



Aquatic Resources Impact Assessment

APN: 214-142-012

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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.

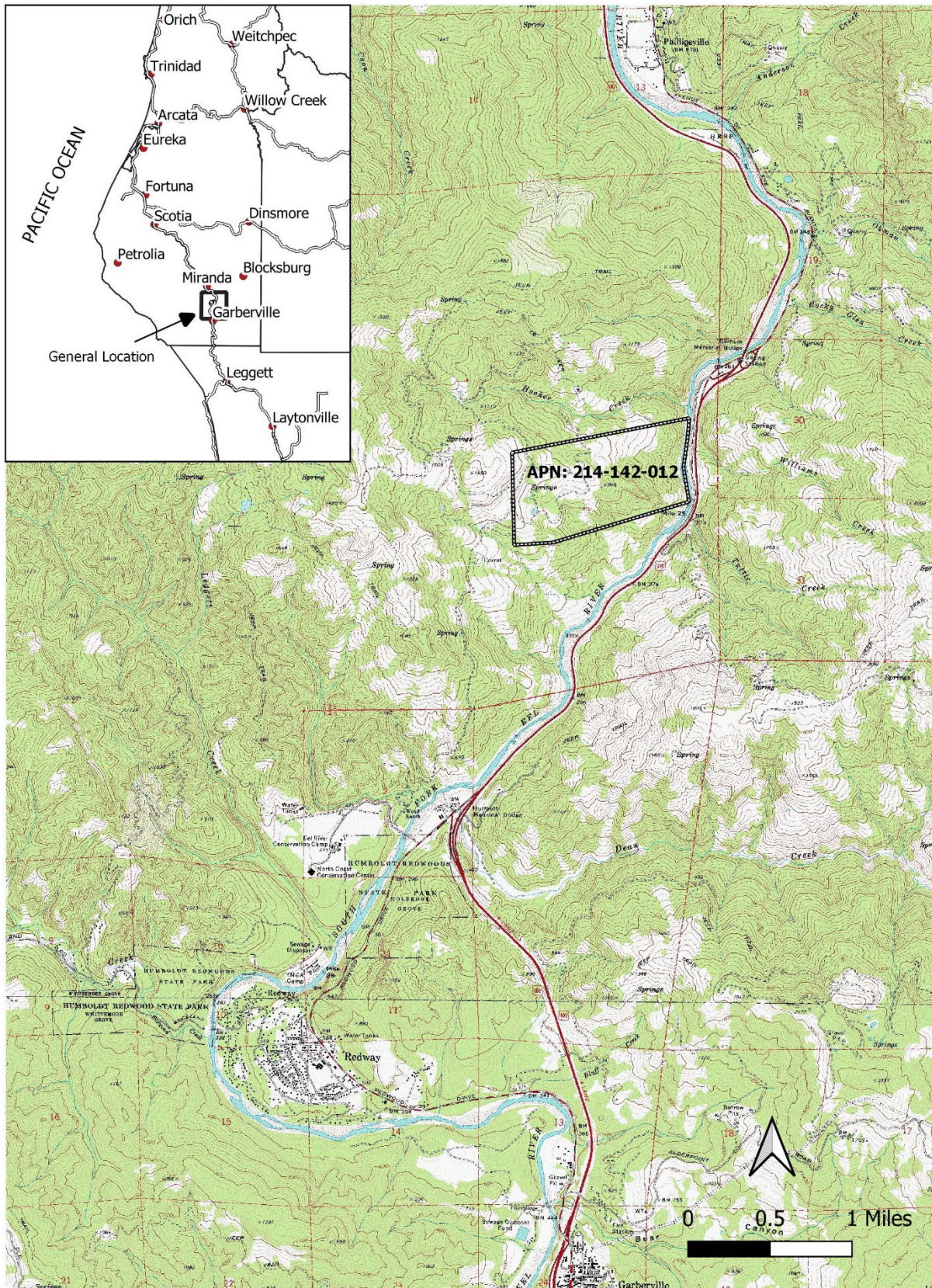


Figure 2. Cultivation Site Map.



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:

NAIP Images: 2005, 2009, 2012, 2014, 2016, 2018, and 2020

Google Earth: 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.

Site	TOTAL		WETLAND		STREAM
	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).

