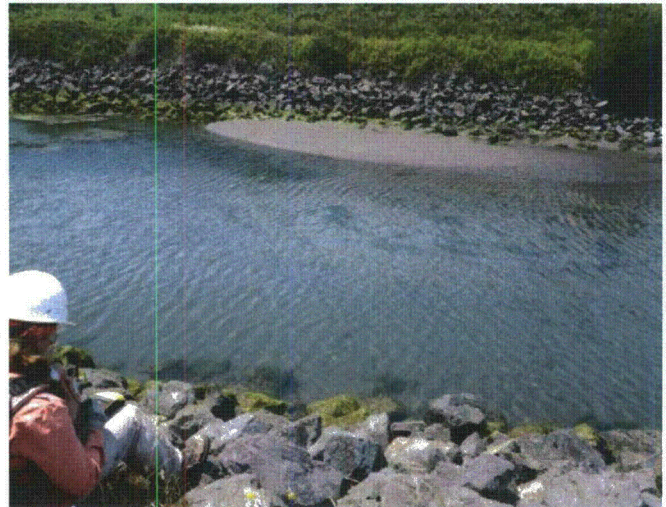
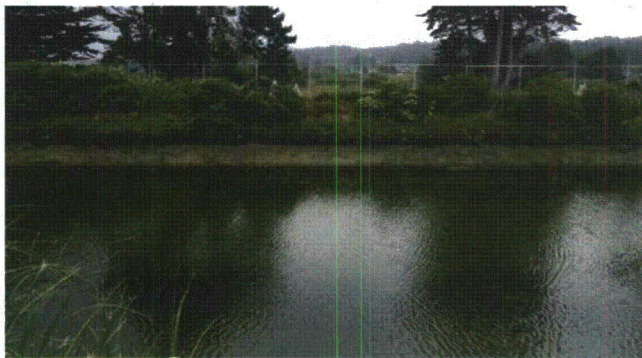


FINAL REPORT • JULY 2013

Preliminary Wetland Delineation for the PG&E Humboldt Bay Power Plant Canal Remediation Project, Humboldt County, California



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Cover photos (clockwise from upper left): West of discharge canal; seasonal wetland east of discharge canal; intake canal; discharge canal.

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1 PROJECT DESCRIPTION

1.1 Project Scope and Purpose

Pacific Gas and Electric Company (PG&E) is in the process of decommissioning the 143-acre (ac) (58-hectare [ha]) Humboldt Bay Power Plant (HBPP) property in King Salmon, CA. As a part of the decommissioning, PG&E is proposing to conduct a canal remediation project that consists of removing contaminated sediment from the HBPP intake and discharge canals, temporarily using the dredged discharge canal for storage of clean soils generated by other HBPP decommissioning activities, and preparing the canals for final site restoration after remediation (Figures 1–2). PG&E has determined that sediments in the HBPP intake and discharge canals are contaminated with low levels of radionuclides, and the discharge canal additionally contaminated with chemicals from past operations. Clean soils temporarily stored within the discharge canal will be removed from the site at the conclusion of the decommissioning project or may be used to restore the HBPP site following decommissioning.

Project activities that have the potential to affect waters and wetlands include remediation dredging, removing rip-rap around the canals, removing the intake and outfall structures, installing water control structures, equipment access and staging areas, re-sloping the canals following dredging, and relocating the water discharge pipe from the groundwater treatment system east of the discharge canal.

The Project proponent and property owner, PG&E, may be contacted at:

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1.2 Project Location and Survey Area

The project area is a 5-ac (2-ha) portion of the HBPP property located at 1000 King Salmon Avenue in King Salmon, CA (Figure 1). The project area includes the intake and discharge canals and areas of potential ground disturbance around the canals and associated structures (e.g., intake structure, outfall structure, and sheet pile wall in Humboldt Bay to isolate the outfall structure) (Figure 2). The project 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 (Figure 1). The project area as defined for this wetland delineation report encompasses the entire intake canal, although physical work will only be conducted in a portion of the canal as shown in Figure 2.



Figure 1. HBPP location and canal remediation project area.

