

Reference: 016209

Preliminary Jurisdictional Wetland Delineation

**Jim Mabe Parcel
Loleta, California**

Prepared for:

Jim Mabe

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Abbreviations and Acronyms

ACOE	United States Army Corps of Engineers
APN	Assessor's parcel number
CDEC	California Data Exchange Center
CFR	Code of Federal Regulations
CP	control point
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
ERDC/CRREL	United States Army Engineer Research and Development Center/Cold Regions Research and Engineering Laboratory
FAC	facultative wetland plant species
FACU	facultative-upland plant species
FACW	facultative-wet wetland plant species
GPS	global positioning system
NCDC	National Climatic Data Center
NL	not listed plant species
NOAA	National Oceanic & Atmospheric Administration
NR	no reference
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	obligate wetland plant species
OHWM	ordinary high water mark
PF01C	freshwater forested/shrub wetland
R3UBF	Riverine Wetland
RWQCB	California Regional Water Quality Control Board
SHN	SHN Engineers & Geologists, Inc.
SWRCB	State Water Resources Control Board
TP	test pit
UPL	upland plant species
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey

WDRs waste discharge requirements
WETS NRCS Climate Analysis for Wetlands
WFO weather forecast office
WoS waters of the State
WoUS waters of the United States

1.0 Introduction

SHN Engineers & Geologists, Inc. has prepared this preliminary jurisdictional wetland delineation for Jim Mabe in Loleta, California. On behalf of jurisdictional agencies over the study area, Mr. Mabe has requested a wetland delineation and botanical assessment for an open space consisting of one parcel divided into two portions by Rasmussen (Hawk's Hill) Road, near Loleta, CA.

1.1 Purpose

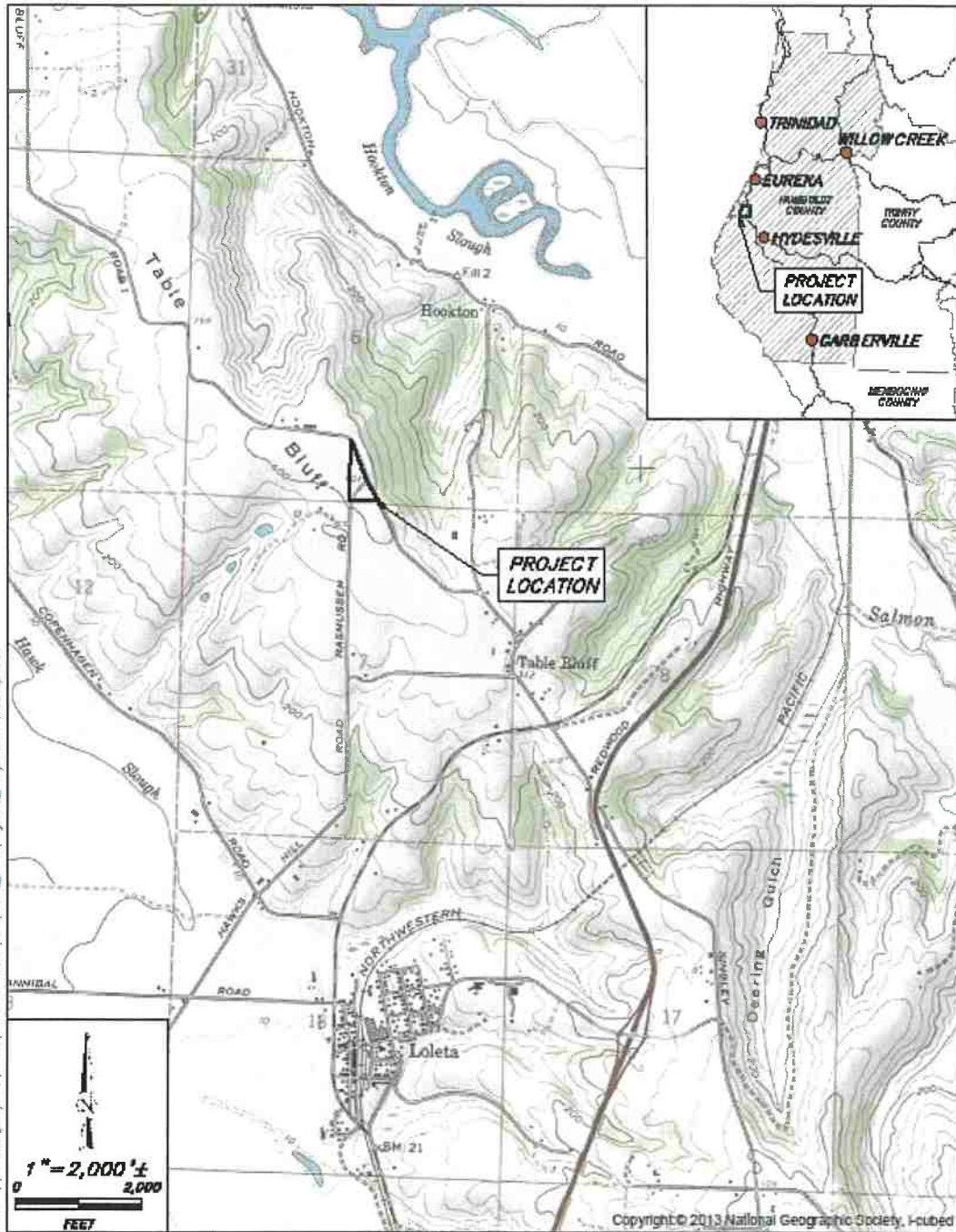
The purpose of this report is to identify potential wetlands and other waters of the U.S. within the study area, as defined by the United States Army Corps of Engineers (ACOE) methodology. The wetland delineation will help guide design, planning and permitting of a residential development within the study area. In conjunction with this delineation, a botanical assessment has been performed due to the site's habitat suitability for the western lily, *Lilium occidentale*, as well as a known population of this species three miles west of the parcel.

1.2 Project Location

The project is located near Loleta, an un-incorporated community in Humboldt County (Figure 1; United States Geological Survey [USGS] Fields Landing 7.5-minute Quadrangle, Township 3 North, Range 1 West, Section 6, Humboldt Meridian). The property designated APN 308-231-002 straddles the north end of Hawk's Hill Road, at its junction with Table Bluff Road, 1.7 miles northeast of Loleta. The parcel lies 1.15 miles west of Highway 101 and 0.7 miles south of Hookton Slough, with a centerpoint latitude and longitude of 40.66536° / -124.22574°.

