FINAL REPORT ◦ JANUARY 2018

Preliminary Delineation of Waters and Wetlands for the Honeydew Ranch Property, Honeydew, California

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1 INTRODUCTION

1.1 Project Description and Proponent

The proposed Honeydew Ranch Property Project (Project) consists of the construction of an approximately 3-million-gallon water storage pond for irrigation use in a property with site address of 665 Old Hindley Ranch Road. The proposed project will be designed and constructed outside of all wetlands and waters in the property with a minimum 100-foot setback from wetlands and small tributaries and 200-foot setback from the Mattole River.

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1.2 Project Location and Survey Area

The property is located in unincorporated Humboldt County in the community of Honeydew, California (Figure 1). The Project is in Section 6 of Township 3 South, Range 1 East of the Honeydew U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The property is located at approximately latitude 40.2393° and longitude -124.1165°. The elevation within the property ranges from approximately 219 to 308 feet above mean sea level.

The Project can be accessed by taking the CA-254 exit toward South Fork/Honeydew from US-101, continuing west on Mattole Road, and turning east on Old Hindley Ranch Road. At the fork with Applewood Road, stay right (south) to continue on Old Hindley Ranch Road; the property's gated access road is to the south and descends to 665 Old Hindley Ranch Road (Figure 1). Access to the site requires land owner permission and entry through a private gate.

The wetland delineation was performed across the entire 46-acre property (Survey Area) (Figure 1).

1.3 Purpose of the Wetland Delineation

The purpose of this delineation is to: (1) assess the geographic extent of water and wetland resources in the Survey Area; and (2) delineate any waters of the U.S. that are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act of 1899. This report is considered preliminary until verified by the Regulatory Branch of the USACE, San Francisco District.

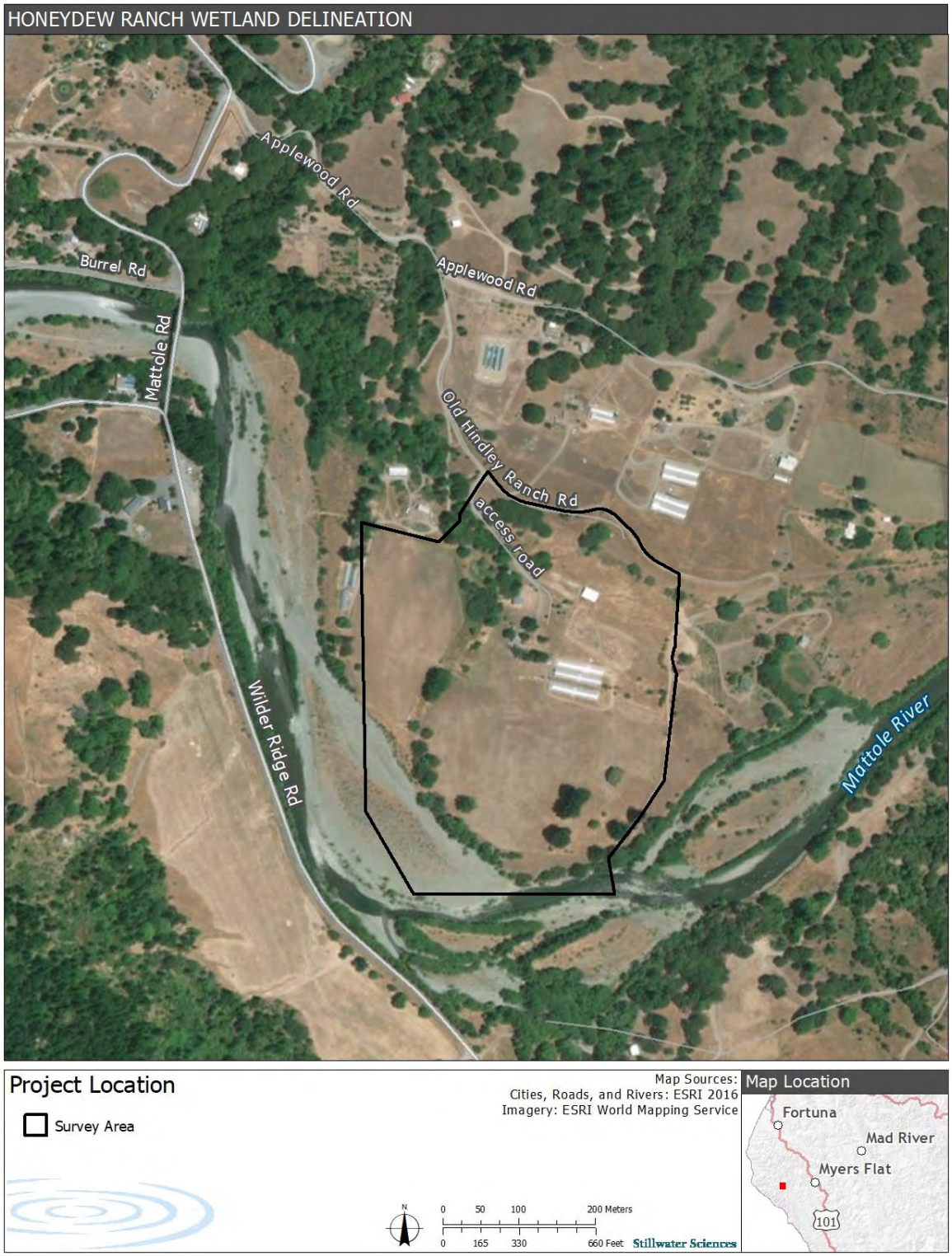

Figure 1. Project location and waters and wetland delineation Survey Area.

2 METHODS

2.1 Existing Conditions

Prior to the delineation, existing information on vegetation, soils, hydrology, and precipitation was evaluated for the Survey Area. Information on potential jurisdictional waters and wetlands was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online application, *Wetlands Mapper* (USFWS 2017). Available data from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey website were reviewed for the Survey Area and nearby vicinity. Precipitation and climate records from the National Climatic Data Center (NCDC 2018) were reviewed for a nearby weather stations, Honeydew 1 SW and Scotia, California.

2.2 Field Delineation

A delineation of potential jurisdictional waters and wetlands within the Survey Area was conducted on 1 December 2017 by qualified personnel in accordance with the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual, USACE 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC Supplement; USACE 2010), USACE *Regulatory Guidance Letter (RGL) No. 05-05* (USACE 2005), and *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (OHWM Guide; Mersel and Lichvar 2014). The delineation included any feature that could potentially meet the definition of a water protected under the CWA (and thus be subject to USACE jurisdiction) and the Porter Cologne Act (Regional Water Quality Control Board jurisdiction).

2.2.1 Waters determination

The extent of waters, other waters, and tributaries was delineated by the location of the OHWM. The OHWM is defined as the elevation established on the shore by water fluctuations, and is indicated by physical characteristics such as: (a) a clear, natural line impressed on the bank; (b) shelving; (c) changes in the character of soil; (d) destruction of terrestrial vegetation; (e) the presence of litter and debris; or (f) other appropriate means that consider the characteristics of the surrounding areas. The OHWM was identified in accordance with the USACE RGL 05-05 (USACE 2005) and the OHWM Guide (Mersel and Lichvar 2014).

Prior to the wetland delineation survey, aerial photographs and topographic maps were reviewed to identify limits and connections of potential wetlands to traditional navigable waters (TNW) such as the Mattole River. During the wetland delineation, waters in the Survey Area were further reviewed for their connectivity to a TNW including the review of all existing drainages. The OHWM of potentially jurisdictional waters was delineated in the field. Boundaries were mapped via a sub-meter Global Positioning System (GPS) unit (Trimble Geo 6000) and later post-processed, corrected, and incorporated into Geographic Information Systems (GIS) where maps detailing the delineation results were generated. The delineation team recorded the width of the channel at the OHWM at representative cross-sections along with additional details observed at each transect (e.g., substrate, vegetation) onto USACE OHWM delineation data forms (downloaded from http://www.erdc.usace.army.mil/).

2.2.2 Wetland determination

Wetlands were delineated in accordance with the 1987 Manual (USACE 1987) and WMVC Supplement (USACE 2010). The 1987 Manual and WMVC Supplement provide technical guidelines and methods for the three-parameter approach to determining the location and boundaries of USACE jurisdictional wetlands. This approach requires that an area must support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Connectivity of delineated wetlands to other waters and tributaries was evaluated in accordance with USACE RGL 07-01 (USACE 2007).