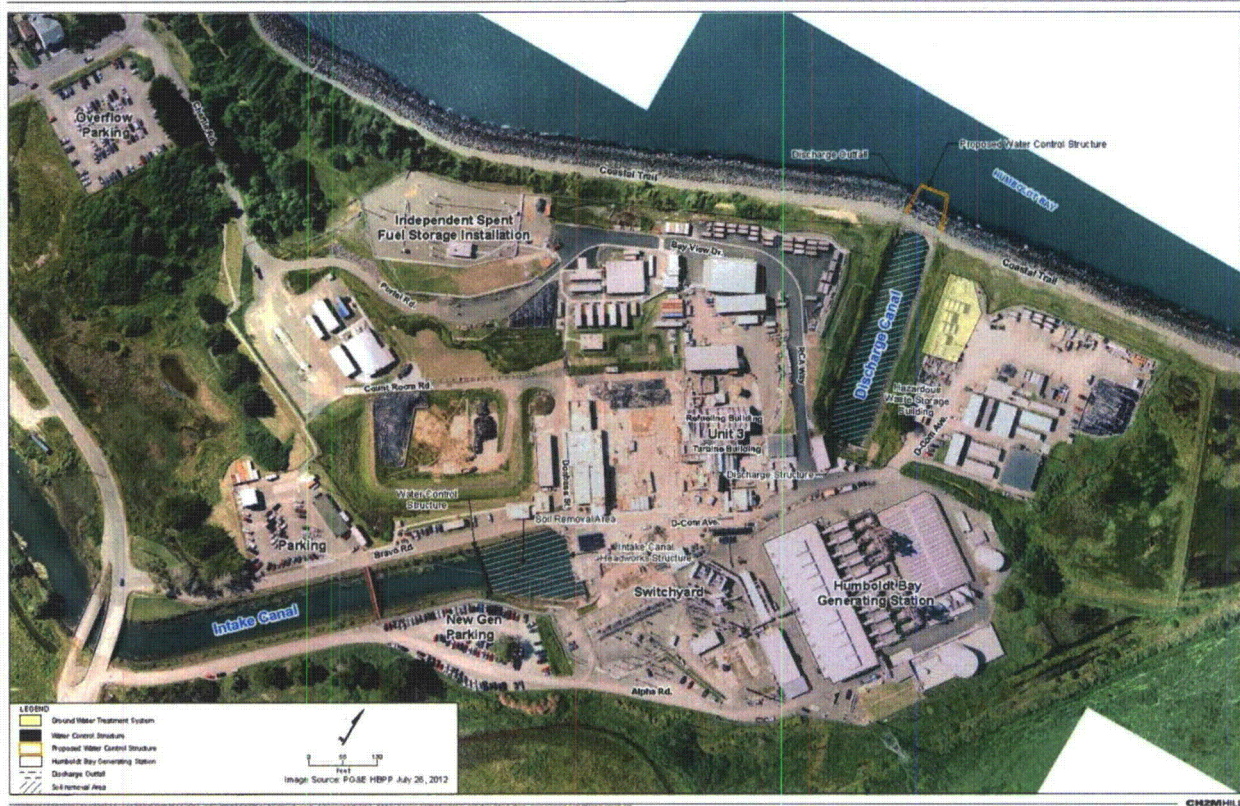


Figure 2. Project features at the HBPP property (Source: CH2M Hill 2012).

The project area can be accessed via the King Salmon Avenue exit off of U.S. Highway 101, heading west on King Salmon Avenue and right into the HBPP Bravo Road entrance. Access is by permission of PG&E HBPP security only. The HBPP property is located in unincorporated Humboldt County approximately 3 miles (4.8 km) south of the city of Eureka. It 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 elevation of the project area ranges from approximately 0 to 20 ft (0 to 6 m) above mean sea level.

This delineation was conducted in portions of the project area previously identified as wetlands or potential wetlands during surveys conducted from 2006 to 2009 for the Humboldt Bay Repowering Project (construction of the Humboldt Bay Generating Station) and the HBPP Decommissioning Project (CH2M Hill 2006, Mad River Biologists et al. 2009, and Mad River Biologists 2010), as well as additional areas not included in these previous surveys that may be impacted by the canal remediation project.

1.3 Purpose of the Wetland Delineation

The purpose of this preliminary wetland delineation is to: (1) assess the wetland resources in the project area; (2) delineate any waters of the U.S., including wetlands, 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; and (3) delineate any waters of the State that may be subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW), State Water Resources Control Board (SWRCB), and/or the California Coastal Commission (CCC).

This waters and wetland delineation is considered preliminary until verified by the San Francisco Regulatory Branch of the USACE.

2 METHODS

2.1 Existing Conditions

Prior to the delineation of jurisdictional waters and wetlands, information on existing soils, hydrology, and precipitation for the project area was evaluated. Information on potentially jurisdictional waters and wetlands was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online application, Wetlands Mapper (USFWS 2013). The most recent soil survey covering the PG&E HBPP property, which was completed in 1965, was reviewed, as were previous wetland delineation reports (CH2M Hill 2006, Mad River Biologists et al. 2009, and Mad River Biologists 2010). Precipitation records from California Department of Water Resources (CDWR 2013) were reviewed for a nearby weather station in Eureka, California.

2.2 Field Delineation

A delineation of potential jurisdictional waters and wetlands within the project 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 2–3 July 2013 by a botanist and an ecologist with training in wetland delineation.

2.2.1 Waters

Definitions of USACE jurisdictional “waters of the U.S.” that are pertinent to the Project include:

- all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; and
- wetlands adjacent to waters (other than waters that are themselves wetlands) identified above.

In tidal waters, USACE jurisdictional waters of the U.S. (not including adjacent wetlands) extend to the high tide line¹. During the field delineation, the high tide line was identified by a nearly continuous deposit of fine debris on the shore, the landward edge of mud flats, algae growth on rip-rapped shorelines, and vegetation lines that delineate the general height reached by a rising tide. Because the majority of the project area was inaccessible due to steep slopes surrounding deep water canals with unconsolidated bottom substrate, the high tide line was recorded using several point measurements taken with a Trimble GeoXH 6000-series Geographic Positioning System (GPS) unit and a Trimble TruePulse 360 laser range finder.

The GPS data were then post-processed and corrected. The GPS data were incorporated into a Geographic Information System (GIS), and the results of the high tide line field mapping were extrapolated to inaccessible portions of the project area using interpretation of aerial photographs and topography.

¹ In addition to Section 404 of the CWA, the USACE also has jurisdiction over tidal and freshwater systems under Section 10 of the Rivers and Harbors Act of 1899. An important difference is that Section 10 jurisdiction does not extend to adjacent wetlands that are outside the high tide line in tidal waters.

2.2.2 Wetlands

As noted above, the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: WMVC Supplement* (USACE 2010) were used to delineate wetlands. 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. Waters of the State can include all the waters and wetlands under the jurisdiction of the USACE, and 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 within the Coastal Zone.

A total of 7 sampling points were established in potential wetland areas in the project area. If a sample point met all three wetland parameters, it was labeled as a USACE wetland; if the point only met one or two wetland parameters, it was labeled as a CCC wetland; if a sample 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 (CH2M Hill 2006, Mad River Biologists et al. 2009, and Mad River Biologists 2010), and observations of hydrology and vegetation in the field. If a sampling point met all three parameters for a wetland, a paired sampling 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 sampling point did not meet all three parameters, the point was considered upland and a paired point was not collected. At each sampling point, a soil core was taken and the following information was recorded using 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, as well as the wetland indicator status (OBL [obligate], FACW [facultative-wet], FAC [facultative], FACU [facultative-upland], and UPL [upland]) using the 2012 *National Wetland Plant List for the State of California* (USACE 2012). Plant species not listed in the 2012 National Wetland Plant List were considered upland (UPL) species. A dominance test was performed to determine if the sample point exhibited hydrophytic vegetation.
2. **Hydrology:** Presence and depth of surface water, groundwater, and/or soil saturation were recorded. In addition, primary indicators (e.g., oxidized rhizopheres along living roots, surface soil cracks, inundation visible on aerial imagery, biotic crust), and secondary indicators (e.g., drainage patterns, dry-season water table, saturation visible on aerial imagery, FAC-neutral test) were also recorded at each sampling point.
3. **Soils:** Moistened soil matrix descriptions were recorded for each sampling 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 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 sandy redox (S5), loamy mucky mineral (F1), depleted matrix (F3), redox dark surface (F6), and depleted dark surface (F7).