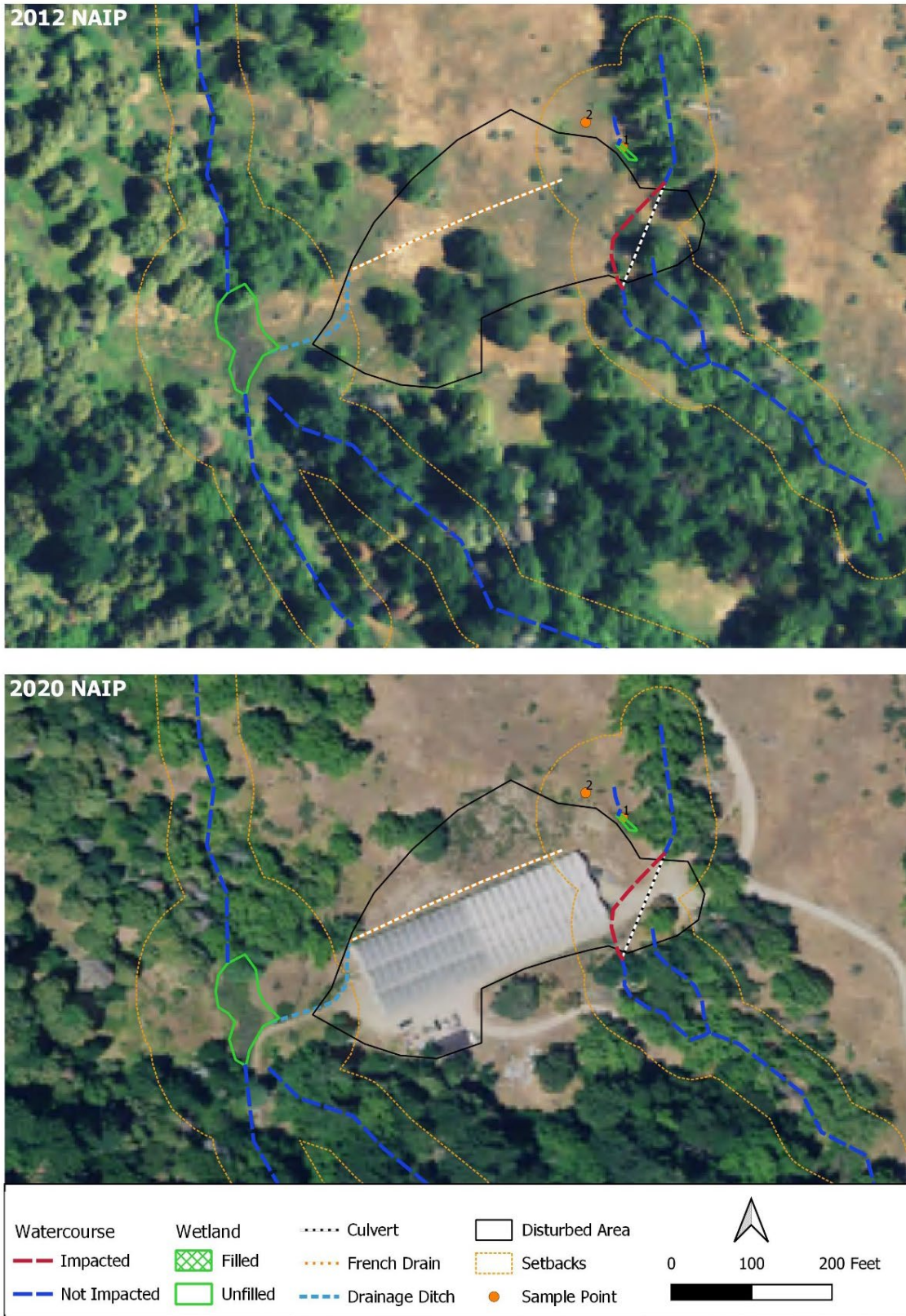
The adjacent upland includes grasslands with orchard grass (*Dactylis glomerata* [FACU]), rattlesnake grass (*Briza maxima* [UPL]), and Mediterranean barley (*Hordeum marinum* [FAC]) (Sample Point 2). There are also stands of coyote brush (*Baccharis pilularis* [UPL]), Douglas-fir (*Pseudotsuga menziesii* [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