A total of nine data points were sampled in potential wetlands in the Survey Area. If a data point met all three wetland parameters, it was considered a USACE wetland; and if a point met two or less wetland parameters, it was considered upland. Potential wetland areas were identified based on information generated from the pre-field review (e.g., the NWI *Wetland Mapper* results) and observations of hydrology and vegetation in the field. If a data point met all three parameters for a wetland, then a paired data point was placed along the preliminary transition zone (the area in which a change from wetland to non-wetland conditions occurs) to determine the wetland/upland boundary. If the data point did not meet any of the three parameters, then the point was considered to be in an upland location and a paired point was not collected. At each data point, a soil pit was dug and the following information was recorded using the USACE (2010) data forms:

1. **Vegetation**: Dominant plant species for each stratum (i.e., tree, sapling/shrub, herb, woody vine) by scientific name (genus and species) following the taxonomy of *The Jepson Manual, Second Edition* (Baldwin et al. 2012). Absolute percent cover and dominance were determined using the 50/20 rule outlined in the *WMVC Supplement*, and the wetland indicator status (OBL [obligate], FACW [facultative-wet], FAC [facultative], FACU [facultative-upland], and UPL [upland]) defined for the WMVC Region in the *National Wetland Plant List: 2016 Wetland Ratings* (Lichvar et al. 2016). Plant species not listed in the *2016 National Wetland Plant List* were considered upland (UPL) species. A dominance test was performed to determine if the data point exhibited hydrophytic vegetation. If the dominance test was not conclusive and wetland hydrology and hydric soils were present, then the prevalence index was calculated.
2. **Hydrology**: Presence and depth of surface water, groundwater, and/or soil saturation were recorded. In addition, if primary (e.g., oxidized rhizospheres along living roots) and secondary indicators (e.g., drainage patterns, dry-season water table, saturation visible on aerial imagery, FAC-neutral test) were observed, then they were also recorded at each data point.
3. **Soils**: Moistened soil matrix descriptions were recorded for each data point using the following: depth of the sample, color (as defined in Munsell soil color charts [Munsell Color 2000]), and texture. If present, redox features were then described by type (e.g., concentration, depletion, reduced matrix) and location (e.g., pore lining, root channel, or matrix). Hydric soils were determined using the *WMVC Supplement* primary indicators, such as redox dark surface (F6). In addition, mapped soil units (described in Section 3.1.2) were considered and the 2017 National List of Hydric Soils (NRCS 2017a) was consulted.

The location of each data point was recorded and photographs were taken of the representative site characteristics (Appendix B). Coordinates were determined using a Trimble Geo 6000 GPS unit. The wetland boundaries were walked and locations along the perimeter were recorded using the GPS unit. These boundaries along with other GPS collected data were post-processed, corrected, and incorporated into GIS where maps detailing the delineation results were generated. Mapped wetlands were classified according to the *Classification of Wetlands and Deepwater*

Habitats of the United States (Cowardin et al. 1979, FGDC 2013) based on the vegetation composition and structure at the sample points.

3 RESULTS

3.1 Existing Conditions

Vegetation is primarily grassland with a few conifer and hardwood stands throughout. Natural ground slopes range from 5–30%.

3.1.1 Hydrology

The property consists of southwest facing hillslopes adjacent to the Mattole River (Figure 1). The property is located within the North Subbasin of the Mattole River Basin and is within the Mattole River Watershed of the Cape Mendocino Hydrologic Unit (NCRWQCB 2018). Some portions of the property are within the 100-year flood zone of the TNW Mattole River (Figure 2). Mattole River flows into a Marine Protected Area (Punta Gorda State Marine Reserve) in the Pacific Ocean. In the early 1900s, Mattole Lumber Company's wharf, at the mouth of the Mattole River, shipped tanbark to tanneries in San Francisco (i.e., transport of interstate commerce) (JRP Historical Consulting, LLC 2013; Downie et al. 2002).

One seasonally flowing water drainage is located in the northwest region of the property and crosses underneath the primary access road to the property via a 30-inch diameter culvert. This feature eventually drains to a constructed pond and adjacent vegetated seep. Based on available aerial imagery, the pond was constructed prior to 2004 and will not be used by the landowner for agricultural use. These hydrologic features were approximately 600 to 800 feet from the ordinary high-water mark of the Mattole River and were not within the 100-year flood zone (Figure 2). No surface water connections from these features to the Mattole River were observed and the surrounding region was confirmed upland habitat. No additional shallow ground water features were observed on the property.

The NWI *Wetlands Mapper* indicates riverine wetlands associated with the Mattole River in the properties boundaries (Figure 3).

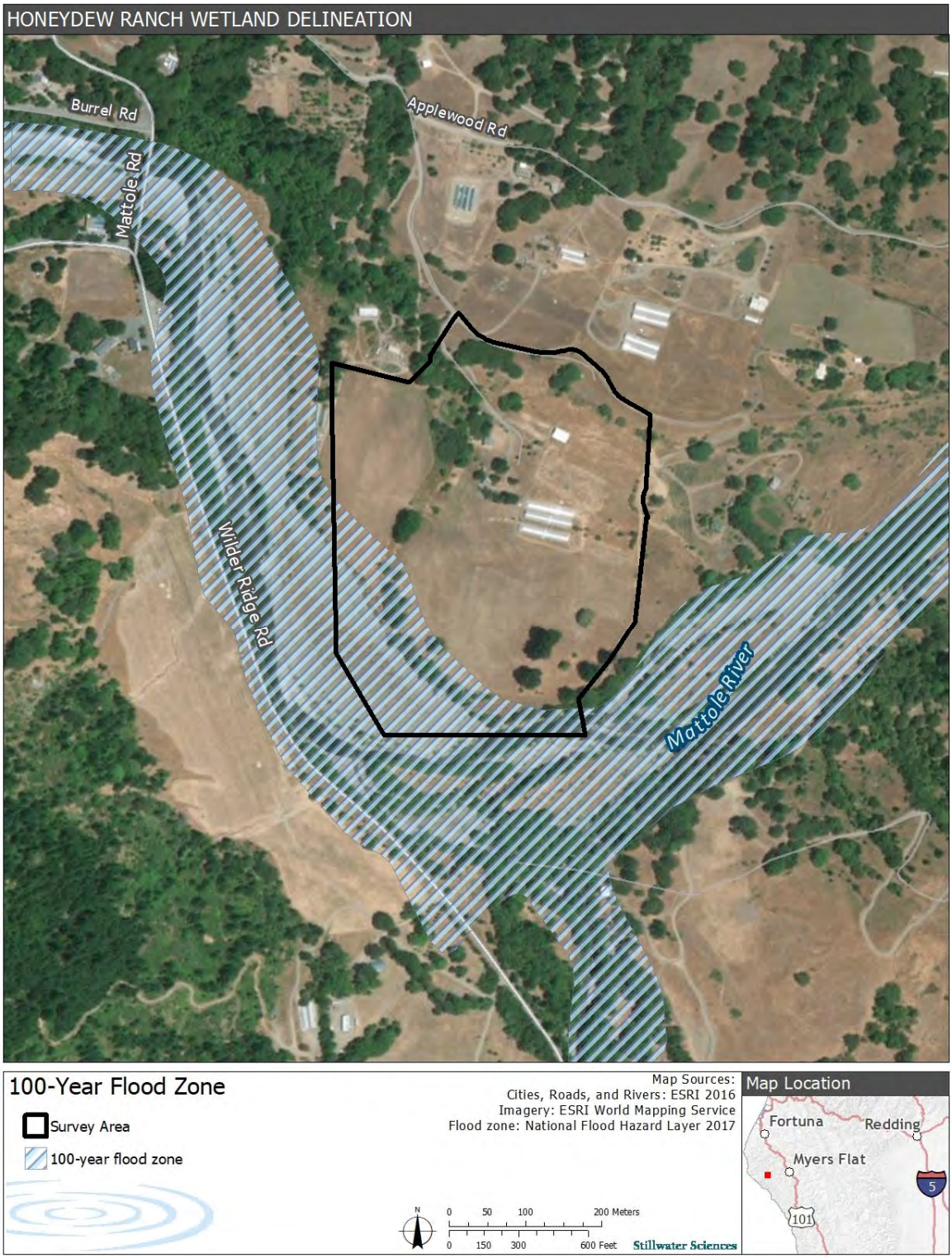

Figure 2. The Mattole River 100-year flood zone boundary in and adjacent to the Survey Area.