Photographs were taken and the location of each sampling point was recorded with the GPS unit. Sampling points were marked on aerial photographs and the boundaries of the wetlands were

either walked and recorded with the GPS unit or drawn on aerial photographs. As with the high tide line data, the sample point spatial data were post-processed and corrected. The GPS data were incorporated into a GIS, and the drawn wetland boundaries were digitized. Mapped wetlands were later 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 sample points.

3 RESULTS

3.1 Existing Conditions

3.1.1 Vegetation

The vegetation in the project area consists of managed grassland communities, seasonal wetlands and drainages, coyote brush (*Baccharis pilularis*) scrub, and northern coastal salt marsh on the fringes of the intake canal (Mad River Biologists et al. 2009). Open water portions of the project area also include rip-rap and mudflats that are below the high tide line. Eelgrass (*Zostera marina*) is sparsely distributed in both the intake and discharge canals in areas of 0–10 ft (0–3 m) below sea level (Stillwater Sciences 2013). At the wetland sample points, vegetation is dominated by common spike rush (*Eleocharis palustris*), tufted hairgrass (*Deschampsia cespitosa*), and common rush (*Juncus effusus*). The vegetated upland portions of the project area are dominated by sweet vernal grass (*Anthoxanthum odoratum*), brome fescue (*Vulpia bromoides*), hairy catsear (*Hypochaeris radicata*), and common horsetail rush (*Equisetum arvense*) in the herbaceous layer, and by Himalayan blackberry (*Rubus armeniacus*) and California blackberry (*Rubus ursinus*) in the shrub layer.

3.1.2 Hydrology

The intake and discharge canals are both hydrologically connected to Humboldt Bay, which is regularly used for recreation and interstate and foreign commerce. The intake canal is connected to the bay via the Fisherman's Channel and the discharge canal through four 36-inch (91-centimeters) unscreened culverts. No freshwater water bodies or tributary streams occur in the project area.

The NWI *Wetlands Mapper* categorizes the intake canal as Estuarine and Marine Deepwater wetlands and the discharge canal as a Freshwater Pond (Figure 3). Though the discharge canal is behind a coastal levee, the canal is connected to Humboldt Bay through the aforementioned culverts and the canal is tidally influenced.

3.1.3 Soil units

Soil in the project area is mapped as residential/business/industrial, which has no official soil survey description (McLaughlin and Harradine 1965) (Figure 4). Soil sample plots within this area are considered a hydric soil if positive primary indicators are identified, such as retaining a sulfidic odor, presence of an aquic moisture regime, reducing conditions, or gleyed or low-chroma. The majority of the sample points contained fill and/or rock in the upper six inches. HBPP site protocols prevented excavation below the depth of six inches, so the depth of the fill layer is unknown. However, in all but one sample location (sample point 3; Appendix A), fill and/or rock prevented digging to a depth of six inches (15 centimeters). Sample points without fill contained clay-loam soil which is consistent with soil found in the adjacent Bayside series mapped soil unit. Bayside series is a very deep, poorly drained soil that is characterized by the Natural Resources Conservation Service (NRCS) Soil Survey Division (2005):

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 2012).

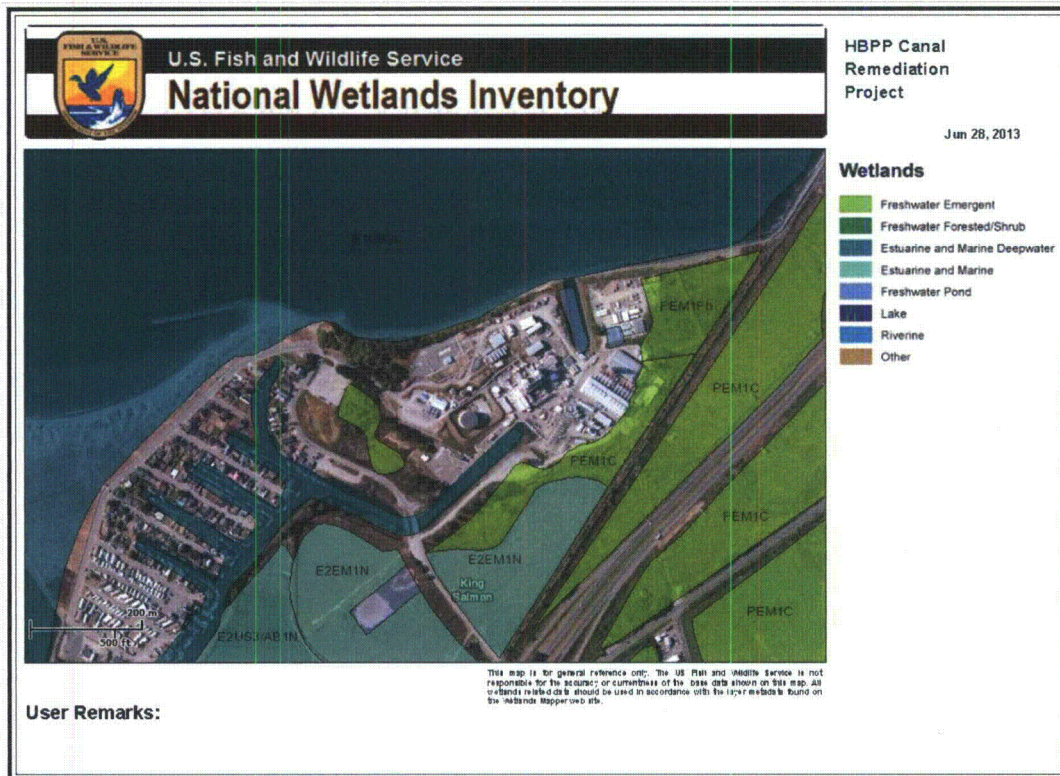


Figure 3. National Wetlands Inventory Map of the project area (Source: USFWS 2013).

