Appendix B

Upland/Wetland Delineation Report

Cannibal Island Restoration Project

Upland/Wetland Delineation Report

June 2022

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Attachments

1. Introduction

GHD prepared this Upland/Wetland Delineation Report (report) and accompanying appendices on behalf of CalTrout in support of the Cannibal Island Restoration Project, Loleta, CA (**Appendix A, Figure 1—Vicinity Map**). This report supports the project's environmental documentation, permitting, and construction planning as deemed appropriate. The proposed Project Area includes much of Cannibal Island north of Cannibal Island Road (with a small strip of pasture just to the south of Cannibal Island Road) up to the water's edge at Seven Mile Slough and Mosley Slough (**Figure 1**). A private residence on the east side has been excluded from the Project Area. This report was largely completed in 2020 after the initial field investigations for the Project were conducted, and has been updated to include findings from a separate investigation in 2022 to assess wetland resources in an area that was included in the Project Study Boundary after the 2020 studies were completed as a result of potential raising and widening of Cannibal Island Road.This report is subject to, and must be read in conjunction with, the limitations set out in Section 5, Special Terms and Conditions, and the assumptions and qualifications contained throughout the report.

1.1 Site History

The Cannibal Island Restoration Project is located in agricultural bottoms and tidal saltmarsh in the Eel River Delta in Loleta, Humboldt County, CA. The Cannibal Island Restoration Project will seek to restore and expand natural estuarine functions and processes in the Project Area to promote recovery of habitat for native fish, invertebrates, wildlife and plant species compatible with surrounding working lands and public access. To achieve the project goal, construction activities are anticipated to include modifications to the existing dikes/water control structures, excavation of slough channels and placement of fill that combined will restore connectivity to the estuary while preventing off-site flood impacts.

The historical diking and draining of coastal wetlands for ranching and agriculture in the Eel River Delta caused a major loss of coastal salt marsh in the estuary around the turn of the 20th Century. As the levees have failed and the ground has compacted and subsided, Cannibal Island has largely reverted to tidal marsh. Some functional pasture remains on the east side of the Project Area, and in a small strip to the south of Cannibal Island Road. The area within the levees is subject to a muted tidal prism, and contains estuarine marsh and waters as well as pasture. Uplands have been delineated in areas of historical fill and along the remaining upland pasture within this predominantly wetland project area.

1.2 Regulatory Background

1.2.1 Federal Regulations

Waters of the United States

The Code of Federal Regulations (CFR), 40 CFR § 230.3 states, "The term waters of the United States means:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(2) All interstate waters including interstate wetlands;
(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
(iii) Which are used or could be used for industrial purposes by industries in interstate commerce;
(4) All impoundments of waters otherwise defined as waters of the United States under this definition;
(5) Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
(6) The territorial sea;
(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States" (40 CFR § 230.3).

Section 404 Waters

In tidal environments, Section 404 waters are those waters which extend up to the High Tide Line (HTL) or the landward extent of adjacent wetlands (33 CFR § 328.4). The HTL may be determined by hydrologic data, a tide gauge, or by direct observations of physical features such as vegetation, detritus, or other physical markings indicating the typical high tide extent (33 CFR § 328.3). The HTL does not include atypical storm surges (33 CFR § 328.3). In the Eel River Estuary, previous studies have established the high tide line and tidal wetland boundaries correspond with the 9-foot elevation contour (NAVD 88) (Winzler & Kelly et al. 2011).

Wetlands Definition

40 CFR § 230.3 continues and defines, "The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas" (40 CFR § 230.3).

Wetlands Delineation Manual

In addition, the 1987 Corps of Engineers- Wetlands Delineation Manual states, "If hydrophytic vegetation is being maintained only because of man-induced wetland hydrology that would no longer exist if the activity (e.g., irrigation) were to be terminated, the area should not be considered a wetland," (USACE 1987).

1.2.2 State Regulations

The State Water Resources Control Board's (SWRCB) April 2019 *Procedures for Discharges of Dredged or Fill Material to Waters of the State* declares the following:

> *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*
>
> *The Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the state" includes all "waters of the U.S." The following wetlands are waters of the state:*
>
> *1. Natural wetlands,*
> *2. Wetlands created by modification of a surface water of the state, and*
> *3. Artificial wetlands that meet any of the following criteria:*
>
> *a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;*
> *b. Specifically identified in a water quality control plan as a wetland or other water of the state;*
> *c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or*
> *d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):*
>
> *i. Industrial or municipal wastewater treatment or disposal,*
> *ii. Settling of sediment,*
> *iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,*
> *iv. Treatment of surface waters,*
> *v. Agricultural crop irrigation or stock watering,*
> *vi. Fire suppression,*
> *vii. Industrial processing or cooling,*
> *viii. Active surface mining – even if the site is managed for interim wetlands functions and values,*
> *ix. Log storage,*
> *x. Treatment, storage, or distribution of recycled water, or*
> *xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or*
> *xii. Fields flooded for rice growing.*
>
> *All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.* (SWRCB 2019).

The April 2020 *Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* further clarifies, "Human activity can

cause changes to the surrounding landscape (e.g., grading activities, road construction, direct hydromodification) such that wetlands form where wetlands did not previously exist. Where such artificial wetlands are now a relatively permanent part of the natural landscape, and are not subject to ongoing operation and maintenance, they are waters of the state. By requiring that the wetlands are relatively permanent, the framework excludes wetlands that are temporary or transitory. That they are part of the natural landscape also indicates the relative permanence of the wetlands and suggests that the wetland is self-sustaining without ongoing operation and maintenance activities, and provides similar ecosystem services as natural wetlands. By way of example, this category of wetlands includes situations where water flow is permanently redirected as the result of human activity, such as grading in another area, such that new wetlands form in areas that were previously dry. These wetlands may not be natural wetlands because they result from human activity and they were not formed by modifying a water of the state (rather they were an indirect result), but nevertheless they take on the function of natural wetlands such that they should be considered waters of the state. This category would not include artificial wetlands constructed for specific purposes listed in section II.3.d because the artificial wetland would likely require ongoing maintenance such that they would not be deemed "relatively permanent," and/or the artificial wetland is not part of the "natural landscape" (SWRCB 2020). Of the state's documents from 2019 and 2020 neither of them address ditches.

1.2.3 California Coastal Commission

The California Coastal Act Section 30121 defines wetlands as "[L]ands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens" (CCC 2011).

The Coastal Commission's "one-parameter definition" is outlined in the California Code of Regulations, Title 14 Section 13577 where it states, "Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats" (14 CCR §13577) (CCC 2011).

California Code of Regulations Title 14 Section 30233, "limits the filling of wetlands to identified high priority uses, including certain boating facilities, public recreational piers, restoration, nature study, and incidental public services (such as burying cables or pipes). Any wetland fill must be avoided unless there is no feasible less environmentally damaging alternative, and authorized fill must be fully mitigated" (14 CCR §30233) (CCC 2011).

Federal Geographic Data Committee (FGDC) Wetland Classification Standard

The Classification of Wetlands and Deepwater Habitats of the United States (FGDC 2013), based on Cowardin et al. (1979), states that wetlands must have at least one of the three wetland attributes: predominantly hydrophytic vegetation, predominantly hydric soil, and hydrology. However, they state that all available information should be used, and all three attributes should be considered if they are present (FGDC 2013).

1.3 Summary

GHD conducted the upland/wetland delineation fieldwork on July 17th, August 14th, and August 19th 2020. Following the initial wetland study, the Project Study Boundary was expanded following the original surveys in 2022 to include raising and widening approximately 2,800 feet of Cannibal Island Road at the southern edge of the Project Area, which was investigated for wetland one and three-parameter wetlands and uplands on May 19, 2022 and June 03, 2022. The delineation in its entirety was conducted within the approximately 794.8-acre Project Area, as shown in **Appendix A, Figure 2—Wetland Delineation Overview**. The vast majority of the Project Area is regularly flooded and composed of jurisdictional wetlands and other waters of the U.S./State (**Appendix A, Figure Set 2—Wetland Delineation**). Wetlands and other waters within the Project Area include Palustrine Emergent Wetlands, Estuarine Emergent Wetlands, Estuarine Subtidal Waters, Estuarine Intertidal Unconsolidated Shore, and Estuarine Intertidal Aquatic Beds. Levees and other higher-elevation areas of the Project Area were investigated for potential uplands, defined herein as areas that do not meet Army Corps of Engineers (USACE 2020a) three-parameters wetland definition based on hydrophytic vegetation, hydric soils, and wetland hydrology. Due to the location of the Project Area within the Coastal Zone boundary, the areas that did not meet the USACE three-parameter wetland definition were also investigated to determine whether they meet California Coastal Commission (CCC) one-parameter wetland definition.

Delineators sampled a total of thirty-six paired sample plots, placed eighteen wetland-upland boundary sample points, and placed 72 intermediate boundary points within the Project Area. The wetland delineation determined that, in addition to levees bounded by elevation contours, nine potential upland areas that do not meet the USACE three-parameter wetland definition occur within the Project Area, covering a total of 16.93 acres. Uplands consisted of levees, historical fill and concrete foundations, pasture, a public access road, and a semi-natural berm. Three of the areas mapped as uplands were dominated by hydrophytic vegetation (FAC or FACW), and these two-parameter uplands may be considered one-parameter wetlands subject to CCC jurisdiction (**Table 1—Feature Summary**).

Results of the 2020 and 2022 investigations are provided in **Appendix A, Figure Set 2**. Datasheets documenting conditions observed during the 2020 investigation are included in **Appendix B**, and a complete species list with the Western Mountains Valleys and Coast Region wetland indicator status of all plants documented during the delineation efforts in both 2020 and 2022 is provided in **Appendix C.** Photographs of the site are included in **Appendix D**.

Table 1. Feature Summary

Feature Type	Area (acres)	Jurisdiction
3-Parameter Wetlands	777.89	USACE, RWQCB, CCC
3-Parameter Uplands	11.15	None
2-Parameter Uplands	5.78	Potential CCC Wetlands

2. Methodology

2.1 Wetland delineation approach

GHD Soil Scientist Misha Schwarz and GHD Botanist Kelsey McDonald conducted the first wetland delineation on July 17th, August 14th, and August 19th 2020 with CDFW Environmental Scientist Michael van Hattem on the latter two dates. The Project Study Boundary (PSB) was expanded, following the original surveys in 2022 to include approximately 2,800 feet of road (Cannibal Island Road) at the southern edge of the Project Area to be raised and widened, by GHD Botanist Kolby Lundgren and Misha Schwarz. The area encompassed by the expanded PSB was visited on May 19, 2022 and June 3, 2022 to determine where the wetland boundary lay on either side of Cannibal Island Road. To define a wetland, the USACE requires that vegetation, soil, and hydrology (three parameters) all show wetland attributes (USACE 1987; USACE 2010). The CCC requires only one parameter of the three to be present in order to define the site as a wetland (14 CCR 13577). The wetland delineation used USACE criteria from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (USACE 2010). The current standard field forms provided by the USACE (2010) were used to collect vegetation, soils, and hydrology data.

Vegetation, soil, and hydrology data were collected in transects across the upland/wetland boundary with two plots (upland/wetland) per transect. The naming convention used on datasheets to designate upland or wetland plots associated with a transect is -U or -W, respectively.

One-parameter and three-parameter wetland/upland boundaries and plots were mapped in the 2020 field investigations with a Trimble Geo 7X Handheld Global Positioning System (GPS) with the Global Navigation Satellite System (GNSS) capability, which was attached to an external antenna to establish sub-meter accuracy. Wetland/upland boundary intermediate GPS points were mapped in the 2022 field investigations with an EOS Arrow 100 Submeter Global Positioning System (GPS) with Global Navigation Satellite System (GNSS). The wetland/upland boundary was recorded with the GPS unit as needed to map the wetland's spatial extent. Data were post-processed using GPS Pathfinder office, which referenced UNAVCO base stations. The wetland/upland boundary intermediate GPS points were collected without recording soils, vegetation, or hydrology data, as appropriate to record the wetland's spatial extent. The points were then connected in the office using ArcMap software for figure creation.

During the delineation mapping, each upland area was designated with a number (e.g., "U01"), and the paired wetland points were also labeled with their respective upland number. **Appendix B** contains all datasheets recorded during the delineation. Levee transects were denoted by the levee area (e.g., "L01").

2.2 Botanical methodology

Vegetation data collection consisted of listing the dominant species in the herbaceous, shrub, and tree layer within a standard-sized plot determined by the strata layer. The species' wetland indicator status for the Western Mountains, Valleys, and Coast Region was then denoted in the respective column, using the standard reference: *National Wetland Plant List* for *Western Mountains, Valleys, and Coast Region* (USACE 2020b). This list classifies species based on the probability that they are found in wetlands (USACE 1987), ranging from Obligate (almost always in wetlands) [OBL], Facultative/Wet (67% to 99% in wetlands) [FACW], Facultative (34% to 66% in wetlands) [FAC],

Facultative/Up (1% to 33% in wetlands) [FACU], or Uplands (less than 1% in wetlands) [UP]. Species that do not appear on the list are considered to be in the upland category (Lichvar et al. 2016). Standard procedures for documenting hydrophytic vegetation indicators were used per the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE 2010). A complete list of plants documented at the site with respective wetland indicator status from both 2020 and 2022 field investigations is included in **Appendix C**.

2.3 Soils methodology

Hydric soils were defined based on the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (*USACE 2010) procedures in combination with the Natural Resources Conservation Service's (NRCS) definitions presented in *Field Indicators of Hydric Soils in the United States* (USDA/NRCS 2018). Soil pits were dug to an approximate depth of 12 to 16 inches. Data on soil color, texture, and redoximorphic features were recorded. Any observed redoximorphic features (iron concentrations) were noted along with their percentage within the soil matrix, and care was taken to distinguish chromas of 1 and 2 indicative of an iron-depleted soil within 12 inches of the soil surface (USACE 2010; USDA/NRCS 2018).

The *Munsell Soil Color Book* (COLOR, M. 2000) was used to describe the soil colors for the entire depth of the test pit. Moist, natural soil aggregate (ped) surfaces, which had not been crushed, were used to determine the soil's color. Soils with low chroma were verified as being hydric or upland with *Field Indicators of Hydric Soils in the United States* (Version 8.2, 2018).

2.3.1 Existing Soils Information

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) identifies five hydric soil units, one primarily non-hydric complex, and water within the Project Area (map in **Appendix A, Figure 3—Soil Map Units** and report in **Appendix E**). A brief map unit description, as generated by the NRCS, is provided for each soil unit below (NRCS 2020). The information provided in the 2020 NRCS report remains accurate for the 2022 expanded PSB. While the soil units are informative, the mapping scales are usually too broad to characterize the small scale of the Project Area features accurately.

Weott, 0 to 2 percent slopes

The map unit composition is as follows: 85 percent Weott and 15 percent minor components. Weott soil is considered prime farmland if irrigated and drained, and it has a capability classification of 5w. The parent material is alluvium derived from mixed sources. Weott soil occurs in backswamps, depressions, and flood-plain steps. The soil consists of very poorly drained silt loam 0-4 inches from the water table. Weott soil is hydric and has high available water capacity, ranging from non-saline to very slightly saline.

Swainslough-Occidental complex, 0 to 2 percent slopes

The map unit composition is as follows: 70 percent Swainslough and similar soils, 20 percent Occidental and similar soils, and 10 percent minor components. Swainslough soils are not prime farmland (capability classification 5w). The parent material is alluvium derived from mixed sources. Swainslough soil occurs in backswamps, depressions, flood-plain steps, and salt marshes. It consists of silty clay loam 0-4 inches from the water table. Swainslough soil is hydric, very poorly

drained, and has high available water capacity. The soil ranges from non-saline to slightly saline. Occidental soil is a similar hydric silty clay loam that occurs in tidal marshes and salt marshes, and it ranges from slightly saline to strongly saline (see description below).

Arlynda, 0 to 2 percent slopes

The map unit composition is as follows: 85 percent Arlynda and similar soils, and 15 percent minor components. Arlynda soil is prime farmland if irrigated/drained (capability classification 5w). The parent material is alluvium derived from mixed sources. Arlynda soil occurs in meander scars, backswamps, depressions, and flood-plain steps. The soil consists of a top layer of slightly decomposed organic material (0-3 inches) above deep silty clay loam. Arlynda soil occurs 0-4 inches from the water table. Arlynda soil is hydric, very poorly drained, and has high available water capacity. Arlynda soil ranges from non-saline to slightly saline.

Occidental, 0 to 2 percent slopes

The map unit composition is as follows: 90 percent Occidental and 10 percent minor components. Occidental soil is not considered prime farmland, and it has a capability classification of 7w. The parent material is alluvium derived from mixed sources. Occidental soil occurs in salt marshes. The soil consist of very poorly drained silty clay loam with a 0-3 inch peat top layer. Occidental soil occurs 0-4 inches from the water table. Occidental soil is hydric and has moderate available water capacity, ranging from slightly saline to strongly saline.

Wigi, 0 to 2 percent slopes

The map unit composition is as follows: 90 percent Wigi, occasionally flooded, and similar soils, and 10 percent minor components. Wigi soil is not considered prime farmland, and it has a capability classification of 7s. The parent material is alluvium derived from mixed sources. Wigi soil occurs in salt marshes. Wigi soil consists of a thin peat organic horizon (0-1 inches) and an A horizon of silt loam (1-7 inches), above a deep layer of silty clay loam. Wigi soil is very poorly drained and occurs 0-6 inches from the water table. Wigi soil is hydric, has high available water capacity, and can be strongly saline.

Samoa-Clambeach complex, 0 to 50 percent slopes

The map unit composition is as follows: 65 percent Samoa and similar soils, 30 percent Clambeach and similar soils, and 5 percent minor components. These soils are not considered prime farmland, and have a capability classifications of 6e and 5w, respectively. The parent material is eolian and marine sand derived from mixed sources. Samoa soil occurs in dunes, and Clambeach soil occurs in deflation basins. Samoa soil consists of a thin organic horizon of slightly decomposed plant material (0-1 inches) above deep sand. Samoa soil is typically more than 80 inches from the water table. Samoa soil is non-hydric and has low water capacity. In contrast, Clambeach soil consists of sand and may be hydric, occurring 0-4 inches from the water table. The soils range from non-saline to very slightly saline (NRCS 2020).

2.4 Hydrology methodology

GHD performed the 2020 delineation in late summer, during the dry season. The 2022 delineation was performed in the spring, while hydrology was still apparent. A NRCS Wetlands (WETS) Climate Table is provided for both 2020 and 2022 for the Woodley Island Station in Eureka, CA in **Appendix F**. Aerial photography and preliminary field visits in the spring of 2020 were used to inform potential

areas for investigation during fieldwork (particularly upland areas). The National Wetland Inventory Mapper was referenced before conducting fieldwork and is included in **Appendix A, Figure 4—National Wetland Inventory** (NWI 2020). The flood hazard map is also included in **Appendix A, Figure 5—FEMA Flood Map**. Wetland hydrology indicators, such as drainage patterns, material deposits, soil saturation, high water table, topographic position, or surface water presence, were recorded in the field.

The site is hydrologically connected to the Eel River Estuary via a failing tidegate, and intermittently connected via overwash at an area of levee failure on the northwest side of the Project Area. The previously determined High Tide Line at the 9 feet NAVD 88 elevation contour (created from 2009 - 2011 CA Coastal Conservancy Coastal Lidar Project) was used as the upper wetland boundary of tidal waters on the outboard side of the levees. Based on upland/wetlands trasects and changes in vegetation, GPS points were taken at the wetland/upland boundary on the inboard side of the levees to determine their elevation within the muted system. Field observations and GPS data showed upland/wetland boundaries along the levees within the muted tidal sytem, corresponding with the 10-foot NAVD 88 contour line. The 9-foot elevation contour was used to trace the outboard side of uplands on the top of the levees, and the 10-foot contour was primarily used to trace uplands/wetlands boundaries on the inboard side of the levees. The 9 to 10-foot elevation riprap around the failing tidegate was also classified as upland based on a lack of wetland characteristics.

3. Results

GHD performed the majority of the delineation on July 17th, August 14th, and August 19th 2020. Weather conditions were partly coudy to sunny with no precipitation. NOAA weather data from the Eureka Forecast Office at Woodley Island weather station recorded no precipitation within 14-days pror to the first survey, and less than 0.1 inches in the 14 days prior to the later surveys (**Appendix F**) (NCEI 2020). The expanded Project Study Boundary was visited on May 19th and June 3rd 2022 to determine where the wetland boundary lay on either side of Cannibal Island Road. Weather conditions were partly cloudy with light wind. NOAA weather data from the Eureka Forecast Office at Woodley Island weather station recorded 1.03 inches of precipitation within within 14-days prior to the first survey, and 0.31 inches of precipitation prior to the second survey (**Appendix F**) (NCEI 2020).The Project Area is primarily composed of three-parameter, potential USACE jurisdictional wetlands and other waters classified as Estuarine Intertidal Emergent (E2EM1), Palustrine Emergent (PEM1), Estuarine Intertidal Unconsolidated Shore (E2US) using Cowardin nomenclature from the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013). Potential USACE three-parameter wetlands comprise the majority of the Project Area (777.89 out of 794.82 acres). Levees over 10 feet elevation (NAVD 88) on the inboard side provide a substantial area of potential uplands (7.41 acres). Additionally, nine potential upland areas covering 9.52 acres do not meet USACE three-parameter wetland definition, leading to a total upland area of 16.93 acres (**Table 2—USACE Upland Determinations within the Project Area**). Three of the potential uplands are considered two-parameter uplands because plots passed the Dominance Test for hydrophytic vegetation. Two parameter uplands, which cover a total of 5.78 acres, might be considered CCC one-parameter wetlands based on the presence of hydrophytic vegetation (FAC or wetter). Two-parameter uplands were mapped based on topographic position, upland soils, lack of any primary hydrology indicators, and the lack of more than one secondary indicator. Four levee sampling points were also described to show the inner upland/wetland boundary. **Appendix A, Figure Set 2** shows the results of the upland/wetland delineation.