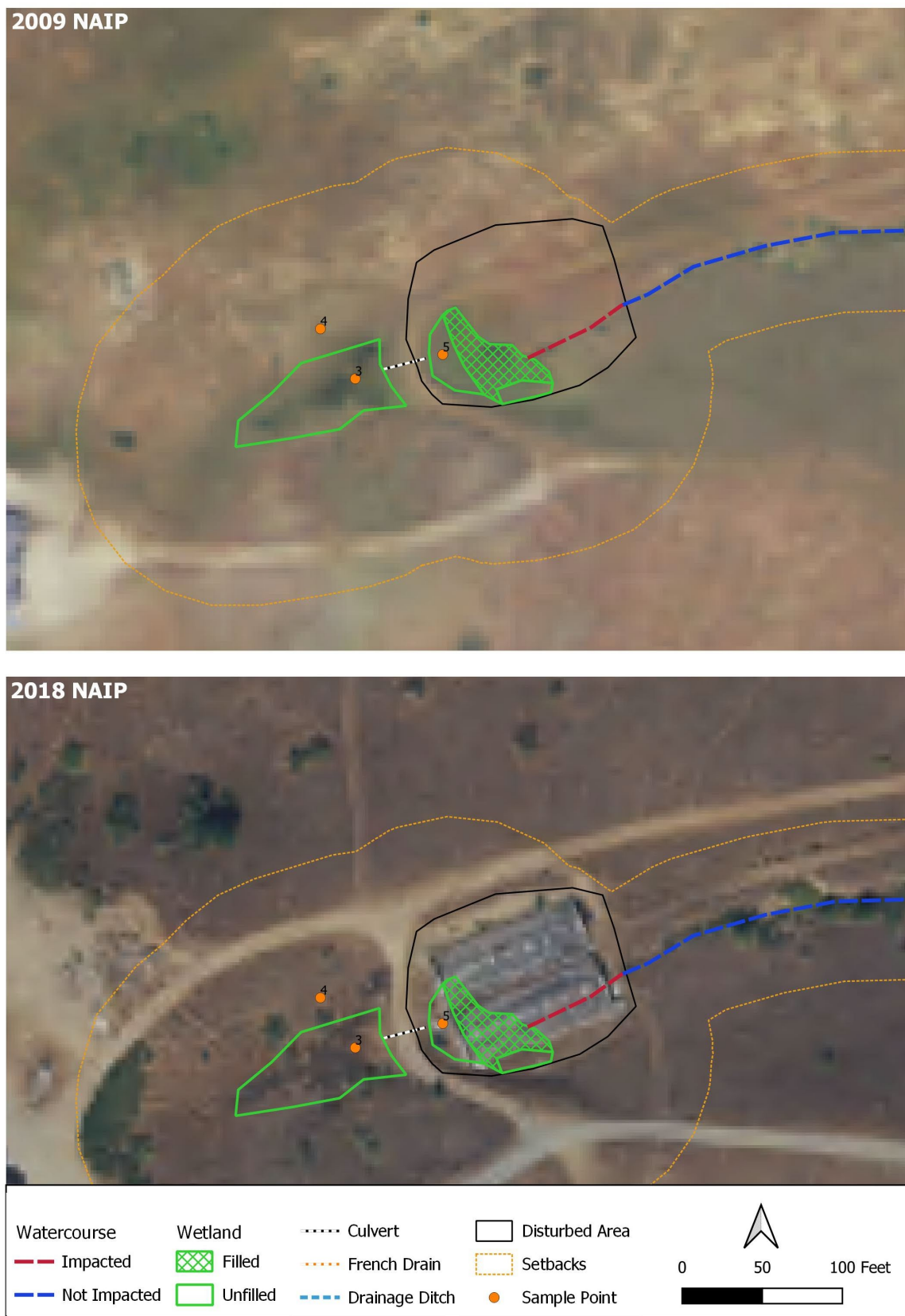
There is a seasonal wetland directly west of the disturbed area (Figure 7). The wetland includes stands of rushes (*Juncus effusus* [FACW] and *J. Patens* [FACW]), nut grass (*Cyperus eragrostis* [FACW]), and pennyroyal (*Mentha pelugium* [OBL]) (Sample Points 3 and 5). The soil in the wetland is generally 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

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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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: <p align="center">Plot is in small depression or earthflow sag with drainage/erosion feature above</p>	