2.0 Project Description

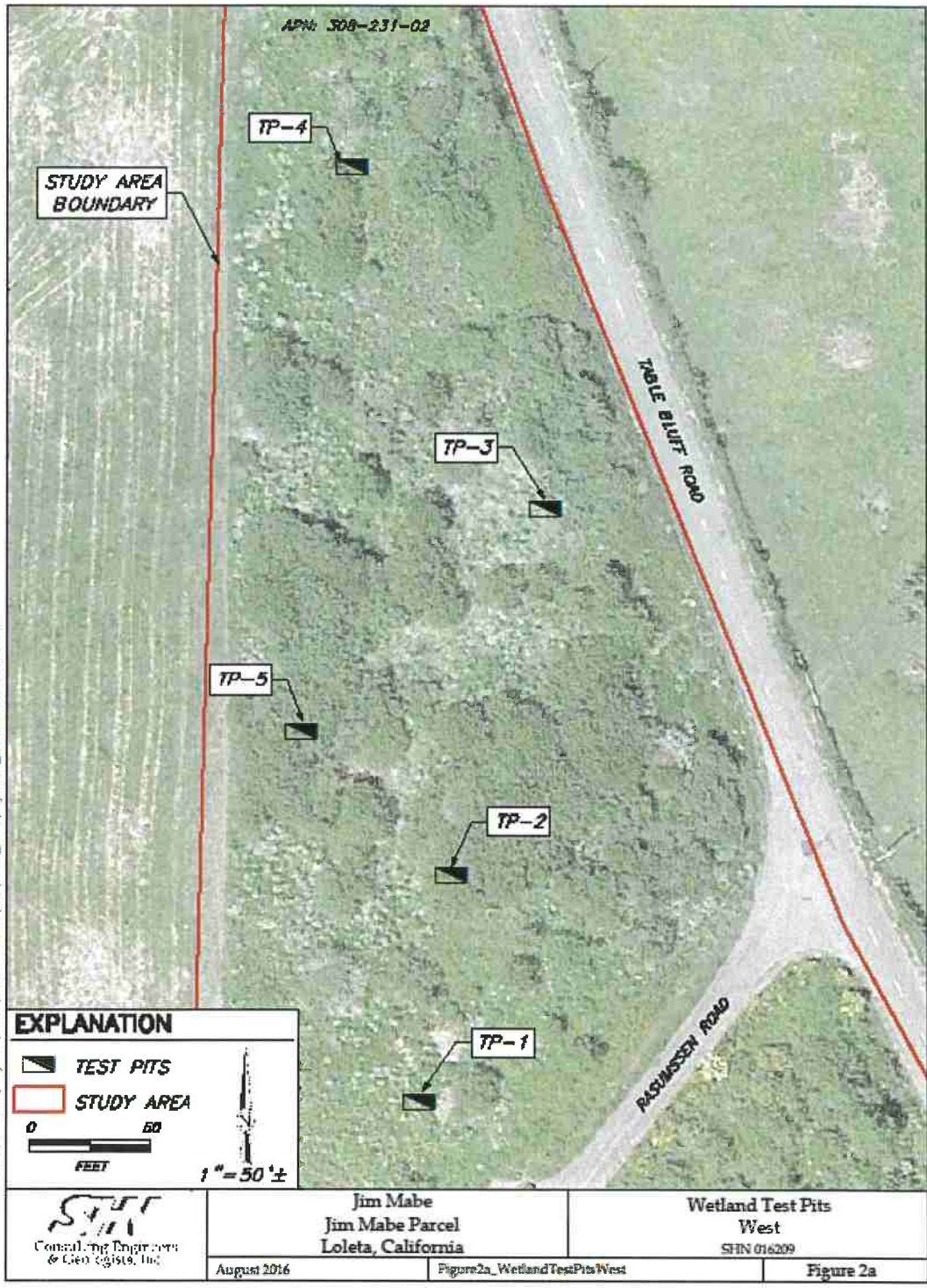
The proposed project is a new single-family residential development. The site, surrounded by open pastureland that is grazed heavily, has been fenced long enough to allow shrubs and small broadleafed trees to emerge throughout the site. Before designing the development, a wetland delineation was required to determine setbacks and potential mitigation for the new construction. The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) does not have wetlands mapped within the project area. This wetland study was performed to investigate the presence or absence of wetlands on-site, and (if present) to determine the size and an accurate boundary of wetlands found throughout the study area.



Path: \\eureka\projects\2016\016209-Mabe\GSI\PROJ\MAP\01_Figure1_ProjectLocationMap.mxd

	Jim Mabe Jim Mabe Parcel Loleta, California	Project Location SHN 015120
	August 2016	Figure1_ProjectLocationMap







3.0 Environmental Setting

Elevation throughout the project area averages approximately 418 feet above mean sea level. Topography is mostly flat, with a gentle slope (0-3%) from the central portion of the property sloping toward the south and north (See Figure 2 and Appendix B, photo B1 and B2). Zoned Agriculture exclusive on the County of Humboldt GIS zoning map, 4.68 acres comprise the parcel examined in this report. Lying on a coastal terrace north of the town of Loleta, the site overlooks the Loleta Bottoms to the southwest. As with the majority of coastal bluff habitats around Loleta and Humboldt Bay, the land area has been manipulated for nearly 100 years with agricultural practices such as wheat cropping and heavy grazing regimes (McLaughlin & Harradine 1965). This heavy impact has led to a loss of the native loam topsoil and native plant communities in the pasture areas. With relatively high clay content, wet season grazing has led to soil compaction and slope erosion on surrounding parcels (Photo 1, Appendix 2). Due to the perimeter fence on this parcel, livestock grazing and compaction have been prevented, maintaining soil development and health.

The average annual precipitation for this area from October 1 through March 31 is 40.33 inches (WeatherDB, 2016). Rainfall for the period from October 1, 2015, through March 31, 2016, was 43.87 inches (CDEC, 2016), indicating that the 2015-2016 rain season is in an above-normal category.

4.0 Geologic Setting

The site is set upon an uplifted marine terrace between Humboldt Bay and the Eel River Delta. Soils within the project area have the United States Department of Agriculture (USDA) classification of Rohnerville Series, and are mapped in the *Soils of Western Humboldt County California* soil survey (McLaughlin, 1965). This series is a brunizem soil formed from sedimentary rock alluvium. The rock alluvium is predominantly greywacke and sandstone, providing a medium acid reaction.