Additionally, the expanded Project Study Boundary was investigated to determine where the wetland boundary lay on either side of Cannibal Island Road. Four areas were assessed for wetland parameters to the south of the property fence line running along the south edge of the road. The areas were within the southernmost edge of the Project Study Boundary and the fenceline, in an area of grazing pasture comprised of a mix of native and non-native vegetation. The areas received a rapid assessment of site conditions, including characterization of soil and vegetation in an effort to determine if they would qualify as upland plots. Complete USACE data forms were not collected for these sites. Hydrology was clearly present in the form of ponded water in two areas within the expanded Project Area with saturated soils surrounding them. Local residents described the area as being flooded in the winter with at least 1 foot of water ponding on the road surface for weeks at a time, extending into the pasture on either side of the road (potential three-parameter wetlands mapped on north side of the road in 2020). Each of the four areas were relatively homogenous in soil characteristics, with silty hydric soils comprised of a 70% 2.5Y 3/2 matrix and 30% 7.5YR 4/6 redox concentrations on ped faces starting at 1" depth and conintueing at least 14 inches (depth of soil pits). These features were observed throughout the soil column and across all four plots. Vegetation was assessed for dominance of hydrophytes, of which all four sites had greater than 50% dominance of FAC or wetter vegetation. Dominant species observed at these sites included: white clover (*Trifolium repens*) (FAC), English plantain (*Plantago lanceolata*) (FACU), spiny fruit buttercup (*Ranunculus muricatus*) (FACW), perennial rye grass (*Festuca perennis*) ((FAC), common velvet grass (*Holcus lanatus)* (FAC), and Kentucky blue grass (*Poa pratensis*) (FAC). The areas of ponded water contained pale spike-rush (*Eleocharis macrostachya*) (OBL) and silverweed (*Potentilla ansarina)* (OBL), with the edges densely occupied by marsh meadow-foxtai (*Alopecuris geniculatus*) (OBL). The landform in this area is a river floodplain that is influenced annually by both tide water flooding in from the north of Cannibal Island Road and silt deposition from the Eel River to the south. As such, this area was mapped as a three-parameter wetland per USACE definition (USACE 1987; USACE 2010), and the road surface to edge of pavement mapped as potential three-parameter uplands (**Appendix A, Figure Set 2).**

3.1 Three-Parameter Uplands

Potential three-parameter uplands occur on levees, islands of historical fill, remnant sand dunes, a public use road, and areas developed for historical ranch use. Three-parameter uplands did not contain wetland soils, hydrological indicators, or pass the Dominance Test for hydrophytic vegetation. Potential three-parameter uplands covered a total of 11.15 acres, including 7.41 acres of levee and 3.74 acres of other uplands.

Upland 1

Upland 1 is an area of historical legal fill and a poured concrete foundation associated with previous ranch structures on the southwestern side of the study area that covers a total of 0.05 acres. Vegetation in upland 1 around the concrete slab was dominated by invasive wild radish (*Raphanus sativus*) (UPL) and Queen Anne's lace (*Daucus carota*) (FACU). The wetlands area surrounding the Upland 1 mound consisted of wet pasture strongly dominated by creeping bentgrass (*Agrostis stolonifera*) (FAC). Soils in the U1T1-U pit consisted of a single horizon of very gravelly sandy loam that appeared to be fill sourced from dredge material. The upland soil had a matrix color of 2.5Y 3/2. No redoximorphic features or hydrological indicators were observed in soils associated with Upland 1.

Upland 2

Upland 2 consisted of a 0.80-acre mound north of the dilapidated house. This area roughly coincides with the Samoa-Clambeach sand dune soil complex, and may have been a pre-existing relic dune feature prior to historical development and possible filling. The mound may also have been created or enhanced as a cattle refuge from surrounding lowlands. Upland 2 was dominated by wild radish, Poison hemlock (*Conium maculatum*), and other weedy species. The surrounding low-lying wetlands contained a variety of hydrophytic pasture grasses and some fresh to brackish wetland plants. Soils in the U2T1-U pit consisted of two fill horizons. The top layer (0-7 inches) consisted of loam fill with a matrix color of 10YR 2/2. The second horizon (7-16 inches) consisted of gravelly loam with a 10YR 2/2 matrix color with mixed riverine spoils and woody debris. Soils in the U2T2 pit consisted of three horizons. The top horizon (0-3 inches) consisted of silt loam with a matrix color of 2.5Y 4/2. The second horizon (3-10 inches) consisted of silt loam with a matrix color of 2.5Y 3/2. The lower horizon (10-16 inches) consisted of sandy loam with a matrix color of 2.5Y3/2. No redoximorphic features or hydrological indicators were observed in Upland 2.

Upland 3

Upland 3 consisted of 0.25 acres of a likely filled mound north of Upland 2, and was similarly characterized by wild radish and other weedy species. The surrounding wetlands were primarily characterized by creeping bentgrass and other hydrophytic species. Soil in the U3T1-U consisted of a horizon of silt loam (0-3 inches) with a matrix color of 10YR 2/2 above a horizon of sandy loam with a matrix color of 2.5Y 3/2. No redoximorphic features or hydrological indicators were observed in the upland pit.

Upland 4

Upland 4 is the northwesternmost likely filled mound, and it covers 0.85 acres. It was primarily vegetated by wild radish. The surrounding wetland's vegetation was strongly hydrophytic, with Pacific silverweed (*Potentila anserina*) among the dominant species. Soil in the U4T1-U pit consisted of three horizons: a top layer of loam (0-3 inches) with a matrix color of 10YR 3/2; a layer of silt loam (3-10 inches) with a matrix color of 2.5Y 3/2; and a layer of sandy loam (10-14 inches) with a matrix color of 2.5Y 3/2. No redoximorphic features or hydrological indicators were observed.

Upland 12

Upland 12 is an island of historical fill created as pond or water holding area near the current ranch on the eastern side of the Project Area. The fill was vegetated by weedy species such as perennial rye grass (*Festuca perennis*) and California burclover (*Medicago polymorpha*). The surrounding wetland area consisted of saltmarsh dominated by pickleweed (*Salicornia pacifica*). Soil in the U012T1-U pit was topped by layer of fill (0-8 inches) characterized by extremely gravelly sandy loam and a matrix color of 2.5Y 3/2, above a layer of gravelly sandy loam with the same matrix color. No redoximorphic features or hydrology indicators were observed.

Poured Concrete/Floating Concrete Pad

An area of poured concrete and a floating concrete pad that appear to have been historically used as a barn occurs within a wet pasture on the northeastern corner of the Project Area. The footprint of the concrete was recorded by GPS. No other data was recorded because of the lack of natural soils and vegetation.

Levees

Levees stretch around the western and northern sides of the Project Area, and the peaks of the levees range from approximately 9 to 13 feet in elevation (NAVD 88). The upland/wetland boundary on the inboard side of the levees roughly corresponded with the 10-foot contour line, a foot higher than the tidal influence area on the outboard side. The levees and failing tidegate hold water within the Project Area, likely increasing the period of inundation from the muted tides and precipitation during the rainy season. Uplands on the levee bounded by the 10 foot contour on the inboard side and the 9 foot contour on the outboard side cover a total of 7.36 acres. Additionally, 0.05 acres of the 9 to 10-foot elevation riprap around the failing tidegate was added to upland acreage based on a lack of wetland characteristics. In total, 7.41 acres of upland levees were mapped within the Project Area. The uplands on levees were primarily dominated by California blackberry (*Rubus ursinus*) (FACU) at the peak, with Pacific aster (*Symphyotrichum chilense*) (FAC), wild radish (UPL), Queen Anne's lace (FACU), and a variety of non-native grasses around the edges. One of the three upland levee datapoints, L010T1-U, passed the Dominance Test (FAC or wetter) for hydrophytic vegetation, with two facultative dominant species as well as upland wild radish, but it did not pass the Prevalence Index (PI>3). Overall, the vegetation on the upland portion of the levees was not hydrophytic. Wetlands at the lower levee edge (within wetlands) often consisted of gumplant patches or other brackish marsh species. Soils within the levee uplands consisted of silt with a matrix color of 2.5Y 3/2 to 2.5Y 3/3 with no redoximorphic features, or redoximorphic features at 9 inches or deeper (which would not meet the relevant soil indicator). No hydrological indicators occurred within upland levees. Please see Wetland Determination Data Forms in **Appendix B** for details.

Public Use Road

The expanded Project Study Boundary surveyed in May and June of 2022 extended the southernmost boundary of the original Project Area further south, across Cannibal Island Road and approximately 30 feet south of the fenceline bordering the edge of the road into active grazing pasture. Three-parameter wetlands were observed in this pasture to the south of the road, extending the boundary of the wetlands already mapped to the north of the road. The paved surface of this road is a three-parameter upland boundary due to lack of vegetation, soils, and hydrology (concrete/gravel surface).

Table 2 USACE Upland Determinations within the Project Area

Upland Name	Upland Parameters	Area (acres)
Upland 1	3	0.05
Upland 2	3	0.80
Upland 3	3	0.25
Upland 4	3	0.85
Upland 10	2	1.27
Upland 11	2	2.01
Upland 12	3	0.40
Upland 13	2	2.50

Upland Name	Upland Parameters	Area (acres)
Concrete Pad	3	0.10
Levees	3	7.41
Public Use Road	3	1.29
Total Upland Area		16.93

3.2 Potential CCC One-Parameter Wetlands

Two-parameter uplands, which may be considered one-parameter wetlands by the CCC, are discussed below. The following areas did not have wetland soils or hydrology, but they passed the Dominance Test for hydrophytic vegetation (FAC or wetter). GHD recommends that the CCC considers areas dominated by Facultative species with no other wetland indicators to be uplands. Facultative (FAC) species are defined as equally likely to occur in wetlands and uplands (34-66 percent occurring in wetlands). As USFWS Regional Wetland Coordinator Ralph Tiner stated in a published review of the concept of a *hydrophyte,* "These [FAC] species, by definition, have a broad ecological amplitude with no affinity for wetlands or nonwetlands and, therefore, are not indicative of either" (Tiner 1991). Facultative plants are equally likely to act as hydrophytes growing in saturated conditions as non-hydrophytes growing in dry conditions. Without any evidence of hydric soil or hydrology, FAC plants should not be considered sufficient to indicate the presence of wetlands. Upland soils and the lack of hydrological indicators provide evidence that they are not growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content, and therefore the plants are not acting as hydrophytes. Based on the principle that FAC-dominated uplands do not qualify as wetlands, Upland 11 and Upland 13 should not be considered wetlands, while Upland 10 might be considered a one-parameter wetland with a predominance of FACW species (66-99 percent probability of occurring in wetlands).

Upland 10

Upland 10 is a 1.27-acre low berm that may be a semi-natural feature that formed near the levee breach. The vegetation is dominated by a mixture of native giant scouring rush (*Equisetum hymale* ssp. *affine*) (FACW) and a mixture of non-native grasses. The vegetation passed the Dominance Test and the Prevalence Index for hydrophytic vegetation. Soil pits at U10T1-U and U10T2-U showed upland characteristics. The soil at U10T1-U contained layers of silt loam (0-3 inches, 3-10 inches) with a matrix color of 10YR 3/2 and a layer of loamy sand with the same matrix color (10-16 iches). The soil at U010T2-U contained a top horizon (0-8 inches) of silt loam with a matrix color of 2.5Y 3/3 above a layer of loamy sand (8-16 inches) with the same matrix color. No redoximorphic features or hydrological indicators were observed in Upland 10. However, based on the dominant hydrophytic (FACW) vegetation, the location might be considered a one-parameter wetland.

Upland 11

Upland 11 is a 2.01-acre area with the remnants of a former ranch house on the west side of the Project Area. The vegetation is primarily dominated by a mixture of wild radish (UPL), English plantain (*Plantago lanceolata*) (FACU) and facultative non-native grasses including purple velvetgrass (*Holcus lanatus*) and creeping bentgrass. The vegetation passed the Dominance Test in two out of three plots in Upland 11 due to the number of facultative dominant species. The soil consisted of two horizons of silt loam with matrix colors of 2.5Y 3/2.5 to 2.5Y 3/3 (0-9/10 inches)

above sandy loam with a matrix color of 2.5Y 3/2.5 to 2.5Y 3/3 (9/10-16 inches). Please see datasheets U11T1-U, U11T2-U, and U11T3-U for soil details. Upland 11 did not show redoximorphic features or wetland hydrology indicators. Large woody debris accumulated on the eastern side of Upland 11 indicates that the area may be subject to overwash during intense storm surge or extreme high tide events. Upland 11 consists of an elevated fill berm with non-hydric soils that may be occasionally subject to flooding/overwash, and it contains a mixture of upland and hydrophytic vegetation. Upland 11 coincides with NRCS-mapped Samoa-Clambeach sand dune soil complex, and the house may have been built upon a relic dune feature. Based on landform position, soil, and the prevalence of upland plants, it is recommended that this area is considered upland despite passing the Dominance Test.

Upland 13

Upland 13 is a 2.50-acre pasture area extending north from a privately owned residential and operational ranching property (excluded from Project Area). Vegetation is dominated by perennial ryegrass and creeping bentgrass, which are non-native facultative pasture grasses. Upland 13 is distinguished from surrounding wet pasture by its elevated landform position and lack of hydric soil and hydrology indicators. Soils consisted of silt loam with a matrix color of 2.5Y 3/2. Upland pits (U13T1-U, U13T2-U, and U13T3-U) showed redoximorphic concentrations starting at 8-9 inches. Because the soils in Upland 13 did not show 5 percent or more redoximorphic concentrations within 8 inches of the surface, they do not meet the applicable hydric soil indicator F6—Redox Dark Surface. No wetland hydrology was observed in Upland 13. Upland 13 may be considered a one-parameter wetland based on dominant FAC pasture grasses, but it is recommended that this area is considered upland because FAC species are not a reliable indicator of wetlands on their own.

3.3 Wetlands within the Project Area

3.3.1 Estuarine Intertidal Emergent Wetlands

Estuarine Intertidal Emergent Wetlands with persistent vegetation (code E2EM1) within the Project Area include hundreds of acres of northern coastal saltmarsh and brackish marsh dominated by native pickleweed (*Salicornia pacifica*), invasive dense-flowered cordgrass (*Spartina densiflora*) marsh, gum plant (*Grindelia stricta*), salt rush (*Juncus lescurii*), and salt grass (*Distichlis spicata*). Estuarine intertidal areas are regularly flooded and exposed by the tides and extend from the marine environment upstream and inland to areas of low ocean-derived salts (FGDC 2013). Much of the area previously mapped as Palustrine by the National Wetlands Inventory (NWI) (**Appendix A, Figure 4**) is now converted to Estuarine Intertidal Emergent Wetlands.

3.3.2 Palustrine Emergent Wetlands

Palustrine emergent wetlands with persistent vegetation (PEM1) also comprise a major portion of the Project Area. Palustrine emergent wetlands within the Project Area are primarily dominated by creeping bentgrass and other hydrophytic pasture grasses. Palustrine emergent wetlands primarily occur as grazed pasture, especially on the eastern side of the Project Area and in a small strip to the south of Cannibal Island Road, and as an intermediate band of lower salinity and less frequent inundation between brackish/salt marsh and uplands throughout the Project Area.

3.4 Other Waters within the Project Area

3.4.1 Estuarine Subtidal

Estuarine subtidal sloughs with unconsolidated mud bottom (E1UB3) and estuarine subtidal aquatic beds (E1AB1 and E1AB3) occur within the Project Area. Subtidal sloughs outside of the levees are subject to full tidal range. Within the levees, slough channels are subject to muted tidal influence via the failing tidegate.

3.4.2 Estuarine Intertidal Unconsolidated Shore and Aquatic Beds

Estuarine Intertidal channels and flats with mud substrate (E2US3) and algal beds (E2AB1) occur within the muted tidal estuary at approximately 4-5 foot elevation (NAVD88). Outside of the levee, intertidal mudflats and algal beds appear to occur within a wider elevation range (within ~2 feet to 6 feet elevation NAVD88 contour range).

Table 3. Delineation Sampling Point Locations

Transect Point	Latitude	Longitude
U1T1	40.647043	-124.296290
L1T1	40.647793	-124.297721
U2T1	40.657052	-124.294438
U2T2	40.657375	-124.294240
U3T1	40.658210	-124.293228
U4T1	40.658851	-124.292203
L010	40.654227	-124.295363
L011	40.658432	-124.294853
L012	40.656913	-124.296094
U10T1	40.656737	-124.295663
U10T2	40.656633	-124.295999
U11T1	40.654725	-124.295395
U11T2	40.655092	-124.295601
U11T3	40.656249	-124.295067
U12T1	40.651114	-124.285000
U13T1	40.649292	-124.282704
U13T2	40.650301	-124.281196
U13T3	40.651313	-124.279592

4. Conclusions

The upland/wetland delineation for the Cannibal Island Restoration project, primarily completed on August 19th, 2020 with an assessment of a small additional area on May 19, 2022 and on June 3, 2022, determined the extent of uplands within the Project Area. Three-parameter wetlands and other waters cover approximately 777.89 acres out of the 794.82-acre Project Area. Uplands were delineated within the Project Area based on a lack of hydrophytic vegetation, soils, and hydrology. Uplands that did not have any of the three wetland attributes have been designated as three-

parameter uplands. Potential uplands cover a total of 16.93 acres. Three-parameter uplands cover 11.15 acres, including upland levees. Two-parameter uplands (Uplands 10, 11, and 13) contained upland soil and lacked hydrology indicators, but they were characterized by FAC or wetter vegetation. Two-parameter uplands covered 5.78 acres of the Project Area, and the CCC may consider these to be one-parameter wetlands subject to CCC jurisdiction. However, we request that the CCC considers the two uplands dominated by FAC species (Upland 11 and 13, totalling 4.50 acres) to be non-jurisdictional uplands based on the lack of reliable wetland indicators, resulting in a total potential CCC-upland area of 15.65 acres. The wetland delineation results are provided in map format in **Figure 2** and associated insets in **Appendix A**. Field datasheets are contained in **Appendix B**.

5. Special Terms and Conditions

5.1 Purpose of this Report

GHD prepared this report for CalTrout, and CalTrout may only use and rely on this report for the purpose agreed upon between GHD and CalTrout, as set out in the scope and contract for work effort reported herein. GHD Inc. is not liable for any action arising out of the reliance of any third party on the information contained within this report. GHD otherwise disclaims responsibility to any entity other than CalTrout arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

5.1 Scope and Limitations

This report does not authorize any individuals to develop, fill, or alter the delineated wetlands. Verification of the delineation by jurisdictional agencies is necessary prior to the use of this report for planning and development purposes. A USACE, agency-approved, delineation map, and a jurisdictional approval letter are required to signify confirmation of delineation results. In situations where a field investigation determines that no jurisdictional wetlands occur, jurisdictional concurrence with these findings is recommended.

The delineation conclusions were based on the information available during the period of the investigation, which took place in July-August 2020 and May-June 2022. The opinions, conclusions, and any recommendations in this report are based on conditions encountered and information reviewed by the date of preparation of the report. Site conditions may change after the date of this report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change unless contracted to do so.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions, and any recommendations in this report are based on the information obtained from and testing undertaken at or in connection with specific sample points. Conditions at other locations of the site may be different from the conditions found at the specific sample points.

6. References

California Coastal Commission (CCC). 2011. Definition and Delineation of Wetlands in the Coastal Zone. State of California—Natural Resources Agency. October 5, 2011 Briefing. San Francisco, CA, USA.

Color, M. 2000. *Munsell Soil Color Charts*, *Year 2000 revised washable edition*. Munsell Color. Grand Rapids, MI, USA.

Federal Geographic Data Committee. 2013. *Classification of Wetlands and Deepwater Habitats of the United States, Second Edition*. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC, USA. http://fws.gov/wetlands/Documents/Wetlands-and-Deepwater-Habitats-Classification-chart.pdf

Humboldt County Planning Department (HCPD). 2014. *Eel River Area Plan of the Humboldt County Local Coastal Program*, *Certified by the State Coastal Commission April 8, 1982.* Eureka, CA, USA. https://humboldtgov.org/DocumentCenter/View/50843/Eel-River-Area-Local-Coastal-Plan

Lichvar et al. 2016. The National Wetland Plant List: 2016 wetland ratings. United States Army Corps of Engineers. http://acwc.sdp.sirsi.net/client/search/asset:asset?t:ac=$N/1012381

National Oceanic and Atmospheric Administration (NOAA). 2022. *2009 - 2011 CA Coastal Conservancy Coastal Lidar Project*. Office for Coastal Management, Charleston, SC, USA. https://www.fisheries.noaa.gov/inport/item/48166

Natural Resource Conservation Service (NRCS). 2020. *WETS Table. WETS Station: Eureka WFO Woodley Island, CA*. NOAA Regional Climate Centers, USA. Accessed September 2020. http://agacis.rcc-acis.org/

Natural Resource Conservation Service (NRCS). 2022. *WETS Table. WETS Station: Eureka WFO Woodley Island, CA*. NOAA Regional Climate Centers, USA. Accessed September 2020. http://agacis.rcc-acis.org/

Natural Resources Conservation Service (NRCS). 2020. *Web Soil Survey*. United States Department of Agriculture, USA. Accessed July 2020. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

National Wetland Inventory (NWI). 2020. *National Wetlands Inventory*. U.S Fish & Wildlife Service. Accessed July 2020. https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper

State Water Resources Control Board (SWRCB). 2021. State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. California Water Boards, Sacramento, CA, USA.