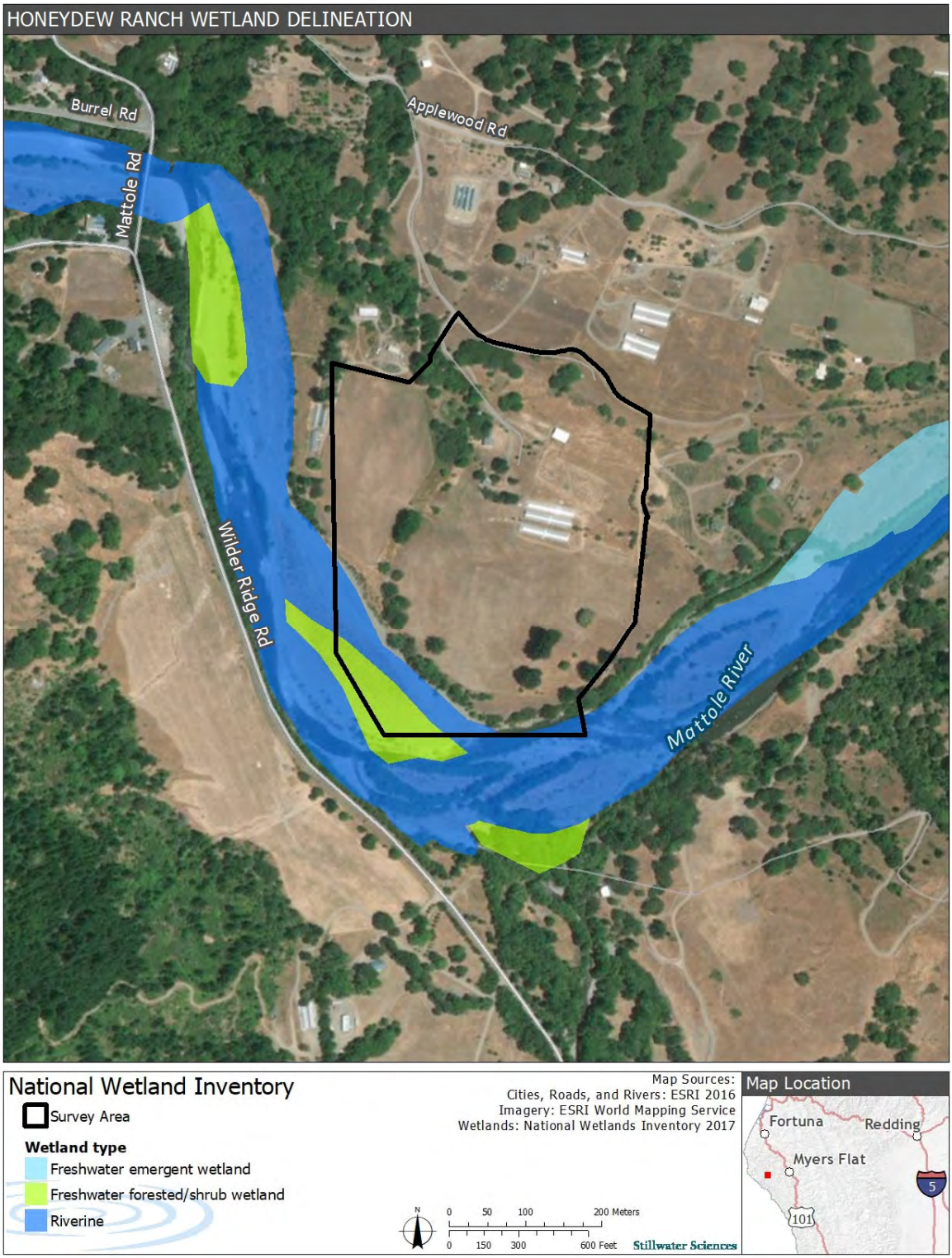

Figure 3. National Wetlands Inventory map of the Survey Area (Source: USFWS 2017).

3.1.2 Soil units

Four soil map units were documented in the USDA NRCS soil resource report for the Project: Crazycoyote-Windynip-Caperidge complex, 15–50% slopes; Conklin, 0–2% slopes; Pepperwood-Shivelyflat complex, 0–2% slopes; and Parkland-Garberville 2–9% slopes (Figure 4) (NRCS 2017b). In addition, the Mattole River and floodplain is mapped as water and fluvents, 0–2% slopes, which is considered a hydric soil (NRCS 2017b).

Crazycoyote-Windynip-Caperidge complex is typically comprised of 35% Crazycoyote series, 35% Windynip series, 15% Caperidge, and 15% minor components. This complex is found along the shoulder and backslope of mountain slopes with elevations that range from 200 to 3,280 feet above mean sea level and with a mean annual precipitation of 60–100 inches, a mean annual air temperature of 48–57º F, and a frost-free period of 240–300 days (NRCS 2017b). All three soils series have a parent material composed of colluvium derived from sandstone and/or mudstone and/or residuum weathered from sandstone and/or mudstone. The Crazycoyote series typical profile consists of slightly decomposed plant material in the upper 0–1 inch (Oi horizon) with loam from 1–39 inches and very gravelly loam in 39- to 63-inch depths. The Windynip soil series profile is composed of loam from 0–4-inch depth and gravelly or very gravelly clay loam from 4- to 79-inch depth. Caperidge soil profile is composed of a 0–2-inch organic layer with very or extremely gravely sandy loam from 2- to 79-inch depth. All three series, Crazycoyote, Windynip, and Caperidge, have a well drained natural drainage class, a depth to water table of more than 80 inches, and do not have a frequency for ponding or flooding. There is no hydric soil rating for Crazycoyote, Windynip, or Caperidge (NRCS 2017a). Minor components of this map unit include the Wirefence (5%), Sproulish (5%), Devilshole (2%), Yorknorth, moist (2%), and Rock outcrop (1%) soil series, none of which have a hydric soil rating on the Humboldt County (Central Part) hydric soils list (NRCS 2017a).

The Conklin series map unit setting is along backslopes of stream terraces. It has a parent material of alluvium derived from mixed sedimentary sources and is located in 60 to 460 feet elevation above mean sea level and have a mean annual precipitation of 49–98 inches, a mean annual air temperature of 54–59º F, and a frost-free period of 240–300 days (NRCS 2017b). The Conklin series typical profile includes 0–63-inch depth composed of loam or sandy clay loam with an extremely gravelly loamy coarse sand at 63–79-inch depth. It has a depth to water table of more than 80 inches, a low run-off class, a well drained natural drainage class, and no frequency for ponding or flooding (NRCS 2017b). The Conklin series does not have a hydric soil rating (NRCS 2017a). Minor components of this map unit include the Johnnyjack (10%), Parkland (3%), and Grannycreek (2%) soil series, the latter listed with a hydric soil rating on the Humboldt County (Central Part) hydric soils list (NRCS 2017a).

The Pepperwood-Shivelyflat complex map unit is located in areas with elevations that range from 50 to 490 feet elevation above mean sea level and have a mean annual precipitation of 40–70 inches, a mean annual air temperature of 54–57º F, and a frost-free period of 300–350 days (NRCS 2017b). The parent material for both Pepperwood and Shivelyflat soil series is an alluvium derived from mixed sedimentary sources along backslopes in flood-plain steps. The typical Pepperwood series profile includes fine sandy loam to very fine sandy loam up to 31 inches in depth and loam or silt loam from 31–79-inch depth. It has a depth to water table of about 20 to 39 inches, a moderately well drained drainage class, a frequent ponding frequency, and a rare flooding frequency (NRCS 2017b). Shivelyflat soil profiles consists of silt loam to 28-inch depth, a very fine sandy loam from 28–63-inch depth, and silt loam from 63–71-inch depth. Shivelyflat soils are somewhat poorly drained with a depth to water table of 10 to 20 inches with frequent ponding and rare flooding frequency. Pepperwood and Shivelyflat do not have a hydric

soil rating. Minor components of this map unit include the Eelriver (5%), Cottoneva (3%), and Weott (2%) soil series, the latter (Weott) is listed on the Humboldt County (Central Part) hydric soils list.

