

FINAL REPORT ◦ APRIL 2015

# Preliminary Delineation of Waters and Wetlands for the PG&E Humboldt Bay Power Plant Final Site Restoration Plan, Humboldt County, California



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Cover photos: Wetland delineation area, Humboldt Bay Power Plant, Stillwater Sciences 2015.

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# 1 INTRODUCTION

## 1.1 Project Description and Proponent

Pacific Gas and Electric Company (PG&E) is decommissioning the Humboldt Bay Power Plant (HBPP) located on its 75-acre site near King Salmon, Humboldt County, California. The HBPP consisted of two steam generating units (Units 1 and 2) and a boiling water nuclear reactor (Unit 3). PG&E operated the HBPP between 1956 and 2010. In 2010, the Humboldt Bay Generating Station (HBGS), located on the same property, began operation to replace the former generation capacity of the HBPP Units 1, 2, and 3. PG&E has prepared a Final Site Restoration plan (FSR) plan for the HBPP property, which includes the following purposes and features:

- Reconfigure those portions of the site that are needed for on-going and future utility operation uses of the property;
- Implement biological resources mitigation prescribed in previous California Coastal Commission (CCC) permit proceedings or those that will be required due to the effects of implementing this FSR plan, such as those resulting from the creation of new wetlands;
- Restore to pre-existing conditions, those portions of the property that are not identified for ongoing utility operations;
- Re-route or repair drainage, establish new storm water detention basins, and grade the site to maximize implementation of Low Impact Development (LID) measures;
- Re-route, repair, or remove communications and other infrastructure on the property as needed; and
- Remediate contaminated soil in areas that involve FSR construction and that were not previously permitted by the CCC and are not located in wetlands. Soil remediation in any area identified as a jurisdictional wetland would be addressed under a separate plan.

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## 1.2 Project Location and Survey Area

The HBPP property is located at 1000 King Salmon Avenue in King Salmon, CA (Figure 1). It is located in unincorporated Humboldt County approximately 3 miles south of the City of Eureka. The HBPP property is bordered to the north by Humboldt Bay, to the south and east by diked former salt marsh, and to the west by the residential and commercial community of King Salmon. The survey area is located in Section 8 of Township 4 North, Range 1 West, of the Fields Landing, California, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle at approximate latitude 40°44'28.77"N and longitude 124°12'35.07"W. The elevation of the survey area ranges from approximately 4 to 32 feet above mean sea level. It can be accessed via the King Salmon Avenue exit on U.S. Highway 101, heading west on King Salmon Avenue, and turning right into the HBPP Bravo Road entrance (Figure 2). Access is by permission of PG&E on-site security only.

The water and wetland review area (i.e., survey area) is a 5-acre portion of the 75-acre HBPP property that includes all areas that may be affected by the FSR plan (Figure 2). Previous wetland delineations were conducted in this area and have been verified by the USACE in 2006 and 2009 for the HBGS and HBPP decommissioning projects (CH2M Hill 2006, Mad River Biologists *et al.* 2009, Mad River Biologists 2010). However, as a result of the decommissioning activities in the area, site conditions have changed considerably since those previous wetland delineations and an updated delineation was needed.

### 1.3 Purpose of the Wetland Delineation

This delineation of waters and wetlands evaluates the potential impacts to these resources that could occur as a result of implementing the FSR plan. The purpose of this delineation is to: (1) assess the geographic extent of water and wetland resources in the survey area; (2) delineate any waters of the U.S. that are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act; (3) delineate any waters of the State that may be subject to the jurisdiction of the State Water Resources Control Board (SWRCB) and/or California Coastal Commission (CCC); and (4) delineate open waters (e.g., lakes and streams) that may be subject to California Fish and Game Code Section 1602. This report is considered preliminary until verified by the San Francisco Regulatory Branch of the USACE.

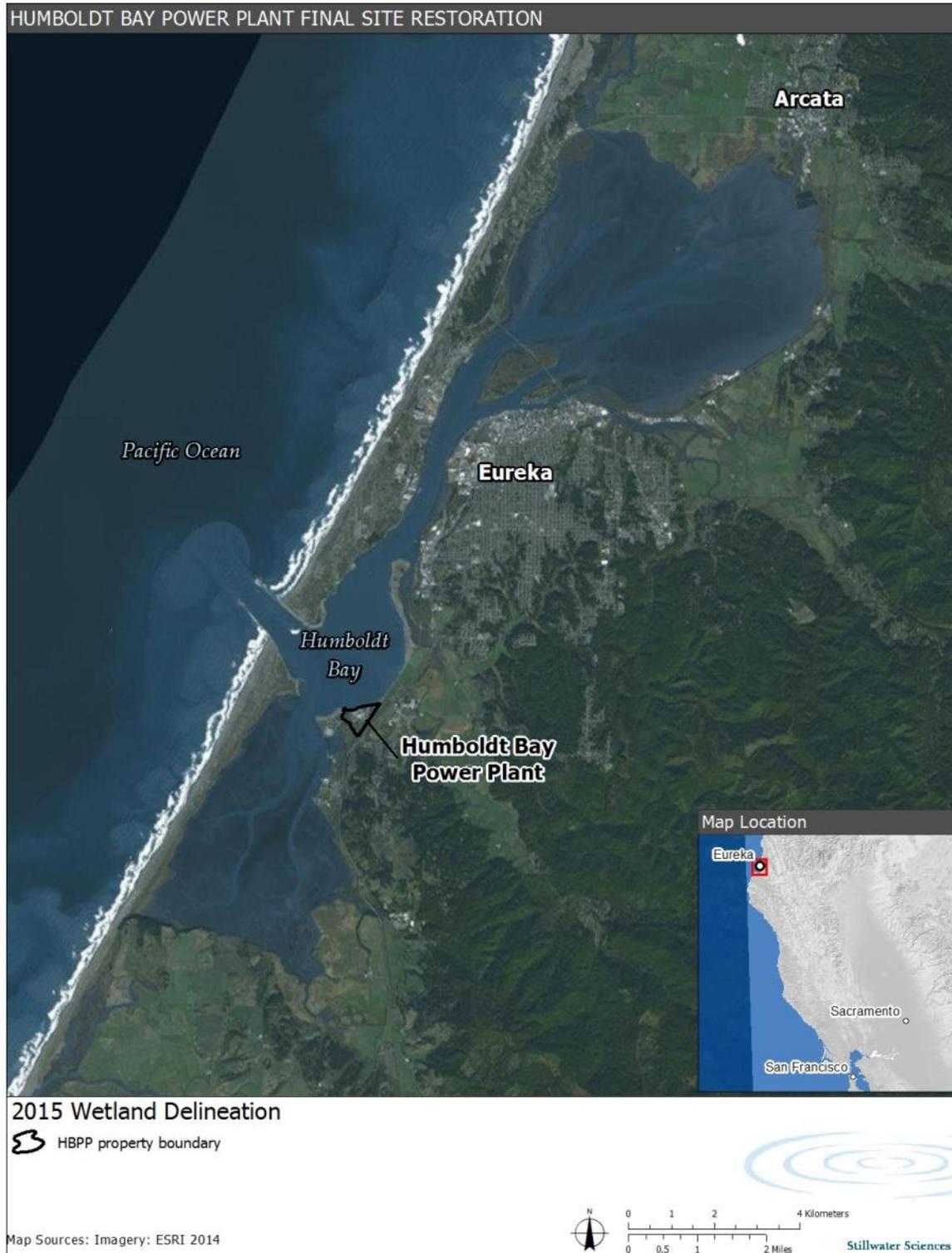


Figure 1. Project location.



Figure 2. Water and wetland delineation survey areas.

## 2 METHODS

### 2.1 Existing Conditions

Prior to the delineation efforts the existing vegetation, soils, hydrology, and precipitation information for the site were evaluated. Former wetland delineation reports (CH2M Hill 2006, Mad River Biologists *et al.* 2009, Mad River Biologists 2010) and the 2014 HBPP storm water drainage map (Nichols 2013) were reviewed. Information on jurisdictional waters and wetlands was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online application, *Wetlands Mapper* (USFWS 2015). No digital data were available from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey website; therefore, the most recent soil survey publication of the survey area, *Soils of western Humboldt County* (McLaughlin and Harradine 1965), was reviewed. Precipitation and climate records from the National Climatic Data Center (NCDC 2015) were reviewed for a nearby weather station, Eureka Weather Forecast Office, Woodley Island, California.

### 2.2 Field Delineation

A delineation of potential jurisdictional waters and wetlands within the survey area was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC Supplement; USACE 2010). The delineation was conducted on February 3, 5, 9, and 10, 2014 by qualified personnel.

Definitions of USACE jurisdictional waters of the U.S. (40 CFR 230.3(s)) that are pertinent to the survey area include:

- 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;
- Other waters—such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, wet meadows, or natural ponds—where the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes;
- Tributaries to waters identified above; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified above.

#### 2.2.1 Waters determination

The extent of waters, other waters, and tributaries was delineated by the location of the ordinary high water mark (OHWM). The OHWM is defined as the elevation established on the shore by water fluctuations, and it is indicated by physical characteristics such as: (a) a clear, natural line impressed on the bank; (b) shelving; (c) changes in the character of soil; (d) destruction of terrestrial vegetation; (e) the presence of litter and debris; or (f) other appropriate means that consider the characteristics of the surrounding areas. The OHWM was identified according to USACE *Regulatory Guidance Letter (RGL) No. 05-05* (USACE 2005). The OHWM of potentially jurisdictional waters was delineated in the field. Boundaries were mapped via a sub-

meter Global Positioning System (GPS) unit (Trimble Geo 6000) and later post-processed, corrected, and incorporated into Geographic Information Systems (GIS) where maps detailing the delineation results were generated. The delineation team recorded the width of the channel at the OHWM at representative cross-sections, and the OHWM water depth at the thalweg (i.e., the projected depth of water when the channel is filled to the OHWM). Other waters and tributaries were categorized as perennial (i.e., support water year-round) or seasonal based on observations in the field and/or in aerial photographs.

### 2.2.2 Wetland determination

Wetlands were delineated in accordance to the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountain, Valley, and Coast (WMVC) Supplement* (USACE 2010). The 1987 Manual and WMVC Supplement provided technical guidelines and methods for the three-parameter approach to determining the location and boundaries of USACE jurisdictional wetlands. This approach requires that an area must support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Connectivity of delineated wetlands to other waters and tributaries was evaluated in accordance with USACE RGL 07-01 (USACE 2007). Waters of the State can include all the waters and wetlands under the jurisdiction of the USACE. Wetlands under the jurisdiction of the CCC can include areas with only one or two of the three wetland parameters (vegetation, soils, and hydrology) that are located within the Coastal Zone.

A total of 11 data points were sampled in potential wetland areas in the survey area. If a data point met all three wetland parameters, it was labeled as a USACE wetland; if a point only met one or two wetland parameters, it was labeled as a CCC wetland; if a point met no wetland parameters, it was labeled upland. Potential wetland areas were identified based on information generated from the pre-field review (e.g., the NWI *Wetland Mapper* results), wetlands delineations conducted previously in the area, and observations of hydrology and vegetation in the field. If a data point met all three parameters for a wetland, then a paired data point was placed along the preliminary transition zone (the area in which a change from wetland to non-wetland conditions occurs) to determine the wetland/upland boundary. If the data point did not meet any of the three parameters, then the point was considered an upland location and a paired point was not collected. At each data point, a soil core was taken and the following information was recorded using the USACE (2010) data forms:

1. **Vegetation:** Dominant plant species for each stratum (i.e., tree, sapling/shrub, herb, woody vine) by scientific name (genus and species) following the taxonomy of *The Jepson Manual, Second Edition* (Baldwin *et al.* 2012). Absolute percent cover and dominance were determined using the 50/20 rule outlined in the *WMVC Supplement*, and the wetland indicator status (OBL [obligate], FACW [facultative-wet], FAC [facultative], FACU [facultative-upland], and UPL [upland]) defined for the WMVC Region in the *National Wetland Plant List: 2014 Update of Wetland Ratings* (Lichvar *et al.* 2014). Plant species not listed in the *2014 National Wetland Plant List* were considered upland (UPL) species. A dominance test was performed to determine if the data point exhibited hydrophytic vegetation. If the dominance test was not conclusive, then the prevalence index was calculated.
2. **Hydrology:** Presence and depth of surface water, groundwater, and/or soil saturation were recorded. In addition, if primary (e.g., oxidized rhizospheres along living roots) and secondary indicators (e.g., drainage patterns, dry-season water table, saturation visible on aerial imagery) were observed, then they were also recorded at each data point.