Tiner, R.W., 1991. The Concept of a Hydrophyte for Wetland Identification. *BioScience* Vol. 41 (4): 236-247.

U.S. Army Corps of Engineers (USACE) Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS, USA.

U.S. Army Corps of Engineers (USACE) Environmental Laboratory. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, USA.

U.S. Army Corps of Engineers (USACE). 2020a. Navigable Waters Protection Rule: Definition of Waters of the United States. Environmental Protection Agency. Washington, DC, USA. Federal Register Vol. 85, No. 77.

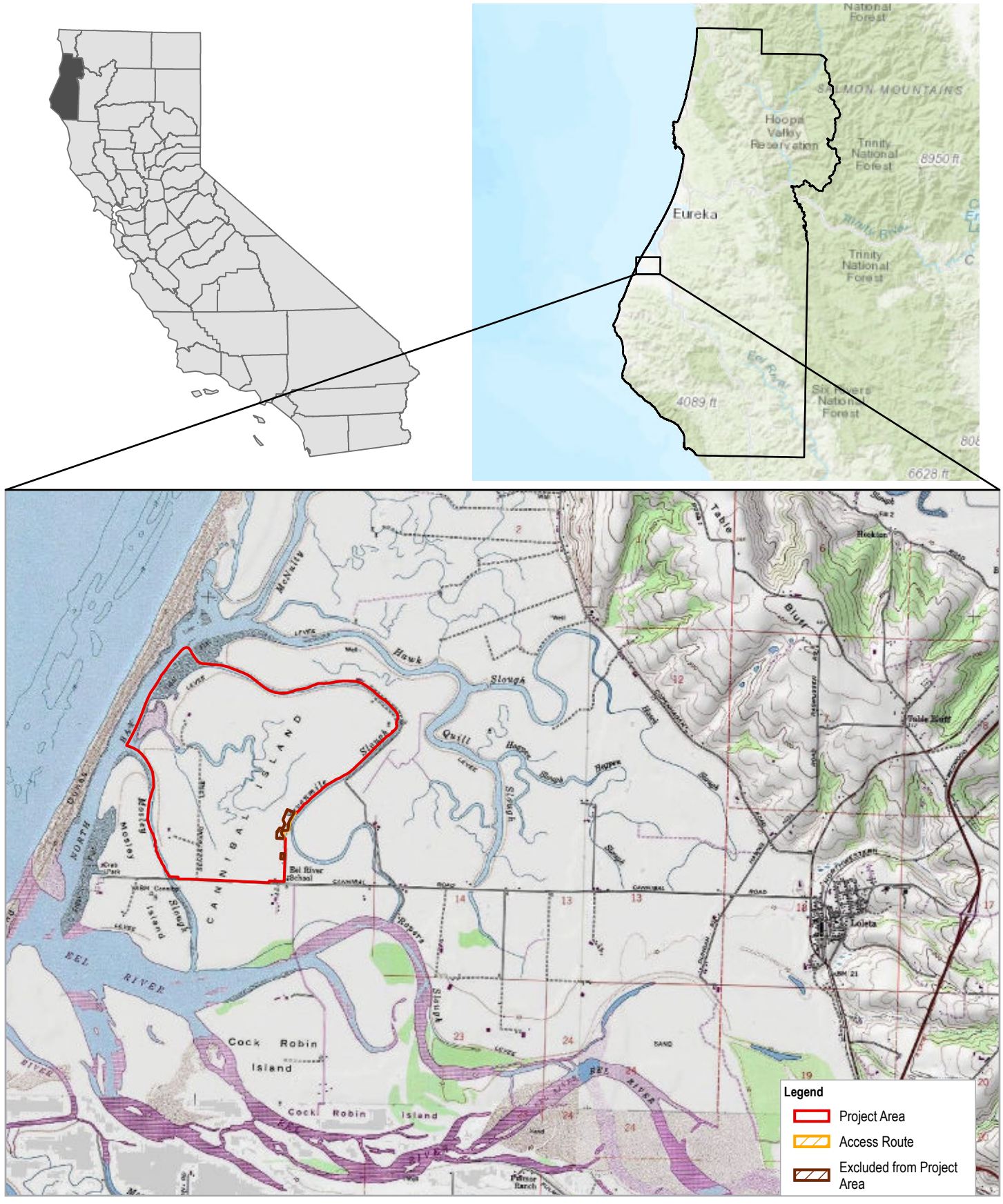
U.S. Army Corps of Engineers (USACE). 2020b. National Wetland Plant List, version 3.5. USACE Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, USA. https://cwbi-app.sec.usace.army.mil/nwpl_static/v34/home/home.html?msclkid=e9876ac2d15e11ec86555a3780a8fab0

U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds). United States Department of Agriculture (USDA) and Natural Resources Conservation Service (NRCS) in cooperation with the National Technical Committee for Hydric Soils.

Winzler & Kelly, Kamman Hydrology and Engineering, and H.T. Harvey and Associates. 2011. Salt River Ecosystem Restoration Project Riverside Ranch Wetland Conversion Assessment. Prepared for California Coastal Commission. Eureka, CA, USA.

Appendices

Appendix A – Figures



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Vicinity Map

FIGURE 1

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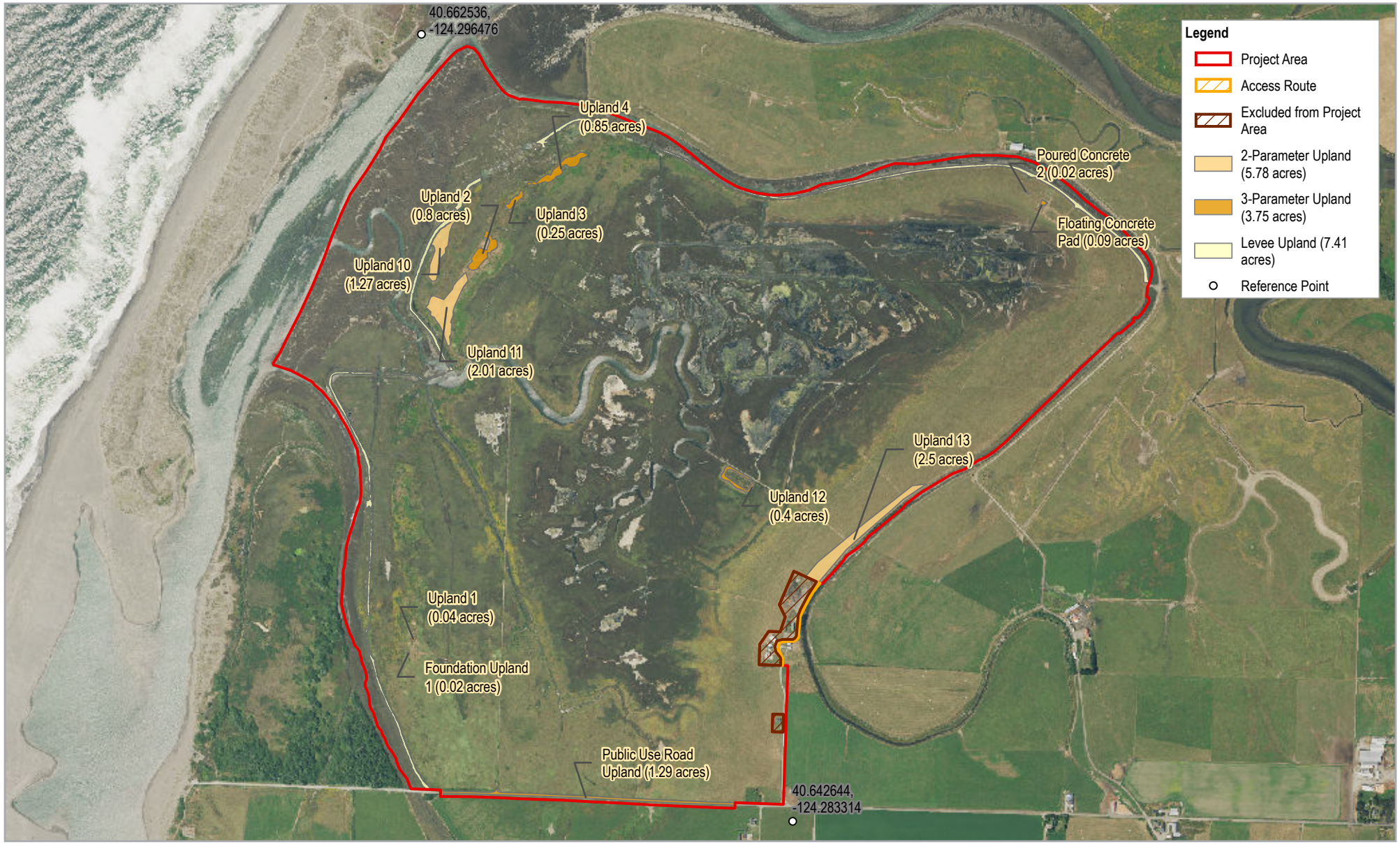

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Wetland Delineation Overview

FIGURE 2

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Paper Size ANSI A (1 inch = 100 feet)

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.1

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Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

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Feet

Map Projection: Lambert Conformal Conic
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Wetland Delineation

FIGURE 2.2

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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Wetland Delineation

FIGURE 2.3

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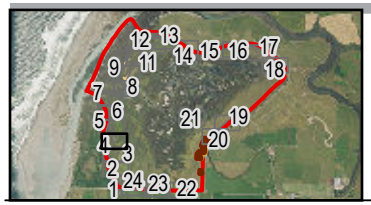

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.4

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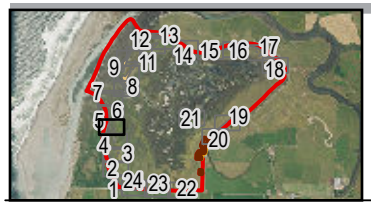
Created by: jclark2



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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Date **Jun 2022**

Wetland Delineation

FIGURE 2.5

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;.
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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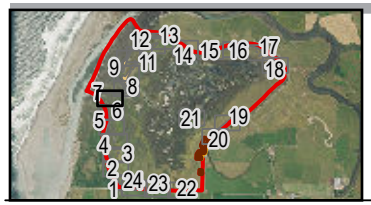
Wetland Delineation

FIGURE 2.6

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.7

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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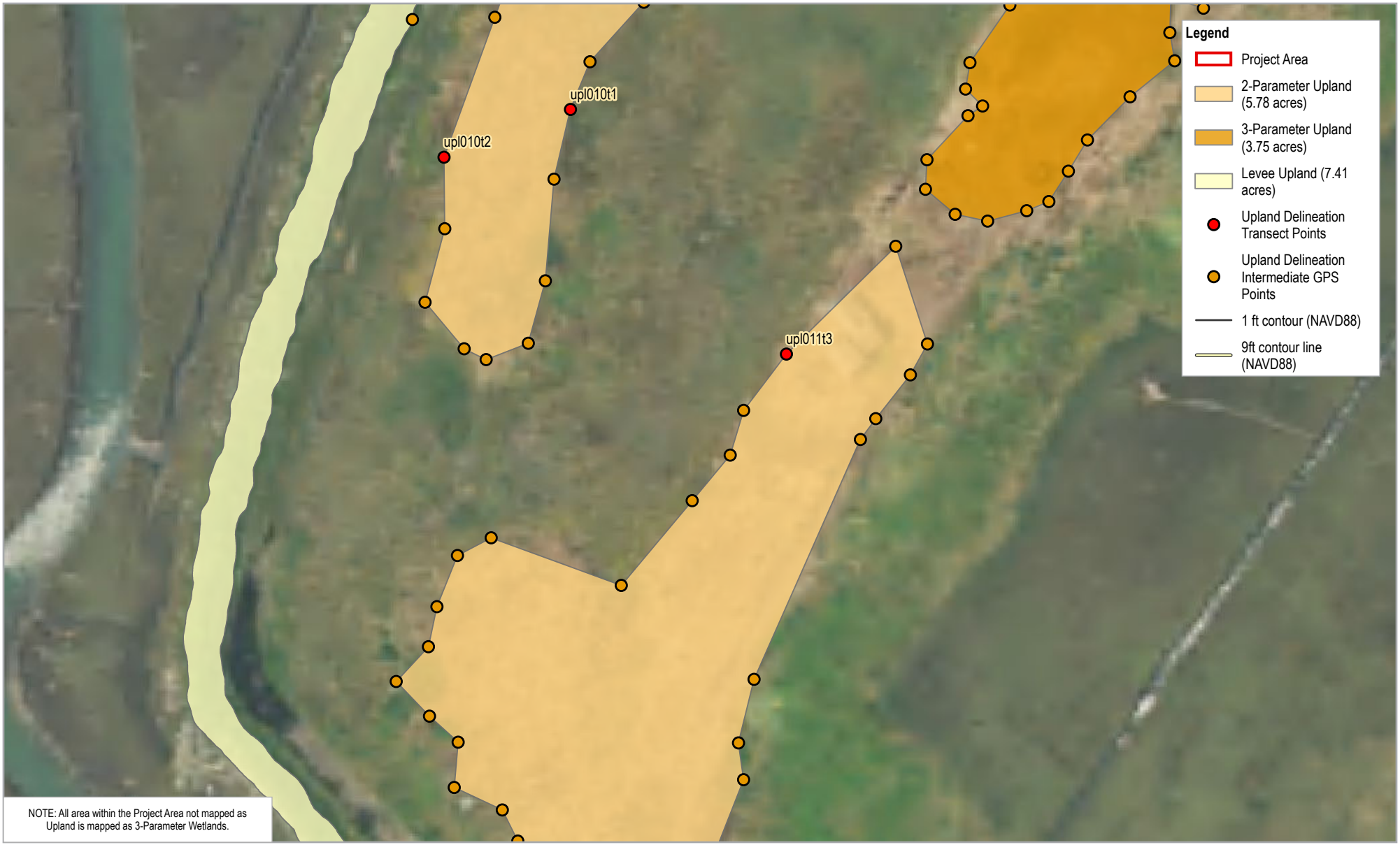
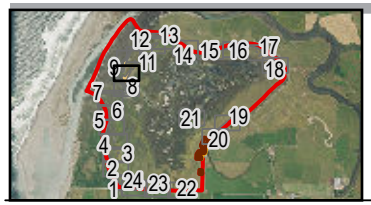
Wetland Delineation

FIGURE 2.8

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2





Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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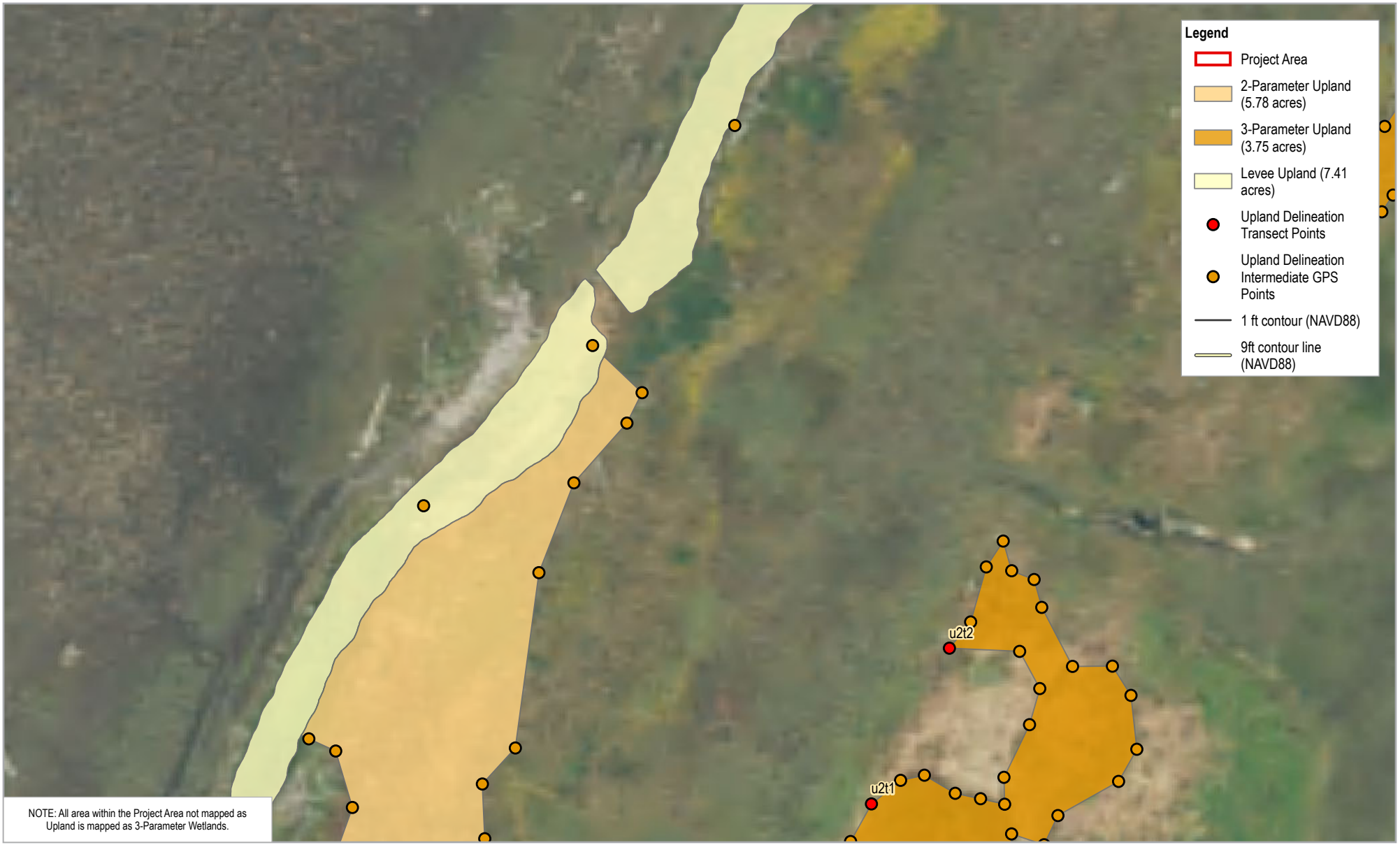
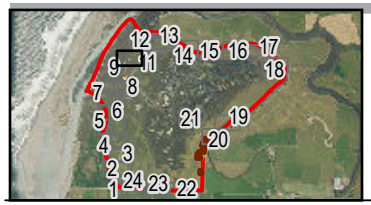
Wetland Delineation

FIGURE 2.9

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2





Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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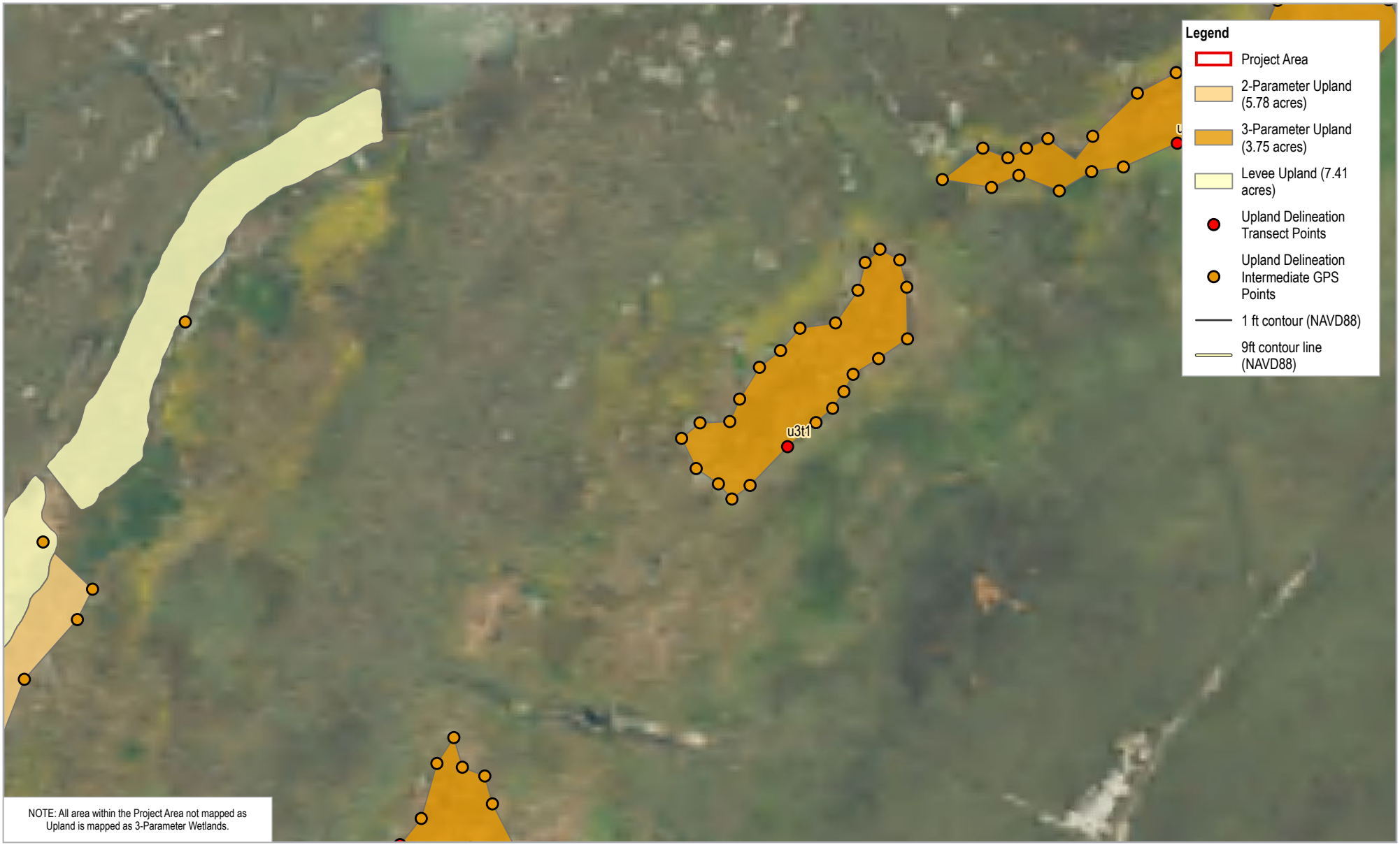
Wetland Delineation

