

DRAFT

Delineation of Waters of the United States

Butte Community College: Project Site 1 & 2
Butte County, CA

July 2011



Prepared for:

Butte College Facilities Planning and Management
Attn: Mike Miller
3536 Butte Campus Drive
Oroville, CA 95965

Prepared by:



GALLAWAY
CONSULTING

A DIVISION OF NORTHSTAR ENGINEERING

111 MISSION RANCH BLVD, STE 100, CHICO CA 95926
PHONE (530) 343-8327 • FAX (530) 893-2113

DRAFT

Delineation of Waters of the United States

Butte Community College: Project Site 1 & 2
Butte County, CA

July 2011

Prepared for:

Butte College Facilities Planning and Management
Attn: Mike Miller
3536 Butte Campus Drive
Oroville, CA 95965

Prepared by:



GALLAWAY
CONSULTING
A DIVISION OF NORTHSTAR ENGINEERING
111 MISSION RANCH BLVD, STE 100, CHICO CA 95926
PHONE (530) 343-8327 • FAX (530) 893-2113

	Page
Introduction and Project Location	1
Site Conditions.....	1
Survey Methodology.....	3
<i>Terminology</i>	3
<i>Determination of Hydrophytic Vegetation</i>	6
<i>Determination of Hydric Soils</i>	6
<i>Determination of Wetland Hydrology</i>	6
<i>Determination of Ordinary High Water Mark</i>	6
<i>Determination of Isolated Wetlands</i>	8
<i>Jurisdictional Boundary Determination and Acreage Calculation</i>	8
Results.....	11
<i>Jurisdictional Features</i>	12
<i>Non-Jurisdictional Features</i>	13
<i>Significant Nexus</i>	13
<i>Soils</i>	15
<i>Vegetation</i>	15
<i>Hydrology</i>	15
Site Photos	17
References.....	19

Appendix A –Official Soils Series Descriptions

Appendix B – Field Data Forms

Tables **Page**

Table 1. Jurisdictional wetland totals delineated within the Butte Community College: Project Site 1 and 2 survey areas..... 11

Figures

Figure 1. Location..... 2

Figure 2. Soil map..... 7

Figure 3. Project Site 1 Draft Delineation of Waters of the U.S. Map 9

Figure 4. Project Site 2 Draft Delineation of Waters of the U.S. Map 10

DRAFT

DELINEATION OF WATERS OF THE UNITED STATES

Butte Community College: Project Site 1 & 2 Butte County, CA.