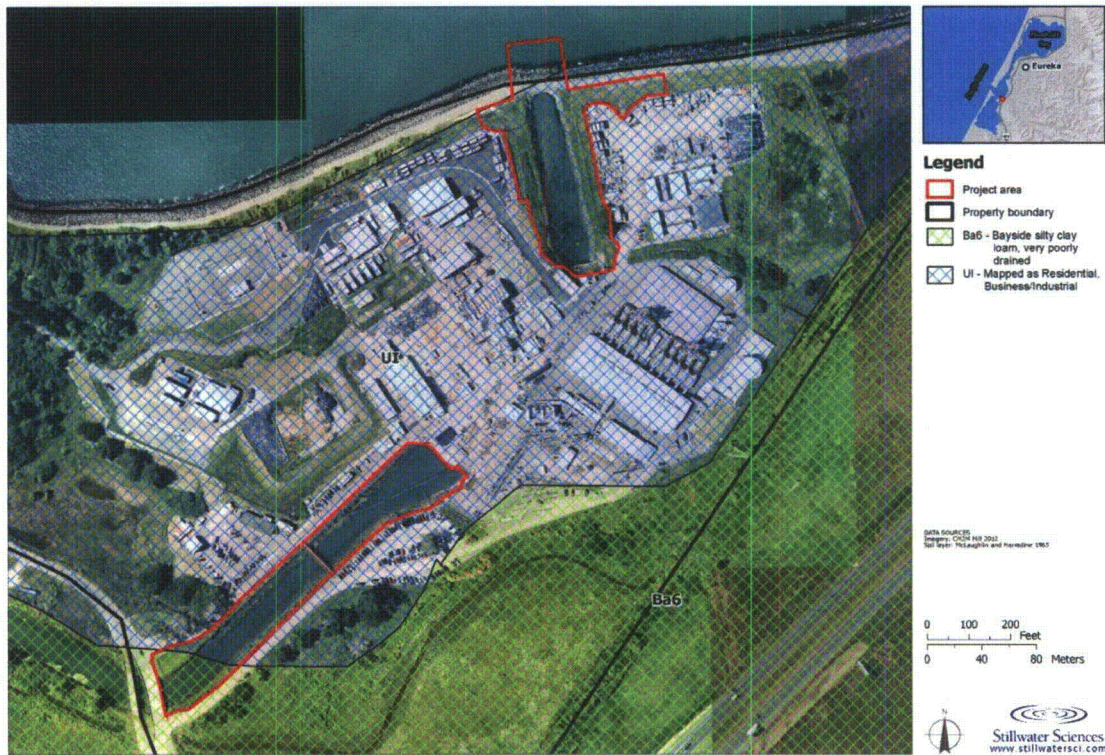


Figure 4. Mapped soil units in the project area.

3.2 Precipitation

Rainfall during and just prior to the field delineation was low for the region (NOAA 2013 Eureka Climate information). Rainfall from January to May of 2013 was less than half that of the preceding two years (CDWR 2013). Weather conditions during the delineation were mostly sunny and warm (~68°F [20°C]). Soils did not appear atypically moist or saturated during the delineation.

3.3 Preliminary Waters and Wetlands

The project area contains both USACE jurisdictional waters and wetlands as well as areas considered wetlands under the jurisdiction of the CCC. These waters and wetlands are summarized in Table 1, described below, and mapped in Figures 5–6. It should be noted that the canal remediation project will not impact all waters and wetlands delineated within the project area. The waters and wetlands described below have the potential to be impacted by the project.

Table 1. Waters and wetlands in the project area.

Description	Area	
	ac	ha
Waters of the U.S.	2.89	1.17
Palustrine persistent emergent wetlands	0.14	0.06
CCC jurisdictional	0.25	0.10

3.3.1 Waters of the U.S.

There are 2.89 ac (1.17 ha) of waters of the U.S. within the project area (Table 1). These waters include the intake canal (1.86 ac [0.75 ha]) and the discharge canal (0.78 ac [0.32 ha]), both of which are connected to Humboldt Bay, as well as a portion of Humboldt Bay that is in the project area (0.25 ac [0.10 ha]). All of the waters of the U.S. in the project area are considered portions of Humboldt Bay, which is used for interstate and foreign commerce. Indicators of the high tide line of these waters include algae growth on rip-rapped shorelines, a nearly continuous deposit of fine debris on the shore, and vegetation lines (Figure 7). The portions of these waters that are continuously submerged are classified by Cowardin et al. (1979) as estuarine subtidal habitat. The portions that are exposed and flooded by tides, but are beneath the high tide line, are classified by Cowardin et al. (1979) as intertidal emergent wetlands. These waters are also waters of the State.



Figure 5. Waters and wetlands in the discharge canal portion of the project area.



Figure 6. Waters and wetlands in the intake canal portion of the project area.

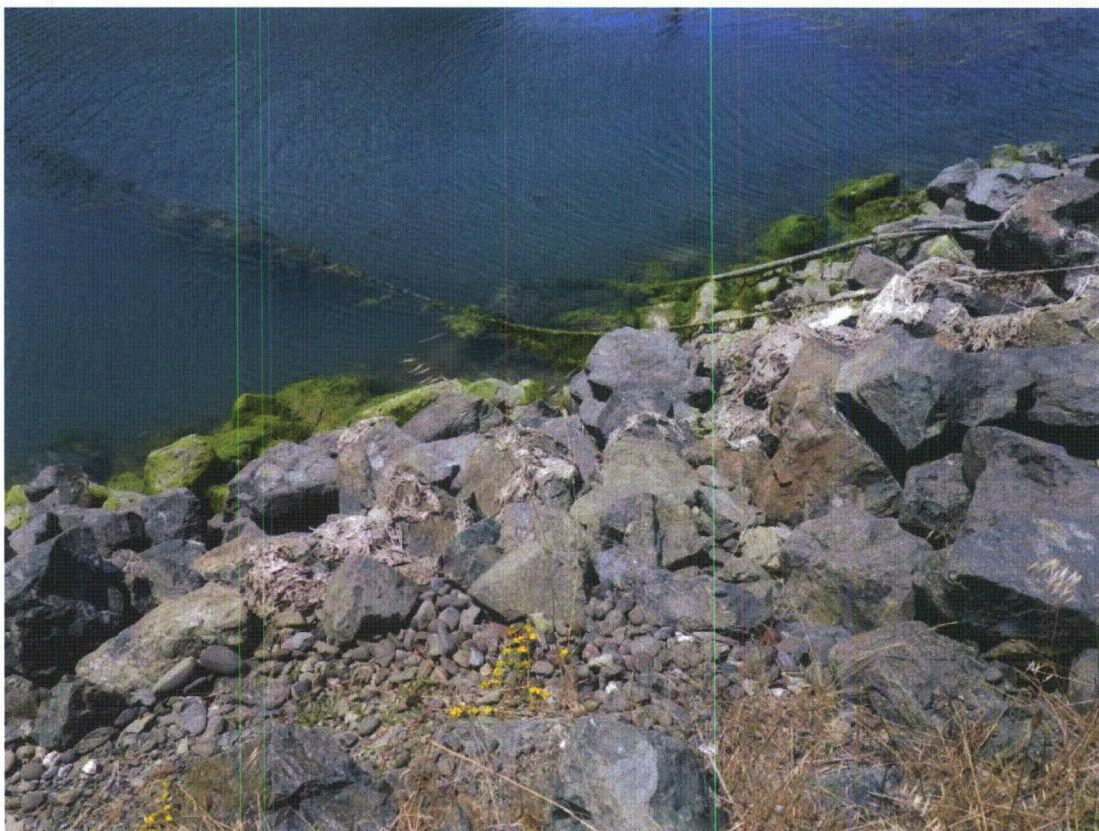


Figure 7. Typical high tide line indicators in the discharge canal including wrack debris line and algal growth on rip-rap.