The Parkland-Garberville complex map unit, if irrigated, is prime farmland located in 60–490 feet elevation above mean sea level with mean annual precipitation of 49–90 inches, a mean annual temperature of 55–59º F, and a frost-free period of 240–280 days (NRCS 2017b). It is comprised of 45% Parkland soils, 40% Garberville soils, and 15% minor components. Both the Parkland and Garberville soils are along the backslope and footslope of alluvial fans and stream terraces and both have a parent material of alluvium derived from mixed sedimentary sources. The typical Parkland series profile includes loam and silt loam to depths of 18 inches with clay loam from 18–79-inch depth. It has a depth to water table of about 20 to 39 inches, a moderately well drained natural drainage class, and has no frequency for ponding or flooding (NRCS 2017b). Garberville soils typical profile is of 79-inch depth that includes gravelly loam, gravelly clay loam, gravelly sand clay loam, and very gravelly sandy loam. It is a well drained series with more than 80 inches to depth of water table and has no frequency for ponding or flooding (NRCS 2017b). Parkland or Garberville are not listed on the hydric soils list (NRCS 2017a). Minor components of this map unit include the Conklin (5%), Granneycreek (5%), Frenchman (3%), and Gschwend (2%) soil series. Granneycreek has a hydric soils rating on the Humboldt County (Central Part) hydric soils list (NRCS 2017a).

Wetland data points collected in the Pepperwood-Shively complex closely resembled the Pepperwood series and the hydric soil Weott series (NRCS 2017a) with matrix color of 10YR 3/2 and redox concentrations of 10YR 5/6 (Appendix A). Soil samples were considered hydric when a positive primary indicator, such as redox dark surface (F6) and/or redox depressions (F8) were identified (data points 3W and 7W in Appendix A).

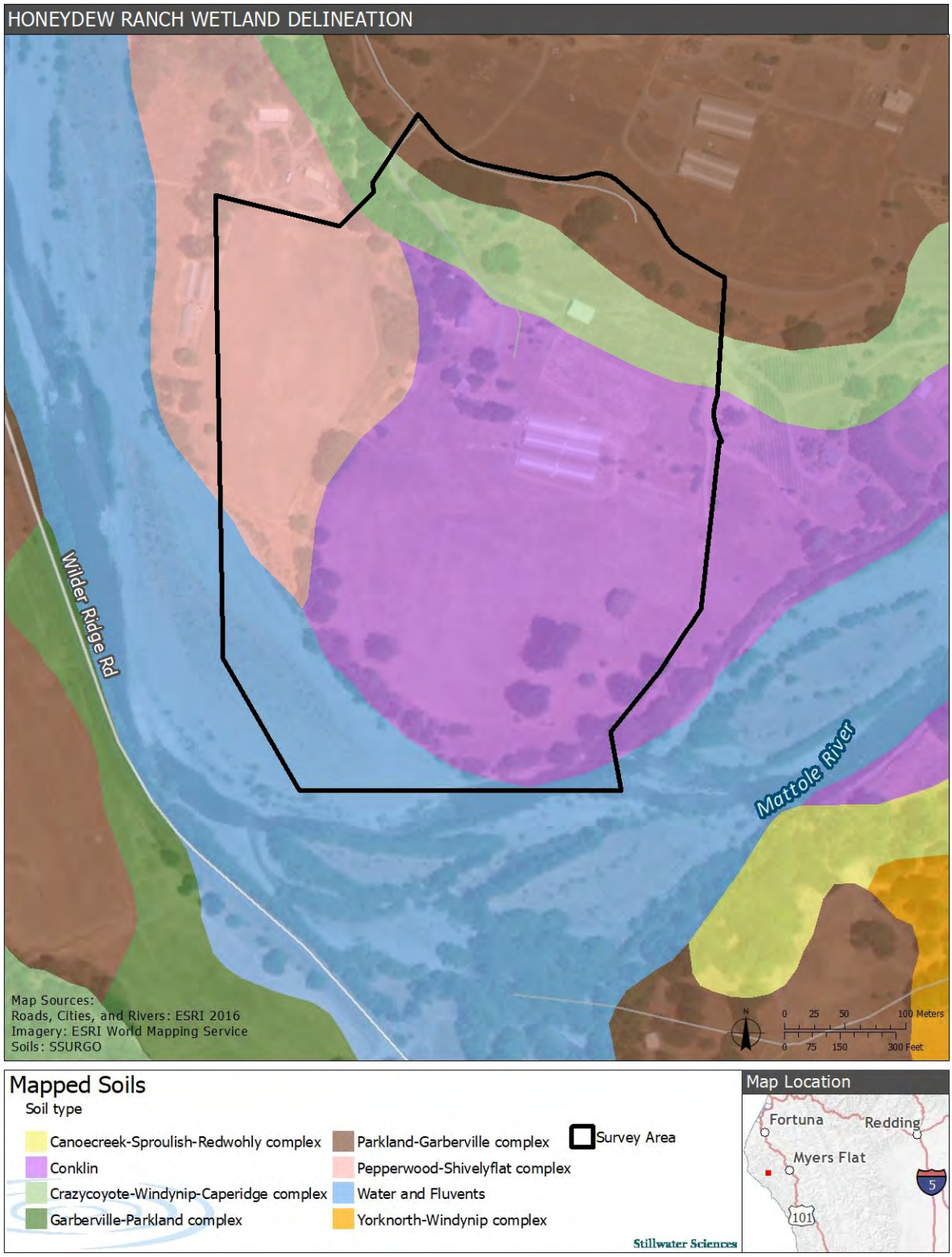

Figure 4. Mapped soil units in the Survey Area.

3.1.3 Precipitation

The Mattole River basin has a Mediterranean climate characterized by cool wet winters and dry warm summers (Downie et al. 2002). According to the Honeydew SW 1 weather station, the average annual rainfall is 69.6 inches with an annual average range from 11.9 to 131.9 inches in years 1960–2017 (omitting years with missing data) (NCDC 2018). Most of the precipitation accumulates during the months of November–March. No temperature data is available from the Honeydew SW 1 weather station; however, the nearby RAWS station's (Eel River Camp, California at elevation 446 feet above sea level) average monthly temperatures for the 2001 to 2017 period of record range from 44.5 to 68.7 ºF (WRCC 2018).

Based on the Honeydew SW 1 weather station, the first half of 2017 excluding March and May, was much wetter than normal (from 6 to 20 inches above monthly averages); however, all months from July to December had below average precipitation. In addition, total precipitation for October, November, and December 2017 (1.3, 1.9, 0.7 inches, respectively) was considerably below the average monthly precipitation totals (4.2, 10.4, and 13.8 inches, respectively). Overall, due to the heavy rains early in the year, total precipitation in 2017 (61.2 inches) was only slightly lower than annual average of 69.6 inches (NCDC 2018). At RAWS weather station Eel River Camp, monthly temperatures for majority of the year were slightly warmer (ranging from 0.8º F to 2.7º F above monthly averages) and the overall annual average temperature of 56º F, was 0.4º F above annual average for the period of record. Temperatures ranged from 39–56º F on December 1, 2017 with a daily average of 43.5º F. December's average air temperature is 44.5º F for the region (based on RAWS weather station Eel River Camp period of record) (WRCC 2018).

The dryer and slightly cooler than normal conditions prior to the field surveys is unlikely to have influenced the delineations results; evidence of wetland features was consistent with the landscape position necessary to support wetlands, regardless of precipitation.

3.2 Waters and Wetlands

The Survey Area contains 6.27 acres of waters and 0.92 acre of wetlands adjacent to these waters (Table 1 and Figure 5). Except for the Mattole River, all waters and wetlands in the Survey Area were isolated and had no permanent or seasonal flowing waterways into the Mattole River (Figure 5). These waters and wetlands in the Survey Area are considered to be waters of the State.

Table 1. Waters and wetlands in the Survey Area.