3. **Soils:** Moistened soil matrix descriptions were recorded for each data point using the following: depth of the sample, color (as defined in Munsell soil color charts [Munsell Color 2000]), and texture. If present, redox features were then described by type (e.g., concentration, depletion, reduced matrix) and location (e.g., pore lining, root channel, or matrix). Hydric soils were determined using the *WMVC Supplement* primary indicators, which include redox dark surface (F6) and redox depressions (F8). Per site restrictions within the HBPP Property, soil samples were limited to a depth of six inches from the soil surface. This restriction was not considered problematic since the above listed primary indicators could be applied to this soil profile depth.

The location of each data point was recorded and photographs were taken of the representative site characteristics. Coordinates were determined using a Trimble Geo 6000 GPS unit. The wetland boundaries were walked and locations along the perimeter were recorded using the GPS unit. These boundaries along with other GPS collected data were post-processed, corrected, and incorporated into GIS where maps detailing the delineation results were generated. Mapped wetlands were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.* 1979) based on the vegetation composition and structure at the data points.

## 3 RESULTS

### 3.1 Existing Conditions

#### 3.1.1 Hydrology

To the north and west of the HBPP property is Humboldt Bay. Humboldt Bay includes the Port of Humboldt Bay, a protected deep water port with harbor facilities designed to serve cargo and other vessels, and a number of marinas that serve hundreds of small to mid-size boats and pleasure crafts (Humboldt Bay Harbor, Recreation, & Conservation District 2014). Commercial oyster production operations that produce more than half of all oysters farmed in California are located in Humboldt Bay (Pomeroy *et al.* 2010). Tributaries to Humboldt Bay, Buhne Slough, and Fisherman's Channel/Intake Canal are located within and adjacent to the HBPP property (Figure 2). Humboldt Bay and these tributaries have a substantial influence on groundwater hydrology to adjacent wetlands within the survey area.

The Intake Canal is connected to Humboldt Bay via Fisherman's Canal. The Intake Canal was constructed in 1955 to convey once-through cooling water to the HBPP. With the construction of HBGS in 2010, the Intake Canal was no longer needed for power generation and became a closed, tidally-influenced inlet.

Buhne Slough originally had a direct connection to Humboldt Bay, but a tide gate was installed between Buhne Slough and Fisherman's Channel following construction of the PG&E Intake Canal circa 1955 (Tuttle 2007).

The area between the Assembly Building, Waste Management Building, and Bravo Road is a topographic low point on the property where stormwater runoff from adjacent areas collects (Figure 2). Collected stormwater is currently released with minimal retention from the low point into the Intake Canal through a 12-inch metal pipe that is controlled by a gate valve on the up-gradient side and a "duck bill" valve on the down-gradient side. An elevated vault containing a sewer lift station is located in this depression.

Field personnel identified the following types of jurisdictional wetlands and corroborate the data provided in *Wetlands Mapper*: (Figure 3):

- Fisherman's Channel/Intake Canal: sub-tidal estuarine sandy unconsolidated bottom wetlands and irregularly exposed estuarine intertidal rooted vascular aquatic bed wetlands,
- Buhne Slough: seasonally flooded intermittent riverine streambed,
- Buhne Slough surrounding area: seasonally flooded palustrine persistent emergent wetland, and
- Duck Pond: semi-permanently flooded and dike/impounded palustrine emergent persistent wetland.

### 3.1.2 Soil units

Soil in the HBPP property is mapped as residential, business/industrial, while the surrounding area is mapped as Bayside series (McLaughlin and Harradine 1965; Figure 4). The mapped residential, business/industrial sections of the Humboldt Bay coast have no official soil survey description. The Bayside series consists of a very deep, poorly-drained soil that is characterized by the NRCS Soil Survey Division (NRCS 2005) as follows:

*The Bayside series consists of very deep, poorly drained soils that formed in alluvium derived from mixed sources. Bayside soils are in depressional areas of flood plains with slopes 0 to 3 percent. Elevations are 0 to 50 feet. The climate is humid, characterized by warm wet winters and warm moist summers with fog. A strong marine influence limits the diurnal and annual range of temperature. Characteristically, Bayside soils consist of a silty clay loam that is a very dark grayish brown with hard, firm sticky and plastic-textured A horizons that are moderately acidic overlying similar colored C horizons, which are strongly acidic with common iron accumulation masses. The Bayside series is distributed in flood plains of southwestern Oregon and northwestern California coast and mainly used for improved pasture. Native vegetation is Douglas fir, Sitka spruce, redwood, red alder, willow, sedges, rushes, bulrushes and bentgrass.*

Bayside series is listed as a hydric soil on the *NRCS National Hydric Soils List* (NRCS 2014).

Data points collected in areas mapped as Bayside silty clay loam, very poorly drained, confirmed this soil unit with matrix colors ranging from 10YR4/1 and 10YR 4/2 (Appendix A). Data points from areas mapped as residential, business/industrial closely resembled the Bayside soil series with matrix colors of 10YR3/1, 10YR3/2, 10YR4/1, and 10YR4/2. Data points commonly contained both silty clay loam and clay loam soil, which is consistent with soil found in the Bayside series. Soil samples were considered hydric when positive primary indicators were identified, such as redox depressions or redox dark surface (data points 1A, 2A, 3A, 3B, 4A, Appendix A).

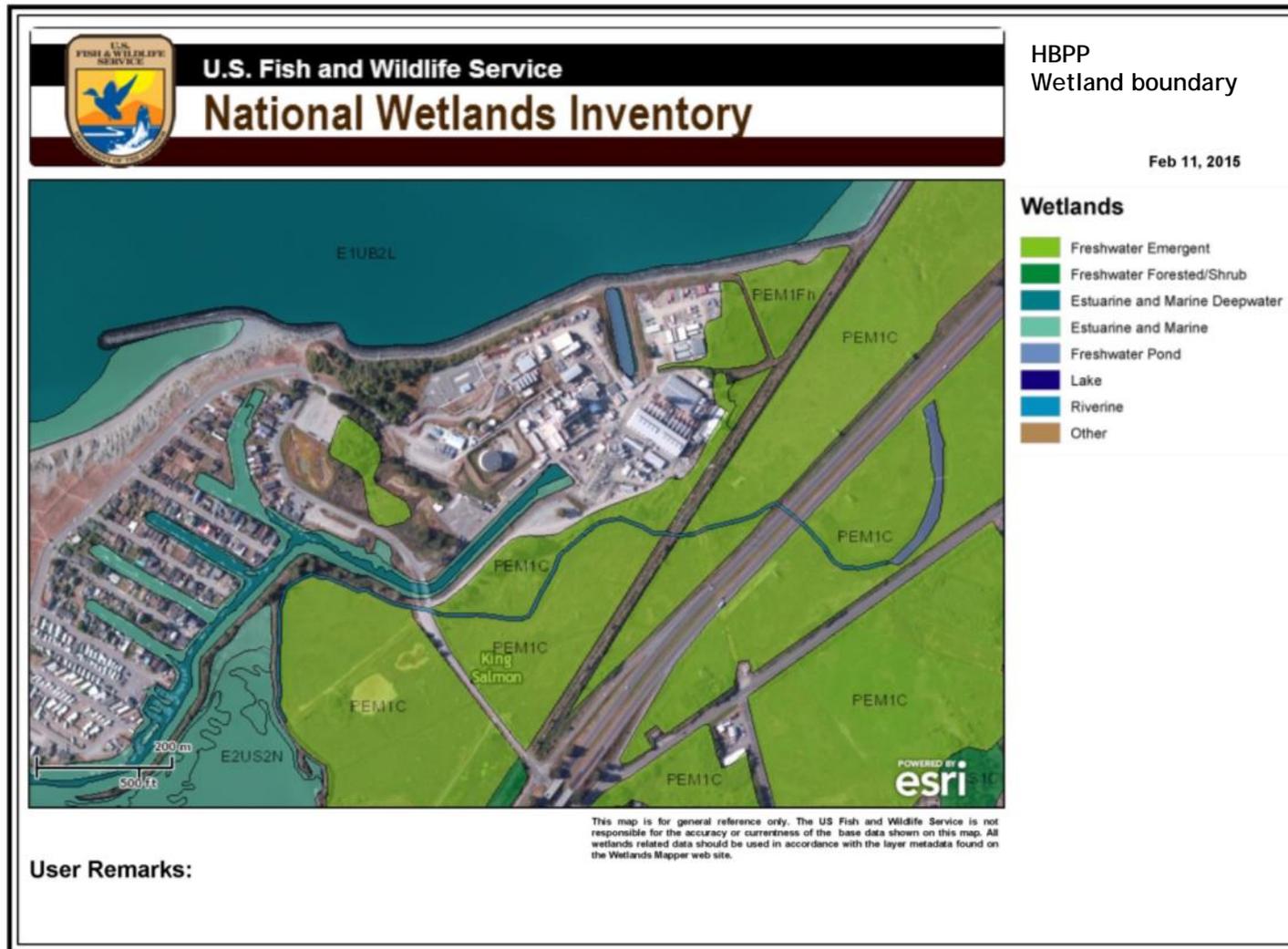


Figure 3. National Wetlands Inventory Map of the survey area (Source: USFWS 2015).

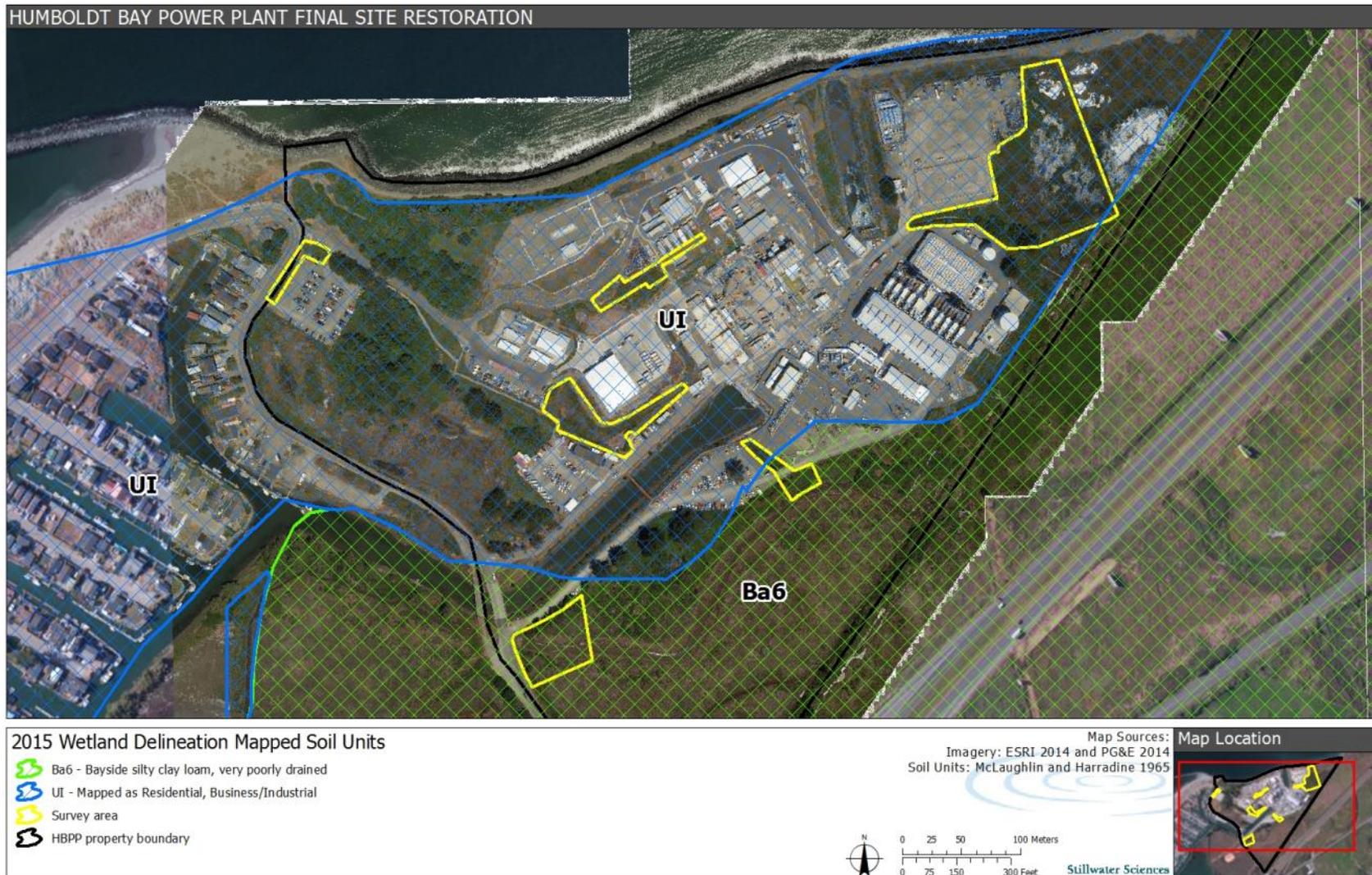


Figure 4. Mapped soil units in the survey area.