5.0 Regulatory Setting

5.1 Federal Laws

5.1.1 Section 401 and 404 of the Clean Water Act

Under Section 404 (33 U.S. Code [USC] 1344) of the Clean Water Act (CWA), as amended, the ACOE and the Environmental Protection Agency (EPA) retain primary responsibility for permits to discharge dredged or fill material into “navigable waters of the United States.” All

discharges of dredged or fill material into jurisdictional Waters of the United States (WoUS) that result in permanent or temporary losses of the WoUS are regulated by the ACOE. A permit from the ACOE must be obtained before placing fill or grading in wetlands or other WoUS, unless the activity is exempt from the CWA Section 404 regulation (for example, certain farming and forestry activities).

In summary, the definition of WoUS as defined by 33 Code of Federal Regulations (CFR) Section 328.3 includes:

1. waters used for commerce,
2. interstate wetlands,
3. all other waters (including lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds),
4. impoundments of water,
5. tributaries to aforementioned waters,
6. territorial seas, and
7. wetlands adjacent to waters.

Under 33 CFR 328.3, WoUS do not include prior converted cropland or waste treatment systems.

In 2008, the EPA and ACOE released a guidance memorandum implementing the Supreme Court's decision in the cases of the Rapanos v. U.S. and Carabell v. U.S. As a result of these cases, the agencies will apply a significant nexus standard to the following categories to determine if it meets the definition of WoUS:

- Non-navigable tributaries that are not relatively permanent
- Wetland adjacent to non-navigable tributaries that are not relatively permanent
- Wetland adjacent to but does not directly abut a relatively permanent tributary

Section 401 of the CWA (33 USC 1341) requires applicants that need a federal license or permit to obtain a certification from the state in which the discharge originates or would originate, or if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

5.1.2 Rivers and Harbors Appropriation Act of 1899

The River and Harbors Appropriation Act of 1899 addresses activities that involve the construction of dams, bridges, dikes, and other structures across any navigable water. Placing obstructions to navigation outside established federal lines and excavating from, or depositing material in, such waters, requires permits from the ACOE Section 10 (33 USC 403) of the Rivers and Harbors Appropriation Act. The Act further prohibits the unauthorized obstruction or alteration of any navigable WoUS.

5.2 State Laws - Porter-Cologne Water Quality Act

The state maintains independent regulatory authority over the placement of waste, including fill, into Waters of the State (WoS) under the Porter-Cologne Water Quality Act. WoS are defined by the Porter-Cologne Water Quality Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The SWRCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. WoS are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

Projects that require an ACOE permit, or fall under other federal jurisdiction, and have the potential to impact WoS are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge to WoS, then the local RWQCB has the option to regulate such activities under its state authority in the form of waste discharge requirements (WDRs) or certification of WDRs. Water Quality Order No. 2004-0004-DWQ specifies general WDRs for dredged or fill discharges to waters deemed by the ACOE to be outside of federal jurisdiction under Section 404 of the CWA.

6.0 Methodology

Wetland delineation methods described in the *U.S. Army 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)* (ACOE, 2010) were used to identify potential wetlands and other waters. The routine method for wetland delineation described in the ACOE 1987 manual was used to identify potential wetlands within the study area. The ACOE method relies on a three-parameter approach, in which criteria for hydrophytic vegetation, hydric soils, and wetland hydrology must each be met (present at the point of field investigation) to conclude that an area qualifies as a jurisdictional wetland. Since this site lies within the Coastal Zone, 1-parameter wetlands were also sought.

Hydrophytic vegetation refers to plant species known to be adapted to wetland sites. To classify the hydrophytic plants onsite, the most recent *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* was used (ACOE, 2016). Hydric soils are soils that are formed under saturated conditions, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (USDA, 2010). Wetland hydrology is demonstrated through direct evidence (primary indicators) or indirect evidence (secondary indicators) of flooding, ponding, or saturation for a significant portion of the growing season (ACOE, 2010).

At each investigation point, one test pit (TP) was excavated to determine if any wetland parameters were present or developing. When indicators of a wetland parameter are located, a pit is typically excavated within the apparent upland area, with a paired pit excavated in the apparent wetland area to determine the wetland boundary. No indications of wetland parameters were found onsite, so only individual pits were dug to document site conditions.

Prior to conducting the field investigation, SHN staff reviewed the 1979 USGS topographic quadrangle map (Figure 1), Soils of Western Humboldt County California, and NWI map (USFWS, 2016) (Appendix A). During the field investigation, sample points were characterized at the site for the aforementioned botanical, hydrological, and soil parameters.

Point locations were selected to:

- achieve appropriate coverage and characterization of wetland and upland habitats,
- document potential changes in the vegetative community (such as, a shift in the dominant species), and
- determine the approximate boundary line between wetlands and uplands by determining the extent of key wetland criteria (hydrology, hydric soils, and hydrophytic vegetation).

A preliminary scoping assessment was performed on May 25, followed by thorough field investigations on July 27 and August 1, 2016. A total of 11 test pits were excavated to characterize the area and record information for soils, vegetation, and hydrology on ACOE Wetland Determination Data Forms (Appendix C). None of the pits displayed wetland parameters so further investigation was not required. Locations of TPs are shown on Figure 2. Photos of the study area are included in Appendix B.

All field mapping was completed by marking pit locations in proximity to surrounding roads, fence lines and trees or tree clusters on an aerial image. Since soils were generally homogeneous throughout the site, it was determined that use of the global positioning system was not necessary. Pit locations were delineated by circling the pit with marking paint, along with installation of a numbered pin flag at each pit.

6.1 Vegetation Methodology

While the period considered ideal for botanical surveys is typically April through June, this site lies within the area known for the occurrence of the rare Western Lily, *Lilium occidentale*. Late July is the prime blooming time for this species. With normal winter and spring rains, all other species still contained seed heads, making identification easy. Streamline staff performed a preliminary wetland & botanical assessment on May 25 and found no trace of *Lilium*, *Sidalcea*, or other rare species at that time. During the May assessment, there was no indication of wetlands. While Streamline staff is well versed in spotting early basal leaves and late season seed stalks of plants such as checkerbloom and lilies, the final fieldwork was done during the prime lily blooming period to ensure maximum confidence in the survey.