FIGURE 2.10

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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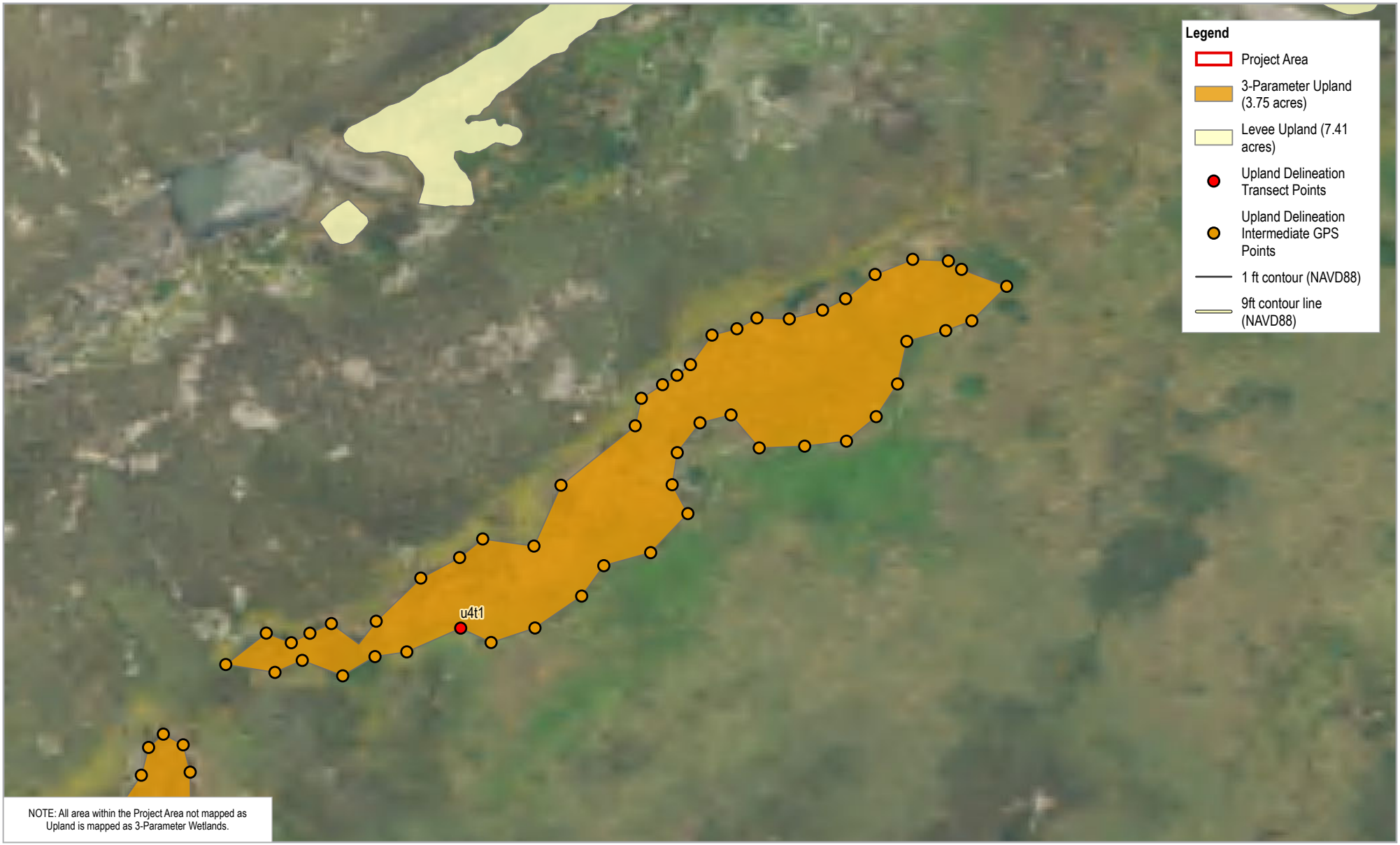
Wetland Delineation

FIGURE 2.11

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.12

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.13

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.14

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Date **Jun 2022**

Wetland Delineation

FIGURE 2.15

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Date **Jun 2022**

Wetland Delineation

FIGURE 2.16

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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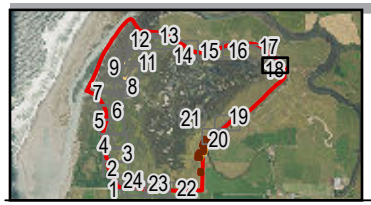
Date **Jun 2022**

Wetland Delineation

FIGURE 2.17

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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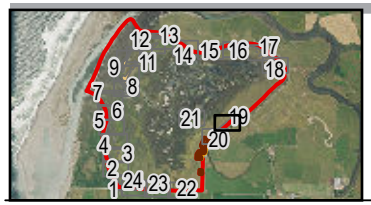
Date **Jun 2022**

Wetland Delineation

FIGURE 2.18

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.19

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.20

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Date **Jun 2022**

Wetland Delineation

FIGURE 2.21

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:50

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Wetland Delineation

FIGURE 2.22

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:51

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2

Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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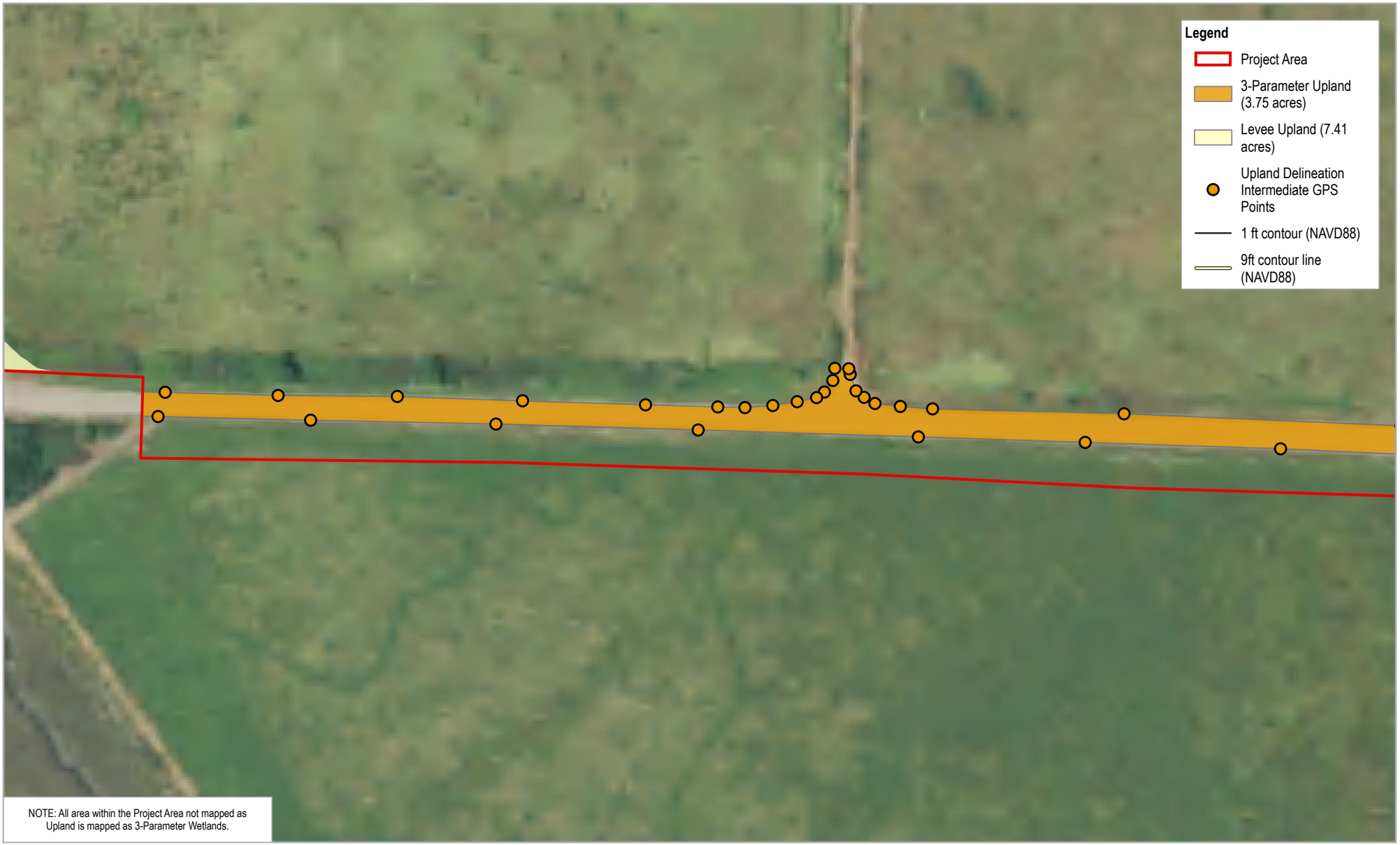
Wetland Delineation

FIGURE 2.23

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:51

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A (1 inch = 100 feet)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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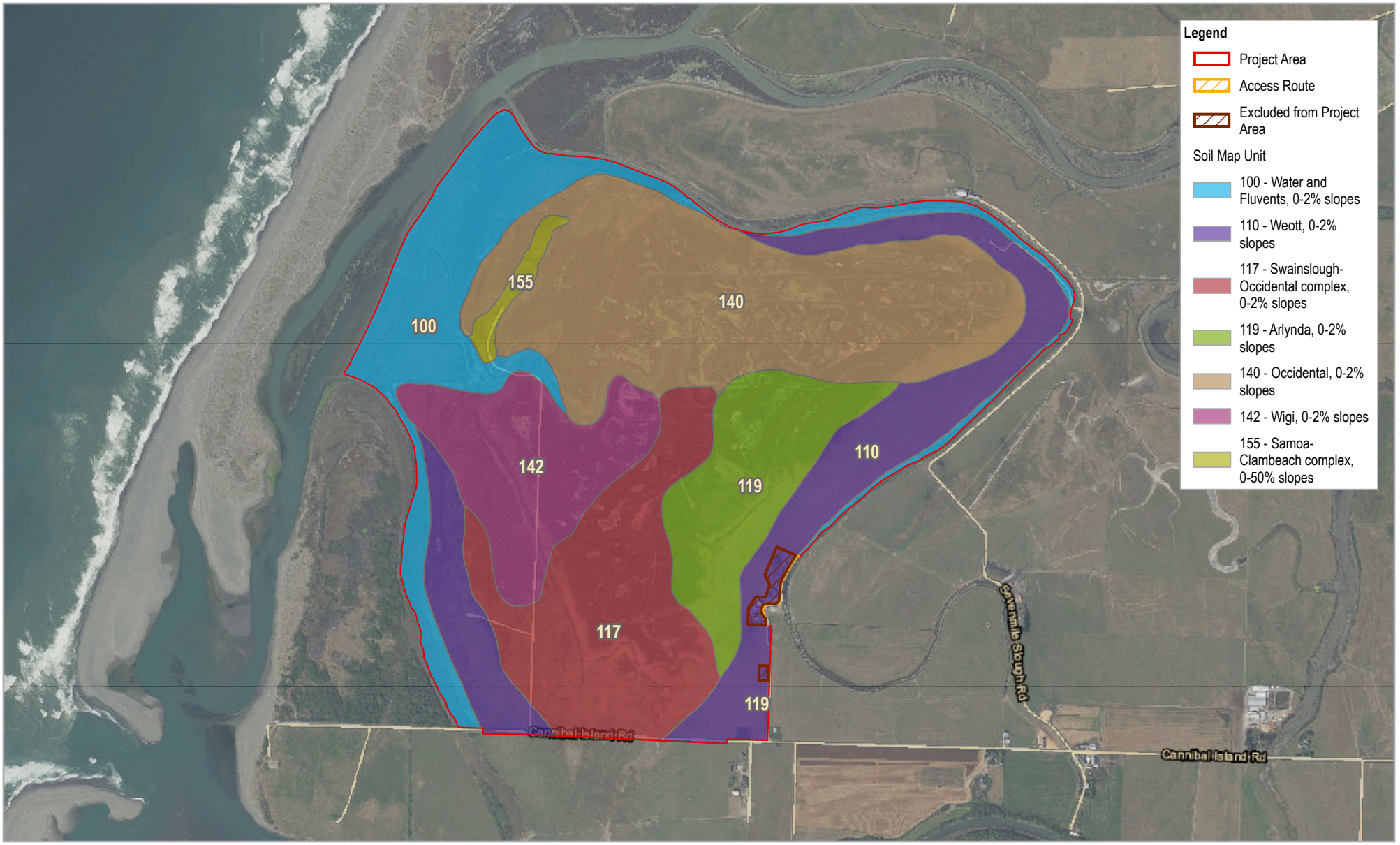
Date **Jun 2022**

Wetland Delineation

FIGURE 2.24

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11203183_002_WetDel_InsetMB_RevE
Print date: 08 Jun 2022 - 09:51

Data source: Uplands, 12/16/2020, updated Jun 8, 2022; APE, 6/3/2022; NAIP 2018;
Created by: jclark2



Paper Size ANSI A

0 500 1,000 1,500

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Project No. **1126383**
Revision No. **-**
Date **Jun 2022**

Soil Map Units

FIGURE 3

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11206383_003_Soils_RevB
Print date: 08 Jun 2022 - 08:18

Data source: APE, GHD, Jun 2022; World_Transportation: Esri, HERE, GeoTechnologies, Inc..
Created by: jclark2

Paper Size ANSI A

0 500 1,000 1,500

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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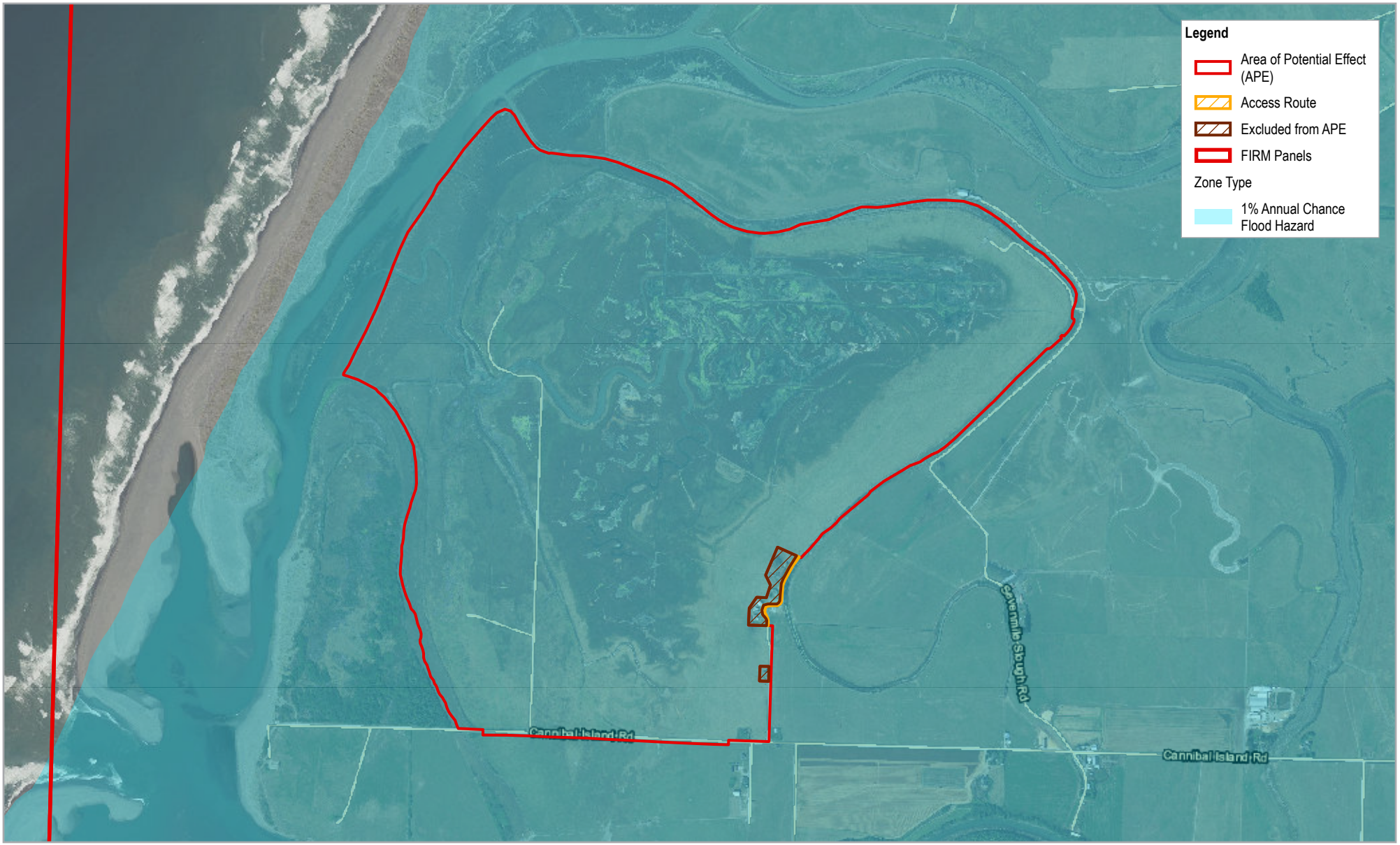
Date **Jun 2022**

National Wetland Inventory

FIGURE 4

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11206383_004_NWI_RevB
Print date: 08 Jun 2022 - 08:28



Paper Size ANSI A

0 500 1,000 1,500

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Revision No. **-**
Date **Jun 2022**

FEMA Flood Map

FIGURE 5

N:\US\Eureka\Projects\561\11206383\GIS\Maps\Deliverables\11206383_WetlandDelineation_2022.aprx - 11206383_005_FEMA_RevB
Print date: 08 Jun 2022 - 08:27

Data source: APE, GHD, Jun 2022; World_Transportation: Esri, HERE, GeoTechnologies, Inc..
Created by: jclark2

Appendix B – Data Sheets

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: UT1 Up

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

Landform (hillslope, terrace, etc.): Filled mound Local relief (concave, convex, none): convex Slope (%): 0-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: 5ft from wetland edge. Filled area around concrete foundation barn. Higher elevation than surrounding wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Raphanus sativus	50	Y	UPL
2. Daucus carota	20	Y	FACU
3. Cirsium vulgare	5		FACU
4. Festuca bromoides	10		FAC
5. Bromus hordaceus	15		FACU
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum <1

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- N 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 ✓

Remarks: Does not pass dominance test. Does not pass FAC-Neutral.

SOIL

CI 7/17/20 Sampling Point: UITI-U

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
0-12	2.5Y 3/2	100	—	—	—	—	Very Gravelly Sandy Loam	(River run)

[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: Historically Filled Area - Small barn & mound.

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 Y Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: UPTwet

Investigator(s): Misha Schwarz, Betsey McDonald Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: 8 ft from wetland edge

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	90	Y	FAC
2. Holcus lanatus	8		FAC
3. Helminthotheca echioides	2		FAC
4. Festuca perennis	1		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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: 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 ✓ No ____

Remarks: All facultative, passes dominance test. Does not pass FAC-Neutral

SOIL

CI 7/17/20 Sampling Point: UITI-W

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
0-3	2.5Y3/2	100	—	—	—	—	Sil/Silty Loam	
3-14	2.5Y4/2	90	7.5YR4/6	10	C	M	" "	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓① No _____

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

Remarks: ① Assumed based on Topographic position + hydric soils

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20
Applicant/Owner: State: CA Sampling Point: LTTUP
Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:
Landform (hillslope, terrace, etc.): Levee Local relief (concave, convex, none): convex Slope (%): 20
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: 6ft from wetland edge.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Holcus lanatus	30	Y	FAC
2. Daucus carota	25	Y	FACU
3. Dipsacus fullonum	5		FAC
4. Raphanus sativus	5		UPL
5. Helminthotecha echioides	10		FAC
6. Vicia tetrasperma	15		UPL
7. Vicia sativa	1		UPL
8. Plantago lanceolata	10		FACU
9. Potentilla anserina	2		OBL
10.			
11.			
	103 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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
N 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 ✓

Remarks: Does not pass dominance test. Does not pass FAC-Neutral

SOIL

CI 7/17/20 Sampling Point: LITT-U

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
0-9	2.5Y 3/2	100	—	—	—	—	Silt	
9-16	2.5Y 3/2	92	7.5YR 4/4	8	C	M	Silt	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks: Soil pit 2/3 up levee

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: LT1-Wet

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: 9ft from wetland edge.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Grindelia stricta var. stricta	6	Y	FACW
2.			
3.			
4.			
5.			
	6 = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Atriplex prostrata	10		FAC
2. Lotus corniculatus	40	Y	FAC
3. Agrostis stolonifera	8		FAC
4. Juncus balticus ssp. ater	50	Y	FACW
5. Plantago lanceolata	2		FACU
6. Helminthotheca echioides	1		FAC
7. Parapholis strigosa	1		OBL
8.			
9.			
10.			
11.			
	117 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ✓ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 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 ____

Remarks: Passes dominance test. Passes FAC-Neutral.