### 3.1.3 Precipitation

The Eureka, California National Oceanic and Atmospheric Administration (NOAA) weather station recorded 5.4 inches of precipitation (rain) from 1 January 2015 through 8 February 2015. Most of the precipitation, 4.1 inches from 2–8 February 2015, was a result of a storm event that coincided with the wetland delineation. According to the weather station, the average precipitation in January (based on the 1981–2010 period of record) is 6.5 inches and in February is 5.6 inches (NCDC 2015). Consequently, precipitation conditions were considered normal during the field survey. Weather conditions during the delineation were overcast to raining and cool (58–67°F) and warmer than the weather station’s average monthly climate normal of 48.9°F (NCDC 2015).

### 3.2 Preliminary Jurisdictional Waters and Wetlands

The survey area contains 2.27 acres of waters of the U.S. that are under the jurisdiction of the USACE (2.25 of which are also considered waters of the State), 2.39 acres of wetlands that are under the jurisdiction of both the USACE and CCC (USACE jurisdictional wetlands also fall under the jurisdiction of the CCC), and an additional 0.14 acre of wetlands that are solely under the jurisdiction of the CCC. These waters and wetlands are summarized in Table 1, described below, and mapped in Figures 6–11.

Table 1. Waters and wetlands identified in the survey area.

| Description  | Acreage |
|--|---------|
| <b><i>Waters of the U.S.</i></b>                                 |         |
| <b><i>Waters<sup>1</sup></i></b>                                 |         |
| Buhne Slough   | 0.20    |
| Intake Canal   | 1.96    |
| Intermittently flowing drainage ditches                          | 0.11    |
| <b><i>Wetlands Adjacent to Waters<sup>2</sup></i></b>            |         |
| Semi-permanently flooded palustrine persistent emergent wetlands | 1.84    |
| Seasonally flooded palustrine persistent emergent wetlands       | 0.55    |
| <b><i>Additional CCC Jurisdictional Wetlands</i></b>             |         |
| One-parameter wetlands   | 0.14    |

<sup>1</sup> Buhne Slough, Intake Canal and 0.095 acre of the intermittently flowing drainage ditches are also considered waters of the State

<sup>2</sup> Also considered CCC Jurisdictional Wetlands



Figure 5. Preliminary waters of the U.S. identified in the survey area.



Figure 6. Preliminary waters of the U.S. identified in the Buhne Slough survey area.



Figure 7. Preliminary waters of the U.S. identified in the Bay View survey area.



Figure 8. Preliminary waters of the U.S. identified in the Alpha Road Parking survey area.



Figure 9. Preliminary waters of the U.S. identified in the Duck Pond survey area.

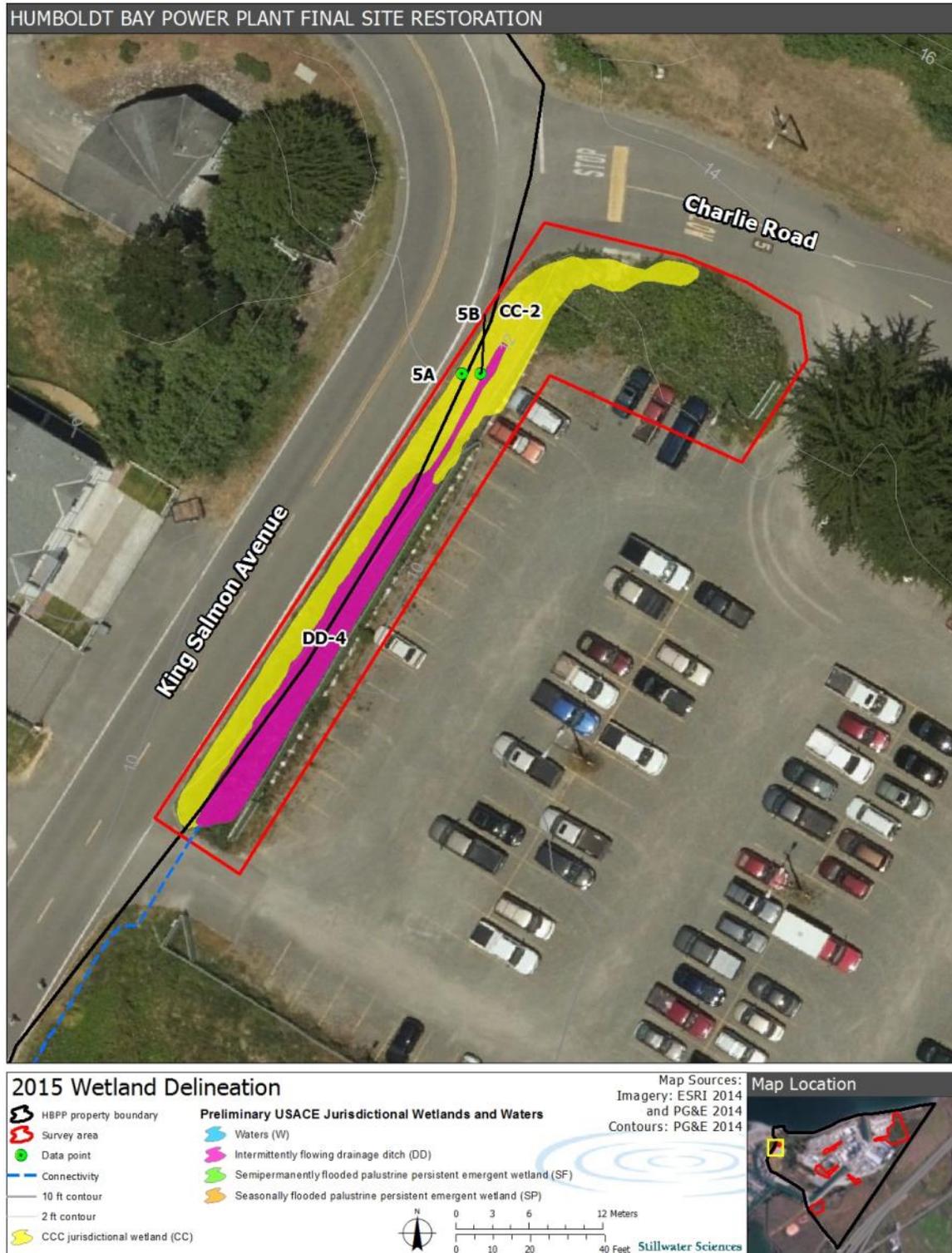


Figure 10. Preliminary waters of the U.S. identified in the Charlie Road Parking survey area.



Figure 11. Preliminary waters of the U.S. identified in the stormwater basin survey area.

### 3.2.1 Waters of the U.S.

Waters of the U.S. in the survey area include the Intake Canal, Buhne Slough, and intermittently flowing drainage ditches that exhibit an OHWM and drain directly or eventually into a traditional navigable water such as Humboldt Bay (W-1, W-2, DD-1–DD-4, Figures 5–11). These areas are also considered waters of the State with the exception of DD-1. Drainage ditches within the HBPP Property were previously mapped and verified by the USACE as “other waters subject to Section 404 of CWA” and therefore are included in this delineation. Twenty transects were surveyed to measure and characterize these waters (Appendix C). Based on these transects, there are 2.27 acres of waters of the U.S. identified and delineated in the survey area (Table 1). The OHWM indicators at these locations include: bed and bank features, wracking, stream bank shelving, and change in vegetation (Appendices C and D). Waters of the U.S. in the survey area ranged in width (based on the horizontal distance between the right and left bank OHWMs) from 1 to 138 feet and ranged in depth (based on the vertical distance between the OHWM and channel thalweg) from 2 inches to greater than 25 feet (Appendices C and D).

### 3.2.2 Wetlands

There are a total of 2.39 acres of USACE- and CCC-jurisdictional wetlands and an additional 0.14 ac of CCC-jurisdictional wetlands that were identified and delineated in the survey area (Table 1). Two wetland types occur in the survey area: (1) semi-permanently flooded palustrine persistent emergent wetlands; and (2) seasonally flooded palustrine persistent emergent wetlands, hereinafter called semi-permanently flooded wetlands and seasonally flooded wetlands, respectively (Figures 5–9 and 11). Persistent emergent wetlands are dominated by plant species that normally occur in standing water at least until the beginning of the next growing season (Cowardin *et al.* 1979). Semi-permanently flooded is a water regime where the surface water persists throughout the growing season in most years or when surface water is absent, the water table is usually at or very near the land surface (Cowardin *et al.* 1979). Seasonally flooded wetlands have surface water for extended periods, especially early in the growing season, but water is absent by the end of the season in most years or when surface water is absent, the water table is often near the land surface (Cowardin *et al.* 1979).

#### 3.2.2.1 Semi-permanently flooded wetlands

There are two semi-permanently flooded wetlands in the survey area: (1) a brackish to freshwater marsh located on the eastern portion of the property that is referred to as the “Duck Pond” (SP-2, Figures 5 and 9) and (2) the stormwater detention basin connected via tide gate to the Intake Canal (SP-1, Figures 5 and 11). *Bolboschoenus maritimus* subsp. *paludosus* (saltmarsh bulrush, OBL) and *Typha latifolia* (broad-leaved cattail, OBL) are predominant throughout these wetlands. Both wetlands were located in topographic depressions surrounded by higher elevation levees and experience long durations of inundation.



Duck Pond (SP-2)

At the Duck Pond wetland (SP-2), saltmarsh bulrush is the dominant plant with low to moderate cover provided by broad-leaved cattail, *Holcus lanatus* (velvet grass, FAC), *Potentilla anserina* ssp. *pacifica* (Pacific silverweed, OBL), *Oenanthe sarmentosa* (Pacific oenanthe, OBL), and *Agrostis stolonifera* (creeping bentgrass, FAC).

Saltmarsh plant species, including *Salicornia pacifica* (Pacific pickleweed, OBL), *Distichlis spicata* (salt grass, FACW), and *Atriplex prostrata* (fat-hen, FAC) occur in patches throughout Duck Pond, indicating the presence of saline/brackish water intrusion or subsurface flow from the adjacent Humboldt Bay (Figure 9). Hydrophytic vegetation along the banks includes *Juncus lescurii* (San Francisco rush, FACW), *Salix hookeriana* (coastal willow, FACW), *Angelica lucida* (sea-watch, FAC), and *Symphyotrichum chilense* (common Pacific aster, FAC). Dominant upland vegetation along the levees includes *Rubus armeniacus* (Himalayan blackberry, FACU) and *Baccharis pilularis* (coyote brush, UPL), and various non-native grasses and forbs (Appendix E provides a list of all of the plant species recorded during the delineation and their wetland indicator status). Data point 4B best defines this wetland. Located along the wetland boundary, vegetative cover includes both wetland and upland plant species. Only one species, San Francisco rush, is calculated as being dominant under the dominance test indicator's "50/20 rule"; therefore, hydrophytic vegetation is considered present. The soil consists of silty clay loam with some gravel and contained redox features of prominent redox concentrations occurring as soft masses (5%) and depletions of the matrix (15%) within the upper six inches of the soil profile. Hydric soils were confirmed at this location by the primary hydric soil indicator redox dark surface (F6). Wetland hydrology was confirmed since saturation was evident in the soil pit (Appendix A). The paired upland data point 4A lacked all three wetland indicators (hydrophytic vegetation, hydrology, and hydric soils; Appendix A). Upland vegetation was composed of *Geranium dissectum* (cutleaf geranium, UPL), *Plantago lanceolata* (English plantain, FACU), *Taraxacum officinale* (common dandelion, FACU), *Trifolium repens* (white clover, FAC), *Helminthotheca echinoides* (bristly ox-tongue, UPL), and *Erica lusitanica* (Spanish heather, UPL).