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: <u>3</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: <u>5x10 in feature</u>)				OBL species _____ x 1 = _____	
1. <u>Baccharis pilularis</u>	<u>10</u>	<u>Yes</u>	<u>UPI</u>	FACW species _____ x 2 = _____	
2. <u>Toxicodendron diversilobum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
<u>30</u> = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>5x10 in feature</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Juncus patens</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>		<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Holcus lanatus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Carex tumulicola</u>	<u>2</u>	<u>No</u>	<u>FAC</u>		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>37</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
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 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:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>20'-radius</u>)				
1. <u>Baccharis pilularis</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	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: <u>5'-radius</u>)				
1. <u>Dactylis glomerata</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	Column Totals: _____ (A) _____ (B)
2. <u>Festuca arundinacea</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	Prevalence Index = B/A = _____
3. <u>Briza maxima</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators:
4. <u>Hordeum marinum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
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 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <p align="center">Plot is in swale feature</p>	

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: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 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.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'-radius</u>)				
1. <u>Juncus effusus</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. <u>Juncus patens</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Mentha pelugium</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
4. <u>Vicia sativa</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
5. <u>Geranium sp.</u>	<u>5</u>	<u>No</u>	<u>?</u>	
6. <u>Non-flowering grasses</u>	<u>10</u>	<u>No</u>	<u>?</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
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				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<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)					
Restrictive Layer (if present):						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Type: _____ Depth (inches): _____								
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 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 checked="" 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): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>6"</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>surface</u>	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>1-2" surface water lower near culvert</u>		

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 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:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0-1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3-4</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>≤ 25%</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: <u>10' radius</u>)					
1. <u>Baccharis pilularis</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	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 = _____	
<u>20</u> = Total Cover				UPL species _____ x 5 = _____	
Herb Stratum (Plot size: <u>5'-radius</u>)					
1. <u>Phalaris aquatica</u>	<u>20</u>	_____	<u>FACU</u>	Column Totals: _____ (A) _____ (B)	
2. <u>Dactylis glomerata</u>	<u>20</u>	_____	<u>FACU</u>	Prevalence Index = B/A = _____	
3. <u>Grass seedlings (Fetuca myuros?)</u>	<u>20</u>	<u>?</u>	<u>?</u>	Hydrophytic Vegetation Indicators:	
4. <u>Briza maxima</u>	<u>5</u>	_____	<u>UPL</u>		___ 1 - Rapid Test for Hydrophytic Vegetation
5. <u>Hypericum perforatum</u>	<u>2</u>	_____	<u>FACU</u>		___ 2 - Dominance Test is >50%
6. <u>Hypochaeris radicata</u>	<u>10</u>	_____	<u>FACU</u>		___ 3 - Prevalence Index is ≤3.0 ¹
7. _____	_____	_____	_____		___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____		___ 5 - Wetland Non-Vascular Plants ¹
9. _____	_____	_____	_____		___ Problematic Hydrophytic Vegetation ¹ (Explain)
10. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
11. _____	_____	_____	_____		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
<u>77</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					
Cover and species composition would likely be different in spring or summer, but clearly an upland plant community					

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

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: <u>3</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____	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 = _____	
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 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.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
Herb Stratum (Plot size: <u>5'-radius</u>)					
1. <u>Cyperus eragrostis</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>		
2. <u>Juncus effusus</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>		
3. <u>Mentha pelugium</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>		
4. <u>Hypochaeris radicata</u>	<u>2</u>	<u>No</u>	<u>FACU</u>		
5. <u>Non-flowering grasses</u>	<u>5</u>	<u>No</u>	<u>?</u>		
6. <u>Geranium seedlings</u>	<u>5</u>	<u>No</u>	<u>?</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>87</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 yr 4/1	80	7.5 yr 5/6	20	C	M	Clay loam	

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.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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)	

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 checked="" 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 checked="" 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 No Depth (inches): 1"

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: 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 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <p align="center">Plot is in depression on earthflow sag</p>	