SOIL

CI 7/17/20 Sampling Point: LITI-W

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
0-3	2.5Y 3/2	100	—	—	—	—	Silt	
3-14	2.5Y 3/2	80	7.5Y 4/6	20	C	M	Silt	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X (1) No _____

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

Remarks: (1) Based on strongly hydric soil

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: UPLAND

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: Upland area appears to have been built for cattle refuge.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Conium maculatum	30	Y	FAC
2. Raphanus sativus	35	Y	UPL
3. Cirsium vulgare	2		FACU
4. Holcus lanatus	1		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	68 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 32

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
- N 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 ✓

Remarks: Does not pass dominance test. Does not pass FAC-Neutral Test.

SOIL

CI 7/17/20 Sampling Point: UZT1-U

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
0-7	10YR 2/2	100	—	—	—	—	Loam	Fill
7-16	10YR 2/2	100	—	—	—	—	Gravelly Loam	Fill w/ Some river run w/ Some wood debris

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: U2T|wet

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: 8ft from wetland boundary

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Elymus triticoides	25	Y	FAC
2. Agrostis stolonifera	70	Y	FAC
3. Atriplex prostrata	3		FAC
4. Hordeum brachyantherum	3		FACW
5. Sonchus asper	2		FACU
6.			
7.			
8.			
9.			
10.			
11.			
	103 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum Ø

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
- Y 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 ____

Remarks: Passes dominance test. Does not pass FAC-Neutral

SOIL

CI 7/17/2020 Sampling Point: UZTL-W

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
0-3	2.5Y 3/2	100	—	—	-	-	Silt	
3-14	2.5Y 3/2	70	7.5YR 4/4	30	C	M	Silt	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ 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 (1) No ___

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

Remarks: Assumed based on strong hydric soil

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: U2T2UP

Investigator(s): M. Schwitz, M. McDonald Section, Township, Range:

Landform (hillslope, terrace, etc.): filled mound Local relief (concave, convex, none): convex Slope (%): 5

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Lupinus arbareus x	10		UPL?
2. Raphanus sativus x raph.	80	Y	UPL
3. Conium maculatum	10		FAC
4. Heracleum maximum	10		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 41

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: Does not pass dominance test.

SOIL

CT 7/17/21 Sampling Point: U2T2-U

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
0-3	2.5Y 4/2	100	—	—	—	—	Silt Loam	
3-10	2.5Y 3/2	100	—	—	—	—	Silt Loam	
10-16	2.5Y 3/2	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: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No N

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: U2T2wet

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: 6 ft from wetland edge. Connect to U2T1 area by peninsula on east side.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Potentilla anserina	30	Y	OBL
2. Agrostis stolonifera	48	Y	FAC
3. Holcus lanatus	5		FAC
4. Lotus corniculatus	5		FAC
5. Plantago lanceolata	3		FACU
6. Festuca perennis	5		FAC
7. Raphanus raphinastrum	1		UPL
8. Medicago arabica	1		UPL
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 61

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
- Y 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 ____

Remarks: Passes Dominance Test, Passes FAC-Neutral

SOIL

CI 7/17/20 Sampling Point: U2T2-W

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
0-3	2.5Y3/2	100	—	—	—	—	Silt Loam	
3-13	2.5Y3/2	95	7.5YR 4/4	5	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✓ (1) No ___

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

Remarks: (1) Assumed based on strong hydric soils

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: U3T1-Up

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

Landform (hillslope, terrace, etc.): filled mound Local relief (concave, convex, none): convex Slope (%): 5-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: 6ft from wetland edge

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Raphanus sativus x caphanistrum	70	Y	UPL
2. Conium maculatum	8		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	78 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 22%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- N 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 ✓

Remarks: Does not pass Dominance Test, Does not pass FAC-Neutral.

SOIL

CF 7/12/2020 Sampling Point: U3T1-U

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
0-3	10YR2/2	100	—	—	—	—	Silt Loam	
3-15	2.5Y3/2	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: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No Y

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20
Applicant/Owner: State: CA Sampling Point: U3T1-wet
Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	70	Y	FAC
2. Potentilla anserina	30	Y	OBL
3. Holcus lanatus	1		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	101 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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
Y 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 ____

Remarks: Passes Dominance Test, passes FAC-Neutral Test.

SOIL

CI 7/17/20 Sampling Point: U3T1-W

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
0-4	2.5Y 3/2	100	—	—	—	—	silt loam	
4-13	2.5Y 3/2	85	7.5YR 4/4	15	C	PL/M	silt loam to 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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X (1) No _____

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

Remarks: (1) Assumed based on strong hydric soil

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20
Applicant/Owner: State: CA Sampling Point: UHT1-UP
Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:
Landform (hillslope, terrace, etc.): filled mound Local relief (concave, convex, none): convex Slope (%): 2-5%
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: 8 ft from wetland edge

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Raphanus sativus x raphanistrum	60	Y	UPL
2. Rumex crispus	2		FAC
3. Equisetum hymale ssp. affine	1		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	83 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 17%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- N 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 ✓

Remarks: Does not pass Dominance Test, Does not pass FAC-Neutral

SOIL

CI 7/17/20 Sampling Point: UATI-U

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
0-3	10YR3/2	100	—	—	—	—	Loam	
3-10	2.5Y3/2	100	—	—	—	—	Silt Loam	
10-14	2.5Y3/2	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: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 7/17/20

Applicant/Owner: State: CA Sampling Point: U4T1-wet

Investigator(s): M. Schwarz, K. McDonald Section, Township, Range:

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 42%

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: 15 ft from wetland edge

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 m²)			
1. Potentilla anserina	70	Y	OBL
2. Agrostis stolonifera	30	Y	FAC
3. Holcus lanatus	1		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	101 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 41

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
- Y 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 ____

Remarks: Passes Dominance Test, Passes FAC-Neutral

SOIL

CI 7/17/20 Sampling Point: UFT1-W

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
0-3	2.5Y 3/2	100	—	—	—	—	Silt	
3-13	2.5Y 3/2	80	7.5YR 4/4	20	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes Y No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ 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 (1) No ___

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

Remarks: (1) Based on observation of strong hydric soil

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: L01W

Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: Facultative dominant species on levee do not appear to be acting as hydrophytes.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Symphyotrichum chilense	22	Y	FAC
2. Holcus lanatus	23	Y	FAC
3. Raphanus sativus	20	Y	UPL
4. Plantago lanceolata	10		FACU
5. Rumex acetosella	8		FACU
6. Anthoxanthum odoratum	15		FACU
7. Potentilla anserina	2		OBL
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 41

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	33	x 4 =	132
UPL species	20	x 5 =	100
Column Totals:	100 (A)		369 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- N 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 ____

Remarks: Passes Dominance Test, Does not pass Prevalence Index- Does not pass FAC-Neutral. 2ft from wetland edge.

SOIL

8/14/20 CI Sampling Point: L010-U

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
0-4	2.5Y 3/3	100	—	—	—	—	Silt loam	
4-16	2.5Y 3/3	100	—	—	—	—	Silt loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: L010-W

Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	50	Y	FAC
2. Sticornia pacifica	20	Y	OBL
3. Potentilla anserina	15		OBL
4. Distichlis spicata	13		FACW
5. Symphyotrichum chilense	2		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= 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 ✓ No ____

Remarks: Passes dominance, passes fac-neutral. 6 ft from wetland edge.

SOIL

9/14/20 CI Sampling Point: L010-W

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
0-3	2.5Y 3/2	90	7.5YR 3/4	10	C	M	Silt Loam	
3-14	2.5Y 3/2	80	7.5YR 4/4	20	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/4/16
Applicant/Owner: CDFW State: CA Sampling Point: L011-U
Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:
Landform (hillslope, terrace, etc.): levee Local relief (concave, convex, none): convex Slope (%): 25
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 1m²)			
1. Lupinus arboreus X	15	Y	UPL
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Sympyotrichum chilense	20	Y	FAC
2. Raphanus sativus	40	Y	UPL
3. Conium maculatum	10		
4. Juncus bolanderi	8		
5. Holcus lanatus	15		
6.			
7.			
8.			
9.			
10.			
11.			
	93 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= 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: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
N 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 ✓

Remarks: Does not pass dominance test. 6 ft from wetland edge

SOIL

9/14/20 CI Sampling Point: L011-U

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
0-3	NA							Organic Wood Debris
3-6	2.5Y 3/3	100	—	—	—	—	Silt Loam	
6-15	2.5Y 3/3	100	—	—	—	—	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: LOIT-W

Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Distichlis spicata	60	Y	FACW
2. Potentilla anserina	35	Y	OBL
3. Agrostis stolonifera	5	____	FAC
4. Festuca arundinacea	1	____	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	101 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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
- Y 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 ____

Remarks: 10 ft from wetland edge. Passes dominance and FAC-neutral

SOIL

9/14/20 CI Sampling Point: L011-W

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
0-5	Organic Horizon - O				-	-	-	
5-14	2.5Y 3/2	75	7.5YR 4/4	25	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes Y No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes Y No _____

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: Uplu

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

Landform (hillslope, terrace, etc.): lowterm Local relief (concave, convex, none): convex Slope (%): 5-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks: 1-parameter

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Equisetum hymale	40	✓	FACW
2. Holcus lanatus	38	✓	FAC
3. Raphanus sativus	10		UPL
4. Plantago lanceolata	5		FACU
5. Rumex acetosella	2		FACU
6. Vicia sativa	1		upl
7.			
8.			
9.			
10.			
11.			
	96 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 5% debris

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 0	x 1 = 0
FACW species 40	x 2 = 80
FAC species 38	x 3 = 114
FACU species 7	x 4 = 28
UPL species 11	x 5 = 55
Column Totals: 96 (A)	277 (B)

Prevalence Index = B/A = 2.89

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- Y 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 ____

Remarks: Passes dominance, and the prevalence index. Passes FAC-Neutral. 10 ft from wetland edge.

T1

SOIL

9/14/20 CI Sampling Point: U10-U

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
0-3	10YR3/2	100	—	—	—	—	Silt Loam	
3-10	10YR3/2	100	—	—	—	—	Silt Loam	
10-16	10YR3/2	100	—	—	—	—	Loamy Sand	

[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 Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No N

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: U 101 (w

Investigator(s): M. Schwartz, K. McDonald, M. VanHatten Section, Township, Range:

Landform (hillslope, terrace, etc.): bottom of berm Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Juncus lescurii	85	Y	FACW
2. Lotus corniculatus	1		FAC
3. Potentilla anserina	15		OBL
4. Holcus lanatus	3		FAC
5. Agrostis stolonifera	2		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	106 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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: 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
- Y 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 ____

Remarks: 15ft from wetland edge. Passes Dominance Test & FAC-Neutral.

SOIL

2/14/20 CJ Sampling Point: T1 U10-W

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
0-4	2.5Y3/2	100	—	—	—	—	Silt Loam	
4-14	2.5Y3/2	90	2.5YR3/4	20	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes Y No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes Y No ___

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: U1OT2UP

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

Landform (hillslope, terrace, etc.): low berm Local relief (concave, convex, none): convex Slope (%): 5-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: 1-parameter

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Equisetum hymale	30	Y	FACW
2. Plantago lanceolata	8		FACU
3. Raphanus sativus	5		UPL
4. Elymus repens	5		FAC
5. Distichlis spicata	5		FACW
6. Festuca bromoides	30	Y	FAC
7. Vicia sativa	1		UPL
8. Bromus hordeaceus	18		FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 41

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 0	x 1 = 0
FACW species 35	x 2 = 70
FAC species 35	x 3 = 105
FACU species 26	x 4 = 104
UPL species 4	x 5 = 20
Column Totals: 100 (A)	299 (B)

Prevalence Index = B/A = 2.99

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 ____

Remarks: 12ft from wetland edge. Only clear vegetation change is the Potentilla. Berm characterized by Equisetum w/ many FAC & FACW grasses & patches of Raphanus (UPL). Passes dominance PI & FAC-neutral.

SOIL

8/14/20 CT Sampling Point: U10-U T2

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
0-8	2.5 4/3	100	—	—	—	—	Silt Loam	
8-16	2.5 4/3	100	—	—	—	—	Loamy Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: U. U10T2W

Investigator(s): M. Schwarz, K. McDonald, M. VanHatten Section, Township, Range:

Landform (hillslope, terrace, etc.): low berm Local relief (concave, convex, none): Convex Slope (%): 5-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Potentilla anserina	40	Y	OBL
2. Distichlis spicata	45	Y	FACW
3. Lotus corniculatus	10		FAC
4. Rumex acetosella	4		FACU
5. Bromus hordeaceus	1		
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum Ø

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 ✓ No ____

Remarks: Eft from wetland edge. Passes Dominance Test, Passes FAC-Neutral.

T2

SOIL 6/14/20 CF Sampling Point: U10-W

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
0-3	2.5Y3/2	100	—	—	—	—	Silt Loam	
3-10	2.5Y3/2	80	7.5YR3/4	20	—	—	Silt Loam	
10-16	2.5Y3/2	90	7.5YR	10	—	—	Loamy Sand	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes Y No ___

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20
Applicant/Owner: CDFW State: CA Sampling Point: L012up
Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:
Landform (hillslope, terrace, etc.): level Local relief (concave, convex, none): convex Slope (%): 15
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 1m²)			
1. Rubus ursinus	70	Y	FACU
2.			
3.			
4.			
5.			
	70 = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Symphyotrichum chilense	30	Y	FAC
2. Cirsium arvense	3		FAC
3. Raphanus X	1		UPL
4. Cenanthe sarmentosa	1		OBL
5. Juncus lesueurii	2		FACW
6.			
7.			
8.			
9.			
10.			
11.			
	37 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	~~0~~ = Total Cover		

% Bare Ground in Herb Stratum 41

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
N 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 ✓

Remarks: 2ft from wetland edge. Does not pass Dominance Test.

SOIL

8/14/26 CI

Sampling Point: L012-U

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
0-2	Wood	Debris						
2-6	2.5Y 3/3	100	—	—	—	—	S. Hloam	
6-16	2.5Y 3/3	100	—	—	—		S. Hloam	

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20
Applicant/Owner: CDFW State: CA Sampling Point: L012W
Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:
Landform (hillslope, terrace, etc.): Levee bottom Local relief (concave, convex, none): convex Slope (%): 10
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Potentilla anserina	60	Y	OBL
2. Juncus lesurii	20	Y	FACW
3. Oenanthe sarmentosa	2		OBL
4. Distichlis spicata	15		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	97 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 3

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
Y 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 ____

Remarks: 10ft from wetland edge. Passes Dominance Test. Passes FAC-Neutral.

SOIL

8/10/20 CT Sampling Point: L012-W

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
0-3	10YR3/2	100	—	—	—	—	Si Hloam	↑ O.M.
3-14	2.5Y3/1	80	7.5YR3/4	20	C	M	Si Hloam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: U11T1up

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

Landform (hillslope, terrace, etc.): capped berm Local relief (concave, convex, none): convex Slope (%): 5-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ___

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ___	Is the Sampled Area within a Wetland? Yes ___ No ✓
Hydric Soil Present?	Yes ___ No ✓	
Wetland Hydrology Present?	Yes ___ No ✓	

Remarks: Cap of fill over sandy soils around old house.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	___ = Total Cover		
Sapling/Shrub Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
	___ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Raphanus sativus X	35	Y	UPL
2. Conium maculatum	12		FAC
3. Holcus lanatus	20	Y	FAC
4. Agrostis stolonifera	25	Y	FAC
5. Elymus repens	5		FAC
6. Lupinus arboreus X	2		UPL
7.			
8.			
9.			
10.			
11.			
	99 = Total Cover		
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	___ = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	0	x 2 =	
FAC species	62	x 3 =	186
FACU species	0	x 4 =	
UPL species	37	x 5 =	185
Column Totals:	99 (A)		371 (B)

Prevalence Index = B/A = 3.74

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 ___

Remarks: Does pass Dominance Test, but does not pass PI. Does not Pass FAC-Neutral. 6ft from wetland edge.

T1

SOIL

8/14/20 CJ Sampling Point: U11-U

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
0-3	2.5Y 3/3	100	—	—	—	—	Silt Loam	
3-9	2.5Y 3/2.5	100	—	—	—	—	Silt Loam	
9-16	2.5Y 3/2.5	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: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: D1ITLW

Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:

Landform (hillslope, terrace, etc.): Bottom of fill berm Local relief (concave, convex, none): convex Slope (%): 2-5

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	100		FAC
2. Lotus corniculatus	15		FAC
3. Potentilla anserina	2		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	117 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= 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: 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 ✓ No ____

Remarks: High veg overlap. Passes dominance test and FAC-Neutral
10ft from wetland edge

T1

SOIL

8/14/20 CJ Sampling Point: U11-W

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
0-3	2.5Y 3/2	100	—	—	—	—	Silt loam	
3-10	2.5Y 3/2	80	7.5YR 3/4	20	C	M	Silt loam	
10-14	2.5YR 3/2	75	7.5YR 4/6	25	C	M	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)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: WLT2UP

Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:

Landform (hillslope, terrace, etc.): filled berm Local relief (concave, convex, none): convex Slope (%): 2-20

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 m²)			
1. Agrostis stolonifera	50	Y	FAC
2. Holcus lanatus	18		FAC
3. Juncus breweri	2		FACW
4. Plantago lanceolata	22	Y	FACU
5. Elymus repens	8		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 61

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
- N 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 ✓

Remarks: 6 ft from boundary. Does not pass Dominance Test.

SOIL

9/14/20 CJ Sampling Point: U011T2-U

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
0-3	2.5Y 3/2.5	100	—	—	—	—	Silt loam	
3-10	2.5Y 3/3	100	—	—	—	—	Silt Loam	
10-14	2.5Y 3/3	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: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20
Applicant/Owner: CDFW State: CA Sampling Point: U11T2 wet
Investigator(s): M. Schwasz, K. McDonald, M. Van Hattem Section, Township, Range:
Landform (hillslope, terrace, etc.): berm Local relief (concave, convex, none): Convex Slope (%): 10
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: brackish

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Potentilla anserina	70	Y	OBL
2. Juncus lescurii	10		FACW
3. Agrostis stolonifera	8		FAC
4. Distichlis spicata	12		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum Ø

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 ✓ No ____

Remarks: Passes Dominance Test, Passes FAC neutral. 15ft from wetland boundary.

SOIL

9/14/20 CI Sampling Point: VOIIT2-W

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
0-4	Organic	0	horizon	—	—	—	O.M.	
4-14	2.5Y3/2	80	7.5YR5/8	20	C	M	Silt loam/Silty clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes Y No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes Y No _____

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: U11T3up

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

Landform (hillslope, terrace, etc.): fill berm Local relief (concave, convex, none): Convex Slope (%): 10-20

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: 1-parameter. around house

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Holcus lanatus	94	Y	FAC
2. Juncus breweri	5		FACW
3. Elymus repens	1		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 61

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 0	x 1 =
FACW species 5	x 2 = 10
FAC species 95	x 3 = 282
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 100 (A)	292 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- Y 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 ____

Remarks: Passes Dominance Test & FAC-Neutral. Passes PT. 1ft from wetland edge

T3

SOIL

8/14/20 CI Sampling Point: U04-U

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
0-3	2.5Y3/2	100	—	—	—	—	Silt loam	
3-10	2.5Y3/3	100	—	—	—	—	Silt loam	
10-16	2.5Y3/3	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: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/14/20

Applicant/Owner: CDFW State: CA Sampling Point: U11Tswet

Investigator(s): M. Schwarz, K. McDonald, M. VanHatten Section, Township, Range:

Landform (hillslope, terrace, etc.): fill berm Local relief (concave, convex, none): convex Slope (%): 5

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: fill around old house

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	99	Y	FAC
2. Holcus lanatus	1		FAC
3. Juncus brewerii	<1		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum Ø

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
- Y 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 ____

Remarks: 15 ft from wetland edge. Passes Dominance Test & FAC-Neutral.

SOIL

9/14/20 CI Sampling Point: U081-T3-W

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
0-2	Organic	0					OM	
2-14	2.5Y 3/2	85	7.5YR 4/4	15	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/19/10
Applicant/Owner: CDFW State: CA Sampling Point: U12TLP
Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:
Landform (hillslope, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 10-25
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: Fill berm

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1 m²)			
1. Festuca perennis	50	Y	FAC
2. Lotus corniculatus	10		FAC
3. Hordeum murinum	10		FAC
4. Medicago polymorpha	30	Y	FACU
5. Rumex pulcher	1		
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 41

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
N 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 ✓

Remarks: 6 ft from wetland edge. Does not pass Dominance Test.