Stormwater Detention Basin (SP-1)

The other semi-permanently flooded wetland in the survey area is the stormwater detention basin adjacent to the Intake Canal (described in Section 3.1.1) and an associated channel to the northwest that is connected to the basin by a buried culvert (SP-1, Figure 11). Although this is a manmade basin, this feature is included in this delineation since it was previously characterized as a jurisdictional wetland (Mad River Biologists 2010). Hydrophytic vegetation in the basin includes broad-leaved cattails, *Juncus effusus* (soft lamp rush, FACW), and *Deschampsia cespitosa* (tufted hair grass, FACW). Upland

vegetation surrounding the wetland basin includes Spanish heather, *Cortaderia* spp. (pampas grass, UPL), and *Rubus ursinus* (California blackberry, FACU). Data point 3A was positioned along the edge of the basin's associated channel. Hydrophytic vegetation was confirmed by the dominance test, as soft lamp rush and tufted hair grass are the dominant plant species. Hydric soil was confirmed by redox dark surface since 5% prominent redox concentrations occurred as pore linings in a layer greater than four inches thick within the upper 12 inches of the soil (0–5") with a matrix value of 3/1. Wetland hydrology was indicated by surface water and a high water table (Appendix A). This wetland shared a paired upland data point (3C) with the adjacent seasonally flooded wetland (described below), since these two wetlands border the same upland complex. The upland data point 3C was positioned along a gently sloped, mowed area, primarily composed of non-native grasses and forbs (Appendix A, Figure 11). Vegetation at the data point includes dominant plants velvet grass and cut-leaf geranium, along with low cover (<15%) by *Vicia tetrasperma* (sparrow vetch, UPL) and California blackberry. The dominance test was not

conclusive because the dominant hydrophytic vegetation was not greater than 50% and hydric soils were not present. Although the prevalence index was not required it was calculated to confirm whether the upland is a CCC-jurisdictional wetland. The prevalence index did not pass for hydrophytic vegetation and the location was not considered a CCC-jurisdictional wetland. The soil sample did not contain redox features and none of the hydric soil primary indicators applied. Although wetland hydrology was observed by saturation in the upper six inches of the soil pit, the lack of redox features, hydrophytic vegetation, and landscape position-bordering the toe slope, the saturation was likely a result of the coinciding precipitation rather than an enduring feature.

### 3.2.2.2 Seasonally flooded palustrine persistent emergent wetland

There are four seasonally flooded wetlands in the survey area (SF-1–SF-4, Figures 5–8 and 11), one of which is isolated in a closed depression with no apparent connectivity to waters of the U.S. (SF-3). Additionally, at one previously verified wetland, no change to the wetland parameters were identified (i.e., surface water and hydrophytic vegetation were evident) and the former wetland boundary was confirmed without further inspection (SF-2, Figures 5–6, Mad River Biologists 2010).



Isolated seasonally flooded wetland (SF-3)

The isolated seasonally flooded wetland is located in a small depression along a toe slope of a terraced hillside (SF-3, Figure 7). *Carex obnupta* (slough sedge, OBL) is established along with the weedy invasive plant *Vinca major* (big leaf periwinkle, UPL). Data point 1A best characterizes this area. Dominant hydrophytic vegetation consists of slough sedge and velvet grass. Less prevalent naturalized forbs include English plantain, cutleaf geranium, *Daucus carota* (Queen Anne's lace, FACU), *Rumex acetosella* (sheep sorrel, FACU), and *Vicia* sp. (vetch). Hydric soils are indicated by redox dark surface when a layer greater than four inches with a matrix

of 10YR3\1 has greater than two percent redox concentrations occurring as pore linings within the upper six inches of the soil profile. Wetland hydrology was confirmed by the primary indicator, oxidized rhizospheres along living roots (Appendix A). Upland habitat is best defined by the paired data point 1B. While hydric soil and wetland hydrology were confirmed at this location, hydrophytic vegetation is lacking. The dominance test for hydrophytic vegetation was not conclusive and the prevalence index was calculated, since both hydric soil and wetland hydrology were present. The plant species composition, mainly naturalized forbs, fails to meet the prevalence index criteria for hydrophytic vegetation (Appendix A). Hydric soils and wetland hydrology are similar to the paired data point 1A, with redox dark surface and oxidized rhizospheres along living roots observed in the soil profile. The upland location is considered to be a CCC-jurisdictional wetland, since more than one wetland parameter is evident (Appendix A; CC-1, Figure 7).



Seasonally flooded wetland adjacent to the stormwater detention basin (SF-1)

Another seasonally flooded wetland occurs along the northern border of the stormwater detention basin (SF-1, Figure 11). Data point 3B best characterizes this wetland (Appendix A). Hydrophytic vegetation includes velvet grass, common Pacific aster, *Cardamine oligosperma* (few-seeded bittercress, FAC), soft rush, and tufted hair grass. The soil sample was located in a depression subject to ponding, with five percent or more redox concentrations occurring as pore linings in a layer greater than two inches within the upper six inches of the soil profile and therefore confirmed the primary indicator redox

depressions (F8) (Appendices A and B; USACE 2010). Primary indicators of hydrology include a high water table and saturation within the soil pit. The paired upland data point (3C) characterizes the upland area for this wetland, and for the adjacent semi-permanently flooded wetland (described in Section 3.2.2.1; Figure 11).



Seasonally flooded wetland near Alpha Road and Buhne Slough (SF-4)

A third seasonally flooded wetland occurs in the southern portion of the survey area, bound by an intermittently flooded drainage ditch to the west, Buhne Slough to the south and a levee adjacent to Alpha Road to the north (SF-4, Figures 5 and 8). This wetland is characterized by data point 2A. Hydrophytic vegetation was confirmed by calculating the prevalence index since the dominance test was not conclusive. Due to the placement of the data point near the wetland boundary, the vegetation was a mixture of upland and wetland plants. Dominant vegetation includes common Pacific aster and coyote brush

(Appendix A). Additional plants include Pacific oenanthe, *Scirpus microcarpus* (small-fruited bulrush, OBL), velvet grass, California blackberry, and *Hedera helix* (English ivy, FACU). Hydric soils were confirmed by redox depressions (F8) (see description above). Wetland hydrology was confirmed by 1.5 inches of surface water and a soil pit with both a high water table and saturation present (Appendix A). The upland paired point (2B) was located along a levee hill slope and lacks hydrophytic vegetation and hydric soils. Although hydrology was indicated by saturation, this observation was likely a result of the storm event that coincided with the field delineation and not an enduring feature. This was concluded due to a lack of redoximorphic features in the soil profile and absence of hydrophytic vegetation at the data point. Vegetation consists of only California blackberry and coyote brush (both UPL).

An additional CCC-jurisdictional wetland occurs along the drainage ditch adjacent to King Salmon Road (CC-2 in Figure 10; Appendix A). At both data points 5A and 5B, hydrophytic vegetation is present, but hydric soils and wetland hydrology are lacking. Vegetation at these locations includes mainly velvet grass, but also few-seeded bittercress, *Fragaria chiloensis* (beach strawberry, FACU), Queen Anne's lace, *Poa annua* (annual blue grass, FAC), *Rumex*

*crispus* (curly dock, FAC), white clover, *Senecio vulgaris* (common groundsel, FAC), and cutleaf geranium (Appendix A).

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## Appendices

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**Appendix A**

**Wetland Delineation Datasheets**

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

Project/Site: HBPP City/County: King Salmon, Humboldt Sampling Date: 3 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 1A  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): LRRRA Lat: See Trimble GPS wpt 1A Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|   |              |          |   |
|---|--------------|----------|---|
| Hydrophytic Vegetation Present?   | Yes <u>X</u> | No _____ | Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ |
| Hydric Soil Present?  | Yes <u>X</u> | No _____ |   |
| Wetland Hydrology Present?  | Yes <u>X</u> | No _____ |   |
| Remarks:  |              |          |   |
| This sampling plot passes for all three wetland indicators and therefore it is considered within a wetland. |              |          |   |

### VEGETATION – Use scientific names of plants.

| <u>Tree Stratum</u> (Plot size: _____)          | Absolute % Cover | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b>  |               |
|---|------------------|-------------------|------------------|---|---------------|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)   |               |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |               |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |               |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b>  |               |
| 0 = Total Cover                                 |                  |                   |                  | Total % Cover of:   | Multiply by:  |
| <u>Sapling/Shrub Stratum</u> (Plot size: _____) | _____            | _____             | _____            | OBL species _____   | x 1 = _____   |
| 1. _____  | _____            | _____             | _____            | FACW species _____  | x 2 = _____   |
| 2. _____  | _____            | _____             | _____            | FAC species _____   | x 3 = _____   |
| 3. _____  | _____            | _____             | _____            | FACU species _____  | x 4 = _____   |
| 4. _____  | _____            | _____             | _____            | UPL species _____   | x 5 = _____   |
| 5. _____  | _____            | _____             | _____            | Column Totals: _____  | (A) _____ (B) |
| 0 = Total Cover                                 |                  |                   |                  | Prevalence Index = B/A = _____  |               |
| <u>Herb Stratum</u> (Plot size: <u>1m2</u> )    | _____            | _____             | _____            | <b>Hydrophytic Vegetation Indicators:</b>   |               |
| 1. <u>Carex obnupta</u>                         | <u>50</u>        | <u>Yes</u>        | <u>OBL</u>       | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation  |               |
| 2. <u>Plantago lanceolata</u>                   | <u>15</u>        | <u>No</u>         | _____            | <input checked="" type="checkbox"/> 2 - Dominance Test is >50%  |               |
| 3. <u>Rumex acetosella</u>                      | <u>2</u>         | <u>No</u>         | _____            | <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>  |               |
| 4. <u>Geranium dissectum</u>                    | <u>1</u>         | <u>No</u>         | _____            | <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |               |
| 5. <u>Holcus lanatus</u>                        | <u>30</u>        | <u>Yes</u>        | <u>FAC</u>       | <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>   |               |
| 6. <u>Daucus carota</u>                         | <u>2</u>         | <u>No</u>         | _____            | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |               |
| 7. <u>Vicia sp.</u>                             | <u>3</u>         | <u>No</u>         | _____            | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                  |               |
| 8. _____  | _____            | _____             | _____            |   |               |
| 9. _____  | _____            | _____             | _____            |   |               |
| 10. _____                                       | _____            | _____             | _____            |   |               |
| 11. _____                                       | _____            | _____             | _____            |   |               |
| 103 = Total Cover                               |                  |                   |                  |   |               |
| <u>Woody Vine Stratum</u> (Plot size: _____)    | _____            | _____             | _____            | <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____  |               |
| 1. _____  | _____            | _____             | _____            |   |               |
| 2. _____  | _____            | _____             | _____            |   |               |
| 0 = Total Cover                                 |                  |                   |                  |   |               |
| % Bare Ground in Herb Stratum <u>8</u>          |                  |                   |                  |   |               |

Remarks:  
 Within the OHWM of drainage ditch, persistent emergent vegetation is present throughout. Similar to adjacent isolated wetland.

**SOIL**

Sampling Point: 1A

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

| Depth<br>(inches) | Matrix        |    | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-6 in            | 10YR 3/1      | 85 | 10YR 6/8       | 7 | C                 | PL               | Clay loam |         |
|                   |               |    | 10YR 7/8       | 4 | C                 | PL               |           |         |
|                   |               |    | 10YR 5/2       | 4 | D                 | M                |           |         |
|                   |               |    |                |   |                   |                  |           |         |
|                   |               |    |                |   |                   |                  |           |         |
|                   |               |    |                |   |                   |                  |           |         |
|                   |               |    |                |   |                   |                  |           |         |
|                   |               |    |                |   |                   |                  |           |         |

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

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

- 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<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions

Depth (inches): 6

Hydric Soil Present? Yes X No \_\_\_\_\_

Remarks:

Redox dark surface applies due to matrix color (3/1) with greater than 2% redox concentrations in layer greater than 4 inches within the upper 6 inches of profile.

**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? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No \_\_\_\_\_

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

Remarks:

Sampling point in upper border of depression, surface water observed in depression. Max depth of surface water is 7 inches. Hydrology indicated by oxidized rhizospheres along living roots. (Site checked after storm event and surface water was evident at this sampling location).