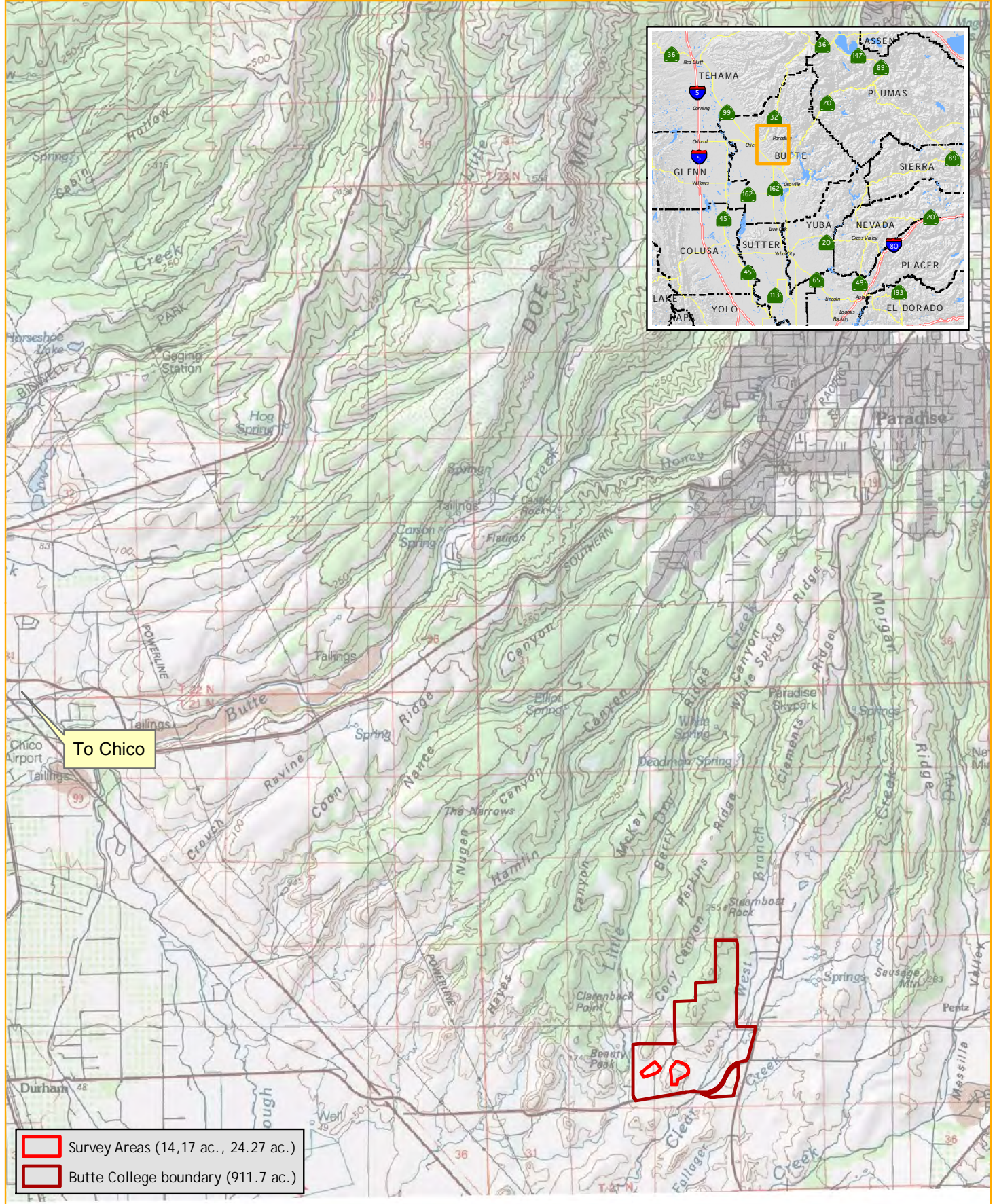
Introduction and Project Location


Galloway Consulting conducted a delineation of waters of the U.S. for an approximately 14-acre project area located in the southwest corner of the Butte Community College Campus (Campus) and a 24-acre project area located in the southern portion of the Campus. The Campus is located north of Oroville in Butte County, California (**Figure 1**). The 14-acre project survey area (Project Site 1) and the 24-acre project survey area (Project Site 2) are located in Sections 29 and 28, Township 21N, Range 3E, of the Hamlin Canyon U.S. Geological Survey (USGS) 7.5 minute quadrangle map. A survey within each of the project sites was conducted on June 14, 2011 by botanist Elena Gregg. The survey involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the *United States Army Corps of Engineers Wetlands Delineation Manual* (1987); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008); and the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007).

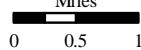
This report addresses the nature, jurisdictional status, and landscape position of the wetlands in the survey area; it does not provide information suitable for structural analysis of soils for construction purposes, flood plain delineation, or other purposes not expressly stated. Wetland acreages presented in this report should be considered preliminary, and subject to review and modification by the U.S. Army Corps of Engineers (USACE) during the wetland delineation verification process.