T1

SOIL

9/11/20 CJ

Sampling Point: U012-U

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
0-8	2.5Y 3/2	100	—	—	—	—	F. Gravelly Sandy Loam (fill)	
8-14	2.5Y 3/2	100	—	—	—	—	Gravelly 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: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/19/20

Applicant/Owner: CDFW State: CA Sampling Point: U12-Test

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

Landform (hillslope, terrace, etc.): berm Local relief (concave, convex, none): convex Slope (%): 5-10

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

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

Remarks: Brackish/saltmarsh between square fill berm and ag grazing

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Salicornia pacifica	99	Y	OBL
2. Atriplex prostrata	1		FAC
3. Agrostis stolonifera	1		FAC
4. Polypogon monspeliensis	1		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 1

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

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: 5 ft from edge. Passes Dominance Test. Passes FAC-Neutral

Return to map

SOIL

8/19/20 CI Sampling Point: U012-W T1

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
0-1	2.5Y 4/2	100	—	—	—	—	Silt Loam	
1-9	2.5Y 4/2	80	7.5YR 4/4	20	C	M	Silt Loam	
9-11	NA						Organic Buried O horizon	
11-15	2.5Y 4/1	90	7.5YR 4/4	10	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/19/20

Applicant/Owner: CDFW State: CA Sampling Point: W13TUP

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

Landform (hillslope, terrace, etc.): higher valley bottoms Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks: Narrow strip of higher elevation pasture near road (~100 ft²)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Festuca perennis	60	Y	FAC
2. Agrostis stolonifera	35	Y	FAC
3. Trifolium repens	5		FAC
4. Ranunculus repens	1		FAC
5. Trifolium fragiferum	1		FACU
6.			
7.			
8.			
9.			
10.			
11.			
	102 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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 101	x 3 = 303
FACU species 1	x 4 = 4
UPL species ____	x 5 = ____
Column Totals: 102 (A)	307 (B)

Prevalence Index = B/A = 3.01

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- N 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 ____

Remarks: 15 ft from wetland edge. Passes Dominance Test, Does not pass FAC-Neutral. Does not pass PI.

T1

SOIL

8/19/2020 CJ Sampling Point: U-013-U

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
0-8	2.5Y3/2	100	—	—	—	—	Silt loam	
8-10	2.5Y3/2	96	7.5YR4/4	4	C	M	Silt loam	
10-12	2.5Y3/2	85	7.5YR4/4	15	C	M	Silt 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 Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No Y

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/19/20

Applicant/Owner: CDFW State: CA Sampling Point: U13TLw

Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Grazed pasture

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	8		FAC
2. Festuca perennis	85	Y	FAC
3. Ranunculus repens	4		FAC
4. Trifolium fragiferum	3		FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = 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: 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 97	x 3 = 291
FACU species 3	x 4 = 12
UPL species ____	x 5 = ____
Column Totals: 100 (A)	303 (B)

Prevalence Index = B/A = 3.03

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 ____

Remarks: 15 ft from wetland edge. Passes Dominance Test, Does not pass FAC-Neutral. Does not pass PI – no clear vegetation change from upland.

SOIL

8/19/20 CI

Sampling Point: U-013-W

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
0-5	2.5Y3/2	100	—	—	—	—	Silt Loam	
5-14	2.5Y3/2	90	7.5YR 4/4	10	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Lake Sampling Date: 8/19/20
Applicant/Owner: CDFW State: CA Sampling Point: U13T2UP
Investigator(s): M. Schwarz, K. McDonald, M. Van Hattem Section, Township, Range:
Landform (hillslope, terrace, etc.): higher bottoms Local relief (concave, convex, none): none Slope (%): 2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓	No ____	
Hydric Soil Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: 1-parameter

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	35	Y	FAC
2. Festuca perennis	55	Y	FAC
3. Ranunculus repens	4		FAC
4. Trifolium repens	6		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum Ø

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	100	x 3 =	300
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.00

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 ____

Remarks: 15 ft from wetland edge. Passes Dominance Test, passes PI, does not pass FAC-Neutral. 100% Facultative.

SOIL

9/19/20 CJ Sampling Point: U-013T2-U

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
0-9	2.5Y 3/2	100	-	-	-	-	Silt Loam	
9-14	2.5Y 3/2	90	7.5YR 4/4	10	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No N

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/19/20
Applicant/Owner: CDFW State: CA Sampling Point: U13T2wet
Investigator(s): M. Schwarz, K. McDonald, M. VanHattem Section, Township, Range:
Landform (hillslope, terrace, etc.): bottoms Local relief (concave, convex, none): none Slope (%): <2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	60	Y	FAC
2. Festuca perennis	35	Y	FAC
3. Ranunculus repens	3		FAC
4. Lotus corniculatus	2		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum Ø

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	100	x 3 =	300
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:
- ____ 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- Y 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 ____

Remarks: 15ft from wetland edge. Passes Dominance & PI. Does not pass FAC-Neutral. 100% Facultative, no clear vegetation change.

SOIL

8/19/20 CJ Sampling Point: U-013T2-W

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
0-5	2.5Y 3/2	100	-	-	-	-	Silt Loam	
6-13	2.5Y 3/2	85	7.5YR 4/4	15	-	-	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ 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:

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

Project/Site: Cannibal Islands City/County: Loleta Sampling Date: 8/19/20
Applicant/Owner: CDFW State: CA Sampling Point: U13TSUP
Investigator(s): M. Schwarz, K. McDonald, M. VanHatten Section, Township, Range:
Landform (hillslope, terrace, etc.): Upper bottoms Local relief (concave, convex, none): flat to convex Slope (%): 2
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: 1-parameter near road eventually peters out to N., tie to road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	75	Y	FAC
2. Festuca perennis	10		FAC
3. Ranunculus repens	15		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum Ø

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	100	x 3 =	300
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.00

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 ____

Remarks: 10ft from wetland edge. Passes Dominance Test & PI. Does not pass FAC-Neutral.

SOIL

8/10/20 CJ Sampling Point: U-013T3-U

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
0-9	2.5Y3/2	100	-	-	-	-	Silt Loam	
9-14	2.5Y3/2	85	7.5YR4/4	15	C	M	Silt Loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

Project/Site: Cannibal Island City/County: Loleta Sampling Date: 8/19/20

Applicant/Owner: CDFW State: CA Sampling Point: U13T3w

Investigator(s): M. Schwarz, K. McDonald, M. Vanlaarhoven Section, Township, Range:

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

Subregion (LRR): A Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

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

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

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1m²)			
1. Agrostis stolonifera	80	Y	FAC
2. Festuca perennis	16		FAC
3. Ranunculus repens	4		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
% Bare Ground in Herb Stratum 0	____ = Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 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	100	x 3 =	300
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	100 (A)		300 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- Y 2 - Dominance Test is >50%
- Y 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 ____

Remarks: Passes Dominance Test, not FAC-Neutral. Passes PI – 100% Facultative.

SOIL

8/15/20 CI Sampling Point: U-013T3-W

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
0-7	2.5Y3/2	100	—	—	—	—	Silt loam	
7-15	2.5Y3/2	85	7.5YR4/4	15	C	M	Silt loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes Y No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ 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 N Depth (inches): _____

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

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

Wetland Hydrology Present? Yes Y No _____

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

Remarks:

Appendix C. On-Site Plant List

Scientific Name	Common Name	Status	Family	Date	WMVC
Achillea millefolium	Yarrow	native	Asteraceae	5/1/2020 5/16/2022	FACU
Agrostis stolonifera	Spreading bentgrass	invasive non-native	Poaceae	5/1/2020 5/16/2022	FAC
Alopecurus geniculatus	Marsh foxtail	native	Poaceae	5/1/2020 5/16/2022	OBL
Angelica hendersonii	Henderson's angelica	native	Apiaceae	5/1/2020	
Angelica lucida	Seacoast angelica	Rare 4.2, native	Apiaceae	5/1/2020	FAC
Anthoxanthum odoratum	Sweet vernal grass	invasive non-native	Poaceae	5/1/2020 5/16/2022	FACU
Artemisia douglasiana	California mugwort	native	Asteraceae	5/21/2020	FACW
Atriplex prostrata	Fat-hen	non-native	Chenopodiaceae	5/1/2020	FAC
Avena barbata	Slim oat	invasive non-native	Poaceae	5/16/2022	FAC
Baccharis pilularis	Coyote brush	native	Asteraceae	5/1/2020	
Bellis perennis	English lawn daisy	non-native	Asteraceae	5/1/2020 5/16/2022	
Bromus diandrus	Ripgut brome	invasive non-native	Poaceae	5/1/2020 5/16/2022	
Bromus hordeaceus	Soft chess	invasive non-native	Poaceae	5/1/2020 5/16/2022	FACU
Bulboschoenus maritimus ssp. paludosus	Salt marsh bulrush	native	Cyperaceae	5/21/2020	OBL
Cardamine oligosperma	Idaho bittercress	native	Brassicaceae	5/1/2020	OBL
Carduus pycnocephalus	Italian thistle	invasive non-native	Asteraceae	5/21/2020	
Carex lyngbyei	Lyngbye's sedge	Rare 2B.2, native	Cyperaceae	5/1/2020	OBL
Castilleja ambigua var. humboldtiensis	Humboldt bay owl's-clover	Rare 1B.2, native	Orobanchaceae	5/1/2020	FACW
Cerastium glomeratum	Large mouse ears	non-native	Caryophyllaceae	5/1/2020	FACU
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Rare 1B.2, native	Orobanchaceae	5/21/2020	OBL
Cirsium arvense	Canada thistle	invasive non-native	Asteraceae	5/16/2022	FAC
Cirsium vulgare	Bullthistle	invasive non-native	Asteraceae	5/1/2020 5/16/2022	FACU
Claytonia perfoliata	Miner's lettuce	native	Montiaceae	5/1/2020	FAC
Conium maculatum	Poison hemlock	invasive non-native	Apiaceae	5/1/2020 5/16/2022	FAC
Convolvulus arvensis	Field bindweed	non-native	Convolvulaceae	5/1/2020	
Cotula coronopifolia	Brass buttons	invasive non-native	Asteraceae	5/1/2020 5/16/2022	OBL
Cuscuta salina	Saltmarsh dodder	native	Convolvulaceae	5/1/2020	
Dactylis glomerata	Orchardgrass	invasive non-native	Poaceae	5/21/2020	FACU
Daucus carota	Carrot	non-native	Apiaceae	5/21/2020	FACU
Deschampsia cespitosa	Tufted hair grass	native	Poaceae	5/1/2020	

Dipsacus fullonum	Wild teasel	invasive non-native	Dipsacaceae	5/1/2020 5/16/2022	FAC
Distichlis spicata	Salt grass	native	Poaceae	5/1/2020	FACW
Eleocharis sp.	Spikerush	native	Cyperaceae	5/1/2020	OBL
Eleocharis macrostachya	Spike-rush	native	Cyperaceae	5/16/2022	OBL
Elymus vancouverensis	Vancouver wild rye	native	Poaceae	7/17/2020	
Elymus repens	Quack grass	non-native	Poaceae	5/21/2020	FAC
Equisetum hyemale ssp. affine	Giant scouring rush	native	Equisetaceae	5/1/2020	FACW
Equisetum telmateia	Giant horsetail	native	Equisetaceae	5/16/2022	FACW
Erodium cicutarium	Coastal heron's bill	invasive non-native	Geraniaceae	5/21/2020	
Festuca arundinacea	Reed fescue	invasive non-native	Poaceae	5/1/2020 5/16/2022	FAC
Festuca bromoides	Brome fescue	non-native	Poaceae	5/1/2020	FAC
Festuca perennis	Italian rye grass	invasive non-native	Poaceae	5/21/2020	FAC
Foeniculum vulgare	Fennel	invasive non-native	Apiaceae	5/1/2020	
Galium aparine	Cleavers	native	Rubiaceae	5/1/2020	FACU
Geranium dissectum	Wild geranium	invasive non-native	Geraniaceae	5/1/2020 5/16/2022	
Grindelia stricta var. stricta	Coastal gum plant	native	Asteraceae	5/1/2020	FACW
Helminthotheca echioides	Bristly ox-tongue	invasive non-native	Asteraceae	5/1/2020 5/16/2022	FAC
Heracleum maximum	Common cowparsnip	native	Apiaceae	5/1/2020	FAC
Holcus lanatus	Common velvetgrass	invasive non-native	Poaceae	5/1/2020 5/16/2022	FAC
Hordeum brachyantherum	Meadow barley	native	Poaceae	5/1/2020	FACW
Hordeum marinum	Seaside barley	non-native	Poaceae	5/1/2020	FAC
Hordeum murinum	Foxtail barley	invasive non-native	Poaceae	5/21/2020 5/16/2022	FAC
Hypochaeris radicata	Hairy cats ear	invasive non-native	Asteraceae	5/1/2020	FACU
Jaumea carnosa	Marsh jaumea	native	Asteraceae	5/1/2020	OBL
Juncus breweri	Brewer's rush	native	Juncaceae	5/1/2020	FACW
Juncus bufonius	Common toad rush	native	Juncaceae	5/1/2020	FACW
Juncus effusus	Lamp rush	native	Juncaceae	5/16/2022	FACW
Juncus hesperius	Coast or bog rush	native	Juncaceae	5/21/2020	FACW
Juncus lescurii	Salt rush	native	Juncaceae	5/21/2020	FACW
Juncus patens	Rush	native	Juncaceae	5/21/2020	FACW
Leontodon saxatilis	Lesser hawkbit	native	Asteraceae	5/16/2022	FAC
Lotus corniculatus	Bird's foot trefoil	non-native	Fabaceae	5/21/2020 5/16/2022	FAC
Lupinus arboreus x	Hybrid bush lupine	native	Fabaceae	5/1/2020	FAC
Lysimachia arvensis	Scarlet pimpernel	non-native	Myrsinaceae	5/1/2020	
Madia sativa	Coast madia	native	Asteraceae	7/17/2020	
Malva neglecta	Dwarf mallow	non-native	Malvaceae	5/21/2020	FACU
Matricaria discoidea	Pineapple weed	native	Asteraceae	5/21/2020 5/16/2022	

Medicago arabica	Spotted burclover	non-native	Fabaceae	5/21/2020 5/16/2022	FACU
Medicago polymorpha	California burclover	invasive non-native	Fabaceae	5/1/2020	OBL
Oenanthe sarmentosa	Water parsley	native	Apiaceae	5/21/2020 5/16/2022	OBL
Parapholis strigosa	Sickle grass	non-native	Poaceae	7/17/2020	OBL
Phalaris arundinacea	Reed canarygrass	native	Poaceae	7/17/2020	
Plantago coronopus	Cut leaf plantain	non-native	Plantaginaceae	5/1/2020 5/16/2022	FAC
Plantago lanceolata	English plantain	invasive non-native	Plantaginaceae	5/1/2020 5/16/2022	FACU
Polystichum munitum	Western sword fern	native	Dryopteridaceae	5/1/2020	FACU
Potentilla anserina ssp. pacifica	Pacific silverweed	native	Rosaceae	5/1/2020 5/16/2022	OBL
Ranunculus repens	Creeping buttercup	invasive non-native	Ranunculaceae	5/21/2020 5/16/2022	FAC
Ranunculus sardous	Hairy buttercup	non-native	Ranunculaceae	5/21/2020	FAC
Raphanus raphanistrum	Jointed charlock	non-native	Brassicaceae	5/1/2020	
Raphanus sativus	Wild radish	invasive non-native	Brassicaceae	5/1/2020 5/16/2022	
Rosa nutkana ssp. nutkana	Nootka rose	native	Rosaceae	5/21/2020 5/16/2022	FACU
Rubus armeniacus	Himalayan blackberry	invasive non-native	Rosaceae	5/1/2020	FAC
Rubus parviflorus	Thimbleberry	native	Rosaceae	5/21/2020	FACU
Rubus ursinus	California blackberry	native	Rosaceae	5/1/2020 5/16/2022	FACU
Rumex acetosella	Sheep sorrel	invasive non-native	Polygonaceae	5/1/2020	FACU
Rumex crispus	Curly dock	invasive non-native	Polygonaceae	5/1/2020 5/16/2022	FAC
Salicornia pacifica	Pickleweed	native	Chenopodiaceae	5/1/2020	OBL
Salix hookeriana	Coastal willow	native	Salicaceae	5/21/2020 5/16/2022	FACW
Sanicula crassicaulis	Pacific sanicle	native	Apiaceae	5/1/2020	
Scirpus microcarpus	Small fruited bulrush	native	Cyperaceae	5/16/2022	OBL
Scrophularia californica	California bee plant	native	Scrophulariaceae	5/1/2020	FAC
Sisymbrium officinale	Hedge mustard	non-native	Brassicaceae	5/21/2020	
Sonchus asper	Spiny sowthistle	non-native	Asteraceae	5/1/2020	FACU
Spartina densiflora	Dense-flowered cordgrass	invasive non-native	Poaceae	5/1/2020	OBL
Spergularia macrotheca var. macrotheca	Sticky sand spurry	native	Caryophyllaceae	5/21/2020	FAC
Spergularia marina	Salt sand spurry	native	Caryophyllaceae	5/1/2020	OBL
Spergularia rubra	Purple sand spurry	non-native	Caryophyllaceae	5/21/2020	FAC
Stachys chamissonis	Hedge nettle	native	Lamiaceae	5/21/2020 5/16/2022	FACW
Symphyotrichum chilense	Pacific aster	native	Asteraceae	5/21/2020 5/16/2022	FAC
Taraxacum erythrospermum	Red-seeded dandelion	non-native	Asteraceae	5/1/2020	
Toxicodendron diversilobum	Poison oak	native	Anacardiaceae	5/1/2020	FAC
Trifolium fragiferum	Strawberry clover	non-native	Fabaceae	7/17/2020	

Trifolium repens	White clover	non-native	Fabaceae	5/21/2020 5/16/2022	FAC
Trifolium wormskioldii	Cow clover	native	Fabaceae	5/1/2020	FACW
Triglochin concinna var. concinna	Arrow grass	native	Juncaginaceae	5/21/2020	OBL
Triglochin maritima	Seaside arrow grass	native	Juncaginaceae	5/1/2020 5/16/2022	OBL
Urtica dioica	Stinging nettle	native	Urticaceae	5/21/2020	FAC
Vicia sativa	Spring vetch	non-native	Fabaceae	5/1/2020 5/16/2022	UPL
Vicia tetrasperma	Four seeded vetch	non-native	Fabaceae	7/17/2020	

Appendix D – Site Photographs

Photo 1. Looking northwest from the tide gate.

Photo 2. Rocked levees around the tide gate.

Photo 3. Inboard side of the tidegate.

Photo 4. Levees dominated by native California blackberry, surrounded by saltmarsh.

Photo 5. Muted tidal waters within the Project Area.

Photo 6. Dilapidated house on 2-parameter upland surrounded by strata of fresh-to-brackish emergent wetland dominated by creeping bentgrass, and saltmarsh dominated by pickleweed.

Photo 7. Uplands north of the dilapidated house.

Photo 8. Hydrophytic plants in former pasture on the northeast side, surrounded by levees dominated by wild radish.

Photo 9. Wet pasture on the northeast side.

Photo 10. Remaining ranch on the east side.

Photo 11. Isolated areas of spike rush and silver weed cinquefoil were observed to the south of Cannibal Island Road in the expanded Project Area where water was ponding. This was surrounded by non-native pasture.