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

Project/Site: HBPP City/County: King Salmon, Humboldt Sampling Date: 3 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 1B  
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Slope Slope (%): 50  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 1B Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|  |   |  |  |
|--|---|--|--|
| Hydrophytic Vegetation Present?  | Yes _____                               | No <input checked="" type="checkbox"/> | Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Hydric Soil Present?   | Yes <input checked="" type="checkbox"/> | No _____                               |  |
| Wetland Hydrology Present?   | Yes <input checked="" type="checkbox"/> | No _____                               |  |
| Remarks:   |   |  |  |
| Although hydric soil and wetland hydrology are present, hydrophytic vegetation is lacking therefore this plot is not within a USACE wetland. It does pass for a CCC wetland (has 2 wetland parameters) |   |  |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
|---|------------------|-------------------|------------------|--|-------------------|--------------|----------------------|-------------|-----------------------|-------------|-----------------------|------------------|------------------------|------------------|----------------------|-----------------|-------------------------------|----------------|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)   |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br><table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>36</u></td> <td>x 3 = <u>108</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>7</u></td> <td>x 5 = <u>35</u></td> </tr> <tr> <td>Column Totals: <u>107</u> (A)</td> <td><u>403</u> (B)</td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = _____ | FACW species <u>0</u> | x 2 = _____ | FAC species <u>36</u> | x 3 = <u>108</u> | FACU species <u>65</u> | x 4 = <u>260</u> | UPL species <u>7</u> | x 5 = <u>35</u> | Column Totals: <u>107</u> (A) | <u>403</u> (B) |
| Total % Cover of:                               | Multiply by:     |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| OBL species <u>0</u>                            | x 1 = _____      |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| FACW species <u>0</u>                           | x 2 = _____      |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| FAC species <u>36</u>                           | x 3 = <u>108</u> |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| FACU species <u>65</u>                          | x 4 = <u>260</u> |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| UPL species <u>7</u>                            | x 5 = <u>35</u>  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| Column Totals: <u>107</u> (A)                   | <u>403</u> (B)   |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| _____ = Total Cover                             |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| <b>Sapling/Shrub Stratum (Plot size: _____)</b> |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 1. _____  | _____            | _____             | _____            | Prevalence Index = B/A = <u>3.77</u>   |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 2. _____  | _____            | _____             | _____            |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 3. _____  | _____            | _____             | _____            | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)   |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 4. _____  | _____            | _____             | _____            |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 5. _____  | _____            | _____             | _____            | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| _____ = Total Cover                             |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| <b>Herb Stratum (Plot size: <u>1m</u>)</b>      |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 1. <u>Plantago lanceolata</u>                   | <u>50</u>        | <u>Y</u>          | <u>FACU</u>      | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 2. <u>Holcus lanatus</u>                        | <u>30</u>        | <u>Y</u>          | <u>FAC</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 3. <u>Geranium dissectum</u>                    | <u>3</u>         |                   | <u>UPL</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 4. <u>Erica lustricaria</u>                     | <u>2</u>         |                   | <u>UPL</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 5. <u>Lotus corniculatus</u>                    | <u>2</u>         |                   | <u>FAC</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 6. <u>Taraxacum officinale</u>                  | <u>15</u>        |                   | <u>FACU</u>      |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 7. <u>Trifolium repens</u>                      | <u>2</u>         |                   | <u>FAC</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 8. <u>Helminthotheca echoidies</u>              | <u>1</u>         |                   | <u>UPL</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 9. <u>Vicia americana</u>                       | <u>2</u>         |                   | <u>FAC</u>       |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 10. _____                                       | _____            | _____             | _____            |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 11. _____                                       | _____            | _____             | _____            |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 107 = Total Cover                               |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| <b>Woody Vine Stratum (Plot size: _____)</b>    |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 1. _____  | _____            | _____             | _____            |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| 2. _____  | _____            | _____             | _____            |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| _____ = Total Cover                             |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |
| % Bare Ground in Herb Stratum _____             |                  |                   |                  |  |                   |              |                      |             |                       |             |                       |                  |                        |                  |                      |                 |                               |                |

Remarks:  
 Dominance test not conclusive, prevalence index calculated since hydric soil and hydrology are present but vegetation does not pass for hydrophytic vegetation (i.e., greater than 3) and vegetation is not considered recently disturbed or naturally problematic.

**SOIL**

Sampling Point: 1B

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

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture   | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-6 in         | 10 YR 3/2     | 85 | 10 YR 6/8      | 5  | C                 | PL               | Clay loam |         |
|                |               |    | 10 YR 5/2      | 10 | D                 | M                |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |

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

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

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                         |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                     |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                     |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input checked="" type="checkbox"/> Redox Dark Surface (F6)       |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes X No \_\_\_\_\_

Remarks:

Redox dark surface confirmed at this sampling location since matrix is 3/2 with 5% redox features in layer greater than 4 in the upper six inches of soil profile

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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 hydrology is indicated by oxidized rhizospheres along living roots.

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

Project/Site: HBPP City/County: King Salmon/ Humboldt Sampling Date: 5 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 2A  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 10  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 2A Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Bayside silty clay loam NWI classification: Freshwater emergent (PEM1C)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks:<br>All three wetland parameters were present and this sampled area is considered within a wetland.  |  |

**VEGETATION – Use scientific names of plants.**

| <u>Tree Stratum</u> (Plot size: _____)                | Absolute % Cover | Dominant Species? | Indicator Status |  |
|---|------------------|-------------------|------------------|--|
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| _____ = Total Cover                                   |                  |                   |                  |  |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>1m2</u> ) |                  |                   |                  |  |
| 1. <u>Baccharis pilularis</u>                         | <u>15</u>        | <u>Yes</u>        | <u>UPL</u>       |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| 5. _____  | _____            | _____             | _____            |  |
| _____ = Total Cover                                   |                  |                   |                  |  |
| <u>Herb Stratum</u> (Plot size: <u>1m2</u> )          |                  |                   |                  |  |
| 1. <u>Symphotrichum chilense</u>                      | <u>80</u>        | <u>Yes</u>        | <u>FAC</u>       |  |
| 2. <u>Oenante sarmentosa</u>                          | <u>15</u>        | <u>No</u>         | <u>OBL</u>       |  |
| 3. <u>Hedera helix</u>                                | <u>1</u>         | <u>No</u>         | <u>FACU</u>      |  |
| 4. <u>Scirpus microcarpus</u>                         | <u>15</u>        | <u>No</u>         | <u>OBL</u>       |  |
| 5. <u>Holcus lanatus</u>                              | <u>5</u>         | <u>No</u>         | <u>FAC</u>       |  |
| 6. <u>Rubus ursinus</u>                               | <u>5</u>         | <u>No</u>         | <u>FACU</u>      |  |
| 7. _____  | _____            | _____             | _____            |  |
| 8. _____  | _____            | _____             | _____            |  |
| 9. _____  | _____            | _____             | _____            |  |
| 10. _____   | _____            | _____             | _____            |  |
| 11. _____   | _____            | _____             | _____            |  |
| _____ = Total Cover                                   |                  |                   |                  |  |
| <u>Woody Vine Stratum</u> (Plot size: _____)          |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| _____ = Total Cover                                   |                  |                   |                  |  |
| % Bare Ground in Herb Stratum <u>0</u>                |                  |                   |                  |  |

**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 <u>30</u>         | x 1 = <u>30</u>  |
| FACW species _____            | x 2 = _____      |
| FAC species <u>85</u>         | x 3 = <u>255</u> |
| FACU species <u>6</u>         | x 4 = <u>24</u>  |
| UPL species <u>15</u>         | x 5 = <u>75</u>  |
| Column Totals: <u>136</u> (A) | <u>384</u> (B)   |

Prevalence Index = B/A = 2.82

**Hydrophytic Vegetation Indicators:**

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

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

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks:  
 The dominance test was not conclusive so the prevalence index was calculated and passed for hydrophytic vegetation.

**SOIL**

Sampling Point: 2A

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

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks        |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|----------------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |                |
| 0-6            | 10YR4/1       | 92 | 10YR4/8        | 8 | C                 | PL               | Silty clay loam | Saturated soil |
|                |               |    |                |   |                   |                  |                 |                |
|                |               |    |                |   |                   |                  |                 |                |
|                |               |    |                |   |                   |                  |                 |                |
|                |               |    |                |   |                   |                  |                 |                |
|                |               |    |                |   |                   |                  |                 |                |
|                |               |    |                |   |                   |                  |                 |                |
|                |               |    |                |   |                   |                  |                 |                |

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

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

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                         |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                     |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                     |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)               |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input checked="" type="checkbox"/> Redox Depressions (F8)        |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes X No   

Remarks:

Edge of depression, >5% redox concentrations in a 6 inch layer in the upper 6 inches of the soil profile therefore passes for redox depressions (F8).

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)

- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

**Field Observations:**

Surface Water Present? Yes X No    Depth (inches): 0-1.5  
 Water Table Present? Yes X No    Depth (inches): 4.5-6  
 Saturation Present? Yes X No    Depth (inches): 1.5-6  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No   

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

Remarks:

Survey conducted during large precipitation event. Even so saturation and intermittent ponding likely occur seasonally here, seen by landform position, plants, and redox features in soil.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 5 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 2B  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Sloped Slope (%): 45  
 Subregion (LRR): LRRRA Lat: see Trimble GPS wpt 2B Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Bayside Silty Clay Loam NWI classification: Freshwater emergent (PEM1C)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|   |              |             |   |
|---|--------------|-------------|---|
| Hydrophytic Vegetation Present?   | Yes _____    | No <u>X</u> | Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?  | Yes _____    | No <u>X</u> |   |
| Wetland Hydrology Present?  | Yes <u>X</u> | No _____    |   |
| Remarks:  |              |             |   |
| Although wetland hydrology is present it likely is due to high precipitation and the runoff on the hillslope. This area is not considered to be within a CCC wetland. |              |             |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |
|---|------------------|-------------------|------------------|--|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)   |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____  |
| _____ = Total Cover                                   |                  |                   |                  |  |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>2m2</u> ) |                  |                   |                  |  |
| 1. <u>Baccharis pilularis</u>                         | <u>20</u>        | <u>UPL</u>        | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| 5. _____  | _____            | _____             | _____            |  |
| <u>20</u> = Total Cover                               |                  |                   |                  |  |
| <b>Herb Stratum</b> (Plot size: _____)                |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| 5. _____  | _____            | _____             | _____            |  |
| 6. _____  | _____            | _____             | _____            |  |
| 7. _____  | _____            | _____             | _____            |  |
| 8. _____  | _____            | _____             | _____            |  |
| 9. _____  | _____            | _____             | _____            |  |
| 10. _____   | _____            | _____             | _____            |  |
| 11. _____   | _____            | _____             | _____            |  |
| _____ = Total Cover                                   |                  |                   |                  |  |
| <b>Woody Vine Stratum</b> (Plot size: <u>2m2</u> )    |                  |                   |                  |  |
| 1. <u>Rubus ursinus</u>                               | <u>80</u>        | <u>FACU</u>       | _____            | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>   |
| 2. _____  | _____            | _____             | _____            |  |
| <u>80</u> = Total Cover                               |                  |                   |                  |  |
| % Bare Ground in Herb Stratum <u>15</u>               |                  |                   |                  |  |

Remarks:  
 Vegetation a thicket of California blackberry with some coyote brush, no herbs evident. All vegetation is considered upland plants.

**SOIL**

Sampling Point: 2B

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

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 4/2      | 98 | 10YR 5/8       | 2 | C                 | PL               | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

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

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

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

Not in a depression, redox dark surface doesn't apply to matrix colors of 4/2. No other primary indicator applies.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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? Yes X No \_\_\_\_\_ Depth (inches): Top 1 in  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No \_\_\_\_\_

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

Remarks:

Likely present from precipitation-sloped hillside/ no ponding/surface water/ or water table present.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 6 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 3A  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 3A Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b><br>Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

Remarks:

All three wetland parameters are present therefore this location is considered within a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)   |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____ |
| _____ = Total Cover                             |                  |                   |                  |   |
| <b>Sapling/Shrub Stratum (Plot size: _____)</b> |                  |                   |                  |   |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| 5. _____  | _____            | _____             | _____            |   |
| _____ = Total Cover                             |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>3m2</u>)</b>     |                  |                   |                  |   |
| 1. <u>Cardamine oligasperma</u>                 | <u>40</u>        | <u>Yes</u>        | <u>FAC</u>       |   |
| 2. <u>Symphoricarpon chilense</u>               | <u>20</u>        | <u>No</u>         | <u></u>          |   |
| 3. <u>Holcus lanatus</u>                        | <u>60</u>        | <u>Yes</u>        | <u>FAC</u>       |   |
| 4. _____  | _____            | _____             | _____            |   |
| 5. _____  | _____            | _____             | _____            |   |
| 6. _____  | _____            | _____             | _____            |   |
| 7. _____  | _____            | _____             | _____            |   |
| 8. _____  | _____            | _____             | _____            |   |
| 9. _____  | _____            | _____             | _____            |   |
| 10. _____                                       | _____            | _____             | _____            |   |
| 11. _____                                       | _____            | _____             | _____            |   |
| <u>120</u> = Total Cover                        |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: _____)</b>    |                  |                   |                  |   |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| _____ = Total Cover                             |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>10</u>         |                  |                   |                  |   |

Remarks:

Hydrophytic vegetation is dominant within this plot.