3.3.2 Palustrine persistent emergent wetlands

Palustrine persistent emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes excluding mosses and lichens, present for most of the growing season in most years (Cowardin et al. 1979). Sample points 3 and 6 are examples of typical palustrine persistent emergent wetlands observed in the project area (Figure 5). Dominant emergent vegetation at these sampled locations consisted of common spike rush (OBL), tufted hairgrass (FACW), and common rush (FACW). The soil profiles (0–6 in [0–15 cm] in depth) included a clay loam soil with a matrix color of low value and chroma (10YR3/2 and 10YR 4/3) and a moderate percentage (10–25 percent) of redox concentrations occurring as pore linings (Appendix A). Dry hydrologic conditions were expected at this location since the survey was conducted in early summer, July 2013, of an atypically dry year. Observations at this location during an earlier survey in early April 2013 documented surface water (approximately 1 in [2.5 cm]) at W2 and surface water of an unknown depth at W1. River otters were seen using the area in and around W2 during the April 2013 site visit. In contrast, upland sample points 4 and 7 were dominated by sweet vernal grass (FACU) and common velvetgrass (*Holcus lanatus*; FAC) and had soils consisting mainly of fill and rock with little to no redox concentrations (Appendix A).

3.3.3 CCC jurisdictional wetlands

Wetlands potentially subject to the jurisdiction of the CCC that are outside of USACE jurisdictional wetlands were dominated by hydrophytic vegetation, but did not display positive indicators for hydric soils or wetland hydrology. Dominant vegetation at these locations consisted of tufted hairgrass (FACW), bird's foot trefoil (*Lotus corniculatus*, FAC), and common rush (FACW). In contrast, adjacent upland areas were typically dominated by hairy catsear (FACU), sweet vernal grass (FACU), and brome fescue (FACU). The area between the intake canal and the adjacent roads (Figure 6) was considered upland because of the dominance of hairy catsear (FACU) and coyote brush (FACU) (Figure 8). Though the area northeast of the discharge channel (Figure 5) was shown to contain CCC jurisdictional wetlands based on previous surveys (Mad River Biologists 2010), no depressions or areas where water may pond were noted in this area and current vegetation was dominated by sweet vernal grass (FACU), Himalayan blackberry (FACU), and hairy catsear (FACU). Therefore, this area was considered upland (Figure 9) and not a CCC jurisdictional wetland.



Figure 8. Typical vegetation in the area surrounding the intake canal above the high tide line.



Figure 9. Upland vegetation in the area northeast of the discharge canal.

4 SUMMARY AND CONCLUSIONS

This delineation of potential jurisdictional waters and wetlands was conducted in accordance with the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and WMVC Supplement (USACE 2010) and utilized information from previous wetland delineations and biological surveys conducted within the project area (CH2M Hill 2006, Mad River Biologists et al. 2009, Mad River Biologists 2010, and Stillwater Sciences 2013). The delineation met the objective of identifying and delineating all potential USACE waters and wetlands and CCC jurisdictional wetlands within the project area and contains sufficient information to assess potential wetlands impacts on the project. Assessment of potential wetland impacts and development of mitigation will be completed during the permitting process for the Canal Remediation Project.

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Appendices

Appendix A

Wetland Delineation Datasheets

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 7/2/2013
 Applicant/Owner: PG&E State: CA Sampling Point: T/WP10
 Investigator(s): EPC, EKT Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LRR Lat: see GPS Long: - Datum: NAD83
 Soil Map Unit Name: V/I - industrial NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Photo #'s 742-748</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u> </u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. <u> </u>				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. <u> </u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
4. <u> </u>				
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u> </u>				Total % Cover of: <u> </u> Multiply by: <u> </u>
2. <u> </u>				OBL species <u> </u> x 1 = <u> </u>
3. <u> </u>				FACW species <u>40</u> x 2 = <u>80</u>
4. <u> </u>				FAC species <u> </u> x 3 = <u> </u>
5. <u> </u>				FACU species <u>100</u> x 4 = <u>400</u>
<u>0</u> = Total Cover				UPL species <u> </u> x 5 = <u> </u>
<u>0</u> = Total Cover				Column Totals: <u>140</u> (A) <u>480</u> (B)
<u>0</u> = Total Cover				Prevalence Index = B/A = <u>3.43</u>
Herb Stratum (Plot size: <u>1.5m²</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Deschampsia cespitosa</u>	<u>40</u>	<u>YES</u>	<u>FACW</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Lotus corniculatus</u>	<u>35</u>	<u>NO</u>		<input type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Plantago lanceolata</u>	<u>8</u>	<u>NO</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Rachnanthus (sativa)</u>	<u>8</u>	<u>NO</u>		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Anthoxanthum odoratum</u>	<u>60</u>	<u>YES</u>	<u>FACU</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. <u>Vulpia (bromoides)</u>	<u>40</u>	<u>YES</u>	<u>FACU</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. <u>Festuca perennis</u>	<u>5</u>	<u>NO</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. <u>Plantago cornopis</u>	<u>3</u>	<u>NO</u>		
9. <u> </u>				
10. <u> </u>				
11. <u> </u>				
<u>199</u> = Total Cover				
Woody Vine Stratum (Plot size: <u> </u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u> </u>				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. <u> </u>				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u> </u>				
Remarks: <u>Although some FACW spp. occur, the dominant consists of upland plant spp.</u>				

SOIL

Sampling Point: 1 / WPT 6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2"	7.5YR 3/2	100	—	—	—	—	LOAM	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<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)	

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

Restrictive Layer (if present):
 Type: fill/rock
 Depth (inches): 2"

Hydric Soil Present? Yes _____ No X

Remarks:
No hydric soil conditions, fill

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:
No hydrology indicators.