Appendix E – NRCS Custom Soil Resource Report

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Humboldt County, Central Part, California

100—Water and Fluvents, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1l9dm
Elevation: 10 to 50 feet

Mean annual precipitation: 40 to 75 inches
Mean annual air temperature: 50 to 59 degrees F
Frost-free period: 300 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 60 percent
Fluvents and similar soils: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Rivers on channels
Down-slope shape: Concave, linear
Across-slope shape: Linear

Description of Fluvents

Setting

Landform: Point bars on channels
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, convex
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

A - 0 to 13 inches: gravelly fine sandy loam
C - 13 to 59 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Other vegetative classification: Riparian & Wetland Vegetation (RNPR001CA)
Hydric soil rating: Yes

Minor Components

Typic udifluvents

Percent of map unit: 4 percent
Landform: Meandering channels
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 1 percent
Landform: Channels
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

110—Weott, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs3l
Elevation: 0 to 150 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Weott and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Weott

Setting

Landform: Backswamps, depressions, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from mixed sources

Typical profile

Ap - 0 to 12 inches: silt loam
Bg1 - 12 to 26 inches: silt loam
Bg2 - 26 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Worswick

Percent of map unit: 5 percent
Landform: Natural levees, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Swainslough

Percent of map unit: 4 percent
Landform: Depressions, flood-plain steps, salt marshes, backswamps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Arlynda

Percent of map unit: 3 percent
Landform: Flood-plain steps, meander scars, backswamps, depressions
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Ferndale

Percent of map unit: 3 percent
Landform: Flood-plain steps

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

117—Swainslough-Occidental complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs2f
Elevation: 0 to 20 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 56 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Swainslough and similar soils: 70 percent
Occidental and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swainslough

Setting

Landform: Backswamps, depressions, flood-plain steps, salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from mixed sources

Typical profile

A - 0 to 12 inches: silty clay loam
Bg1 - 12 to 31 inches: silty clay loam
Bg2 - 31 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water capacity: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Occidental

Setting

Landform: Tidal marshes, salt marshes
Landform position (three-dimensional): Talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Alluvium derived from mixed sources

Typical profile

A - 0 to 8 inches: silty clay loam
Bzg1 - 8 to 24 inches: silty clay loam
Bzg2 - 24 to 33 inches: silty clay loam
Bzg3 - 33 to 62 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: Frequent
Maximum salinity: Slightly saline to strongly saline (4.0 to 25.0 mmhos/cm)
Available water capacity: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 7w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Worswick

Percent of map unit: 4 percent
Landform: Flood-plain steps, natural levees
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Loleta

Percent of map unit: 3 percent
Landform: Fan remnants, alluvial fans

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Arlynda

Percent of map unit: 3 percent
Landform: Meander scars, backswamps, depressions, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

119—Arlynda, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs3p
Elevation: 0 to 160 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Arlynda and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arlynda

Setting

Landform: Meander scars, backswamps, depressions, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from mixed sources

Typical profile

Oi - 0 to 3 inches: slightly decomposed plant material
A - 3 to 14 inches: silty clay loam
Bg1 - 14 to 22 inches: silty clay loam
Cg1 - 22 to 63 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Wigi, occasionally flooded

Percent of map unit: 5 percent
Landform: Salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Worswick

Percent of map unit: 5 percent
Landform: Natural levees, flood-plain steps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Loleta

Percent of map unit: 5 percent
Landform: Alluvial fans, fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

140—Occidental, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hs43
Elevation: 0 to 30 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Occidental and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Occidental

Setting

Landform: Salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from mixed sources

Typical profile

Oi - 0 to 3 inches: peat
A - 3 to 12 inches: silty clay loam
Bzg1 - 12 to 17 inches: silty clay loam
Bzg2 - 17 to 63 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: Frequent
Maximum salinity: Slightly saline to strongly saline (4.0 to 25.0 mmhos/cm)
Available water capacity: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): 7w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Wigi, occasionally flooded

Percent of map unit: 3 percent
Landform: Salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Hydraquents, high tidal
Percent of map unit: 3 percent
Landform: Tidal marshes
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Swainslough
Percent of map unit: 2 percent
Landform: Backswamps, depressions, flood-plain steps, salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Arlynda
Percent of map unit: 1 percent
Landform: Backswamps, depressions, flood-plain steps, meander scars
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Typic udifluvents
Percent of map unit: 1 percent
Landform: Meandering channels
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

142—Wigi, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hs45
Elevation: 0 to 20 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition
Wigi, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wigi, Occasionally Flooded

Setting

Landform: Salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

Oi - 0 to 1 inches: peat
A - 1 to 7 inches: silt loam
Bzg1 - 7 to 21 inches: silty clay loam
Bzg2 - 21 to 40 inches: silty clay loam
Bzg3 - 40 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: Frequent
Maximum salinity: Strongly saline (20.0 to 40.0 mmhos/cm)
Available water capacity: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Hydraquents, high tidal

Percent of map unit: 3 percent
Landform: Tidal marshes
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Occidental

Percent of map unit: 3 percent
Landform: Salt marshes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Arlynda

Percent of map unit: 2 percent
Landform: Depressions, flood-plain steps, meander scars, backswamps
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Swainslough

Percent of map unit: 1 percent
Landform: Flood-plain steps, salt marshes, backswamps, depressions
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Typic udifluvents

Percent of map unit: 1 percent
Landform: Meandering channels
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

155—Samoa-Clambeach complex, 0 to 50 percent slopes

Map Unit Setting

National map unit symbol: hs2h
Elevation: 0 to 70 feet
Mean annual precipitation: 35 to 80 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 275 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Samoa and similar soils: 65 percent
Clambeach and similar soils: 30 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Samoa

Setting

Landform: Dunes
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Tread

Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Eolian and marine sand derived from mixed sources

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 6 inches: sand
AC - 6 to 18 inches: sand
C - 18 to 63 inches: sand

Properties and qualities

Slope: 2 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Clambeach

Setting

Landform: Deflation basins
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Eolian and marine sand derived from mixed sources

Typical profile

A - 0 to 9 inches: sand
Cg1 - 9 to 20 inches: sand
Cg2 - 20 to 63 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 to 4 inches
Frequency of flooding: None

Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Oxyaquic udipsamments, unvegetated

Percent of map unit: 5 percent
Landform: Beaches
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Humboldt County, Central Part, California
Survey Area Data: Version 6, Jun 1, 2020

Appendix F – Record of Climatological Observations and WETS Table

WETS Table

WETS Station: EUREKA WFO WOODLEY ISLAND, CA								
Requested years: 2000 - 2020								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	55.3	40.8	48.1	6.28	3.75	7.62	11	0.0
Feb	55.4	41.1	48.2	5.39	3.22	6.54	10	0.0
Mar	56.2	42.6	49.4	5.76	3.94	6.87	11	0.0
Apr	57.6	44.5	51.0	3.61	2.37	4.33	8	0.0
May	60.0	48.1	54.0	1.56	0.68	1.90	4	0.0
Jun	62.5	50.5	56.5	0.66	0.19	0.74	2	0.0
Jul	63.6	52.8	58.2	0.15	0.04	0.16	0	0.0
Aug	64.4	53.3	58.9	0.14	0.05	0.16	0	0.0
Sep	64.3	50.7	57.5	0.76	0.18	0.88	2	0.0
Oct	61.9	47.2	54.6	2.66	0.93	3.20	5	0.0
Nov	58.2	43.4	50.8	4.70	3.30	5.58	9	0.0
Dec	55.0	40.5	47.7	8.31	4.58	10.13	13	0.0
Annual:					34.26	44.90		
Average	59.5	46.3	52.9	-	-	-	-	-
Total	-	-	-	39.98			75	0.1

GROWING SEASON DATES			
Years with missing data:	24 deg = 0	28 deg = 0	32 deg = 1
Years with no occurrence:	24 deg = 21	28 deg = 18	32 deg = 1
Data years used:	24 deg = 21	28 deg = 21	32 deg = 20
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	No occurrence	2/14 to 12/9: 298 days
70 percent *	No occurrence	No occurrence	2/5 to 12/18: 316 days
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1886												9.78	9.78
1887	8.86	9.00	2.28		3.51	1.92	0.06	0.07	0.21	0.55	2.66	5.43	34.55
1888	12.95	1.98	4.09		0.76	4.66	0.44	0.00	0.06	1.15	3.41	5.93	35.43
1889	4.25	1.93	5.91		7.27	0.37	0.15	0.13	0.32	8.36	3.71	12.88	45.28
1890	18.26	13.88	11.57	1.43	1.71	0.90	0.08	0.02	0.79	0.44	0.18	5.48	54.74
1891	3.33	9.81	5.83	6.37	1.55	1.53	0.28	0.31	1.45	1.64	2.72	10.97	45.79
1892	3.29	2.53	5.32		3.63	0.45	0.00	0.09	0.99	2.90	8.19	6.55	33.94
1893	3.65	6.27	10.59	2.99	2.43	0.33	0.00	0.00	2.39	4.33	9.87	6.69	49.54

1894	12.38	6.13	7.46	M1.28	1.31	1.67	0.02	0.04	1.84	3.12	2.03	12.31	49.59
1895	9.37	3.60	5.31	2.88	5.39	0.06	0.23	0.11	3.14	0.05	3.88	7.50	41.52
1896	8.14	4.61	6.93	6.88	6.22	0.51	0.00	0.70	1.60	2.37	8.00	9.41	55.37
1897	3.04	11.23	9.85	1.36	0.75	1.60	0.03	0.15	1.05	2.63	5.44	6.18	43.31
1898	3.23	8.00	1.80	1.82	2.62	1.21	0.00	0.06	1.48	2.13	4.43	3.17	29.95
1899	6.50	5.03	8.53	1.91	1.73	0.75	0.00	0.42	0.88	4.28	14.80	7.05	51.88
1900	6.63	6.04	3.42	4.43	2.08	1.70	T	0.07	0.21	7.07	8.01	5.27	44.93
1901	9.93	7.41	3.86	4.08	1.50	0.12	0.03	T	4.26	2.46	3.96	4.43	42.04
1902	1.95	19.49	7.85	4.56	2.70	0.27	0.25	T	0.14	2.34	10.88	8.33	58.76
1903	16.07	3.80	7.42	1.23	0.70	0.57	0.06	0.53	0.28	2.42	10.79	4.03	47.90
1904	5.24	16.10	19.05	5.14	1.02	0.55	0.75	T	1.36	2.67	4.41	8.18	64.47
1905	4.81	0.99	7.41	0.78	1.99	0.12	0.02	0.00	0.38	1.50	3.93	4.32	26.25
1906	7.63	6.27	7.72	2.14	3.57	1.56	0.01	0.01	0.76	0.67	3.13	7.59	41.06
1907	10.40	10.57	11.83	3.30	1.69	0.58	T	2.66	0.63	1.48	2.38	8.59	54.11
1908	7.23	6.59	2.82	0.85	2.57	0.19	T	0.16	0.02	5.09	3.97	3.91	33.40
1909	14.41	11.54	2.72	0.24	0.76	0.14	0.55	T	0.61	3.78	12.60	4.29	51.64
1910	7.26	7.33	1.97	0.83	0.64	0.49	0.00	0.00	0.01	0.82	6.86	3.43	29.64
1911	8.63	3.75	1.45	3.39	3.52	0.23	T	0.08	0.29	1.68	2.09	4.74	29.85
1912	10.17	5.73	4.73	5.92	1.98	1.29	0.05	0.04	2.40	1.55	6.86	5.83	46.55
1913	8.10	0.87	3.61	3.41	1.67	1.60	0.28	0.03	0.48	0.88	5.29	7.58	33.80
1914	9.75	4.20	3.13	3.27	0.70	1.73	0.01	T	1.82	3.79	2.42	7.09	37.91
1915	9.75	12.39	1.65	1.38	2.07	0.05	0.26	0.00	0.11	0.79	6.15	5.19	39.79
1916	13.02	5.18	4.83	1.98	1.48	1.00	1.34	0.12	0.38	0.47	3.13	5.47	38.40
1917	5.53	5.10	5.01	3.78	1.02	0.00	0.00	0.02	0.66	0.00	6.43	1.17	28.72
1918	2.55	6.29	5.84	1.15	0.29	0.02	0.22	0.21	1.42	1.00	4.74	4.29	28.02
1919	7.84	8.18	6.25	4.03	1.48	0.14	0.01	0.01	1.52	0.24	2.99	4.33	37.02
1920	1.87	2.11	5.79	3.12	0.04	1.92	0.13	0.49	2.47	4.11	6.35	10.83	39.23
1921	8.37	7.45	3.04	1.67	2.54	1.30	0.00	0.01	0.27	1.59	6.21	4.48	36.93
1922	2.54	9.75	6.43	2.39	0.95	0.14	0.00	0.03	0.37	3.38	3.32	7.62	36.92
1923	3.88	0.50	0.80	2.95	1.26	1.07	0.03	0.02	1.54	2.55	2.86	4.93	22.39
1924	1.95	3.19	2.85	0.67	0.08	0.05	0.02	1.03	0.41	6.84	6.37	4.07	27.53
1925	3.97	6.49	2.02	7.47	2.57	0.24	T	0.25	3.56	0.95	3.71	4.84	36.07
1926	4.69	6.64	0.07	0.94	1.13	T	0.01	0.54	0.43	3.49	13.65	6.47	38.06
1927	5.83	10.30	3.95	3.32	1.68	0.91	0.00	0.02	0.86	1.17	5.89	3.10	37.03

1928	3.40	2.78	7.01	5.86	0.12	0.32	0.02	0.05	M0.58	2.21	4.90	7.82	35.07
1929	4.31	2.06	2.31	2.61	0.14	2.39	T	0.01	0.00	0.21	T	7.13	21.17
1930	6.32	4.92	1.23	2.54	1.04	0.13	T	T	1.12	1.21	3.20	2.50	24.21
1931	4.09	2.39	3.35	1.61	0.49	1.33	0.01	0.01	0.54	2.28	5.75	9.06	30.91
1932	6.84	1.20	4.54	4.87	1.41	0.11	0.14	0.03	0.01	1.32	5.11	5.54	31.12
1933	7.04	M2.93	7.20	0.97	4.23	0.30	T	0.05	0.70	2.08	0.38	6.50	32.38
1934	3.83	2.31	3.61	1.68	1.23	0.29	T	0.01	0.47	3.98	8.63	5.28	31.32
1935	7.25	2.73	5.60	4.86	0.30	0.27	0.09	T	1.10	3.02	1.35	6.79	33.36
1936	8.84	5.89	1.77	2.13	2.23	1.34	0.09	T	0.04	0.49	0.01	3.97	26.80
1937	4.27	5.41	7.19	6.55	0.88	1.35	0.03	0.05	0.19	4.33	10.95	4.26	45.46
1938	6.28	13.94	13.97	2.23	0.31	0.01	T	T	1.74	3.34	3.12	5.97	50.91
1939	4.49	4.41	5.03	0.37	1.85	0.56	0.23	0.06	0.05	1.82	0.91	12.13	31.91
1940	4.37	9.62	7.47	0.81	2.54	0.32	0.00	0.00	0.91	4.03	2.29	8.87	41.23
1941	11.37	6.68	4.31	4.49	3.61	1.52	0.06	0.18	0.48	2.64	3.91	12.87	52.12
1942	4.08	6.22	1.77	4.05	5.43	0.57	0.07	0.06	0.06	1.21	8.60	8.52	40.64
1943	5.23	3.51	5.83	3.23	4.25	0.47	0.04	0.21	0.01	4.61	3.59	1.67	32.65
1944	2.92	3.62	2.25	4.25	3.49	1.19	0.10	0.19	0.19	2.79	9.11	5.92	36.02
1945	3.64	9.55	6.03	2.27	3.43	T	T	0.10	1.09	3.38	9.47	9.93	48.89
1946	4.32	5.10	4.68	0.42	1.26	0.30	0.12	0.01	0.32	2.26	4.36	1.56	24.71
1947	3.93	1.33	3.91	1.84	0.17	1.58	1.20	0.10	0.59	6.50	1.72	3.09	25.96
1948	8.23	5.20	6.16	6.53	2.16	0.77	0.25	0.13	1.71	3.33	3.19	7.35	45.01
1949	1.63	6.09	6.94	0.41	2.56	0.06	0.16	0.02	0.50	2.03	3.23	4.49	28.12
1950	13.79	4.61	7.71	1.93	1.30	1.03	0.05	0.07	0.35	13.04	3.43	5.99	53.30
1951	8.47	7.56	3.94	2.05	1.38	T	0.05	0.02	0.79	3.88	7.80	9.10	45.04
1952	10.67	6.22	3.78	1.34	1.77	1.98	T	0.01	0.73	0.62	2.13	11.87	41.12
1953	12.63	3.44	5.95	3.18	5.83	1.24	T	0.41	0.61	3.84	9.57	3.62	50.32
1954	11.78	3.29	3.76	2.78	0.16	2.57	0.04	1.24	0.87	1.47	5.09	9.65	42.70
1955	5.73	1.83	1.82	5.56	0.03	0.11	0.21	T	1.18	2.64	5.77	11.63	36.51
1956	11.51	7.47	2.36	0.31	1.58	1.71	0.06	T	0.33	5.47	0.49	7.18	38.47
1957	4.22	4.36	8.77	1.96	3.42	0.30	0.34	0.02	1.37	6.00	4.44	5.69	40.89
1958	8.57	10.80	6.09	3.67	1.26	0.71	0.05	T	0.78	1.17	3.71	4.06	40.87
1959	7.23	10.65	3.37	0.52	0.91	0.25	T	0.01	1.54	0.74	0.28	3.64	29.14
1960	3.87	7.48	8.13	2.92	6.05	T	0.02	0.04	0.01	1.31	9.87	5.08	44.78
1961	4.54	7.53	7.90	3.49	3.97	0.50	0.03	0.30	0.53	2.28	5.65	3.44	40.16

1962	3.26	6.08	4.04	2.62	0.60	0.11	T	1.92	0.71	6.49	6.77	2.58	35.18
1963	1.70	4.74	6.28	10.68	1.74	0.33	0.11	0.07	0.68	5.41	6.91	3.20	41.85
1964	11.13	1.20	5.91	0.67	1.59	0.72	0.83	0.03	0.07	1.82	12.11	10.96	47.04
1965	5.82	1.36	1.23	5.60	0.44	0.35	T	0.36	T	0.70	5.20	5.22	26.28
1966	9.44	3.12	6.57	1.34	0.06	0.30	0.25	0.50	1.33	1.02	9.86	6.52	40.31
1967	8.87	1.47	7.44	5.29	1.52	0.32	0.00	T	1.32	2.15	4.40	4.34	37.12
1968	7.59	2.93	3.85	0.40	1.04	0.20	0.04	1.98	0.60	2.81	5.88	8.32	35.64
1969	13.92	7.82	1.56	3.22	1.01	0.34	0.05	T	0.36	3.20	3.49	9.60	44.57
1970	12.46	3.15	2.70	1.54	1.38	0.29	T	T	0.32	2.11	13.20	10.24	47.39
1971	5.41	3.28	7.91	2.92	1.28	1.51	0.16	0.55	2.08	0.92	6.36	6.38	38.76
1972	7.96	5.93	5.08	2.27	1.11	0.88	0.01	0.07	1.06	1.97	5.41	7.42	39.17
1973	6.47	3.85	7.10	0.35	0.85	0.23	T	0.08	2.35	4.14	16.58	7.02	49.02
1974	6.02	5.98	6.98	3.15	0.42	0.33	0.11	0.32	T	1.76	2.75	6.40	34.22
1975	5.20	7.68	10.73	3.29	1.05	0.58	0.10	0.58	0.01	6.77	4.72	5.38	46.09
1976	1.88	7.51	3.12	2.80	0.54	0.14	0.20	1.70	0.04	0.28	2.98	0.52	21.71
1977	1.90	2.24	4.33	1.20	2.10	0.07	T	0.20	3.35	2.79	4.51	6.60	29.29
1978	4.52	6.06	2.88	4.10	0.82	0.34	0.03	0.59	2.72	0.04	2.39	1.16	25.65
1979	3.82	6.26	1.70	3.94	2.25	0.05	0.31	0.13	1.15	6.14	6.19	3.75	35.69
1980	3.19	4.67	6.14	4.18	1.70	0.42	T	0.07	0.14	1.38	2.49	6.10	30.48
1981	7.67	3.72	4.64	0.71	2.02	0.57	T	0.01	0.97	3.71	9.39	9.88	43.29
1982	4.75	5.76	7.06	5.97	0.07	0.78	0.08	0.03	0.62	4.89	7.83	10.30	48.14
1983	8.48	9.18	10.73	5.47	1.12	0.65	0.89	3.42	0.87	1.87	10.40	14.13	67.21
1984	0.76	5.18	4.70	2.76	2.51	1.07	0.03	0.05	0.55	3.67	15.15	4.27	40.70
1985	0.66	3.69	4.68	0.45	1.14	0.89	0.15	0.52	1.06	4.07	2.98	2.78	23.07
1986	7.19	10.08	6.12	1.46	2.34	0.21	0.02	T	2.70	1.75	1.85	3.83	37.55
1987	6.48	3.38	6.10	1.15	0.41	0.26	0.20	0.06	0.02	1.05	4.23	10.92	34.26
1988	7.13	0.54	1.18	2.06	2.70	2.22	0.05	T	0.12	0.41	8.93	6.26	31.60
1989	4.71	2.88	7.63	2.01	1.67	0.21	0.08	0.13	0.85	2.90	1.60	0.80	25.47
1990	7.20	4.50	3.30	1.41	3.74	0.32	0.22	0.71	0.19	1.73	3.07	2.91	29.30
1991	1.65	2.75	6.94	2.52	2.16	0.26	1.13	0.37	T	1.06	1.95	2.36	23.15
1992	3.99	3.80	3.51	2.42	0.06	1.27	0.25	0.01	0.33	2.08	2.21	9.33	29.26
1993	7.15	5.93	4.72	5.94	4.44	1.23	0.37	0.54	0.03	0.56	1.35	7.12	39.38
1994	5.09	7.12	2.06	3.30	1.10	0.71	0.08	T	0.06	0.54	8.21	7.00	35.27
1995	12.74	1.40	11.18	7.47	1.21	1.85	0.08	0.22	0.69	0.53	2.26	11.56	51.19