**SOIL**

Sampling Point: 3A

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

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks          |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|------------------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |                  |
| 0-6            | 10YR 4/2      | 92 | 10 YR 5/8      | 8 | C                 | PL               | Silty clay loam | with some gravel |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |
|                |               |    |                |   |                   |                  |                 |                  |

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

|  |   |   |
|--|---|---|
| <b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> |   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histosol (A1)   | <input type="checkbox"/> Sandy Redox (S5)                         | <input type="checkbox"/> 2 cm Muck (A10)                    |
| <input type="checkbox"/> Histic Epipedon (A2)                                    | <input type="checkbox"/> Stripped Matrix (S6)                     | <input type="checkbox"/> Red Parent Material (TF2)          |
| <input type="checkbox"/> Black Histic (A3)                                       | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 | <input type="checkbox"/> Other (Explain in Remarks)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)                       | <input type="checkbox"/> Depleted Matrix (F3)                     |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                                | <input type="checkbox"/> Redox Dark Surface (F6)                  |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                                | <input type="checkbox"/> Depleted Dark Surface (F7)               |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                                | <input checked="" type="checkbox"/> Redox Depressions (F8)        |   |

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

|  |   |
|--|---|
| <b>Restrictive Layer (if present):</b><br>Type: <u>per site restrictions</u><br>Depth (inches): <u>6</u> | <b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
|--|---|

Remarks:  
Redox depression applies to since redox concentrations of at least 5% concentrations in the upper 6 inches in a closed depression.

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____                                      |   |
| Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u>                                     |   |
| Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>to surface</u> |   |

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

Remarks:  
High water table and saturation present in soil pit.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 6 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 3B  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR): LRRRA Lat: see Trimble GPS wpt 3B Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|                                 |              |          |  |              |          |
|---------------------------------|--------------|----------|--|--------------|----------|
| Hydrophytic Vegetation Present? | Yes <u>X</u> | No _____ | Is the Sampled Area<br>within a Wetland? | Yes <u>X</u> | No _____ |
| Hydric Soil Present?            | Yes <u>X</u> | No _____ |  |              |          |
| Wetland Hydrology Present?      | Yes <u>X</u> | No _____ |  |              |          |

Remarks:  
 All three wetland parameters are present therefore this location is considered within a wetland.

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: _____)                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |                     |
|---|------------------|-------------------|------------------|---|---------------------|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC:  | <u>2</u> (A)        |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata:   | <u>2</u> (B)        |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC:   | <u>100</u> (A/B)    |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b>  |                     |
| _____ = Total Cover                             |                  |                   |                  | Total % Cover of:   | Multiply by:        |
| <b>Sapling/Shrub Stratum (Plot size: _____)</b> |                  |                   |                  | OBL species _____   | x 1 = _____         |
| 1. _____  | _____            | _____             | _____            | FACW species _____  | x 2 = _____         |
| 2. _____  | _____            | _____             | _____            | FAC species _____   | x 3 = _____         |
| 3. _____  | _____            | _____             | _____            | FACU species _____  | x 4 = _____         |
| 4. _____  | _____            | _____             | _____            | UPL species _____   | x 5 = _____         |
| 5. _____  | _____            | _____             | _____            | Column Totals:  | _____ (A) _____ (B) |
| _____ = Total Cover                             |                  |                   |                  | Prevalence Index = B/A = _____  |                     |
| <b>Herb Stratum (Plot size: <u>3m2</u>)</b>     |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b>   |                     |
| 1. <u>Symphotrichum chilense</u>                | <u>15</u>        | <u>No</u>         | _____            | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation  |                     |
| 2. <u>Deschampsia cespitosa</u>                 | <u>45</u>        | <u>Yes</u>        | <u>FACW</u>      | <input checked="" type="checkbox"/> 2 - Dominance Test is >50%  |                     |
| 3. <u>Juncus effusus</u>                        | <u>40</u>        | <u>Yes</u>        | <u>FACW</u>      | <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>  |                     |
| 4. <u>Juncus lescurrei</u>                      | <u>10</u>        | <u>No</u>         | _____            | <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                     |
| 5. <u>Holcus lanatus</u>                        | <u>10</u>        | <u>No</u>         | _____            | <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>   |                     |
| 6. <u>Silybum maritimum</u>                     | <u>2</u>         | <u>No</u>         | _____            | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |                     |
| 7. _____  | _____            | _____             | _____            | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                  |                     |
| 8. _____  | _____            | _____             | _____            | <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____  |                     |
| 9. _____  | _____            | _____             | _____            |   |                     |
| 10. _____                                       | _____            | _____             | _____            |   |                     |
| 11. _____                                       | _____            | _____             | _____            |   |                     |
| _____ = Total Cover                             |                  |                   |                  |   |                     |
| <b>Woody Vine Stratum (Plot size: _____)</b>    |                  |                   |                  |   |                     |
| 1. _____  | _____            | _____             | _____            |   |                     |
| 2. _____  | _____            | _____             | _____            |   |                     |
| _____ = Total Cover                             |                  |                   |                  |   |                     |
| % Bare Ground in Herb Stratum <u>0</u>          |                  |                   |                  |   |                     |

Remarks:  
 Hydrophytic vegetation is dominant within this plot.

**SOIL**

Sampling Point: 3B

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

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | 10YR 3\1      | 95 | 10 YR 5\8      | 5 | C                 | PL               | Silty clay loam |         |
| 5-6            | 10YR 5\1      | 95 | 10 YR 5\8      | 5 | C                 | PL               | silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

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

|  |   |   |
|--|---|---|
| <b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b> |   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histosol (A1)   | <input type="checkbox"/> Sandy Redox (S5)                         | <input type="checkbox"/> 2 cm Muck (A10)                    |
| <input type="checkbox"/> Histic Epipedon (A2)                                    | <input type="checkbox"/> Stripped Matrix (S6)                     | <input type="checkbox"/> Red Parent Material (TF2)          |
| <input type="checkbox"/> Black Histic (A3)                                       | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 | <input type="checkbox"/> Other (Explain in Remarks)         |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)                       | <input type="checkbox"/> Depleted Matrix (F3)                     |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                                | <input checked="" type="checkbox"/> Redox Dark Surface (F6)       |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                                | <input type="checkbox"/> Depleted Dark Surface (F7)               |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                                | <input checked="" type="checkbox"/> Redox Depressions (F8)        |   |

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

|  |   |
|--|---|
| <b>Restrictive Layer (if present):</b><br>Type: <u>per site restrictions</u><br>Depth (inches): <u>6</u> | <b>Hydric Soil Present?</b> Yes <u>X</u> No <u>      </u> |
|--|---|

Remarks:  
Redox dark surface applies to matrix color of 3/1 with at least 2% concentrations and in layer thicker than 4 inches in the upper 6 inches.

**HYDROLOGY**

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

|   |   |
|---|---|
| <b>Field Observations:</b>  | <b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>      </u> |
| Surface Water Present?    Yes <u>X</u> No <u>      </u> Depth (inches): <u>1</u>                                    |   |
| Water Table Present?    Yes <u>X</u> No <u>      </u> Depth (inches): <u>TO SURFACE OF PIT</u>                      |   |
| Saturation Present? (includes capillary fringe)    Yes <u>      </u> No <u>      </u> Depth (inches): <u>      </u> |   |

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

Remarks:  
Ponding/surface water and high water table present.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 5 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 3C  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Sloped Slope (%): 40  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 3C Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/><br>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/><br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> |
| Remarks:<br>Although wetland hydrology is present it likely is due to high precipitation and the runoff on the hillslope. This area is not considered to be within a CCC wetland.  |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)   | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
|---|------------------|-------------------|------------------|--|-------------------|--------------|-------------------|-------------|--------------------|-------------|-----------------------|------------------|-----------------------|-----------------|-----------------------|------------------|-------------------------------|----------------|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)   |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br><table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>55</u></td> <td>x 5 = <u>275</u></td> </tr> <tr> <td>Column Totals: <u>138</u> (A)</td> <td><u>527</u> (B)</td> </tr> </table>   | Total % Cover of: | Multiply by: | OBL species _____ | x 1 = _____ | FACW species _____ | x 2 = _____ | FAC species <u>80</u> | x 3 = <u>240</u> | FACU species <u>3</u> | x 4 = <u>12</u> | UPL species <u>55</u> | x 5 = <u>275</u> | Column Totals: <u>138</u> (A) | <u>527</u> (B) |
| Total % Cover of:   | Multiply by:     |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| OBL species _____   | x 1 = _____      |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| FACW species _____  | x 2 = _____      |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| FAC species <u>80</u>   | x 3 = <u>240</u> |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| FACU species <u>3</u>   | x 4 = <u>12</u>  |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| UPL species <u>55</u>   | x 5 = <u>275</u> |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| Column Totals: <u>138</u> (A)   | <u>527</u> (B)   |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| _____ = Total Cover   |                  |                   |                  | Prevalence Index = B/A = <u>3.81</u>   |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| <b>Sapling/Shrub Stratum (Plot size: _____)</b><br>1. _____<br>2. _____<br>3. _____<br>4. _____<br>5. _____<br>_____ = Total Cover  |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| <b>Herb Stratum (Plot size: 1m2)</b><br>1. <u>Holcus lanatus</u> 80 Yes FAC<br>2. <u>Vicia tetrasperma</u> 15 No UPL<br>3. <u>Geranium dissectum</u> 40 Yes UPL<br>4. <u>Rubus ursinus</u> 3 No FACU<br>5. _____<br>6. _____<br>7. _____<br>8. _____<br>9. _____<br>10. _____<br>11. _____<br>_____ = Total Cover |                  |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| <b>Woody Vine Stratum (Plot size: _____)</b><br>1. _____<br>2. _____<br>_____ = Total Cover   |                  |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| % Bare Ground in Herb Stratum <u>5</u>  |                  |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| _____ = Total Cover   |                  |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |
| <b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>   |                  |                   |                  |  |                   |              |                   |             |                    |             |                       |                  |                       |                 |                       |                  |                               |                |

Remarks:  
 Dominance test not conclusive, prevalence index applied for CCC parameters but did not pass for hydrophytic vegetation.

**SOIL**

Sampling Point: 3C

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

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 4/2      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

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

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

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

Not in a depression, redox dark surface doesn't apply to matrix colors of 4/2. No redox features present. No other primary indicator applies.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

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? Yes X No \_\_\_\_\_ Depth (inches): to surface  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No \_\_\_\_\_

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

Remarks:

Likely present from precipitation-sloped hillside/ no ponding/surface water/ or water table present.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 9 February 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 4A  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 5  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 4A Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: Freshwater emergent (PEM1Fh)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|  |              |             |   |
|--|--------------|-------------|---|
| Hydrophytic Vegetation Present?  | Yes _____    | No <u>X</u> | Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?   | Yes <u>X</u> | No _____    |   |
| Wetland Hydrology Present?   | Yes <u>X</u> | No _____    |   |
| Remarks:   |              |             |   |
| Location is lacking hydrophytic vegetation therefore this location is not considered within an USACE wetland but does meet CCC wetland parameters. |              |             |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |
|---|------------------|-------------------|------------------|--|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)   |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species <u>35</u> x 3 = <u>105</u><br>FACU species <u>13</u> x 4 = <u>52</u><br>UPL species <u>65</u> x 5 = <u>325</u><br>Column Totals: <u>113</u> (A) <u>482</u> (B)<br><br>Prevalence Index = B/A = <u>4.2</u> |
| _____ = Total Cover                             |                  |                   |                  |  |
| <b>Sapling/Shrub Stratum</b> (Plot size: _____) |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| 5. _____  | _____            | _____             | _____            |  |
| _____ = Total Cover                             |                  |                   |                  |  |
| <b>Herb Stratum</b> (Plot size: <u>1m2</u> )    |                  |                   |                  |  |
| 1. <u>Symphytotrichum chilense</u>              | <u>35</u>        | <u>Yes</u>        | <u>FAC</u>       |  |
| 2. <u>Helminotheca echoides</u>                 | <u>10</u>        | <u>No</u>         | <u>UPL</u>       |  |
| 3. <u>Raphanus sativus</u>                      | <u>55</u>        | <u>Yes</u>        | <u>FACU</u>      |  |
| 4. <u>Achillea millefoliata</u>                 | <u>8</u>         | <u>No</u>         | <u>FACU</u>      |  |
| 5. <u>Rubus armeniacus</u>                      | <u>5</u>         | <u>No</u>         | <u>FACU</u>      |  |
| 6. _____  | _____            | _____             | _____            |  |
| 7. _____  | _____            | _____             | _____            |  |
| 8. _____  | _____            | _____             | _____            |  |
| 9. _____  | _____            | _____             | _____            |  |
| 10. _____                                       | _____            | _____             | _____            |  |
| 11. _____                                       | _____            | _____             | _____            |  |
| <u>113</u> = Total Cover                        |                  |                   |                  |  |
| <b>Woody Vine Stratum</b> (Plot size: _____)    |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
| _____ = Total Cover                             |                  |                   |                  |  |
| <b>% Bare Ground in Herb Stratum</b> <u>0</u>   |                  |                   |                  |  |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

5 - Wetland Non-Vascular Plants<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

Remarks:  
 Dominance test not conclusive, prevalence index fails to meet hydrophytic vegetation value.