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

Project/Site: HBPP (Discharge Canal) City/County: King Salmon/Humboldt Sampling Date: 7/2/2013
 Applicant/Owner: PG&E State: CA Sampling Point: 2/WPT10
 Investigator(s): FPC, EKT Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): flat Slope (%): 0
 Subregion (LRR): LPP Lat: see gps Long: — Datum: NAD 83
 Soil Map Unit Name: VII NWI classification: N/A

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? Fill 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 <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks: <u>PHOTOS: 0751-0760, Not a USACE wetland although in coastal commission boundaries therefore this sampling point is considered a CCC wetland.</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>—</u>)	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>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover				Total % Cover of: _____ Multiply by: _____	
_____ = Total Cover				OBL species _____ x 1 = _____	
_____ = Total Cover				FACW species <u>35</u> x 2 = <u>70</u>	
_____ = Total Cover				FAC species <u>40</u> x 3 = <u>120</u>	
_____ = Total Cover				FACU species <u>30</u> x 4 = <u>120</u>	
_____ = Total Cover				UPL species _____ x 5 = _____	
_____ = Total Cover				Column Totals: <u>105</u> (A) <u>310</u> (B)	
_____ = Total Cover				Prevalence Index = B/A = <u>2.95</u>	
Hydrophytic Vegetation Indicators:					
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation					
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%					
<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹					
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹					
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Remarks: <u>Plants located @ this sampling point are mainly facultative and few spp.</u>					

SOIL

Sampling Point: WPI 10 ^{2/}

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-3"	7.5YR 3/2	100	7.5YR 5/6	1	C	PL	LOAM fill @ 3"

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: Fill/Rock

Depth (inches): 3"

Hydric Soil Present? Yes _____ No X

Remarks:

Not enough redox concentrations to conclude hydric soil presence

HYDROLOGY

Wetland Hydrology Indicators:

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

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

- Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (LRR A)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present @ sampling location

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 7/2/2013
 Applicant/Owner: PG&E State: CA Sampling Point: 3/WPT16
 Investigator(s): EPC, EKT Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): _____ Lat: see GPS Long: _____ Datum: NAD83
 Soil Map Unit Name: VH NWI classification: N/A

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? NO Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>Photos 7067-7075</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
4. _____				
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
<u>0</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = <u>1.5</u>
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Anthoxanthum odoratum</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Epilobium (angustifolium arvensis)</u>	<u>15</u>	<u>NO</u>		<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Sisyrinchium chilense</u>	<u>20</u>	<u>NO</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Eleocharis palustris</u>	<u>45</u>	<u>YES</u>	<u>OBL</u>	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Deschampsia caespitosa</u>	<u>25</u>	<u>YES</u>	<u>FACW</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. <u>Picus echinoides</u>	<u>9</u>	<u>NO</u>		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
<u>66.5</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Remarks:
1. _____				
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

SOIL

Sampling Point: WPT 16 ^{3/}

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
3-6"	10YR 4/3	90	7.5YR 5/8	10	C	PL	Clay-Luam	

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

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

- 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 Soils³:

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

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

Restrictive Layer (if present):

Type: as indicated by client [MBPP site protocols]
 Depth (inches): 6"

Hydric Soil Present? Yes No

Remarks:

Redox depression b/c matrix color too high in value (chroma) for F6, but high in C (PL).
 In small depression likely collecting nearby drainage and seasonal rainwater.

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks:

Although no surface water, water table, or saturation present oxidized rhizospheres were present in sample therefore hydrology was indicated.
 * wetland del. occurring in summer - dry-season.

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 7/2/2013
 Applicant/Owner: PGTE State: CA Sampling Point: 4/WPT17
 Investigator(s): EPC, EKT Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): flat to convex Slope (%): 3
 Subregion (LRR): LRR Lat: See GPS Long: _____ Datum: NAD83
 Soil Map Unit Name: V/I NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>Photos 7074-7079</u>	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
3. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
4. _____				
5. _____				
Sapling/Shrub Stratum (Plot size: _____)	<u>0</u> = Total Cover			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Herb Stratum (Plot size: <u>1 m</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Aster chilensis</u>	<u>10</u>	<u>NO</u>		
2. <u>Anthoxanthum odoratum</u>	<u>85</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Picris echioides</u>	<u>10</u>	<u>NO</u>		
4. <u>Epilobium (angustifolium)(circa)</u>	<u>15</u>	<u>NO</u>		
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Woody Vine Stratum (Plot size: _____)	<u>110</u> = Total Cover			
1. _____				
2. _____				
% Bare Ground in Herb Stratum <u>0</u>	<u>0</u> = Total Cover			

Hydrophytic Vegetation Present? Yes _____ No

Remarks:

SOIL

Sampling Point: WPT 7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
4"	10YR 4/3	99	7.5YR 4/6	<1	D	PL	LOAM	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):
 Type: fill/rock
 Depth (inches): 4"

Hydric Soil Present? Yes No

Remarks: No depletions and not enough redox concentrations to qualify under any indicator. [LANDSCAPE position of sampling point is also slightly convex = not depressional, etc]

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes No

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

Remarks: Not enough redox concentrations to qualify for (C3).

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 7/2/2013
 Applicant/Owner: PATE State: CA Sampling Point: 5/WPT20
 Investigator(s): EPC, AET Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 15
 Subregion (LRR): LRR Lat: see GPS Long: _____ Datum: NAD83
 Soil Map Unit Name: U/K NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil yes, or Hydrology _____ significantly disturbed? Fill 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 _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
0 = Total Cover				
Herb Stratum (Plot size: <u>2 m</u>)				
1. <u>Equisetum arvense</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Leptantherum vulgare (occidentalis)</u>	<u>8</u>	<u>NO</u>		
3. <u>Scrophularia californica</u>	<u>5</u>	<u>NO</u>		
4. <u>Achillea millefolium</u>	<u>8</u>	<u>NO</u>		
5. <u>Rumex crispus</u>	<u>2</u>	<u>NO</u>		
6. <u>Epilobium (angustifolium)</u>	<u>3</u>	<u>NO</u>		
7. <u>Cirsium vulgare</u>	<u>3</u>	<u>NO</u>		
8. <u>Aster chilensis</u>	<u>20</u>	<u>NO</u>		
9. _____				
10. _____				
11. _____				
109 = Total Cover				
Woody Vine Stratum (Plot size: <u>2m</u>)				
1. <u>Rubus armeniacus</u>	<u>10</u>	<u>NO</u>		
2. <u>Rubus visinosus</u>	<u>70</u>	<u>YES</u>	<u>FACV</u>	
80 = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

