1. Baccharis pilularis	20	Yes	UPL
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5'-radius)			
1. Phalaris aqutica	20		FACU
2. Dactilis glomerata	20		FACU
3. Grass seedlings (Fetuca myuros?)	20	?	?
4. Briza maxima	5		UPL
5. Hypericum perforatum	2		FACU
6. Hypochaeris radicata	10		FACU
7.			
8.			
9.			
10.			
11.			
	77	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0-1 (A)

Total Number of Dominant Species Across All Strata: 3-4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ≤ 25% (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 = ____

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.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Cover and species composition would likely be different in spring or summer, but clearly an upland plant community

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 yr 3/3		7.5 yr 6/6				Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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 X Depth (inches): ______

Water Table Present? Yes ______ No X Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ______ No X Depth (inches): ______

Wetland Hydrology Present? **Yes** ______ **No** X

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: APN: 214-142-012 City/County: Humboldt Sampling Date: 1-27-22

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 5

Investigator(s): Kyle Wear Section, Township, Range: 25, T3S, R3E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): A ~~Lat~~: E 432350.3 ~~Long~~: N 4447078.5 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 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 X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
	___ = Total Cover		
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
	___ = Total Cover		
Herb Stratum (Plot size: 5'-radius)			
1. Cyperus eragrostis	25	Yes	FACW
2. Juncus effusus	25	Yes	FACW
3. Mentha pelugium	25	Yes	OBL
4. Hypochaeris radicata	2	No	FACU
5. Non-flowering grasses	5	No	?
6. Geranium seedlings	5	No	?
7.			
8.			
9.			
10.			
11.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
	___ = Total Cover		
% Bare Ground in Herb Stratum ______			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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 = ______

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.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 yr 4/1	80	7.5 yr 5/6	20	C	M	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes X No ______

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ______ Depth (inches): 1”

Water Table Present? Yes ______ No ______ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ______ No ______ Depth (inches): ______

Wetland Hydrology Present? Yes X 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: APN: 214-142-012 City/County: Humboldt Sampling Date: 1-27-22

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 6

Investigator(s): Kyle Wear Section, Township, Range: 25, T3S, R3E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): A ~~Lat~~: E 432334.1 ~~Long~~: N 4446947.2 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 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 X	No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X	No ___	
Wetland Hydrology Present?	Yes X	No ___	

Remarks:
Plot is in depression on earthflow sag

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5'-radius)			
1. Mentha pelugium	50	yes	OBL
2. Cyperus eragrostis	15	Yes	FACW
3. Juncus effusus	15	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum ______			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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 = ______

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.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 yr 4/1	75	7.5 yr 5/6	25	C	M	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 3

Wetland Hydrology Present? Yes X 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: APN: 214-142-012 City/County: Humboldt Sampling Date: 1-27-22

Applicant/Owner: Y. Jacobson State: CA Sampling Point: 7

Investigator(s): Kyle Wear Section, Township, Range: 25, T3S, R3E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR): A ~~Lat~~: E 432322.0 ~~Long~~: N 4446950.9 Datum: NAD 83

Soil Map Unit Name: Coyoterock-Yorknorth 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 X No ___

Are Vegetation X, 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 X	Is the Sampled Area within a Wetland?	Yes ___ No X
Hydric Soil Present?	Yes ___ No X		
Wetland Hydrology Present?	Yes ___ No X		

Remarks: See notes on vegetation below

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
	___ = Total Cover		
Sapling/Shrub Stratum (Plot size: ______)			
1.			
2.			
3.			
4.			
5.			
	___ = Total Cover		
Herb Stratum (Plot size: 5'-radius)			
1. Dactylis glomerata	50	Yes	FACU
2. Holcus lanatus	10	No	FAC
3. [1]None flowering grasses and seedlings	30	?	?
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
	___ = Total Cover		
% Bare Ground in Herb Stratum ______			

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)

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 = ______

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.

Hydrophytic Vegetation Present? Yes ___ No [1]X

Remarks:
[1] Difficult to ID and determine cover of grasses in mid-winter, grasses present as noted by old spikelets include Hordeum marinum (FAC), Briza maxima (UPL), young seedling include Vulpia myuros (FACU), the vegetation is clearly upland grassland. There are also stands of Baccharis pilularis (UPL) in grassland outside plot.