1996	10.74	8.11	3.51	4.64	2.40	0.05	0.03	T	1.21	3.50	5.16	21.26	60.61
1997	8.81	2.55	2.73	3.06	0.90	1.25	T	0.84	2.05	2.73	7.39	4.73	37.04
1998	13.42	13.95	7.83	2.23	3.12	0.33	0.16	0.01	0.08	3.06	14.09	5.40	63.68
1999	4.37	10.32	8.94	1.79	1.62	0.15	0.04	0.30	0.05	1.60	7.36	3.02	39.56
2000	9.71	7.00	2.81	2.15	1.86	0.54	0.04	T	0.55	2.99	3.51	1.97	33.13
2001	3.79	3.60	2.45	2.54	0.71	0.69	0.20	0.21	0.28	1.00	7.71	11.56	34.74
2002	6.37	5.76	4.32	2.42	0.55	0.28	0.03	0.01	0.06	0.06	2.66	23.31	45.83
2003	5.51	3.84	4.91	11.25	1.74	0.04	0.02	0.49	0.35	0.55	5.78	11.35	45.83
2004	6.29	8.12	2.38	1.68	1.37	0.06	0.06	0.43	0.68	5.71	1.87	9.43	38.08
2005	5.91	2.41	6.24	4.70	3.90	3.08	0.05	0.07	0.08	2.40	8.52	12.72	50.08
2006	12.09	6.34	11.11	4.08	1.03	0.35	0.04	T	0.09	0.58	7.41	7.09	50.21
2007	1.86	11.86	2.51	2.72	0.86	0.46	0.97	0.08	0.60	4.92	2.33	7.30	36.47
2008	9.70	2.73	3.16	2.12	0.04	0.24	0.02	0.47	0.05	0.93	4.05	6.66	30.17
2009	1.58	6.20	5.45	1.23	2.93	0.18	0.06	0.02	1.03	1.95	4.15	4.17	28.95
2010	9.29	4.20	6.06	7.76	3.51	2.31	0.04	0.15	1.39	4.26	4.69	10.08	53.74
2011	2.23	3.62	11.88	4.07	1.43	1.29	0.17	0.04	0.37	4.21	3.86	2.22	35.39
2012	7.76	2.63	12.02	4.76	0.77	2.00	0.67	0.07	0.04	2.72	6.36	10.97	50.77
2013	2.57	1.78	3.09	2.44	1.17	0.43	0.00	0.08	3.14	0.05	1.29	0.56	16.60
2014	1.35	6.09	6.25	1.37	0.58	0.35	0.02	0.02	3.09	4.74	3.89	9.75	37.50
2015	1.36	5.04	3.21	2.57	0.07	0.04	0.15	0.41	0.27	1.18	4.88	14.66	33.84
2016	12.06	2.98	8.11	2.84	0.76	0.02	0.54	0.04	0.01	10.92	6.98	7.87	53.13
2017	10.51	11.10	7.97	5.46	1.31	0.59	0.07	0.05	1.01	1.64	7.40	1.94	49.05
2018	7.86	2.87	8.50	5.02	0.79	0.70	0.03	0.05	0.19	0.85	4.94	4.95	36.75
2019	6.67	14.43	4.79	2.51	2.61	0.00	0.00	0.18	1.92	1.51	1.75	7.63	44.00
2020	7.50	0.60	3.69	2.05	4.73	0.20	0.03	0.08	MT				18.88

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2016-07-22

WETS Table

WETS Station: EUREKA WFO WOODLEY ISLAND, CA								
Requested years: 2000 - 2022								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	55.3	40.8	48.1	6.13	3.64	7.44	11	0.0
Feb	55.2	40.9	48.1	5.13	2.86	6.25	9	0.0
Mar	56.1	42.4	49.3	5.49	3.65	6.58	11	0.0
Apr	57.4	44.3	50.8	3.52	2.22	4.25	8	0.0
May	59.8	47.9	53.9	1.49	0.64	1.81	4	0.0
Jun	62.5	50.6	56.5	0.68	0.20	0.77	2	0.0
Jul	63.5	52.8	58.1	0.16	0.04	0.16	0	0.0
Aug	64.4	53.3	58.8	0.14	0.05	0.15	0	0.0
Sep	64.4	50.8	57.6	0.78	0.21	0.91	2	0.0
Oct	61.9	47.1	54.5	2.62	0.92	3.15	5	0.0
Nov	58.2	43.3	50.8	4.52	3.17	5.37	9	0.0
Dec	54.9	40.5	47.7	8.06	4.55	9.82	13	0.0
Annual:					33.36	43.90		
Average	59.5	46.2	52.8	-	-	-	-	-
Total	-	-	-	38.72			74	0.0

GROWING SEASON DATES			
Years with missing data:	24 deg = 1	28 deg = 1	32 deg = 1
Years with no occurrence:	24 deg = 22	28 deg = 19	32 deg = 1
Data years used:	24 deg = 22	28 deg = 22	32 deg = 22
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	No occurrence	2/17 to 12/9: 295 days
70 percent *	No occurrence	No occurrence	2/8 to 12/19: 314 days
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1886												9.78	9.78
1887	8.86	9.00	2.28		3.51	1.92	0.06	0.07	0.21	0.55	2.66	5.43	34.55
1888	12.95	1.98	4.09		0.76	4.66	0.44	0.00	0.06	1.15	3.41	5.93	35.43
1889	4.25	1.93	5.91		7.27	0.37	0.15	0.13	0.32	8.36	3.71	12.88	45.28
1890	18.26	13.88	11.57	1.43	1.71	0.90	0.08	0.02	0.79	0.44	0.18	5.48	54.74
1891	3.33	9.81	5.83	6.37	1.55	1.53	0.28	0.31	1.45	1.64	2.72	10.97	45.79
1892	3.29	2.53	5.32		3.63	0.45	0.00	0.09	0.99	2.90	8.19	6.55	33.94
1893	3.65	6.27	10.59	2.99	2.43	0.33	0.00	0.00	2.39	4.33	9.87	6.69	49.54

1894	12.38	6.13	7.46	M1.28	1.31	1.67	0.02	0.04	1.84	3.12	2.03	12.31	49.59
1895	9.37	3.60	5.31	2.88	5.39	0.06	0.23	0.11	3.14	0.05	3.88	7.50	41.52
1896	8.14	4.61	6.93	6.88	6.22	0.51	0.00	0.70	1.60	2.37	8.00	9.41	55.37
1897	3.04	11.23	9.85	1.36	0.75	1.60	0.03	0.15	1.05	2.63	5.44	6.18	43.31
1898	3.23	8.00	1.80	1.82	2.62	1.21	0.00	0.06	1.48	2.13	4.43	3.17	29.95
1899	6.50	5.03	8.53	1.91	1.73	0.75	0.00	0.42	0.88	4.28	14.80	7.05	51.88
1900	6.63	6.04	3.42	4.43	2.08	1.70	T	0.07	0.21	7.07	8.01	5.27	44.93
1901	9.93	7.41	3.86	4.08	1.50	0.12	0.03	T	4.26	2.46	3.96	4.43	42.04
1902	1.95	19.49	7.85	4.56	2.70	0.27	0.25	T	0.14	2.34	10.88	8.33	58.76
1903	16.07	3.80	7.42	1.23	0.70	0.57	0.06	0.53	0.28	2.42	10.79	4.03	47.90
1904	5.24	16.10	19.05	5.14	1.02	0.55	0.75	T	1.36	2.67	4.41	8.18	64.47
1905	4.81	0.99	7.41	0.78	1.99	0.12	0.02	0.00	0.38	1.50	3.93	4.32	26.25
1906	7.63	6.27	7.72	2.14	3.57	1.56	0.01	0.01	0.76	0.67	3.13	7.59	41.06
1907	10.40	10.57	11.83	3.30	1.69	0.58	T	2.66	0.63	1.48	2.38	8.59	54.11
1908	7.23	6.59	2.82	0.85	2.57	0.19	T	0.16	0.02	5.09	3.97	3.91	33.40
1909	14.41	11.54	2.72	0.24	0.76	0.14	0.55	T	0.61	3.78	12.60	4.29	51.64
1910	7.26	7.33	1.97	0.83	0.64	0.49	0.00	0.00	0.01	0.82	6.86	3.43	29.64
1911	8.63	3.75	1.45	3.39	3.52	0.23	T	0.08	0.29	1.68	2.09	4.74	29.85
1912	10.17	5.73	4.73	5.92	1.98	1.29	0.05	0.04	2.40	1.55	6.86	5.83	46.55
1913	8.10	0.87	3.61	3.41	1.67	1.60	0.28	0.03	0.48	0.88	5.29	7.58	33.80
1914	9.75	4.20	3.13	3.27	0.70	1.73	0.01	T	1.82	3.79	2.42	7.09	37.91
1915	9.75	12.39	1.65	1.38	2.07	0.05	0.26	0.00	0.11	0.79	6.15	5.19	39.79
1916	13.02	5.18	4.83	1.98	1.48	1.00	1.34	0.12	0.38	0.47	3.13	5.47	38.40
1917	5.53	5.10	5.01	3.78	1.02	0.00	0.00	0.02	0.66	0.00	6.43	1.17	28.72
1918	2.55	6.29	5.84	1.15	0.29	0.02	0.22	0.21	1.42	1.00	4.74	4.29	28.02
1919	7.84	8.18	6.25	4.03	1.48	0.14	0.01	0.01	1.52	0.24	2.99	4.33	37.02
1920	1.87	2.11	5.79	3.12	0.04	1.92	0.13	0.49	2.47	4.11	6.35	10.83	39.23
1921	8.37	7.45	3.04	1.67	2.54	1.30	0.00	0.01	0.27	1.59	6.21	4.48	36.93
1922	2.54	9.75	6.43	2.39	0.95	0.14	0.00	0.03	0.37	3.38	3.32	7.62	36.92
1923	3.88	0.50	0.80	2.95	1.26	1.07	0.03	0.02	1.54	2.55	2.86	4.93	22.39
1924	1.95	3.19	2.85	0.67	0.08	0.05	0.02	1.03	0.41	6.84	6.37	4.07	27.53
1925	3.97	6.49	2.02	7.47	2.57	0.24	T	0.25	3.56	0.95	3.71	4.84	36.07
1926	4.69	6.64	0.07	0.94	1.13	T	0.01	0.54	0.43	3.49	13.65	6.47	38.06
1927	5.83	10.30	3.95	3.32	1.68	0.91	0.00	0.02	0.86	1.17	5.89	3.10	37.03

1928	3.40	2.78	7.01	5.86	0.12	0.32	0.02	0.05	M0.58	2.21	4.90	7.82	35.07
1929	4.31	2.06	2.31	2.61	0.14	2.39	T	0.01	0.00	0.21	T	7.13	21.17
1930	6.32	4.92	1.23	2.54	1.04	0.13	T	T	1.12	1.21	3.20	2.50	24.21
1931	4.09	2.39	3.35	1.61	0.49	1.33	0.01	0.01	0.54	2.28	5.75	9.06	30.91
1932	6.84	1.20	4.54	4.87	1.41	0.11	0.14	0.03	0.01	1.32	5.11	5.54	31.12
1933	7.04	M2.93	7.20	0.97	4.23	0.30	T	0.05	0.70	2.08	0.38	6.50	32.38
1934	3.83	2.31	3.61	1.68	1.23	0.29	T	0.01	0.47	3.98	8.63	5.28	31.32
1935	7.25	2.73	5.60	4.86	0.30	0.27	0.09	T	1.10	3.02	1.35	6.79	33.36
1936	8.84	5.89	1.77	2.13	2.23	1.34	0.09	T	0.04	0.49	0.01	3.97	26.80
1937	4.27	5.41	7.19	6.55	0.88	1.35	0.03	0.05	0.19	4.33	10.95	4.26	45.46
1938	6.28	13.94	13.97	2.23	0.31	0.01	T	T	1.74	3.34	3.12	5.97	50.91
1939	4.49	4.41	5.03	0.37	1.85	0.56	0.23	0.06	0.05	1.82	0.91	12.13	31.91
1940	4.37	9.62	7.47	0.81	2.54	0.32	0.00	0.00	0.91	4.03	2.29	8.87	41.23
1941	11.37	6.68	4.31	4.49	3.61	1.52	0.06	0.18	0.48	2.64	3.91	12.87	52.12
1942	4.08	6.22	1.77	4.05	5.43	0.57	0.07	0.06	0.06	1.21	8.60	8.52	40.64
1943	5.23	3.51	5.83	3.23	4.25	0.47	0.04	0.21	0.01	4.61	3.59	1.67	32.65
1944	2.92	3.62	2.25	4.25	3.49	1.19	0.10	0.19	0.19	2.79	9.11	5.92	36.02
1945	3.64	9.55	6.03	2.27	3.43	T	T	0.10	1.09	3.38	9.47	9.93	48.89
1946	4.32	5.10	4.68	0.42	1.26	0.30	0.12	0.01	0.32	2.26	4.36	1.56	24.71
1947	3.93	1.33	3.91	1.84	0.17	1.58	1.20	0.10	0.59	6.50	1.72	3.09	25.96
1948	8.23	5.20	6.16	6.53	2.16	0.77	0.25	0.13	1.71	3.33	3.19	7.35	45.01
1949	1.63	6.09	6.94	0.41	2.56	0.06	0.16	0.02	0.50	2.03	3.23	4.49	28.12
1950	13.79	4.61	7.71	1.93	1.30	1.03	0.05	0.07	0.35	13.04	3.43	5.99	53.30
1951	8.47	7.56	3.94	2.05	1.38	T	0.05	0.02	0.79	3.88	7.80	9.10	45.04
1952	10.67	6.22	3.78	1.34	1.77	1.98	T	0.01	0.73	0.62	2.13	11.87	41.12
1953	12.63	3.44	5.95	3.18	5.83	1.24	T	0.41	0.61	3.84	9.57	3.62	50.32
1954	11.78	3.29	3.76	2.78	0.16	2.57	0.04	1.24	0.87	1.47	5.09	9.65	42.70
1955	5.73	1.83	1.82	5.56	0.03	0.11	0.21	T	1.18	2.64	5.77	11.63	36.51
1956	11.51	7.47	2.36	0.31	1.58	1.71	0.06	T	0.33	5.47	0.49	7.18	38.47
1957	4.22	4.36	8.77	1.96	3.42	0.30	0.34	0.02	1.37	6.00	4.44	5.69	40.89
1958	8.57	10.80	6.09	3.67	1.26	0.71	0.05	T	0.78	1.17	3.71	4.06	40.87
1959	7.23	10.65	3.37	0.52	0.91	0.25	T	0.01	1.54	0.74	0.28	3.64	29.14
1960	3.87	7.48	8.13	2.92	6.05	T	0.02	0.04	0.01	1.31	9.87	5.08	44.78
1961	4.54	7.53	7.90	3.49	3.97	0.50	0.03	0.30	0.53	2.28	5.65	3.44	40.16

1962	3.26	6.08	4.04	2.62	0.60	0.11	T	1.92	0.71	6.49	6.77	2.58	35.18
1963	1.70	4.74	6.28	10.68	1.74	0.33	0.11	0.07	0.68	5.41	6.91	3.20	41.85
1964	11.13	1.20	5.91	0.67	1.59	0.72	0.83	0.03	0.07	1.82	12.11	10.96	47.04
1965	5.82	1.36	1.23	5.60	0.44	0.35	T	0.36	T	0.70	5.20	5.22	26.28
1966	9.44	3.12	6.57	1.34	0.06	0.30	0.25	0.50	1.33	1.02	9.86	6.52	40.31
1967	8.87	1.47	7.44	5.29	1.52	0.32	0.00	T	1.32	2.15	4.40	4.34	37.12
1968	7.59	2.93	3.85	0.40	1.04	0.20	0.04	1.98	0.60	2.81	5.88	8.32	35.64
1969	13.92	7.82	1.56	3.22	1.01	0.34	0.05	T	0.36	3.20	3.49	9.60	44.57
1970	12.46	3.15	2.70	1.54	1.38	0.29	T	T	0.32	2.11	13.20	10.24	47.39
1971	5.41	3.28	7.91	2.92	1.28	1.51	0.16	0.55	2.08	0.92	6.36	6.38	38.76
1972	7.96	5.93	5.08	2.27	1.11	0.88	0.01	0.07	1.06	1.97	5.41	7.42	39.17
1973	6.47	3.85	7.10	0.35	0.85	0.23	T	0.08	2.35	4.14	16.58	7.02	49.02
1974	6.02	5.98	6.98	3.15	0.42	0.33	0.11	0.32	T	1.76	2.75	6.40	34.22
1975	5.20	7.68	10.73	3.29	1.05	0.58	0.10	0.58	0.01	6.77	4.72	5.38	46.09
1976	1.88	7.51	3.12	2.80	0.54	0.14	0.20	1.70	0.04	0.28	2.98	0.52	21.71
1977	1.90	2.24	4.33	1.20	2.10	0.07	T	0.20	3.35	2.79	4.51	6.60	29.29
1978	4.52	6.06	2.88	4.10	0.82	0.34	0.03	0.59	2.72	0.04	2.39	1.16	25.65
1979	3.82	6.26	1.70	3.94	2.25	0.05	0.31	0.13	1.15	6.14	6.19	3.75	35.69
1980	3.19	4.67	6.14	4.18	1.70	0.42	T	0.07	0.14	1.38	2.49	6.10	30.48
1981	7.67	3.72	4.64	0.71	2.02	0.57	T	0.01	0.97	3.71	9.39	9.88	43.29
1982	4.75	5.76	7.06	5.97	0.07	0.78	0.08	0.03	0.62	4.89	7.83	10.30	48.14
1983	8.48	9.18	10.73	5.47	1.12	0.65	0.89	3.42	0.87	1.87	10.40	14.13	67.21
1984	0.76	5.18	4.70	2.76	2.51	1.07	0.03	0.05	0.55	3.67	15.15	4.27	40.70
1985	0.66	3.69	4.68	0.45	1.14	0.89	0.15	0.52	1.06	4.07	2.98	2.78	23.07
1986	7.19	10.08	6.12	1.46	2.34	0.21	0.02	T	2.70	1.75	1.85	3.83	37.55
1987	6.48	3.38	6.10	1.15	0.41	0.26	0.20	0.06	0.02	1.05	4.23	10.92	34.26
1988	7.13	0.54	1.18	2.06	2.70	2.22	0.05	T	0.12	0.41	8.93	6.26	31.60
1989	4.71	2.88	7.63	2.01	1.67	0.21	0.08	0.13	0.85	2.90	1.60	0.80	25.47
1990	7.20	4.50	3.30	1.41	3.74	0.32	0.22	0.71	0.19	1.73	3.07	2.91	29.30
1991	1.65	2.75	6.94	2.52	2.16	0.26	1.13	0.37	T	1.06	1.95	2.36	23.15
1992	3.99	3.80	3.51	2.42	0.06	1.27	0.25	0.01	0.33	2.08	2.21	9.33	29.26
1993	7.15	5.93	4.72	5.94	4.44	1.23	0.37	0.54	0.03	0.56	1.35	7.12	39.38
1994	5.09	7.12	2.06	3.30	1.10	0.71	0.08	T	0.06	0.54	8.21	7.00	35.27
1995	12.74	1.40	11.18	7.47	1.21	1.85	0.08	0.22	0.69	0.53	2.26	11.56	51.19

1996	10.74	8.11	3.51	4.64	2.40	0.05	0.03	T	1.21	3.50	5.16	21.26	60.61
1997	8.81	2.55	2.73	3.06	0.90	1.25	T	0.84	2.05	2.73	7.39	4.73	37.04
1998	13.42	13.95	7.83	2.23	3.12	0.33	0.16	0.01	0.08	3.06	14.09	5.40	63.68
1999	4.37	10.32	8.94	1.79	1.62	0.15	0.04	0.30	0.05	1.60	7.36	3.02	39.56
2000	9.71	7.00	2.81	2.15	1.86	0.54	0.04	T	0.55	2.99	3.51	1.97	33.13
2001	3.79	3.60	2.45	2.54	0.71	0.69	0.20	0.21	0.28	1.00	7.71	11.56	34.74
2002	6.37	5.76	4.32	2.42	0.55	0.28	0.03	0.01	0.06	0.06	2.66	23.31	45.83
2003	5.51	3.84	4.91	11.25	1.74	0.04	0.02	0.49	0.35	0.55	5.78	11.35	45.83
2004	6.29	8.12	2.38	1.68	1.37	0.06	0.06	0.43	0.68	5.71	1.87	9.43	38.08
2005	5.91	2.41	6.24	4.70	3.90	3.08	0.05	0.07	0.08	2.40	8.52	12.72	50.08
2006	12.09	6.34	11.11	4.08	1.03	0.35	0.04	T	0.09	0.58	7.41	7.09	50.21
2007	1.86	11.86	2.51	2.72	0.86	0.46	0.97	0.08	0.60	4.92	2.33	7.30	36.47
2008	9.70	2.73	3.16	2.12	0.04	0.24	0.02	0.47	0.05	0.93	4.05	6.66	30.17
2009	1.58	6.20	5.45	1.23	2.93	0.18	0.06	0.02	1.03	1.95	4.15	4.17	28.95
2010	9.29	4.20	6.06	7.76	3.51	2.31	0.04	0.15	1.39	4.26	4.69	10.08	53.74
2011	2.23	3.62	11.88	4.07	1.43	1.29	0.17	0.04	0.37	4.21	3.86	2.22	35.39
2012	7.76	2.63	12.02	4.76	0.77	2.00	0.67	0.07	0.04	2.72	6.36	10.97	50.77
2013	2.57	1.78	3.09	2.44	1.17	0.43	0.00	0.08	3.14	0.05	1.29	0.56	16.60
2014	1.35	6.09	6.25	1.37	0.58	0.35	0.02	0.02	3.09	4.74	3.89	9.75	37.50
2015	1.36	5.04	3.21	2.57	0.07	0.04	0.15	0.41	0.27	1.18	4.88	14.66	33.84
2016	12.06	2.98	8.11	2.84	0.76	0.02	0.54	0.04	0.01	10.92	6.98	7.87	53.13
2017	10.51	11.10	7.97	5.46	1.31	0.59	0.07	0.05	1.01	1.64	7.40	1.94	49.05
2018	7.86	2.87	8.50	5.02	0.79	0.70	0.03	0.05	0.19	0.85	4.94	4.95	36.75
2019	6.67	14.43	4.79	2.51	2.61	0.00	0.00	0.18	1.92	1.51	1.75	7.63	44.00
2020	7.50	0.60	3.69	2.05	4.73	0.20	0.03	0.08	0.74	0.41	2.55	3.96	26.54
2021	7.10	4.32	3.93	0.71	0.25	1.06	0.21	0.03	1.24	4.02	2.85	7.25	32.97
2022	1.90	0.51	1.49	4.57	M1.28								9.75

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

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GHD

718 Third Street

Eureka, CA 95501

T: 707-798-7494

E: info@ghd.com

www.ghd.com