Prior to the field investigation, a review of plant species reported from the project area was performed by querying the "Consortium of California Herbaria" database records and "Calflora" observations. Absolute percent cover of each plant species was visually estimated within the sample point and within each vegetation stratum. The herbaceous stratum was inspected at a 5-foot radius centered on the sample point. Botanical nomenclature follows *The Jepson Manual, Vascular Plants of California* (Baldwin *et al.*, 2012) in addition to the online Jepson Interchange (U. C. Berkeley, 2016) for verification of species whose taxonomy may have changed since its publication.

The wetland indicator status of plant species for this investigation was based on the *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* (Lichvar *et al.*, 2016). Plant species were classified as:

- Obligate (OBL)-occurs almost always within a wetland (estimated probability 99%).
- Facultative-wet (FACW)-usually occurs in wetlands (estimated probability 67-99%).
- Facultative (FAC)-equally likely to occur in wetlands or non-wetlands (estimated probability 33-67%).
- Facultative-upland (FACU)-usually occurs in non-wetlands (estimated probability 1-33%).
- Upland (UPL)-occurs almost always in non-wetlands (estimated probability 99%).
- Not listed (NL)-is scored as an upland plant and is calculated as such on wetland determination forms.

The 50/20 method¹ was applied to each stratum to determine the dominant plant species and to satisfy the hydrophytic vegetation criteria. Since neither hydric soils nor wetland hydrology were present, the prevalence index² was not applied. The occurrence and type of plant cover determine whether jurisdictional areas are identified as satisfying the vegetation criteria of a wetland or other waters.

1. The 50/20 rule: for each stratum of the plant community, dominant species are the most abundant species that (when ranked in descending order of abundance and cumulatively totaled) immediately exceed 50% of total dominance measure for the stratum, plus any additional species that individually comprise 20% or more of the total dominance measure for the stratum (ACOE, 2010).

6.2 Soils Methodology

Soils were field-verified for the presence or absence of hydric conditions. All TPs were dug to the maximum depth that would incorporate hydric soil indicators. The thickness of each soil horizon was measured. The Munsell Soil Color Chart (Kollmorgen Instruments Corporation, 1998) was referenced to determine the redoximorphic features and moist soil matrix colors (if present). Soils were closely inspected for hydric soil indicators, as defined by the NRCS "Field Indicators of Hydric Soils in the United States" (Version 7.0; USDA, 2010).

6.3 Hydrology Methodology

The presence of wetland hydrology indicators was determined by direct observation (or lack thereof) of surface water, groundwater, or shallow soil saturation during the field investigation. Since direct observation gave negative results, hydrology determinations were sought based on hydrology indicators (for example, drainage patterns, geomorphic position, and dry season water table) rather than actual direct evidence from saturation or inundation. Additionally, observations were made that would indicate whether or not the site is subject to flooding or standing water. Potential indicators would include water marks, drift deposits, sediment deposits, and similar features. Indicators of extended period saturation would include oxidized rhizospheres surrounding living roots or the presence of reduced iron or hydrogen sulfide in the soil profile.

7.0 Results

The preliminary field investigation was conducted on May 25, with the final field work performed on July 27 and August 1, 2016. Test pits (TP) were dug to characterize the area and record information on soils, vegetation, and hydrology. Locations of TPs are shown on Figure 2; completed "Wetland Determination Data Forms" are presented in Appendix C. Photos of the study area are shown in Appendix B.

7.1.1 Vegetation

The study area consists of relatively flat pasture habitat that has allowed shrubs and small broadleaf trees to emerge since the fence has prevented livestock grazing. Non-native grass species comprised the majority of plant cover and biomass, with other non-native ruderal herbaceous species composing the remainder. The vegetation was relatively similar throughout the site, consisting primarily of *Rubus ursinus* mixed with non-native grasses (Photo B2).

-
2. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot or other sampling unit, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, AND UPL = 5) and weighting is by abundance (absolute percent cover).

Scattered randomly around the site were *Frangula purshiana* and *Baccharis pilularis*. Although several facultative species such as *Frangula purshiana*, *Holcus lanatus* and *Conium maculatum* were common on the parcel, these plants were balanced out by the dominance of upland species such as *Rubus ursinus*, *Raphanus sativa* and *Anthoxanthum odoratum*. None of the test pit sites were dominated by hydrophytic vegetation.

A complete plant list is compiled in Table D-1 in Appendix D.

7.2 Soils

The wetland delineation study area, zoned Agriculture exclusive on the County of Humboldt GIS zoning map, contains 4.68 acres at latitude 40.6654 and longitude -124.2257. Lying on a coastal terrace north of the town of Loleta, the site overlooks the Loleta Bottoms to the southwest. While the surrounding soils showed evidence of overgrazing, including compaction and erosion, the parcel examined in this delineation had deep, friable soils showing evidence of healthy soil building processes and excellent infiltration (Photo B3). Although evidence of disturbance included the presence of ruderal species such as *Digitalis*, *Hieracleum* and *Raphanus*, along with the remains of a homestead, the volume of plant growth on the uncompacted soil has allowed organic matter, root mass and soil structure to develop, unlike the conditions found on the adjacent overgrazed parcels (Photo B4). Evidence of a former residence included a cement pad and stripped electrical hookups.

This site lies exclusively within the Rhonerville Soil Series described in the 1965 McLaughlin and Harradine Soil Survey, with the Rhonerville 2 map unit covering the entire site (Photo 2, Attachment 2). All of these are Silty Clay Loam-textured soils with deep, dark topsoil down to about 24 inches. This series is classified as a fine silty, mixed, isomesic Humic Normudult. With a moderate local climate and 40 inches of average annual rainfall, the local soils often support a dominance of facultative (hydrophytic) vegetation. However, the deep, well drained soils on this site appear to preclude development of wetland characteristics, including hydrophytic vegetation dominance (Photo 3, Attachment 2). The entire parcel was flat.

The Rohnerville soils qualify as Storie Rating 1 soils.

The Rohnerville Series consists of deep, moderately well drained, medium to fine textured alluvial soils on high river or marine terraces. Parent materials are mixed and the profile is medium in reaction. Slopes are flat or very gently undulating. Mean annual precipitation is between 1,016 to 1,270 millimeters. Mean annual temperature is about 11 degrees C.