Description	Acreage
Waters	
Intermittently flowing drainage (W-1)	0.04
Mattole River (W-2)	6.23
Wetlands	
Palustrine broad-leaved deciduous scrub-shrub wetlands (PS-1)	0.46
Semipermanently flooded palustrine emergent wetland (SP-1)	0.22
Seasonally flooded palustrine emergent wetland (SF-1–SF-2)	0.24

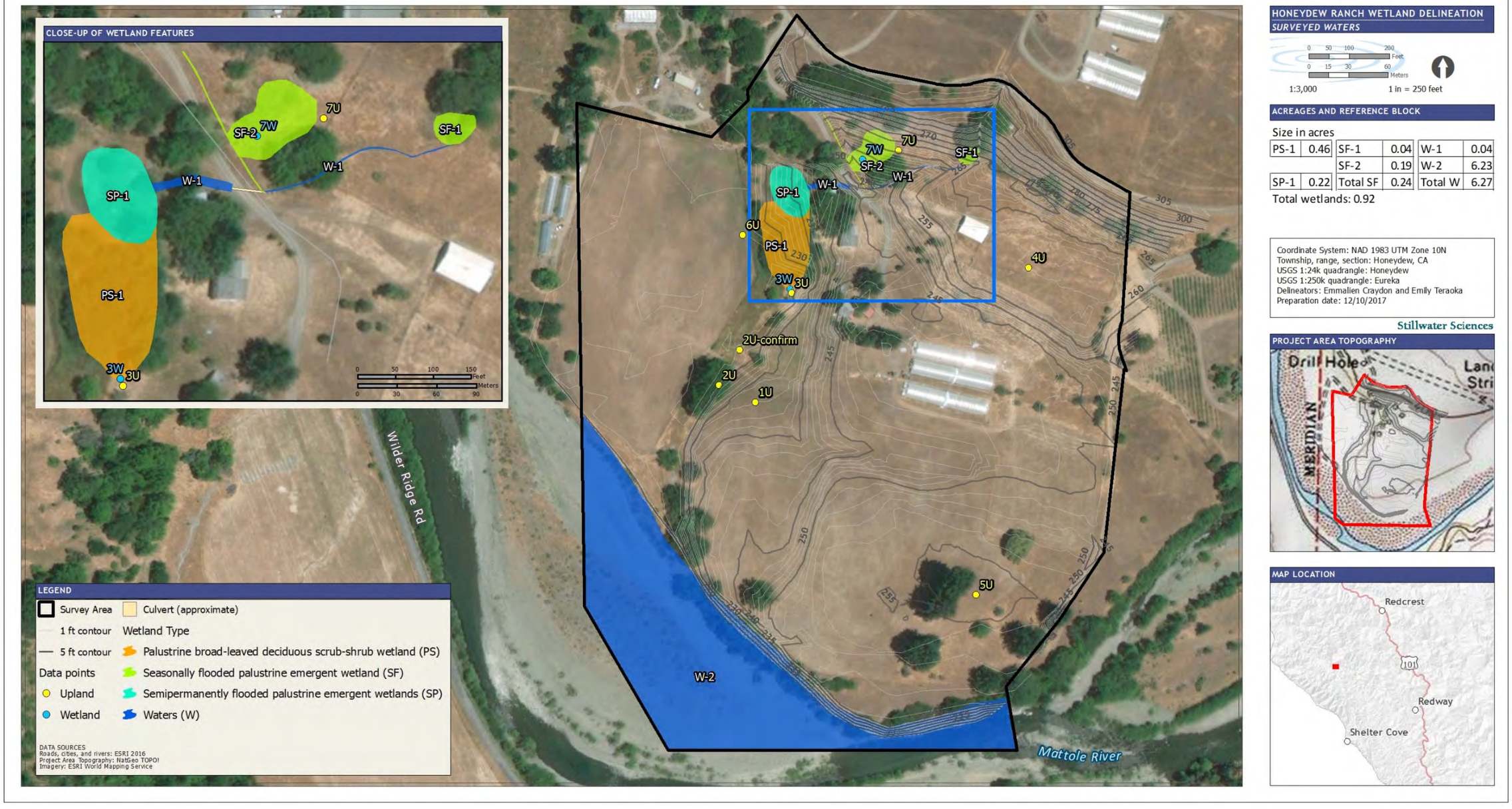

Figure 5. Delineated wetlands and waters in the Survey Area.

3.2.1 Waters

Waters total 6.27 acres in the Survey Area and includes one intermittently flowing drainage with a clear OHWM that at least seasonally conveys surface water into wetlands in the Survey Area and a TNW, the Mattole River (Table 1, W-1–W-2 in Figure 5). One culvert conveying seasonal surface water to nearby wetland features in the Survey Area was identified crossing under the access road to the property (Figure 5).

Measurements were taken from three transects to characterize waters in the Survey Area (Appendix A). Based on data collected from these transects, there are 0.04 acres of seasonally flowing waters and 6.23 acres of the Mattole River in the Survey Area (Table 1). The primary OHWM indicators at the transects included a break in slope, impression on bank, and changes in vegetation. Waters in the Survey Area ranged in width from 10 feet to ~210 feet (based on the horizontal distance between the OHWM on the right and left banks, respectively) with depths greater than 3 feet (based on the vertical distance between the OHWM and channel thalweg).

3.2.2 Wetlands

There is a total of 0.92 acres of palustrine wetlands in the Survey Area (Table 1, Figure 5). Three wetland types occur in the Survey Area: (1) semipermanently flooded palustrine emergent wetlands and (2) seasonally flooded palustrine emergent wetlands, and (3) palustrine broad-leaved deciduous scrub-shrub wetlands (hereinafter described as palustrine scrub-shrub wetlands) (Figure 5). FGDC (2013) defines the palustrine system as including all nontidal wetlands dominated by trees, shrubs, persistent emergent plants, emergent mosses or lichens (i.e., non-vascular). Semipermanently flooded conditions occur when surface water persists throughout the growing season in most years, or, when surface water is absent, the water table is usually at or very near the land surface (FGDC 2013) Seasonally flooded conditions are those where surface water is present for extended periods during the growing season (generally for more than a month), but is absent by the end of the season in most years, during which the depth to substrate saturation may vary (FGDC 2013). Emergent wetlands are characterized by erect, rooted herbaceous hydrophytes, excluding mosses and lichens, that are the tallest life form, have at least 30% areal coverage, and are present for most of the growing season in most years (FGDC 2013). Broad-leaved deciduous scrub-shrub wetlands are characterized by woody plants that are less than 20 feet tall and are the dominant life form with at least 30% areal coverage (FGDC 2013).

The wetlands in the Survey Area are located along the northwest portion of the property, forming a complex of semipermanently flooded palustrine emergent wetlands with adjacent palustrine scrub-shrub wetlands and seasonally flooded palustrine emergent wetlands adjacent to a seasonally flowing water drainage (W-1) (Figure 5).

3.2.2.1 Semipermanently flooded palustrine emergent wetlands

One semipermanently flooded emergent wetland was identified in the Survey Area that totaled 0.22 acres (Figure 5, Table 1). This wetland feature, a constructed pond built prior to 2004, is inundated most of the year. Although surface water can be absent during some portion of the year, when that occurs, the water table continues to be at or near the soil surface based on historical imagery and observed vegetation. This wetland feature receives seasonal flow from W-1 (Figure 5). Upland boundaries of this feature were indicated by the constructed berm along the western edge and a compacted gravel access road to the north. To the south and east, this feature abuts palustrine scrub-shrub wetlands, PS-1. The surrounding upland habitat is best illustrated by

data point 6U which had a prevalence of facultative grass species and lacked hydric soils and wetland hydrology (Appendix A).

3.2.2.2 Seasonally flooded palustrine emergent wetlands

There are two seasonally flooded palustrine emergent wetlands in the Survey Area; both are positioned on moderately sloped hillsides adjacent to the seasonally flowing water drainage W-1 (SF-1 and SF-2 in Figure 5). A culvert located along the primary access road to the property connects these wetlands hydrologically to the semipermanently and palustrine scrub-shrub wetlands in the Survey Area; SP-1 and PS-1, respectively (Figure 5). These wetlands total 0.24 acres in the Survey Area (Table 1).