**SOIL**

Sampling Point: 4A

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

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-2            | 10YR 3\1      | 100 |                |   |                   |                  | Silty clay loam |         |
| 2-6            | 10YR 3\1      | 94  | 10 YR 5\8      | 6 | C                 | SM               | silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>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<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes X No     

Remarks:

Redox dark surface applies to matrix color of 3/1 with at least 2% concentrations and in layer at least 4 inches thick in the upper 6 inches.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

Surface Water Present? Yes X No      Depth (inches): 2  
 Water Table Present? Yes X No      Depth (inches): 3-6  
 Saturation Present? Yes x No      Depth (inches): 0-3  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No     

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

Remarks:

Ponding/surface water, high water table, and saturation present.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 9 FEB 2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 4B  
 Investigator(s): Emmalien Craydon and Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): LRRRA Lat: see Trimble GPS wpt 4B Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI (adjacent to Bayside Silty Clay Loam) NWI classification: Freshwater emergent (PEM1 Fh)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____<br>Hydric Soil Present? Yes <u>X</u> No _____<br>Wetland Hydrology Present? Yes <u>X</u> No _____ | Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ |
| Remarks:<br>All three wetland parameters are present therefore this location is considered within a wetland.  |   |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)   |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)   |
| = Total Cover   |                  |                   |                  |   |
| <b>Sapling/Shrub Stratum (Plot size: _____)</b>       |                  |                   |                  | Prevalence Index = B/A = _____  |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| 5. _____  | _____            | _____             | _____            |   |
| = Total Cover   |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>1m2</u>)</b>           |                  |                   |                  |   |
| 1. <u>Angelica lucida</u>                             | <u>20</u>        | <u>No</u>         | <u>FAC</u>       |   |
| 2. <u>Juncus lescurii</u>                             | <u>85</u>        | <u>Yes</u>        | <u>FACW</u>      |   |
| 3. <u>Raphanus sativus</u>                            | <u>35</u>        | <u>No</u>         | <u>UPL</u>       |   |
| 4. <u>Polystichum munitum</u>                         | <u>5</u>         | <u>No</u>         | <u>FACU</u>      |   |
| 5. <u>Holcus lanatus</u>                              | <u>8</u>         | <u>No</u>         | <u>FAC</u>       |   |
| 6. _____  | _____            | _____             | _____            |   |
| 7. _____  | _____            | _____             | _____            |   |
| 8. _____  | _____            | _____             | _____            |   |
| 9. _____  | _____            | _____             | _____            |   |
| 10. _____   | _____            | _____             | _____            |   |
| 11. _____   | _____            | _____             | _____            |   |
| <u>158</u> = Total Cover                              |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: _____)</b>          |                  |                   |                  |   |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| = Total Cover   |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>0</u>                |                  |                   |                  |   |
| Hydrophytic Vegetation Present? Yes <u>X</u> No _____ |                  |                   |                  |   |

Remarks:  
 Dominance test passes for hydrophytic vegetation

**SOIL**

Sampling Point: 4B

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

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 3\1      | 80 | 10 YR 5\1      | 15 | D                 | M                | Silty clay loam |         |
|                |               |    | 10 YR 5\8      | 5  | C                 | SM               | silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>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<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes X No \_\_\_\_\_

Remarks:

Redox dark surface applies to matrix color of 3/1 with at least 2% concentrations and in layer at least 4 inches thick in the upper 6 inches.

**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? Yes X No \_\_\_\_\_ Depth (inches): 3-6  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No \_\_\_\_\_

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

Remarks:

Saturation is present within the soil pit and passes for wetland hydrology.

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

Project/Site: HBPP City/County: King Salmon, Humboldt Sampling Date: 02/10/2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 5A  
 Investigator(s): EPC, EKT Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Side channel Local relief (concave, convex, none): Slope Slope (%): 20  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 5A Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: UI NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|                                 |              |             |   |
|---------------------------------|--------------|-------------|---|
| Hydrophytic Vegetation Present? | Yes <u>X</u> | No _____    | <b>Is the Sampled Area within a Wetland?</b><br>Yes _____ No <u>X</u> |
| Hydric Soil Present?            | Yes _____    | No <u>X</u> |   |
| Wetland Hydrology Present?      | Yes _____    | No <u>X</u> |   |

Remarks:  
 Photos 828-832\_ Although this wetland has hydrophytic vegetation, hydric soils and wetland hydrology are lacking therefore this is not considered within an USACE wetland. Parameters for a CCC wetland apply.

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |  |
|---|------------------|-------------------|------------------|---|--|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)   |  |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |  |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |  |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br>Prevalence Index = B/A = _____   |  |
| _____ = Total Cover                             |                  |                   |                  |   |  |
| <b>Sapling/Shrub Stratum (Plot size: _____)</b> |                  |                   |                  |   |  |
| 1. _____  | _____            | _____             | _____            | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup><br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |  |
| 2. _____  | _____            | _____             | _____            |   |  |
| 3. _____  | _____            | _____             | _____            |   |  |
| 4. _____  | _____            | _____             | _____            |   |  |
| 5. _____  | _____            | _____             | _____            |   |  |
| _____ = Total Cover                             |                  |                   |                  |   |  |
| <b>Herb Stratum (Plot size: 1m<sup>2</sup>)</b> |                  |                   |                  |   |  |
| 1. Trifolium repens                             | 6                | N                 | _____            |   |  |
| 2. Poa annua                                    | 12               | Y                 | FAC              |   |  |
| 3. Geranium dissectum                           | 3                | N                 | _____            |   |  |
| 4. Festuca perennis                             | 45               | Y                 | FAC              |   |  |
| 5. Rumex crispus                                | 3                | N                 | _____            |   |  |
| 6. Fragaria chiloensis                          | 10               | N                 | _____            |   |  |
| 7. Vicia sp.                                    | 2                | N                 | _____            |   |  |
| 8. Daucus carota                                | 6                | N                 | _____            |   |  |
| 9. Medicago polymorpha                          | 6                | N                 | _____            |   |  |
| 10. _____                                       | _____            | _____             | _____            |   |  |
| 11. _____                                       | _____            | _____             | _____            |   |  |
| 93 = Total Cover                                |                  |                   |                  |   |  |
| <b>Woody Vine Stratum (Plot size: _____)</b>    |                  |                   |                  |   |  |
| 1. _____  | _____            | _____             | _____            | <b>Hydrophytic Vegetation Present?</b><br>Yes <u>X</u> No _____   |  |
| 2. _____  | _____            | _____             | _____            |   |  |
| _____ = Total Cover                             |                  |                   |                  |   |  |
| % Bare Ground in Herb Stratum _____             |                  |                   |                  |   |  |

Remarks:  
 Dominant vegetation is hydrophytic and passes the dominance test.

**SOIL**

Sampling Point: 5a

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

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|---------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
| 0-6            | 2.5Y3/2       | 100 |                |   |                   |                  | Sand    |         |
|                |               |     |                |   |                   |                  |         |         |
|                |               |     |                |   |                   |                  |         |         |
|                |               |     |                |   |                   |                  |         |         |
|                |               |     |                |   |                   |                  |         |         |
|                |               |     |                |   |                   |                  |         |         |
|                |               |     |                |   |                   |                  |         |         |
|                |               |     |                |   |                   |                  |         |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>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<sup>3</sup>:**

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

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

**Restrictive Layer (if present):**

Type: Per site restrictions  
 Depth (inches): 6

Hydric Soil Present?    Yes \_\_\_\_\_    No X

Remarks:

No sandy primary indicators apply at this location.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

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

Wetland Hydrology Present?    Yes \_\_\_\_\_    No X

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

Remarks:

No primary indicators apply to this location.

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

Project/Site: HBPP City/County: King Salmon/ Humboldt Sampling Date: 02/10/2015  
 Applicant/Owner: PG&E State: CA Sampling Point: 5B  
 Investigator(s): Emmalien Craydon, Emily Teraoka Section, Township, Range: Section 8 of Township 4 North, Range 1 West  
 Landform (hillslope, terrace, etc.): Depression, adjacent to ditch Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR): LRR A Lat: see Trimble GPS wpt 5B Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: U/I NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

|   |  |  |
|---|--|--|
| Hydrophytic Vegetation Present?   | Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b><br>Yes _____ No <input checked="" type="checkbox"/> |
| Hydric Soil Present?  | Yes _____ No <input checked="" type="checkbox"/> |  |
| Wetland Hydrology Present?  | Yes _____ No <input checked="" type="checkbox"/> |  |
| Remarks:<br>Photos 833-836, this sampling plot is not within a USACE wetland (lacking 2 parameters), but due to passing hydrophytic vegetation this location is within a CCC wetland. |  |  |

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____)                 | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  | _____            | _____             | _____            | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)   |
| 2. _____  | _____            | _____             | _____            | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  | _____            | _____             | _____            | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 4. _____  | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: _____ (A) _____ (B)<br><br>Prevalence Index = B/A = _____ |
| _____ = Total Cover                             |                  |                   |                  |   |
| <b>Sapling/Shrub Stratum</b> (Plot size: _____) |                  |                   |                  |   |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| 3. _____  | _____            | _____             | _____            |   |
| 4. _____  | _____            | _____             | _____            |   |
| 5. _____  | _____            | _____             | _____            |   |
| _____ = Total Cover                             |                  |                   |                  |   |
| <b>Herb Stratum</b> (Plot size: <u>1m2</u> )    |                  |                   |                  |   |
| 1. <u>Festuca perennis</u>                      | <u>70</u>        | <u>Yes</u>        | <u>FAC</u>       |   |
| 2. <u>Plantago lanceolata</u>                   | <u>15</u>        | <u>No</u>         | _____            |   |
| 3. <u>Cardamine oligosperma</u>                 | <u>5</u>         | <u>No</u>         | _____            |   |
| 4. <u>Trifolium repens</u>                      | <u>12</u>        | <u>No</u>         | _____            |   |
| 5. <u>Senecio vulgaris</u>                      | <u>2</u>         | <u>No</u>         | _____            |   |
| 6. _____  | _____            | _____             | _____            |   |
| 7. _____  | _____            | _____             | _____            |   |
| 8. _____  | _____            | _____             | _____            |   |
| 9. _____  | _____            | _____             | _____            |   |
| 10. _____                                       | _____            | _____             | _____            |   |
| 11. _____                                       | _____            | _____             | _____            |   |
| <u>104</u> = Total Cover                        |                  |                   |                  |   |
| <b>Woody Vine Stratum</b> (Plot size: _____)    |                  |                   |                  |   |
| 1. _____  | _____            | _____             | _____            |   |
| 2. _____  | _____            | _____             | _____            |   |
| _____ = Total Cover                             |                  |                   |                  |   |
| % Bare Ground in Herb Stratum _____             |                  |                   |                  |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

5 - Wetland Non-Vascular Plants<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks:  
 Hydrophytic vegetation is considered present by the dominant plant, velvet grass.

**SOIL**

Sampling Point: 5B

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

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture      | Remarks   |
|----------------|---------------|-----|----------------|---|-------------------|------------------|--------------|---|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |              |   |
| 0-2            | 2.5Y3/1       | 100 |                |   |                   |                  | Sandy loam   |   |
| 2-6            | Gley14/10Y    | 100 |                |   |                   |                  | Fill, gravel | not likely gleyed, color matches but gravel/fill here likely artificial |
|                |               |     |                |   |                   |                  |              |   |
|                |               |     |                |   |                   |                  |              |   |
|                |               |     |                |   |                   |                  |              |   |
|                |               |     |                |   |                   |                  |              |   |
|                |               |     |                |   |                   |                  |              |   |

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

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

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                         | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                     |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                     |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)                  |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)               |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                   |   |

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

**Restrictive Layer (if present):**  
 Type: per site restrictions  
 Depth (inches): 6

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:  
 Encountered artificial fill starting at 2 inches from surface. Although the fill color matches a gleyed color, the soil sample is not considered sandy or loamy gleyed matrix and therefore this was not considered for this sampling location.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

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

**Field Observations:**

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

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

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

Wetland Hydrology Present? Yes \_\_\_\_\_ No X

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

Remarks:  
 No primary indicators present at location.