*The typical profile:
A horizons:
Hue: 10YR*

Value: 5 dry, 2 moist
Chroma: 2 (changing to 3 in A3 dry), moist or dry
Texture: silty clay loam
Clay content: 32 to 34 percent
Rock fragments: 0 percent gravel
Reaction: medium acid

B horizon:
Hue: 10YR dry, 7.5YR moist
Value: 6 dry, 5 moist
Chroma: 4, moist or dry
Texture: silty clay loam
Clay content: 34 to 40 percent
Rock fragments: 0 percent gravel
Reaction: medium acid

C horizon: (when present)
Hue: 10YR dry, 7.5YR moist
Value: 6 dry, 5 moist
Chroma: 4, moist or dry
Texture: silty clay loam
Clay content: 32 percent
Rock fragments: 0 percent gravel
Reaction: moderately acid

(McCloughlin & Harradine, 1965).

Eleven test pits were excavated in the wetland study area representing 11 study locations: all pits were excavated as individual sites since no significant changes in vegetation or geomorphic position were evident (Figure 2). No pits contained hydric soils.

7.3 Hydrology

No wetland hydrology was present at any of the test pits. Pits were excavated to a depth of 24 inches to check for dry season water table, but all pits displayed a negative test for this indicator as well as all other hydrology indicators.

7.4 Ordinary High Water Mark (OHWM)

No OHWM features were observed at any location within or near the parcel.

8.0 Conclusions

The USFWS NWI website (Appendix A) did not show any wetlands within the boundary of the survey area. This survey was conducted in order to investigate definitively the presence or absence of wetlands on site, and the boundaries of any potential wetlands, for both 3-parameter Army Corps jurisdictional classification, as well as 1-parameter California Coastal Act classification. SHN conducted a study to investigate and define any boundaries. The site investigation occurred during a season with above-normal rainfall through the winter and spring season of 2015-2016. Following the ACOE 3-parameter guidelines, no portion of this parcel displayed any wetland parameters.

9.0 Limitations

The conclusions in this report represent a “snapshot in time” and it is possible that some species were not present at the time of the fieldwork.

This report documents the investigation by, and best professional judgment of, SHN’s botanist and soil scientist. The conclusions should be verified by the ACOE through receipt of a jurisdictional determination letter.

Table 1 Wetland Delineation Results Jim Mabe Delineation, Loleta, CA	
Upland Area	Area (acres)
1 (entire site)	4.68
Total	4.68

10.0 References Cited

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A

National Wetlands Inventory

Mabe Wetlands Inventory



August 18, 2016

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Forested/Shrub Wetland |  | Other |
|  | Estuarine and Marine Wetland |  | Freshwater Pond |  | Riverine |
|  | Freshwater Emergent Wetland |  | Lake | | |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

B

Site Photographs



Photo B1: West Edge of Site Overlooking Heavily Grazed Pasturelands.



Photo B2: Typical Site Vegetation Showing *Frangula*, *Baccharis*, *Anthoxanthum* and *Iris*.



Photo B3: Soil Pit Showing Dry, Friable Nature.



Photo B4: Soil Ped Showing Excellent Structure and Many Fine Roots.

C

Wetland Determination Data Forms

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

Project/Site: Mabe, Table bluff Rd. City/County: Humboldt Sampling Date: 7/27/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 1
 Investigator(s): JS, SP Section, Township, Range: SW 1/4, SE 1/4 Sec 6, T3N, R1W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): A, MLRA Lat: 40.6654 Long: -124.2257 Datum: WGS84
 Soil Map Unit Name: R02, Rhonerville silty clay loam, 0-3% slope NWI classification: none
 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 type="checkbox"/> No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: <u>R02 = Fine silty, mixed, isomesic Humic Norm udult</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Rubus ursinus</u>	<u>79</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Rubus armeniacus</u>	<u>10</u>		<u>FAC</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Conium maculatum</u>	<u>1</u>		<u>FAC</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Baccharis pilularis</u>	<u>1</u>		<u>UPL</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Polystichum munitum</u>	<u>5</u>		<u>FACU</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. <u>Fragaria aurasiatica</u>	<u>1</u>		<u>FAC</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Cirsium vulgare</u>	<u>5</u>		<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____				
9. _____				
10. _____				
11. _____				
<u>102</u> = Total Cover <u>5/204</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

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

Project/Site: Mabe, Table Bluff Rd. City/County: Humboldt Sampling Date: 7/27/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 2
 Investigator(s): Joseph Salar, Sam Polly Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Convex Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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. <u>Frangula purshiana</u>	<u>95%</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>33%</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 = _____
<u>95%</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: - _____)				
1. _____				
2. _____				
= Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Rubus ursinus</u>	<u>52</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	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.
2. <u>Conium maculatum</u>	<u>15</u>		<u>FAC</u>	
3. <u>Raphanus sativa</u>	<u>27%</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
4. <u>Polystichum munitum</u>	<u>5</u>		<u>FACU</u>	
5. <u>Stachys airoides</u>	<u>2</u>		<u>OBL</u>	
6. <u>Heterocleis phloximum</u>	<u>3</u>		<u>FAC</u>	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>107</u> = Total Cover <u>52/20.8</u>				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____				
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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/2	100					Loam	Some compaction, prior disturbance
10-17	10YR 3/2	100					L	
17-26	10YR 3/4	65					L	Crotovina
	10YR 3/2	35					L	

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

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

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- 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)

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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: Mabe, Table bluff Rd City/County: Humboldt Sampling Date: 7/27/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 3
 Investigator(s): Joseph Salas, John Pally Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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:	

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>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</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. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Digitaria purpurea</u>	<u>27</u>		<u>FACU</u>	
2. <u>Hedys lanatus</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Baccharis pilularis</u>	<u>20</u>		<u>UPL</u>	
4. <u>Pteridium aquilinum</u>	<u>15</u>		<u>FACU</u>	
5. <u>Rubus ursinus</u>	<u>56</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
6. <u>Conium maculatum</u>	<u>5</u>		<u>FAC</u>	
7. <u>Cirsium vulgare</u>	<u>5</u>		<u>FACU</u>	
8. <u>Fragaria virginiana</u>	<u>1</u>		<u>FAC</u>	
9. <u>Raphanus sativum</u>	<u>10</u>		<u>UPL</u>	
10. _____				
11. _____				
<u>179</u> = Total Cover <u>89.5</u> <u>358</u>				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Hydrophytic Vegetation Present? Yes _____ No

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		
0-14	10YR 2/2	100						
14-18	7.5YR 3/2	100						
18-24+	10YR 3/4	80						
	7.5YR 3/2	20						Crotovina