Site Conditions

The Campus is located north of Oroville in Butte County, California (**Figure 1**), and is situated at the toe of the foothills associated with the Sierra Nevada Mountain Range. Project Site 1 is located in the southwest portion of the Campus (**Figure 1**) and is characterized by disturbed annual grassland with multiple remnant vernal and seasonal swales and pools. The site consists of flat to gently sloping (northeast to southwest) topography. The elevation ranges from 273 to 295 feet above sea level. Project Site 2 is located in the southern portion of the Campus (**Figure 1**) and is characterized by gently rolling hills dominated by annual grassland habitat. The elevation ranges from 304 to 369 feet above sea level. The average annual temperature for the area ranges from 48.7 °F in the winter to 75.2 °F in the summer and the average annual total precipitation is 28.69 inches (WRCC 2011).




 Within Sections 21, 22, 27-29 of
 T21N, R3E Butte County, CA.
 Hamlin Canyon USGS 7.5' Quad.
 Map Date: June 16, 2011

Miles

 0 0.5 1


GALLAWAY
 CONSULTING
A DIVISION OF NORTHSTAR ENGINEERING

Figure 1

Survey Methodology

Many of the terms used throughout this report have specific meanings relating to the federal wetland delineation process. Term definitions are based on the *USACE Wetlands Delineation Manual* (1987); the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989); the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region* (2008); and, the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007). The terms defined below have specific meaning relating to the delineation of waters of the U.S. as prescribed by §404 of the Clean Water Act (CWA).

Terminology

Abutting: When referring to wetlands that are adjacent to a tributary, abutting defines those wetlands that are not separated from the tributary by an upland feature, such as a berm or dike.

Adjacent: Adjacent as used in “Adjacent to a traditional navigable water,” is defined in USACE and Environmental Protection Agency (EPA) regulations as “bordering, contiguous, or neighboring.” Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes and the like are ‘adjacent wetlands.’

Atypical situation (significantly disturbed): In an atypical (significantly disturbed) situation, recent human activities or natural events have created conditions where positive indicators for hydrophytic vegetation, hydric soil, or wetland hydrology are not present or observable.

Ephemeral stream: An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Growing season: The growing season is the portion of the year when soil temperatures at 19.7 inches below the soil surface are above biologic zero (41° F) as defined by soil taxonomy.

Hydric soil: Soil is hydric that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic (oxygen-depleted) conditions in its upper part (*i.e.* within the shallow rooting zone of herbaceous plants).

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Jurisdictional wetland: Sites that meet the definition of wetland provided below and that fall under USACE regulations pursuant to §404 of the CWA are considered jurisdictional wetlands.

Man-induced wetlands: A man-induced wetland is an area that has developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities.

Non-relatively permanent waters: This describes a body of water such as an ephemeral stream, which has flowing water only during and for a short period of time following precipitation events in a typical year. Non-relatively permanent waters (NRPWs) are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Normal circumstances: This term refers to the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed.

Other waters of the United States: Other waters of the U.S. are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Plant indicator status categories:

Obligate wetland plants (OBL) – plants that occur almost always (estimated probability 99%) in wetlands under normal conditions, but which may also occur rarely (estimated probability 1%) in non-wetlands.

Facultative wetland plants (FACW) - plants that usually occur (estimated probability 67% to 99%) in wetlands under normal conditions, but also occur (estimated probability 1% to 33%) in non-wetlands.

Facultative plants (FAC) – Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands.

Facultative upland plants (FACU) – Plants that occur sometimes (estimated probability 1% to 33%) occur in wetlands, but occur more often (estimated probability 67% to 99%) in non-wetlands.

Obligate upland plants (UPL) – Plants that occur rarely (estimated probability 1%) in wetlands, but occur almost always (estimated probability 99%) in non-wetlands under natural conditions.

Ponded: Ponding is a condition in which free water covers the soil surface (e.g., in a closed depression) and is removed only by percolation, evaporation, or transpiration.

Problem area: Problem areas are those where one or more wetland parameters may be lacking because of normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events.