Sampled data point 7W best characterizes the seasonally flooded palustrine emergent wetlands (Appendix A). Dominant hydrophytic vegetation at this location included *Mentha pulegium* (pennyroyal, OBL), *Juncus patens* (spreading rush, FACW), *Phalaris arundinacea* (reed canary grass, FACW), and *Rumex crispus* (curly dock, FAC). Application of the dominance test using the "50/20 rule" confirmed hydrophytic vegetation was present. The soil profile consisted of clay loam that contained prominent redox concentrations (25%) within the upper 16 inches of the soil profile and confirmed the primary hydric soil indicator as redox dark surface (F6). Wetland hydrology was confirmed by the presence of a high-water table (Appendix A). The paired upland data point 7U lacked all three wetland indicators (hydrophytic vegetation, hydrology, and hydric soils; Appendix A). Upland vegetation was composed of primarily nonnative naturalized grasses including *Briza maxima* (rattlesnake grass, UPL), *Hordeum marinum* subsp. *gussoneanum* (Mediterranean barley, FAC), and *Cynosurus echinatus* (bristly dogtail grass, UPL) (Appendix A).

3.2.2.3 Palustrine scrub-shrub wetlands

Palustrine scrub-shrub wetlands were located within a topographically low depression with a shallow ground water table and totaled 0.46 acres in the Survey Area (Table 1, PS-1 in Figure 5). The canopy in the palustrine scrub-shrub wetlands is primarily composed of *Salix lasiandra* (Pacific willow, FACW), with some cover by *Umbellularia californica* (California bay, FAC). Established understory species include *Rubus armeniacus* (Himalayan blackberry, FACW), *Rumex occidentalis* (western dock, FAC), curly dock, pennyroyal, and within more open shrub canopy, reed canary grass. Data point 3W represents the boundary of this wetland type. Dominant vegetation is composed of a Pacific willow canopy with emergent herbaceous species in the understory including curly dock, pennyroyal, and reed canary grass, as well as some Himalayan blackberry in the understory (Appendix A). Hydric soils were determined by the primary indicators redox dark surface (F6) and redox depressions (F8). The presence of a high-water table (1 inch from the surface in the soil pit) and surface water (approximately 1 inch deep adjacent to the soil pit) confirmed wetland hydrology (Appendix A). The paired upland data point 3U lacked all three wetland indicators (Appendix A). Upland vegetation was composed of ruderal herbaceous vegetation including reed canary grass, *Rumex acetosella* (sheep sorrel, FACU), *Convolvulus arvensis* (bindweed, UPL), *Agrostis* (*capillaris*) (colonial bent grass, FAC), and *Silybum marianum* (blessed milk thistle, UPL) (Appendix A).

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Appendices

Appendix A

Wetland Delineation Datasheets

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

Project/Site: Honeydew Ranch City/County: Honeydew/Humboldt Sampling Date: 12/1/2017

Applicant/Owner: HSM State: CA Sampling Point: 1U

Investigator(s): EPC, EKT Section, Township, Range: S6 T35 R1E

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

Subregion (LRR): LLRA Lat: 40°14'23.76"N Long: 124° 7'6.31"W Datum: WGS 84

Soil Map Unit Name: Conklin, 0 to 2 percent slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

No wetland parameters at location and sampled area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Agrostis (capillaris)	15	No	FAC
2. Elymus glaucus	2	No	FACU
3. Rumex acetosella	70	Yes	FACU
4. Erodium botrys	10	No	FACU
5. Cynosurus echinatus	15	No	UPL
6. Deschampsia cespitosa subsp. cespitosa	2	No	FAC
7. Aster sp	2	No	-
8. Medicago polymorpha	10	No	FACU
9. Aira praecox	15	No	UPL
10.			
11.			
	141 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

A mixture of reuderal herbs and grasses is present at this location.

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	2.5Y 3/3	100					See remarks	Texture: Clay loam-sandy clay loam

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

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

Remarks:

No hydric soil indicators present in soil pit. Some grit in sample. No redoximorphic features observed at sample location.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

Gently sloped alluvial terrace, no primary hydrology indicators observed.

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

Project/Site: Honeydew Ranch City/County: Honeydew/Humboldt Sampling Date: 12/1/2017

Applicant/Owner: HSM State: CA Sampling Point: 2U

Investigator(s): EPC, EKT Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Toeslope alluvial plain Local relief (concave, convex, none): Slight concave Slope (%): 10

Subregion (LRR): LLRA Lat: 40°14'24.17"N Long: 124° 7'7.47"W Datum: WGS 84

Soil Map Unit Name: Pepperwood-Shivelyflat complex, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Hydric soils are lacking at this location. No primary indicators of a wetland are present. Hydrology presence concluded from secondary indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans hindsii	100	Yes	FAC
2.			
3.			
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 2m2)			
1. Mentha puleginum	15	No	OBL
2. Phalaris arundinacea	70	Yes	FACW
3. Deschampsia cespitosa subs. cespitosa	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominant vegetation passes for hydrophytic vegetation via dominance test.

SOIL

Sampling Point: 2U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/2	100					Clay loam	A lot of walnut shells in upper layer

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: Roots

Depth (inches): 9

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features present in the soil sample.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Moist soil/no surface water/water table/substratum observed in pit. Geomorphic position and FAC neutral pass at location so wetland hydrology is present at this location.

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

Project/Site: Honeydew Ranch City/County: Honeydew/Humboldt Sampling Date: 12/1/2017

Applicant/Owner: HSM State: CA Sampling Point: 3U

Investigator(s): EPC, EKT Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): LLRA Lat: 40°14'26.45"N Long: 124° 7'5.19"W Datum: WGS 84

Soil Map Unit Name: Pepperwood-Shivelyflat complex, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

No primary wetland indicators present in sampled location and area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus sp.	15	Yes	UPL
2.			
3.			
4.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 2m2)			
1. Phalaris arundinacea	60	Yes	FACW
2. Rumex acetosella	2	No	FACU
3. Convolvulus arvensis	5	No	UPL
4. Rumex crispus	5	No	FAC
5. Agrostis (capillaris)	15	No	FAC
6. Silybum marianum	5	No	NL/UPL
7.			
8.			
9.			
10.			
11.			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominance test not conclusive, not greater than 50%. Prevalence index test not required since hydric soils/hydrology are lacking.

SOIL

Sampling Point: 3U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Clay loam	
10-15	10YR 3/2	90	10YR 5/8	10	C	PL	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks:

F3, F6, F7, and F8 are not present due to location (depth) of redox concentrations and color of matrix (depleted matrix was not present).

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No surface water or water in pit. Only one secondary indicator of wetland hydrology is present, therefore wetland hydrology is lacking at this location.

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

Project/Site: Honeydew Ranch | City/County: Honeydew/Humboldt | Sampling Date: 12/1/2017

Applicant/Owner: HSM | State: CA | Sampling Point: 3W

Investigator(s): EPC, EKT | Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Toeslope/depression | Local relief (concave, convex, none): concave | Slope (%): 0-1

Subregion (LRR): LLRA | Lat: 40°14'26.55"N | Long: 124° 7'5.24"W | Datum: WGS 84

Soil Map Unit Name: Pepperwood-Shivelyflat complex, 0 to 2 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters are present at sampled location and the area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiandra	15	Yes	FACW
2.			
3.			
4.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 2m2)			
1. Phalaris arundinacea	40	Yes	FACW
2. Rumex occidentalis	35	No	FAC
3. Mentha pulegium	70	Yes	OBL
4. Rumex crispus	30	Yes	FAC
5. Rubus armeniacus	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	150	= Total Cover	
Woody Vine Stratum (Plot size: 5m2)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominant vegetation passes dominance test for hydrophytic vegetation.

SOIL

Sampling Point: 3W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10yr 3/2	50	10YR 5/6	25	C	PL	Clay loam	
			10YR 4/1	25	D	M	Clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Both redox dark surface and redox depressions are present in the soil sample due to location and presence of redox concentrations and matrix color.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes X No _____ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): n/a

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Both surface water and a high water table in the soil pit were identified. Several secondary indicators were also observed. Therefore this sampling area is confirmed wetland hydrology.