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"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<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 Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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: Mabe, Table Bluff Rd. City/County: Humboldt Sampling Date: 7/27/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 4
 Investigator(s): JS, SP Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: none

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>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____				Prevalence Index worksheet:	
_____ = Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____	x 1 = _____
1. _____				FACW species _____	x 2 = _____
2. _____				FAC species _____	x 3 = _____
3. _____				FACU species _____	x 4 = _____
4. _____				UPL species _____	x 5 = _____
5. _____				Column Totals:	(A) _____ (B) _____
_____ = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Rubus ursinus</u>	<u>82</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Stachys airoides</u>	<u>6</u>		<u>Obl</u>	___ 2 - Dominance Test is >50%	
3. <u>Holcus lanatus</u>	<u>25</u>		<u>FAC</u>	___ 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Conium maculatum</u>	<u>12</u>		<u>FAC</u>	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Digitalis purpurea</u>	<u>12</u>		<u>FACU</u>	___ 5 - Wetland Non-Vascular Plants ¹	
6. <u>Saxifraga aizoides</u>	<u>1</u>		<u>UPL</u>	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Ranunculus sativa</u>	<u>5</u>		<u>UPL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. <u>Epilobium ciliatum</u>	<u>1</u>		<u>FACW</u>		
9. _____					
10. _____					
11. _____					
<u>114</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	
1. _____				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: Mabe, Table Bluff Rd. City/County: Humboldt Sampling Date: 7/27/18
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 5
 Investigator(s): Sam Pally, Joseph Siler Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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
1. <u>Frangula purshiana</u>	<u>92</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. _____			
3. _____			
4. _____			
<u>92</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
_____ = Total Cover			
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Hieracium maximum</u>	<u>3</u>		<u>FAC</u>
2. <u>Cirsium maculatum</u>	<u>11</u>		<u>FAC</u>
3. <u>Cirsium vulgare</u>	<u>8</u>		<u>FACU</u>
4. <u>Rubus ursinus</u>	<u>52</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
5. <u>Raphanus sativa</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
6. <u>Stachys ajacoides</u>	<u>10</u>		<u>Obl</u>
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
<u>114</u> = Total Cover <u>57%</u>			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
_____ = Total Cover			
% Bare Ground in Herb Stratum _____ = Total Cover			

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (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 ≤3.0¹

___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants¹

___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ 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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/2	100					L	
10-22	10YR 3/2	100					L	
22-32+	10YR 3/3	87					L	
	10YR 3/2	13					L	Castovina

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 (A1.1)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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: _____ City/County: Humboldt Sampling Date: 7/27/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 6
 Investigator(s): JS, SP Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: none

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. <u>Coccoloba frugosa purshiana</u>	<u>35</u>	<input checked="" type="checkbox"/>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____				
<u>35</u> = Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____				OBL species _____ x 1 = _____
2. _____				FACW species _____ x 2 = _____
3. _____				FAC species _____ x 3 = _____
4. _____				FACU species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
_____ = Total Cover				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = _____
1. <u>Rubus ursinus</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 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. <u>Hieracium maximum</u>	<u>2</u>		<u>FAC</u>	
3. <u>Urtica dioica</u>	<u>8</u>		<u>FAC</u>	
4. <u>Solanum americanum</u>	<u>2</u>		<u>FACU</u>	
5. <u>Cerium maculatum</u>	<u>25</u>		<u>FAC</u>	
6. <u>Digitalis purpurea</u>	<u>10</u>		<u>FACU</u>	
7. <u>Actium vulgare</u>	<u>2</u>		<u>FACU</u>	
8. <u>Vicia hirsuta</u>	<u>2</u>		<u>FACU</u>	
9. <u>Lysimachia arvensis</u> Pimpernel	<u>2</u>		<u>FAC</u>	
10. <u>Galium aparine</u>	<u>3</u>		<u>FACU</u>	
11. _____				
<u>136</u> = Total Cover <u>50</u> <u>27.2</u>				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
% Bare Ground in Herb Stratum _____ = Total Cover _____				
Remarks:				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: 6

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		
0-15	10YR 2/2	100					L	
15-20	10YR 3/2	92					L	
	10YR 5/8	8					L	
20-24+	10YR 3/4	92					L	
	10YR 3/2	8					L	Catovana

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

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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: Mabe, Table bluff Road City/County: Humboldt Sampling Date: 8/1/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 1E
 Investigator(s): Joseph Sales, Sam Polly Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. _____				FACW species _____ x 2 = _____
2. _____				FAC species _____ x 3 = _____
3. _____				FACU species _____ x 4 = _____
4. _____				UPL species _____ x 5 = _____
5. _____				Column Totals: _____ (A) _____ (B)
= Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus ursinus</u>	<u>42</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Conium maculatum</u>	<u>5</u>		<u>FAC</u>	
3. <u>Digitalis purpurea</u>	<u>12</u>		<u>FACU</u>	
4. <u>Ficoides lanatus</u>	<u>27</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
5. <u>Heracleum maxima</u>	<u>2</u>		<u>FAC</u>	
6. <u>Poa pratensis</u>	<u>5</u>		<u>FAC</u>	
7. <u>Senecio minimus</u>	<u>2</u>		<u>FACU</u>	
8. <u>Achillea millefolium</u>	<u>3</u>		<u>FACU</u>	
9. _____				
10. _____				
11. _____				
<u>48</u> = Total Cover <u>47</u> <u>19.6</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: 1E

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		
0-10	10YR3/2	100					L	
10-24+	10YR3/2	100					L	

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

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

<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)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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:

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

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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: Mabe, Table Bluff Rd. City/County: Humboldt Sampling Date: 8/1/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 2E
 Investigator(s): Joseph Salter, Sam Polly Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. <u>Baccharis pilularis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<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 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Rubus ursinus</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Pteridium aquilinum</u>	<u>5</u>		<u>FACU</u>	<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Conium maculatum</u>	<u>2</u>		<u>FAC</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Heracleum maxima</u>	<u>5</u>		<u>FAC</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Dipsacus fullonum</u>	<u>3</u>		<u>FAC</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. <u>Digitalis purpurea</u>	<u>10</u>		<u>FACU</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Holcus lanatus</u>	<u>2</u>		<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____				
9. _____				
10. _____				
11. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: 2E

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		
0-1	10YR 2/2	100					loam	
11-24	10YR 2/2	100					L	
24+	10YR 3/4	100					L	