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## **Appendix B**

### **Photographs of Wetland Delineation Data Points**

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Figure B-1. Wetland data point 2A (SF-4).



Figure B-2. Upland data point 2B.



Figure B-3. Wetland data point 1A (SF-3).



Figure B-4. Upland data point 1B (CC-1).



Figure B-5. Wetland data point 3A (SP-1).



Figure B-6. Wetland data point 3B (SF-1).



Figure B-7. Upland data point 3C.



Figure B-8. Wetland data point 4B (SP-2).



Figure B-9. Upland data point 4A.



Figure B-10. Upland data point 5A (CC-2).



Figure B-11. Upland data point 5B (CC-2).

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**Appendix C**  
**Waters of the U.S. Datasheet**

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Table C-1. Waters of the U.S. datasheet for the wetland delineation conducted by Stillwater Sciences at the PG&amp;E HBPP Property on February 5-10, 2015.

| Transect No. | Location Description                           | Photos     | Waypoints | USACE Jurisdictional Waters              |                         |                                   |                                 | Waters of the State                |                       |                       | OHWM Indicators (include all present)  |
|--------------|--|------------|-----------|--|-------------------------|-----------------------------------|---------------------------------|------------------------------------|-----------------------|-----------------------|--|
|              |  |            |           | Distance across (existing) surface water | Distance across at OHWM | Water depth (existing) at thalweg | Water depth (of OHW) at thalweg | Distance btwn tops of stream banks | RB riparian veg width | LB riparian veg width |  |
|              |  |            |           | units = inches                           | units = inches          | units = inches                    | units = inches                  | units = inches                     | units = inches        | units = inches        |  |
| W2A          | Drainage ditch from Alpha Road to Buhne Slough | Appendix D | 1.0       | 36.0                                     | 60.0                    | 14.0                              | 21.0                            | 216.0                              | 120.0                 | 72.0                  | clear, natural line impressed on the bank, incised channel, wracking, tidally influenced by Buhne Slough |
| W2B          | Drainage ditch from Alpha Road to Buhne Slough | Appendix D | 2.0       | 19.0                                     | 39.0                    | 6.5                               | 11.0                            | 228.0                              | 108.0                 | 120.0                 | channelized, change in vegetation, wracking  |
| W2C          | Drainage ditch from Alpha Road to Buhne Slough | Appendix D | 3.0       | 78.0                                     | 80.0                    | 3.0                               | 3.0                             | same as USACE OHWM                 |                       |                       | surface water, sparsely vegetated, depressed   |
| W2D          | Drainage ditch from Alpha Road to Buhne Slough | Appendix D | 4.0       | 50                                       | 110                     | 3                                 | 3                               | 240.0                              | 192.0                 | 48.0                  | change in vegetation, surface water, depressed   |
| W2E          | Drainage ditch from switchyard to Alpha Road   | Appendix D | 24, 28    | 120                                      | 156                     | 144                               | 168                             | 168.0                              | 156.0                 | 12.0                  | change in vegetation, channel, bench   |
| W2F          | Drainage ditch from switchyard to Alpha Road   | Appendix D | 25, 29    | 48                                       | 84                      | 72                                | 144                             | same as USACE OHWM                 |                       |                       | change in vegetation, channel, bench   |

| Transect No. | Location Description                    | Photos     | Waypoints              | USACE Jurisdictional Waters              |                         |                                   |                                 | Waters of the State                |                       |                                    | OHWM Indicators (include all present)                             |
|--------------|---|------------|------------------------|--|-------------------------|-----------------------------------|---------------------------------|------------------------------------|-----------------------|------------------------------------|---|
|              |   |            |                        | Distance across (existing) surface water | Distance across at OHWM | Water depth (existing) at thalweg | Water depth (of OHW) at thalweg | Distance btwn tops of stream banks | RB riparian veg width | LB riparian veg width              |   |
|              |   |            |                        | units = inches                           | units = inches          | units = inches                    | units = inches                  | units = inches                     | units = inches        | units = inches                     |   |
| W1A          | Bayview drainage ditch                  | Appendix D | 21                     | 48                                       | 72                      | 7                                 | 11                              | same as USACE OHWM                 |                       |                                    | channel, change in veg  |
| W1B          | Bayview drainage ditch                  | Appendix D | at culvert near stairs | 36                                       | 120                     | 2                                 | 2                               | same as USACE OHWM                 |                       |                                    | channel, change in veg  |
| W4A          | Drainage ditch from HBPP to "Duck Pond" | Appendix D | 10, 12                 | 264                                      | 288                     | 4                                 | 7                               | 900                                | 720                   | 180                                | channel, change in veg, natural line impressed on the bank        |
| W4B          | Drainage ditch from HBPP to "Duck Pond" | Appendix D | 19 or 20               | 80                                       | 90                      | 13                                | 19                              | same as USACE OHWM                 |                       |                                    | channel, change in veg, natural line impressed on the bank        |
| na           | Drainage ditch from HBPP to "Duck Pond" | Appendix D | 26, 27                 | location of culvert                      |                         |                                   |                                 |                                    |                       | location of culvert from HBGS area |   |
| W6A          | Buhne Slough at King Salmon Ave         | Appendix D | 31, 32                 | 192                                      | 480                     | >48                               | >72                             | 516                                | 252                   | 264                                | tidal slough, clear, natural line impressed on the bank, wracking |
| W6B          | Buhne Slough at King Salmon Ave         | Appendix D | 33, 34                 | 216                                      | 924                     | >48                               | >72                             | 2700                               | 816                   | 1884                               | tidal slough, clear, natural line impressed on the bank, wracking |
| W5A          | Drainage ditch Charlie Rd parking lot   | Appendix D | 9                      | 85                                       | 100                     | 2.5                               | 7                               | same as USACE OHWM                 |                       |                                    | bench, change in plant community                                  |
| W5B          | Drainage ditch Charlie Rd parking lot   | Appendix D | 10                     | 82                                       | 110                     | 5                                 | 11                              | same as USACE OHWM                 |                       |                                    | bench, change in plant community                                  |

| Transect No. | Location Description                  | Photos     | Waypoints | USACE Jurisdictional Waters              |                         |                                   |                                 | Waters of the State                |                       |                       | OHWM Indicators (include all present)               |
|--------------|---------------------------------------|------------|-----------|--|-------------------------|-----------------------------------|---------------------------------|------------------------------------|-----------------------|-----------------------|---|
|              |                                       |            |           | Distance across (existing) surface water | Distance across at OHWM | Water depth (existing) at thalweg | Water depth (of OHW) at thalweg | Distance btwn tops of stream banks | RB riparian veg width | LB riparian veg width |   |
|              |                                       |            |           | units = inches                           | units = inches          | units = inches                    | units = inches                  | units = inches                     | units = inches        | units = inches        |   |
| W5C          | Drainage ditch Charlie Rd parking lot | Appendix D | 11        | 55                                       | 75                      | 1.5                               | 6                               | same as USACE OHWM                 |                       |                       | bench, change in plant community                    |
| W5D          | Drainage ditch Charlie Rd parking lot | Appendix D | 12        | 6  | 98                      | 1                                 | 9                               | same as USACE OHWM                 |                       |                       | bench, change in plant community                    |
| W5E          | Drainage ditch Charlie Rd parking lot | Appendix D | -         | 0  | 12                      | 0                                 | 4                               | same as USACE OHWM                 |                       |                       | intermittent-narrow band, no veg, change in veg     |
| W5F          | Drainage ditch Charlie Rd parking lot | Appendix D | -         | 0  | 16                      | 0                                 | 5                               | same as USACE OHWM                 |                       |                       | intermittent-narrow band, no veg, change in veg     |
| W7A          | Intake Canal                          | Appendix D | -         | 480                                      | 948                     | 120                               | 180                             | 1092                               | 540                   | 552                   | wracking, clear, natural line impressed on the bank |
| W7B          | Intake Canal                          | Appendix D | -         | 1512                                     | 1656                    | >240                              | >300                            | 1716                               | 948                   | 768                   | wracking, clear, natural line impressed on the bank |

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## **Appendix D**

### **Photographs of Waters of the U.S.**

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Figure D-1. Buhne Slough (W-1).



Figure D-2. Intake Canal (W-2).



Figure D-3. Intermittently flowing drainage ditch (DD-1). Bottom image shows connectivity to adjacent drainage ditch and drainage inlet to stormwater system, see Figure 5.



Figure D-4. Intermittently flowing drainage ditch (DD-2).



Figure D-5. Intermittently flowing drainage ditch (DD-3). Bottom image is a view of drainage ditch outlet to Duck Pond (SP-2).



Figure D-6. Intermittently flowing drainage ditch (DD-4).

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## Appendix E

### Comprehensive Plant List in the Survey Area

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| Latin name   | Common name            | Wetland indicator<br>(WMVC Region) |
|--|------------------------|------------------------------------|
| <i>Achillea millefolium</i>                            | yarrow                 | FACU                               |
| <i>Agrostis stolonifera</i>                            | creeping bentgrass     | FAC                                |
| <i>Angelica lucida</i>                                 | sea-watch              | FAC                                |
| <i>Atriplex prostrata</i>                              | fat-hen                | FAC                                |
| <i>Baccharis pilularis</i>                             | coyote brush           | UPL                                |
| <i>Bolboschoenus maritimus</i> subsp. <i>paludosus</i> | saltmarsh bulrush      | OBL                                |
| <i>Carex obnupta</i>                                   | slough sedge           | OBL                                |
| <i>Cardamine oligosperma</i>                           | few-seeded bittercress | FAC                                |
| <i>Cortaderia</i> sp.                                  | pampas grass           | UPL                                |
| <i>Daucus carota</i>                                   | Queen Anne's lace      | FACU                               |
| <i>Deschampsia cespitosa</i>                           | tufted hair-grass      | FACW                               |
| <i>Distichlis spicata</i>                              | salt grass             | FACW                               |
| <i>Erica lusitanica</i>                                | Spanish heather        | UPL                                |
| <i>Festuca perennis</i>                                | rye grass              | FAC                                |
| <i>Fragaria chiloensis</i>                             | beach strawberry       | FACU                               |
| <i>Geranium dissectum</i>                              | cut-leaved geranium    | UPL                                |
| <i>Hedera helix</i>                                    | English ivy            | FACU                               |
| <i>Holcus lanatus</i>                                  | velvetgrass            | FAC                                |
| <i>Juncus effusus</i>                                  | soft lamp rush         | FACW                               |
| <i>Juncus lescurii</i>                                 | San Francisco rush     | FACW                               |
| <i>Lotus corniculatus</i>                              | bird's-foot trefoil    | FAC                                |
| <i>Medicago polymorpha</i>                             | California burclover   | FACU                               |
| <i>Oenanthe sarmentosa</i>                             | Pacific oenanthe       | OBL                                |
| <i>Helminthotheca echioides</i>                        | bristly ox-tongue      | UPL                                |
| <i>Plantago lanceolata</i>                             | English plantain       | FACU                               |
| <i>Poa annua</i>                                       | annual blue grass      | FAC                                |
| <i>Polystichum munitum</i>                             | western sword fern     | FACU                               |
| <i>Potentilla anserina</i> ssp. <i>pacifica</i>        | Pacific silverweed     | OBL                                |
| <i>Raphanus sativus</i>                                | wild radish            | FACU                               |
| <i>Rubus armeniacus</i>                                | Himalayan blackberry   | FACU                               |
| <i>Rubus ursinus</i>                                   | California blackberry  | FACU                               |
| <i>Rumex crispus</i>                                   | curly dock             | FAC                                |
| <i>Rumex acetosella</i>                                | sheep sorrel           | FACU                               |
| <i>Salicornia pacifica</i>                             | Pacific pickleweed     | OBL                                |
| <i>Salix hookeriana</i>                                | coastal willow         | FACW                               |
| <i>Scirpus microcarpus</i>                             | small-fruited bulrush  | OBL                                |
| <i>Senecio vulgaris</i>                                | common groundsel       | FAC                                |
| <i>Silybum marianum</i>                                | blessed milkthistle    | UPL                                |
| <i>Symphyotrichum chilense</i>                         | common Pacific aster   | FAC                                |
| <i>Taraxacum officinale</i>                            | common dandelion       | FACU                               |
| <i>Trifolium repens</i>                                | white clover           | FAC                                |
| <i>Typha latifolia</i>                                 | broad-leaved cattail   | OBL                                |
| <i>Vicia americana</i>                                 | American vetch         | FAC                                |
| <i>Vicia</i> sp.                                       | vetch                  | --                                 |
| <i>Vicia tetrasperma</i>                               | Sparrow vetch          | UPL                                |