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: <u>3</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____	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 = _____	
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 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.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Herb Stratum (Plot size: <u>5'-radius</u>)					
1. <u>Mentha pelugium</u>	<u>50</u>	<u>yes</u>	<u>OBL</u>		
2. <u>Cyperus eragrostis</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>		
3. <u>Juncus effusus</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
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 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"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>See notes on vegetation below</u>	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	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)
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				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum				
(Plot size: <u>5'-radius</u>)				
1. <u>Dactylis glomerata</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Holcus lanatus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
3. <u>1None flowering grasses and seedlings</u>	<u>30</u>	<u>?</u>	<u>?</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum				
(Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____ ¹ Difficult to ID and determine cover of grasses in mid-winter, grasses present as noted by old spikelets include <i>Hordeum marinum</i> (FAC), <i>Briza maxima</i> (UPL), young seedling include <i>Vulpia myuros</i> (FACU), the vegetation is clearly upland grassland. There are also stands of <i>Baccharis pilularis</i> (UPL) in grassland outside plot.				

Hydrophytic Vegetation Present? Yes _____ No

SOIL

Sampling Point: 7

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		
0-16	10 yr 2/2						Clay loam	

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 Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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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"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

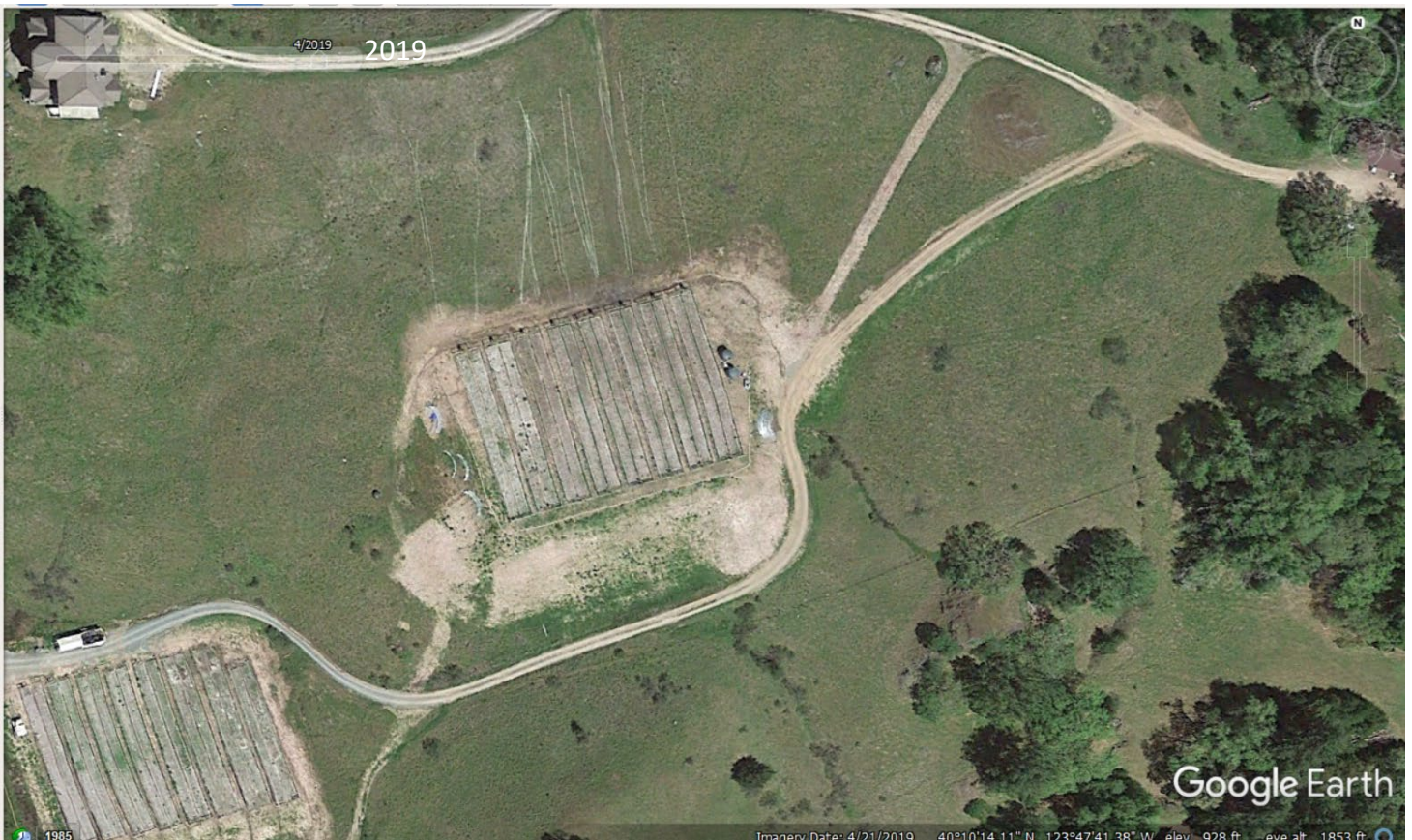
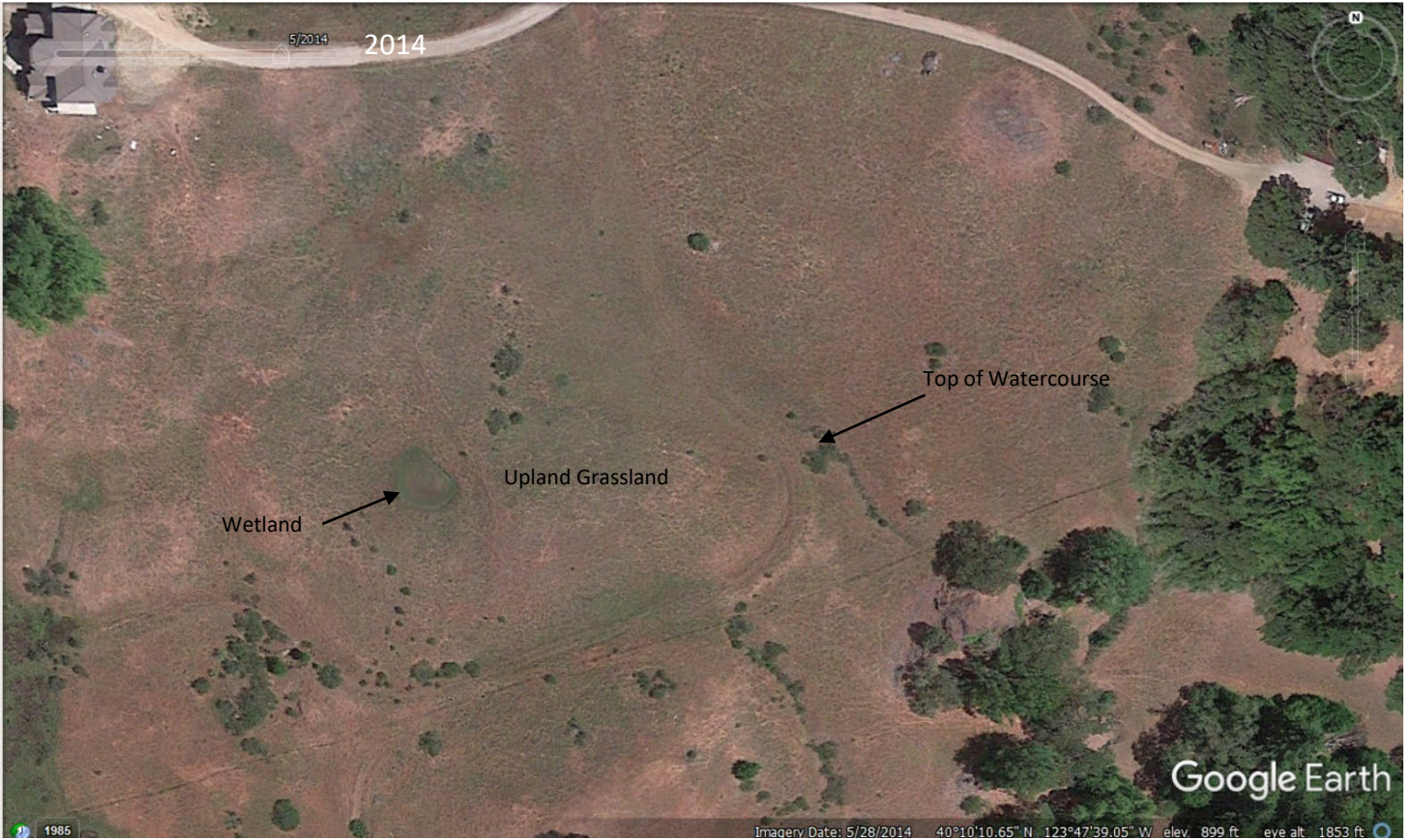
Remarks:

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