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

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

<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)	
<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)	

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

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

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

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: Mabe, Table bluff Rd. City/County: Humboldt Sampling Date: 8/1/16
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 3E
 Investigator(s): SAM Polly, Joseph Siler Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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. <u>Frangula purshiana</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
<u>15</u> = Total Cover				
Sampling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species _____ x 1 = _____
2. _____	_____	_____	_____	FACW species _____ x 2 = _____
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species _____ x 4 = _____
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
= Total Cover				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = _____
1. <u>Rubus ursinus</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	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.
2. <u>Polystichum Munium</u>	<u>13</u>	_____	<u>FACU</u>	
3. <u>Pteridium aquilinum</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Heracleum maximum</u>	<u>8</u>	_____	<u>FAC</u>	
5. <u>Holcus lanatus</u>	<u>20</u>	_____	<u>FAC</u>	
6. <u>Carex leptopoda</u>	<u>3</u>	_____	<u>FAC</u>	
7. <u>Diurallis purpurea</u>	<u>6</u>	_____	<u>FACU</u>	
8. <u>Stachys ajacoides</u>	<u>2</u>	_____	<u>OBL</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>112</u> = Total Cover <u>56</u> <u>224</u>				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ = Total Cover				
Remarks:				

SOIL

Sampling Point: **3E**

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		
0-20	10YR 2/2	100					Loam	
20-24*	10YR 4/3	62						
	10YR 2/2	38						Mixed from upper horizon

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 type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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:

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

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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: Make, Table Bluff Rd. City/County: Humboldt Sampling Date: 8/1/16
 Applicant/Owner: Jim Make State: CA Sampling Point: 4'E
 Investigator(s): Sam Pully, Joseph Siler Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. <u>Baccharis pilularis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<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>15</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Senecio minimus</u>	<u>5</u>		<u>FACU</u>	___ 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Iris douglasiana</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	___ 2 - Dominance Test is >50%
3. <u>Rubus urticifolius</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	___ 3 - Prevalence Index is ≤3.0 ¹
4. <u>Digitalis purpurea</u>	<u>10</u>		<u>FACU</u>	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Sedum bleasdalei</u>	<u>1</u>		<u>UPL</u>	___ 5 - Wetland Non-Vascular Plants ¹
6. <u>Achillea millefolium</u>	<u>1</u>		<u>FACU</u>	___ Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Cirsium vulgare</u>	<u>1</u>		<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. <u>Franula purshiana</u>	<u>1</u>		<u>FAC</u>	
9. <u>Lysimachia arvensis</u> <u>scarlet</u>	<u>1</u>		<u>FAC</u>	
10. _____				
11. _____				
<u>85</u> = Total Cover <u>42.5</u>				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: 4E

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		
0-20	10YR 2/2	100					Loam	
20-24	10YR 3/2	95					Loam	
	10YR 3/3	5					Loam	

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

Hydic 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 type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Indicators for Problematic Hydric Soils³:

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydic Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

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

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

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: Mabe, Table Bluff Rd. City/County: Humboldt Sampling Date: 8/1/2016
 Applicant/Owner: Jim Mabe State: CA Sampling Point: 5E
 Investigator(s): Joseph Sater, Sam Polly Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ 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"/>	Hydic Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>		
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. Sarcococca <u>frangula purshiana</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____ = 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 = _____
1. _____	_____			
2. _____	_____			
3. _____	_____			
4. _____	_____			
5. _____	_____			
_____ = Total Cover				
Herb Stratum (Plot size: _____)	_____ = Total Cover			Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation ____ 2 - Dominance Test is >50% ____ 3 - Prevalence Index is ≤3.0' ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ 5 - Wetland Non-Vascular Plants ¹ ____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Anthoxanthum odoratum</u>	<u>65</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Pteridium aquilinum</u>	<u>12</u>		<u>FACU</u>	
3. <u>Rubus ursinus</u>	<u>10</u>		<u>FACU</u>	
4. <u>Solidago elongata</u>	<u>8</u>		<u>FACU</u>	
5. <u>Digitalis purpurea</u>	<u>3</u>		<u>FACU</u>	
6. <u>Polystichum munitum</u>	<u>2</u>		<u>FACU</u>	
7. <u>Galium aparine</u>	<u>1</u>		<u>FACU</u>	
8. <u>Achillea millefolium</u>	<u>1</u>		<u>FACU</u>	
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	_____ = Total Cover			Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____			
2. _____	_____			
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ = Total Cover				
Remarks:				

SOIL

Sampling Point: 5E

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		
0-13	10YR2/2	100					L	
13-20	10YR2/2	100					L	Cooper Corobina
20-24	10YR3/3	100					L	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <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) | |
| <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) | |

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ No

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

Remarks:

D

Plant List

Table D-1
Observed Botanical Species List
Table Bluff Rd Loleta, CA

Plants Observed 7/27/16 and 8/1/16

Scientific Name	Common Name	Native?	Wetland Status
Trees			
<i>Abies grandis</i>	grand fir	Y	FACU
<i>Frangula purshiana</i>	cascara	Y	FAC
<i>Juniperus sp.</i>	cultivated juniper	N	N/A
<i>Picea sitchensis</i>	Sitka spruce	Y	FAC
<i>Pinus radiata</i>	Monterrey pine	N	NL
<i>Prunus cerasifera</i>	wild plum	N	UPL
<i>Pseudotsuga menziesii</i>	Douglas fir	Y	FACU
<i>Salix lasiandra</i>	pacific willow	Y	FACW
Shrubs			
<i>Baccharis pilularis</i>	coyote brush	Y	UPL
<i>Corylus cornuta</i>	hazelnut	Y	FACU
<i>Cytisus scoparius</i>	scotchbroom	N	UPL
<i>Erica lusitanica</i>	Spanish heather	N	UPL
<i>Gaultheria shallon</i>	salal	Y	FACU
<i>Genista monspessulana</i>	French broom	N	UPL
<i>Ilex aquifolium</i>	English holly	N	FACU
<i>Lonicera involucrata</i>	twinberry	Y	FAC
<i>Oemleria cerasiformis</i>	indian plum	Y	FACU
<i>Ribes sanguineum</i>	flowering currant	Y	FACU
<i>Rosa californica</i>	California rose	Y	FAC
<i>Rosa rubiginosa</i>	sweetbriar	N	UPL
<i>Rubus armeniacus</i>	Himalayan blackberry	N	FAC
<i>Rubus parviflorus</i>	thimbleberry	Y	FACU
<i>Rubus ursinus</i>	California blackberry	Y	FACU
<i>Sambucus racemosa</i>	red elderberry	Y	FACU
<i>Spirea douglasiana</i>	Douglas spirea	Y	FACW