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

5 - Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present?	Yes _____ No _____
--	--------------------

SOIL

Sampling Point: 51 WPT 20

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
2"	10YR 3/2	100	—	—	—	—	Loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):
 Type: fill/rock
 Depth (inches): 2"

Hydric Soil Present? Yes No

Remarks:

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes No

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

Remarks:

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

Project/Site: HBPP City/County: King Salmon/Humboldt Sampling Date: 7/2/2013
 Applicant/Owner: PG&E State: CA Sampling Point: 6/WPT22
 Investigator(s): EPC, EKT Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): theslope / depression Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): LRR Lat: see gps Long: _____ Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	
Remarks: <u>Photos = 791-796</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>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. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: <u>1.5m</u>)				
1. <u>Juncus effusus</u>	<u>60</u>	<u>YES</u>	<u>FACW</u>	
2. <u>Anthoxanthum odoratum</u>	<u>5</u>	<u>NO</u>	_____	
3. <u>Aster chilensis</u>	<u>15</u>	<u>NO</u>	_____	
4. <u>Achillea millefolium</u>	<u>5</u>	<u>NO</u>	_____	
5. <u>Holcus lanatus</u>	<u>8</u>	<u>NO</u>	_____	
6. <u>Plantago lanceolata</u>	<u>2</u>	<u>NO</u>	_____	
7. <u>Deschampsia caespitosa</u>	<u>20</u>	<u>NO</u>	_____	
8. <u>Demianthe carmentosa</u>	<u>25</u>	<u>NO</u>	_____	
9. <u>Eragrostis (arvensis?)</u>	<u>3</u>	<u>NO</u>	_____	
10. <u>Ranunculus repens</u>	<u>8</u>	<u>NO</u>	_____	
11. _____	_____	_____	_____	
141 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: _____				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				

SOIL

61
Sampling Point: WPT 22

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5"	10YR 3/2	75	7.5YR 5/8	25	C	PL	Clay loam	

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

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: fill / rock

Depth (inches): 5"

Hydric Soil Present? Yes No

Remarks: Matrix color and % of redox passes for Redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 4-5"

Wetland Hydrology Present? Yes No

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

Remarks:

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

Project/Site: HBPP City/County: KING SALMON / HUMBOLDT Sampling Date: 7/2/2013
 Applicant/Owner: PG&E State: CA Sampling Point: 7/WPT23
 Investigator(s): EPC, EKT Section, Township, Range: S8 T4N R1W
 Landform (hillslope, terrace, etc.): trioslope Local relief (concave, convex, none): fld Slope (%): 0
 Subregion (LRR): LRF Lat: 41 49 S Long: _____ Datum: NAD83
 Soil Map Unit Name: V/I NWI classification: N/A

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? No Yes _____ Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No Yes _____ (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)	
4. _____					
<u>0</u> = Total Cover				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____				OBL species _____ x 1 = _____	
2. _____				FACW species _____ x 2 = _____	
3. _____				FAC species _____ x 3 = _____	
4. _____				FACU species _____ x 4 = _____	
5. _____				UPL species _____ x 5 = _____	
<u>0</u> = Total Cover				Column Totals: _____ (A) _____ (B)	
<u>0</u> = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>1.5m</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Anthoxanthum odoratum</u>	<u>35</u>	<u>YES</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Holcus lanatus</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Juncus effusus</u>	<u>15</u>	<u>NO</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Poa pratensis</u>	<u>5</u>	<u>NO</u>		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Dactylis carota</u>	<u>2</u>	<u>NO</u>		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
6. <u>Dactylis pennisilium</u>	<u>2</u>	<u>NO</u>		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Leucanthemum vulgare (occidentale)</u>	<u>2</u>	<u>NO</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
9. _____					
10. _____					
11. _____					
<u>111</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>115m</u>)					
1. <u>Rubus armeniacus</u>	<u>8</u>	<u>YES</u>	<u>FACU</u>		
2. _____					
<u>8</u> = Total Cover					
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOIL

Sampling Point: 71 WPT 23

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4"	7.5 YR 3/2	100	—	—	—	—	LOAM CLAY LOAM	

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

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

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> 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 Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

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

Restrictive Layer (if present):

Type: FILL/ROCK
 Depth (inches): 4"

Hydric Soil Present? Yes No

Remarks: No redox or Depleted Features

HYDROLOGY

Wetland Hydrology Indicators:

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

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

- | |
|---|
| <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

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

Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks: No hydrology indicated.

Appendix B

Photographs of Wetland Delineation Sample Points



Figure B-1. Wetland sample point 1.



Figure B-2. Wetland sample point 2.