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

Project/Site: Honeydew Ranch City/County: Honeydew/Humboldt Sampling Date: 12/1/2017

Applicant/Owner: HSM State: CA Sampling Point: 4U

Investigator(s): EPC, EKT Section, Township, Range: S6 T35 R1E

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

Subregion (LRR): LLRA Lat: 40°14'27.14"N Long: 124° 6'57.62"W Datum: WGS 84

Soil Map Unit Name: Crazycoyote-Windynip-Caperidge complex, 15 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Hydrophytic vegetation (FAC only) passed by the dominance test. However, both hydric soil and wetland hydrology were lacking therefore the sample area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Agrostis capillaris	65	Yes	FAC
2. Erodium botrys	10	No	FACU
3. Rumex crispus	2	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	72 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Although it passes for hydrophytic vegetation, the dominant vegetation was of only FAC status (34-66% occurrence in wetlands). No FACW or OBL plants identified at this location.

SOIL

Sampling Point: 4U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	98	10YR 5/8	1	C	PL	Clay loam	
2-9	10YR 3/2	100					Clay loam	some cobble

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: rock

Depth (inches): 9

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

Remarks:

Not located within a depression, therefore (F8) does not apply. Low percent redox concentrations in upper 2 inches, therefore redox dark surface does not apply.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Monitoring well showed water table at ~5ft from surface.

Remarks:

No wetland hydrology indicators are present at sampled location.

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

Project/Site: Honeydew Ranch City/County: Honeydew/Humboldt Sampling Date: 12/1/2017

Applicant/Owner: HSM State: CA Sampling Point: 5U

Investigator(s): EPC, EKT Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Terrace alluvial Local relief (concave, convex, none): flat Slope (%): 0-2

Subregion (LRR): LLRA Lat: 40°14'19.11"N Long: 124° 6'59.16"W Datum: WGS 84

Soil Map Unit Name: Conklin, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

All three wetland indicators were lacking and the sampled area was not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Cynosurus echinatus	15	No	UPL
2. Rumex acetosella	65	Yes	FACU
3. Geranium (molle)	35	Yes	NL/UPL
4. Claytonia sp.	20	No	-
5. Avena sp.	2	No	UPL
6. Erodium botrys	5	No	FACU
7.			
8.			
9.			
10.			
11.			
	147 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominance test is not conclusive. Previous index test not calculated since hydric soils and hydrology are lacking at site.

SOIL

Sampling Point: 5U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Clay loam	Some gravel

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

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

Remarks:

No wetland hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No wetland hydrology indicators are present.

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

Project/Site: Honeydew Ranch | City/County: Honeydew/Humboldt | Sampling Date: 12/1/2017

Applicant/Owner: HSM | State: CA | Sampling Point: 6U

Investigator(s): EPC, EKT | Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Floodplain relic alluvial | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): LLRA | Lat: 40°14'27.85"N | Long: 124° 7'6.77"W | Datum: WGS 84

Soil Map Unit Name: Pepperwood-Shivelyflat complec, 0 to 2 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Hydrophytic vegetation (FAC only) passed by the dominance test. However, both hydric soil and wetland hydrology are lacking therefore the sample area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Rumex crispus	10	No	FAC
2. Phalaris arundinacea	30	Yes	FACW
3. Holcus lanatus	5	No	FAC
4. Hordeum marinum subsp. gussoneanum	10	No	FAC
5. Festuca perennis	20	No	UPL
6. Agrostis capillaris	35	Yes	FAC
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Although it passes for hydrophytic vegetation, the dominant vegetation was of only FAC status (34-66% occurrence in wetlands). No FACW or OBL plants identified at this location.

SOIL

Sampling Point: 6U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 4/3	100					Sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

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

Remarks:

No hydric soil indicators are present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No wetland hydrology indicators are present at this location.

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

Project/Site: Honeydew Ranch City/County: Honeydew/Humboldt Sampling Date: 12/1/2017

Applicant/Owner: HSM State: CA Sampling Point: 7U

Investigator(s): EPC, EKT Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 30

Subregion (LRR): LLRA Lat: 40°14'29.98"N Long: 124° 7'1.83"W Datum: WGS 84

Soil Map Unit Name: Crazycoyote-Windynip-Caperidge complex, 15 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

All three wetland parameters are lacking and the sampled area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 2m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Briza maxima	30	Yes	NL/UPL
2. Hordeum marinum subsp. gussoneanum	35	Yes	FAC
3. Phalaris arundinacea	2	No	FAC
4. Elymus glaucus	5	No	FACU
5. Mentha pulegium	5	No	OBL
6. Rumex crispus	2	No	FAC
7. Cynosurus echinatus	5	No	UPL
8.			
9.			
10.			
11.			
	84 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominance test not conclusive (50%) and sampling location lacks hydric soils and wetland hydrology therefore prevalence index was not calculated.

SOIL

Sampling Point: 7U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	100					clay loam	dark

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

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

Remarks:

No hydric soil indicators are present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

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

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

Remarks:

No wetland hydrology indicators are present at this location.

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

Project/Site: Honeydew Ranch | City/County: Honeydew/Humboldt | Sampling Date: 12/1/2017

Applicant/Owner: HSM | State: CA | Sampling Point: 7W

Investigator(s): EPC, EKT | Section, Township, Range: S6 T35 R1E

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Concave/sloped | Slope (%): 15

Subregion (LRR): LLRA | Lat: 40°14'29.74"N | Long: 124° 7'2.96"W | Datum: WGS 84

Soil Map Unit Name: Crazycoyote-Windynip-Caperidge complex, 15 to 50 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three wetland parameters were identified and the location is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5m2)			
1. Rumex crispus	30	Yes	FAC
2. Phalaris arundinacea	45	Yes	FAC
3. Mentha pulegium	5	No	OBL
4. Cyperus echinatus	5	No	UPL
5. Juncus patens	15	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 5m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominant vegetation passes dominance test for hydrophytic vegetation.

SOIL

Sampling Point: 7W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	95	10YR 5/8	5	C	PL	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Location and percentage of redox concentrations and matrix color confirm redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): none

Water Table Present? Yes X No _____ Depth (inches): 3 from surface

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 3 to surface

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Two primary wetland indicators, high water table and saturation, are present and wetland hydrology is confirmed for this sample area.

OHWM Delineation Cover Sheet

Project: Wetland delineation for HSM **Date:** 12/1/2017

Location: Honeydew Ranch, Honeydew, CA Mattole River **Investigator(s):** EPC, EKT

Project Description:

Wetland delineation required by USACE for project activities associated with construction of water storage for irrigation. No project construction in this immediate region.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Dry intermittent channel feeds to constructed pond feature.

Off-site Information

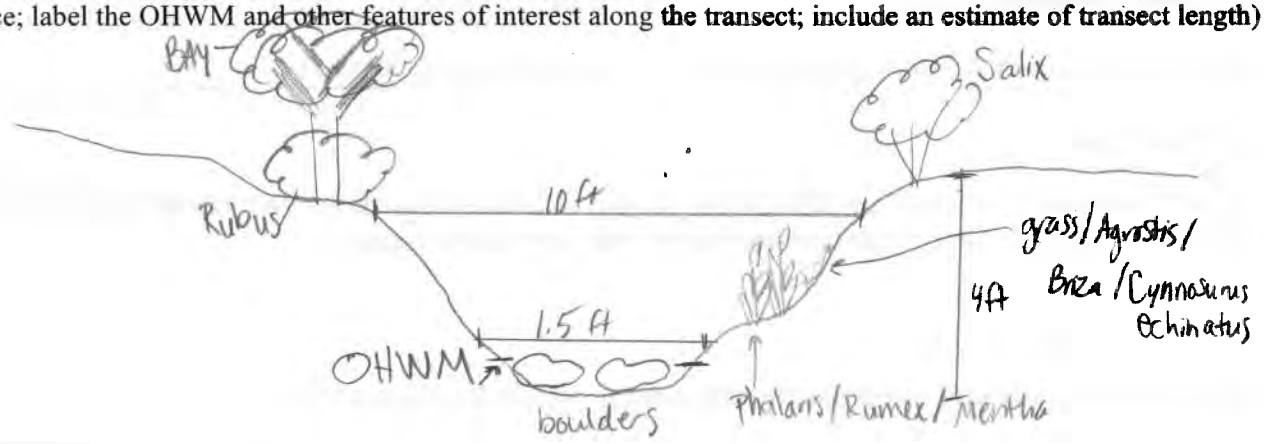
Remotely sensed image(s) acquired? ☐ **Yes** ■ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ■ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ■ Sharp (> 60°) | ■ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sharp on left bank, moderate on right bank.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	45	30	5	10	10	Yes
Below OHWM	15	0	5	0	75	No