Scientific Name	Common Name	Native?	Wetland Status
<i>Symphoricarpos albus</i>	common snowberry	Y	FACU
<i>Vaccinium ovatum</i>	evergreen huckleberry	Y	FACU
Herbs			
<i>Achillea millefolium</i>	common yarrow	Y	FACU
<i>Anaphalis margaritaceae</i>	pearly everlasting	Y	FACU
<i>Aquilegia formosa</i>	western columbine	Y	FAC
<i>Brassica rapa</i>	common mustard	N	FACU
<i>Carduus pycnocephalus</i>	Italian thistle	N	UPL
<i>Cirsium arvense</i>	Canada thistle	N	FAC
<i>Cirsium vulgare</i>	bull thistle	N	FACU
<i>Conium maculatum</i>	poison hemlock	N	FAC
<i>Crepis capillaris</i>	smooth hawksbeard	N	FACU
<i>Daucus carota</i>	Queen Anne's lace	N	FACU
<i>Digitalis purpurea</i>	foxglove	N	FACU
<i>Dipsacus fullonum</i>	wild teasel	N	FAC
<i>Epilobium ciliatum</i>	Northern willowherb	Y	FACW
<i>Erigeron canadensis</i>	Canada horseweed	Y	FACU
<i>Fragaria vesca</i>	California strawberry	Y	FACU
<i>Galium aparine</i>	cleaver plant	N	FACU
<i>Geranium dissectum</i>	cutleaf geranium	N	UPL
<i>Heracleum maxima</i>	cow parsley	Y	FAC
<i>Horkelia californica</i>	California horkelia	Y	NL
<i>Hypochaeris radicata</i>	hairy cats-ear	N	FACU
<i>Iris douglasiana</i>	Douglas iris	Y	UPL
<i>Leucanthemum vulgare</i>	oxeye daisy	N	UPL
<i>Linum bienne</i>	flax	N	UPL
<i>Lotus corniculatus</i>	bird's foot trefoil	N	FAC
<i>Lupinus rivularis</i>	riverbank lupine	Y	FAC
<i>Lysimachia arvensis</i>	scarlet pimpernel	N	FAC
<i>Maianthemum racemosum</i>	false Solomon's seal	Y	FAC
<i>Mentha pulegium</i>	pennyroyal	N	OBL

Scientific Name	Common Name	Native?	Wetland Status
<i>Navarretia squarrosa</i>	skunkweed	Y	FACU
<i>Parentucellia viscosa</i>	yellow glandweed	N	FAC
<i>Plantago lanceolata</i>	English plantain	N	FACU
<i>Prunella vulgaris</i>	self heal	Y	FACU
<i>Pseudognaphalium ramosissimum</i>	pink cudweed	Y	UPL
<i>Ranunculus repens</i>	creeping buttercup	N	FAC
<i>Rhaphanus sativa</i>	wild radish	N	UPL
<i>Rumex acetosella</i>	sheep sorrel	N	FACU
<i>Rumex crispus</i>	curly dock	N	FAC
<i>Scrophularia californica</i>	California bee plant	Y	FAC
<i>Senecio minimus</i>	coastal burnweed	N	FACU
<i>Silybum marianum</i>	blessed milk thistle	N	UPL
<i>Solanum americanum</i>	American nightshade	Y	FACU
<i>Solanum aviculare</i>	New Zealand nightshade	N	NL
<i>Solidago elongata</i>	West coast Canada goldenrod	Y	FACU
<i>Sonchus oleraceus</i>	sow thistle	N	UPL
<i>Stachys ajugoides</i>	bugle hedgenettle	Y	OBL
<i>Symphyotrichum chilense</i>	California aster	Y	FAC
<i>Taraxicum officinale</i>	dandelion	N	FACU
<i>Tellima grandiflora</i>	fringe cups	Y	FACU
<i>Trifolium pratense</i>	red clover	N	FACU
<i>Trifolium repens</i>	white clover	N	FAC
<i>Urtica dioica</i>	stinging nettle	Y	FAC
<i>Vicia hirsuta</i>	tiny vetch	N	UPL
<i>Vicia sativa</i>	spring vetch	N	UPL
<i>Zeltnera venusta</i>	charming centaury	Y	NL
Grasses			
<i>Aira caryophylla</i>	silver hairgrass	N	FACU
<i>Anthoxanthum odoratum</i>	sweet vernal grass	N	FACU
<i>Avena sativa</i>	wild oat	N	UPL

Scientific Name	Common Name	Native?	Wetland Status
<i>Briza maxima</i>	large quaking grass	N	UPL
<i>Briza minor</i>	small quaking grass	N	FAC
<i>Bromus carinatus</i>	California brome	Y	NL
<i>Bromus diandrus</i>	ripgut brome	N	UPL
<i>Bromus hordeaceus</i>	soft chess	N	FACU
<i>Dactylis glomerata</i>	orchard grass	N	FACU
<i>Elymus glaucus</i>	blue wildrye	Y	FACU
<i>Festuca arundinacea</i>	tall fescue	N	FACU
<i>Festuca microstachys</i>	small fescue	Y	UPL
<i>Festuca perenne</i>	Italian wildrye	N	FAC
<i>Festuca rubra</i>	red fescue	Y	FAC
<i>Holcus lanatus</i>	velvet grass	N	FAC
<i>Phalaris aquatica</i>	harding grass	N	FACU
<i>Poa pratensis</i>	Kentucky bluegrass	N	FAC
Ferns and Allies			
<i>Polystichum munitum</i>	sword fern	Y	FACU
<i>Pteridium aquilinum</i>	bracken fern	Y	FACU
Sedges and Rushes			
<i>Carex leptopoda</i>	slender footed sedge	Y	FAC
	Total	47.5% Native	40.75% FAC or Wetter Species
<p>1. (USDA 2012)</p> <p>Indicators are abbreviated as follows:</p> <p>OBL: Obligate</p> <p>FACW: Facultative</p> <p>FAC: Facultative</p> <p>FACU: Facultative upland</p> <p>UPL: Upland</p> <p>NL: Not listed</p>			