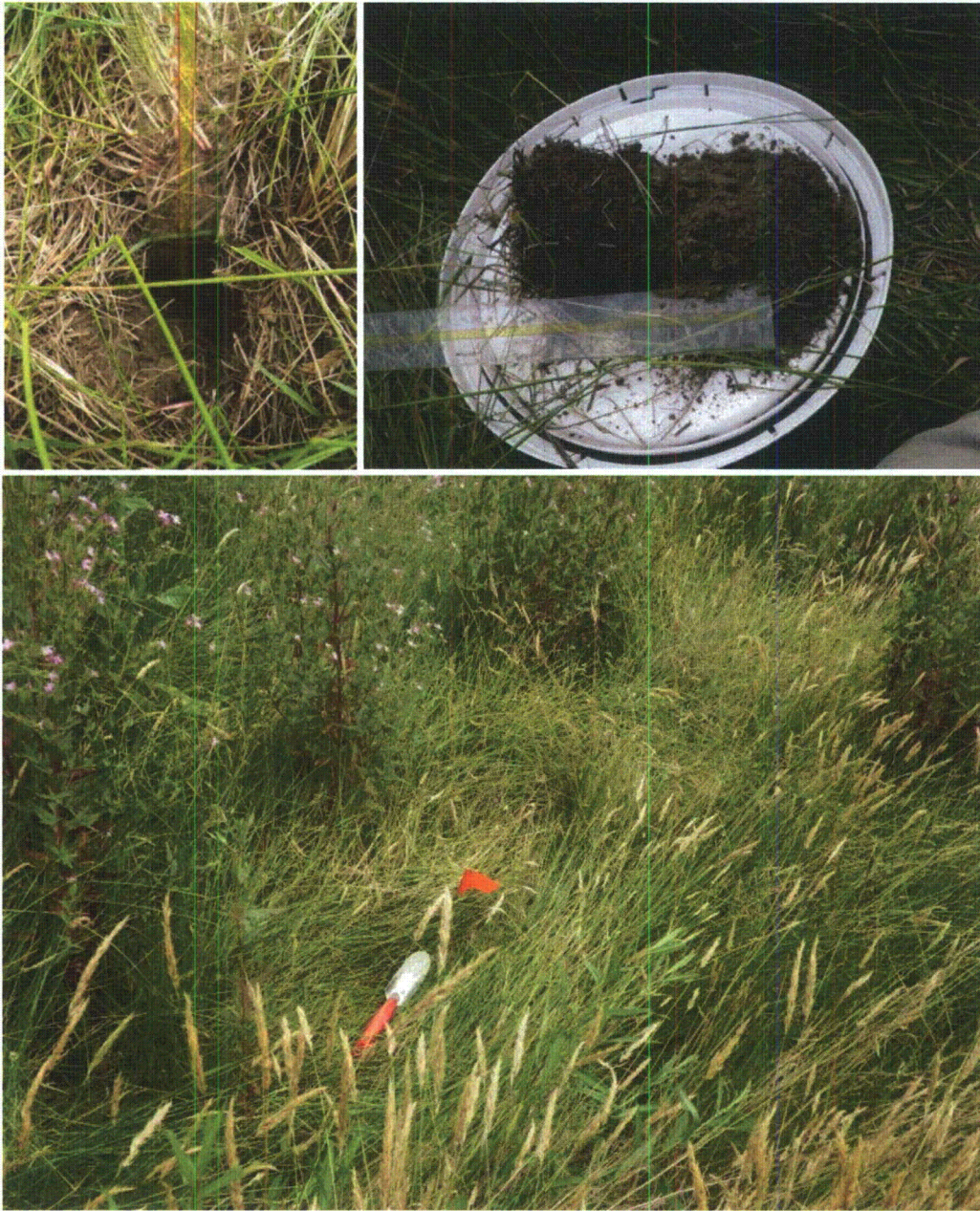


Figure B-3. Wetland sample point 3.



Figure B-4. Wetland sample point 4.



Figure B-5. Wetland sample point 5.

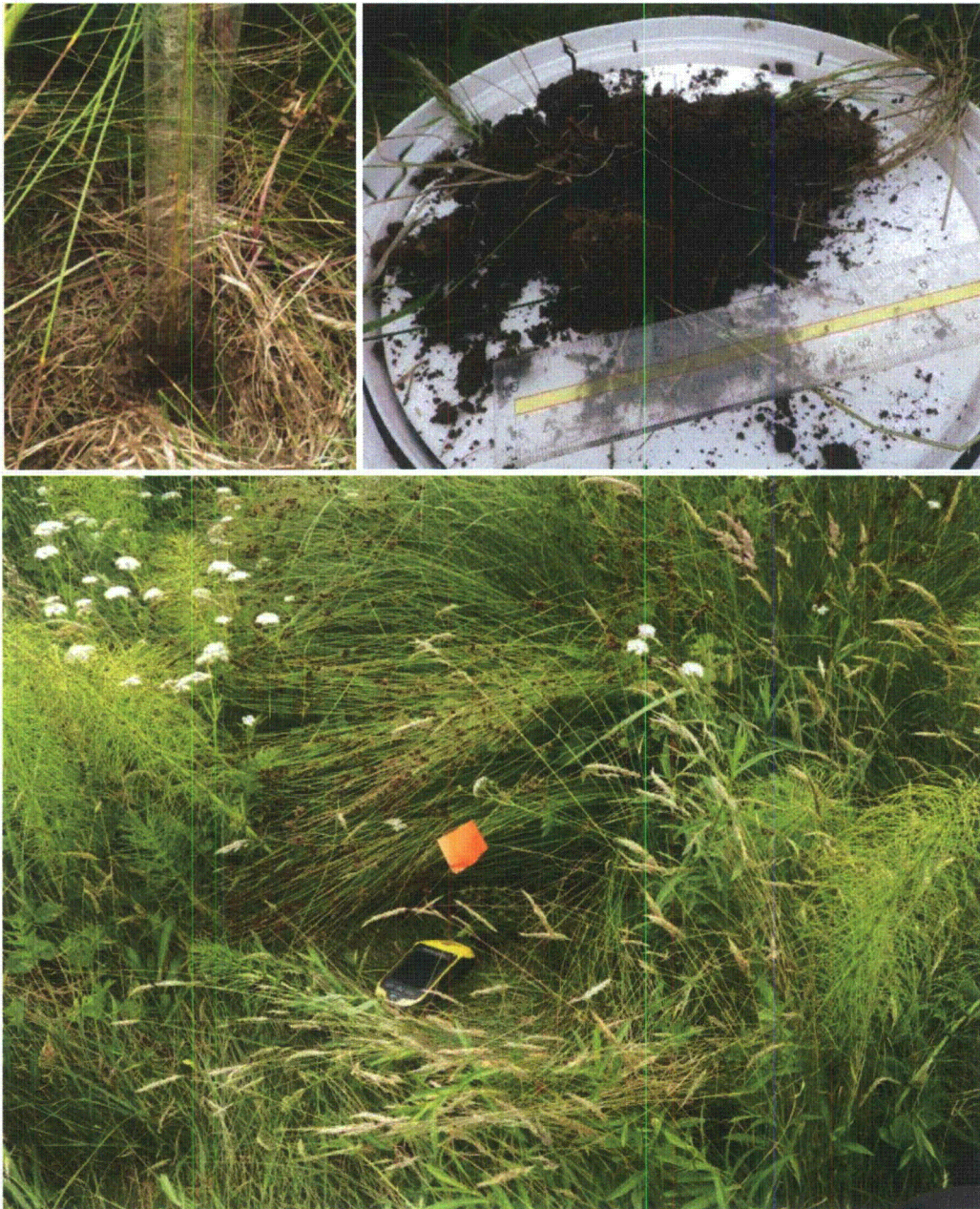


Figure B-6. Wetland sample point 6.



Figure B-7. Wetland sample point 7.