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and **below the OHWM**

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	100	25	40	0
Below OHWM	0	0	85	20

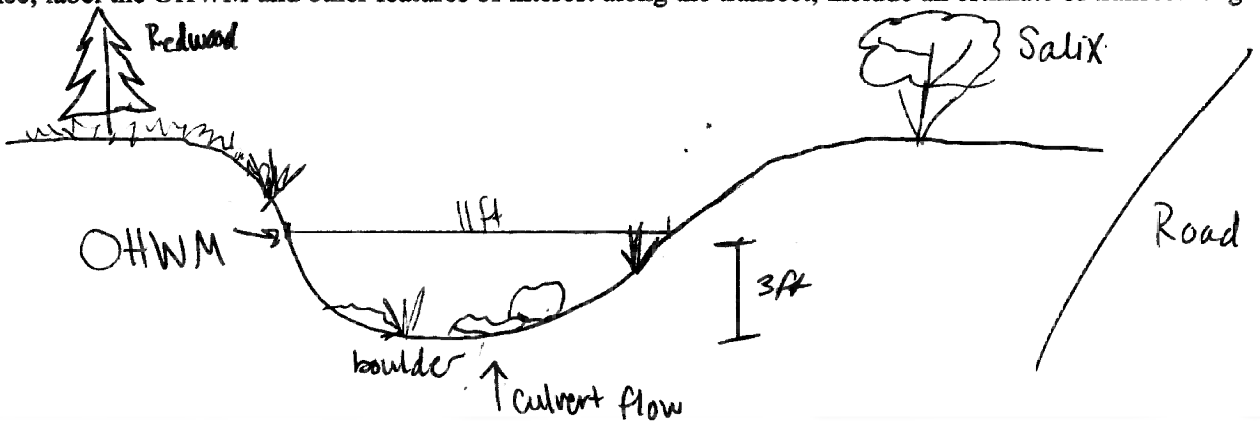
Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Bed/banks, break in slope, exposed rocks, change in vegetation.

Datasheet # 2 **OHWM Delineation Datasheet** Page 3 of 3

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None
Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	0	50	0	10	40	Yes
Below OHWM	0	60	0	0	40	No

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	30	15	65	0
Below OHWM	0	5	75	20

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Break in slope, impression on bank, change in vegetation.

OHWM Delineation Cover Sheet

Project: Wetland delineation for HSM **Date:** 12/1/2017

Location: Honeydew Ranch, Honeydew, CA Mattole River **Investigator(s):** EPC, EKT

Project Description:

Wetland delineation required by USACE for project activities associated with construction of water storage for irrigation .

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Fall flow. Erosion on right bank.

Off-site Information

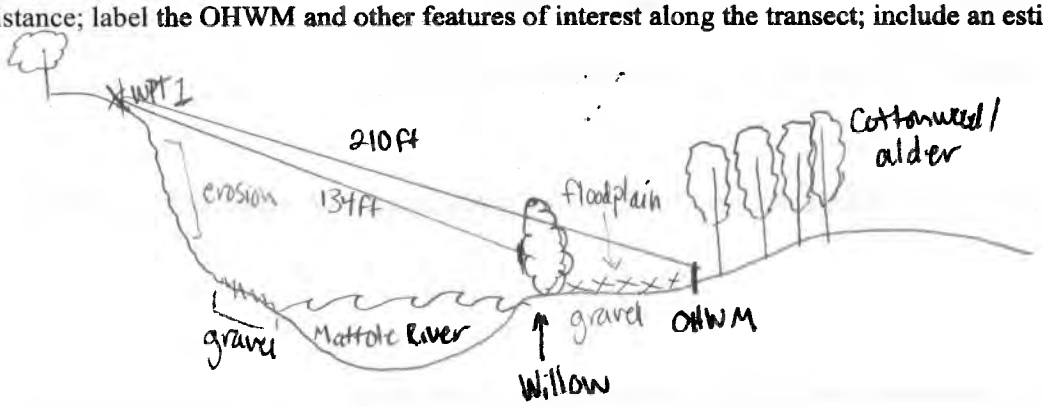
Remotely sensed image(s) acquired? ☐ **Yes** ■ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ■ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. **Complete enough datasheets to adequately document up- and/or** downstream variability in OHWM indicators, stream conditions, etc. **Transect locations can be marked on a recent aerial image or their GPS** coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ■ Moderate (30–60°) | ■ Gentle (< 30°) | ☐ None

Notes/Description:

Moderate on right bank, gentle on left bank.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	0	35	50	10	5	Yes
Below OHWM	0	25	25	30	20	No

Notes/Description:

Only for left bank.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and **below the OHWM**

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	5	15	0	80
Below OHWM	75	25	30	25

Notes/Description:

Only for left bank.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Appendix B

Field Delineation Photographs

Figure B-1. Wetland data point 1U.

Figure B-2. Upland data point 2U.

Figure B-3. Upland data point 3U.

Figure B-4. Wetland data point 3W.

Figure B-5. Wetland data point 4U.

Figure B-6. Wetland data point 5U.

Figure B-7. Wetland data point 6U.

Figure B-8. Wetland data point 7U.

Figure B-9. Wetland data point 7W.

Appendix C

Plants Observed During the Wetland Delineation

Table C-1. Plant species observed during the wetland delineation survey, 1 December 2017.

Scientific name	Common name	Family	Native status	WMVC Rating (Lichvar et al. 2016)
Agrostis (*capillaris*)	Colonial bentgrass	Poaceae	Nonnative	FAC
Aira praecox	early hair grass	Poaceae	Nonnative	UPL
Avena sp.	Oat	Poaceae	Nonnative	UPL
Briza maxima	rattlesnake grass	Poaceae	Nonnative, Cal-IPC Rated Limited	UPL
Claytonia sp.	springbeauty	Montiaceae	Native	--
Convolvulus arvensis	bindweed	Convolvulaceae	Nonnative	UPL
Cynosurus echinatus	bristly dogtail grass	Poaceae	Nonnative, Cal-IPC Rated Moderate	UPL
Deschampsia cespitosa	tufted hair grass	Poaceae	Native	FACW
Elymus glaucus	blue wild rye	Poaceae	Native	FACU
Erodium botrys	longbeak stork's bill	Geraniaceae	Nonnative	FACU
Festuca perennis	rye grass	Poaceae	Nonnative, Cal-IPC Rated Moderate	FAC
Geranium (molle)	dove-footed geranium	Geraniaceae	Nonnative	UPL
Holcus lanatus	common velvet grass	Poaceae	Nonnative, Cal-IPC Rated Moderate	FAC
Hordeum marinum subsp. *gussoneanum*	Mediterannean barley	Poaceae	Nonnative, Cal-IPC Rated Moderate	FAC
Juglans hindsii	Northern California black walnut	Juglandaceae	Native	FAC
Juncus patens	spreading rush	Juncaceae	Native	FACW
Medicago polymorpha	California bur clover	Fabaceae	Nonnative, Cal-IPC Rated Limited	FACU
Mentha pulegium	pennyroyal	Lamiaceae	Nonnative, Cal-IPC Rated Moderate	OBL
Phalaris arundinacea	reed canary grass	Poaceae	Native	FACW
Prunus sp.	plum	Rosaceae	nonnative	--
Rubus armeniacus	Himalayan blackberry	Rosaceae	Nonnative, Cal-IPC Rated High	FAC
Rumex acetosella	sheep sorrel	Polygonaceae	Nonnative, Cal-IPC Rated Moderate	FACU
Rumex crispus	curly dock	Polygonaceae	Nonnative, Cal-IPC Rated Limited	FAC
Rumex occidentalis	western dock	Polygonaceae	Native	FACW
Salix lasiandra	Pacific willow	Salicaceae	Native	FACW
Silybum marianum	blessed milk thistle	Asteraceae	Nonnative, Cal-IPC Rated Limited	UPL