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 yr 2/2						Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators 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 X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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 X Depth (inches): ______

Water Table Present? Yes ___ No X Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ______

Wetland Hydrology Present? Yes ___ No X

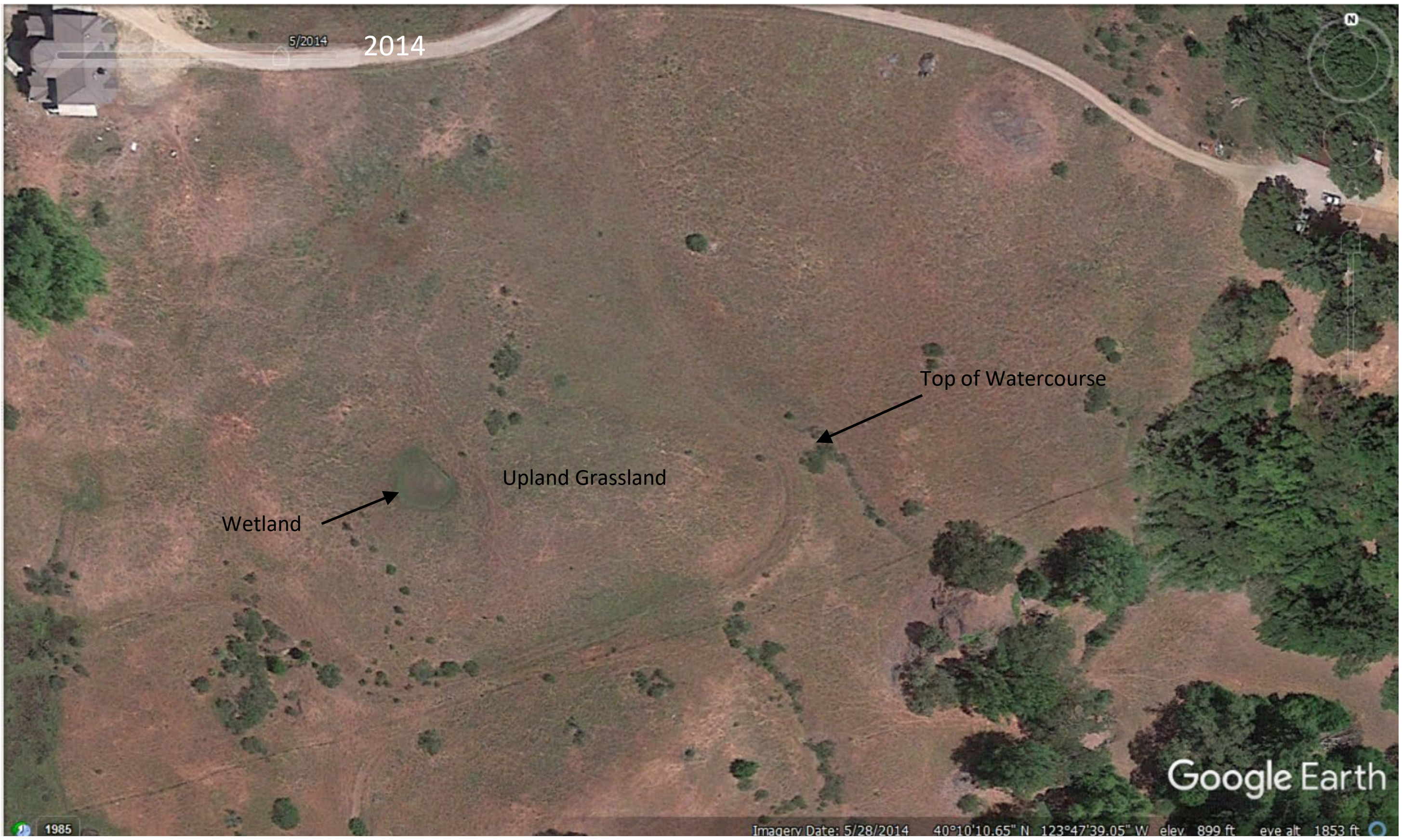
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX B Google Earth Images

Site A Google Earth Images

Site D Google Earth Images



Site E Google Earth Images

Site F Google Earth Images

Site G Google Earth Images