Relatively permanent: As defined in the *Rapanos* guidance document, a water body is “relatively permanent” if its flow is year round or its flow is continuous at least “seasonally,” (e.g., typically 3 months). Wetlands adjacent to a “relatively permanent” tributary are also jurisdictional if those wetlands directly abut such a tributary.

Significant nexus: A water body is considered to have a “significant nexus” with a traditional navigable water if its flow characteristics and functions in combination with the ecologic and hydrologic functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.

Traditional navigable water: Includes all of the “navigable water of the United States,” defined in 33 C.F.R. § 329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. As defined in 33 C.F.R. § 329, “Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events which impede or destroy navigable capacity.”

Tributary: As defined in the *Rapanos* guidance document a tributary is a natural, man-altered, or man-made water body that carries flow directly or indirectly into traditional navigable waters. For purposes of determining “significant nexus” with a traditional navigable water, a “tributary” is the entire reach of the stream that is of the same order (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).

Waters of the United States: This is the encompassing term for areas under federal jurisdiction pursuant to § 404 of the CWA. Waters of the U.S. are divided into “wetlands” and “other waters of the U.S.”

Wetland: Wetlands are defined as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 [b], 40 CFR 230.3). To be considered under federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

Determination of Hydrophytic Vegetation

The presence of hydrophytic vegetation was determined using the methods outlined in the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region* (2008), which are approved by the USACE for use in conjunction with the *Wetlands Delineation Manual* (1987). Areas are considered to have positive indicators of hydrophytic vegetation if they pass the dominance test, meaning more than 50 percent of the dominant species are OBL, FACW, FAC (Reed 1988). Plant species were identified to the lowest taxonomy possible.

Determination of Hydric Soils

Soil survey information was reviewed for the survey area and the Natural Resources Conservation Service (NRCS) database was consulted on the local soil conditions. The use of hydric soil indicators, as outlined in the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region* (2008), was applied to all soil samples. Official soil series descriptions are provided in **Appendix A** and the distribution of soil map units for the project sites are shown in **Figure 2**.

Determination of Wetland Hydrology

Wetland hydrology was determined to be present if a site supported one or more of the following characteristics:

- Landscape position and surface topography (e.g. position of the site relative to an up-slope water source, location within a distinct wetland drainage pattern, and concave surface topography);
- Inundation or saturation for a long duration either inferred based on field indicators or observed during repeated site visits; and
- Residual evidence of ponding or flooding resulting in field indicators such as scour marks, sediment deposits, algal matting, and drift lines.

The presence of water or saturated soil for approximately 5 to 12.5 percent of the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow and the types of soils that develop (Environmental Laboratory 1987).

Determination of Ordinary High Water Mark

The lateral extent of non-tidal water bodies (e.g. intermittent streams) were based on the ordinary high water mark (OHWM), which is “the line on the shore established by the fluctuations of water” (USACE 2005). The OHWM was determined based on physical characteristics of the area, including scour, multiple observed flow events (from current and historical aerial photos), shelving, changes in the character of soil, presence of mature vegetation, deposition, and topography. Due to the wide extent of some floodplains, adjacent riparian areas characterized by hydric soils, hydrophytic vegetation, and hydrology may be included within the OHWM of a non-tidal water body.

Survey Area (24.27 ac.)

Soil unit, Soil description

- 676, CARHART-ANITA TAXADJUNCT COMPLEX, 0 TO 12 PERCENT SLOPES
- 677, TUSCAN-FALLAGER-ANITA, GRAVELLY DURIPAN, COMPLEX, 0 TO 3 PERCENT SLOPES
- 679, LUCKSEV-BUTTESIDE-CARHART COMPLEX, 2 TO 15 PERCENT SLOPES
- 680, LUCKSEV-BUTTESIDE COMPLEX, 15 TO 35 PERCENT SLOPES



Soils provided by NRCS
Aerial: 2005 (NAIP)
Map date: 6/21/11

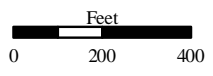


Figure 2

Determination of Isolated Wetlands

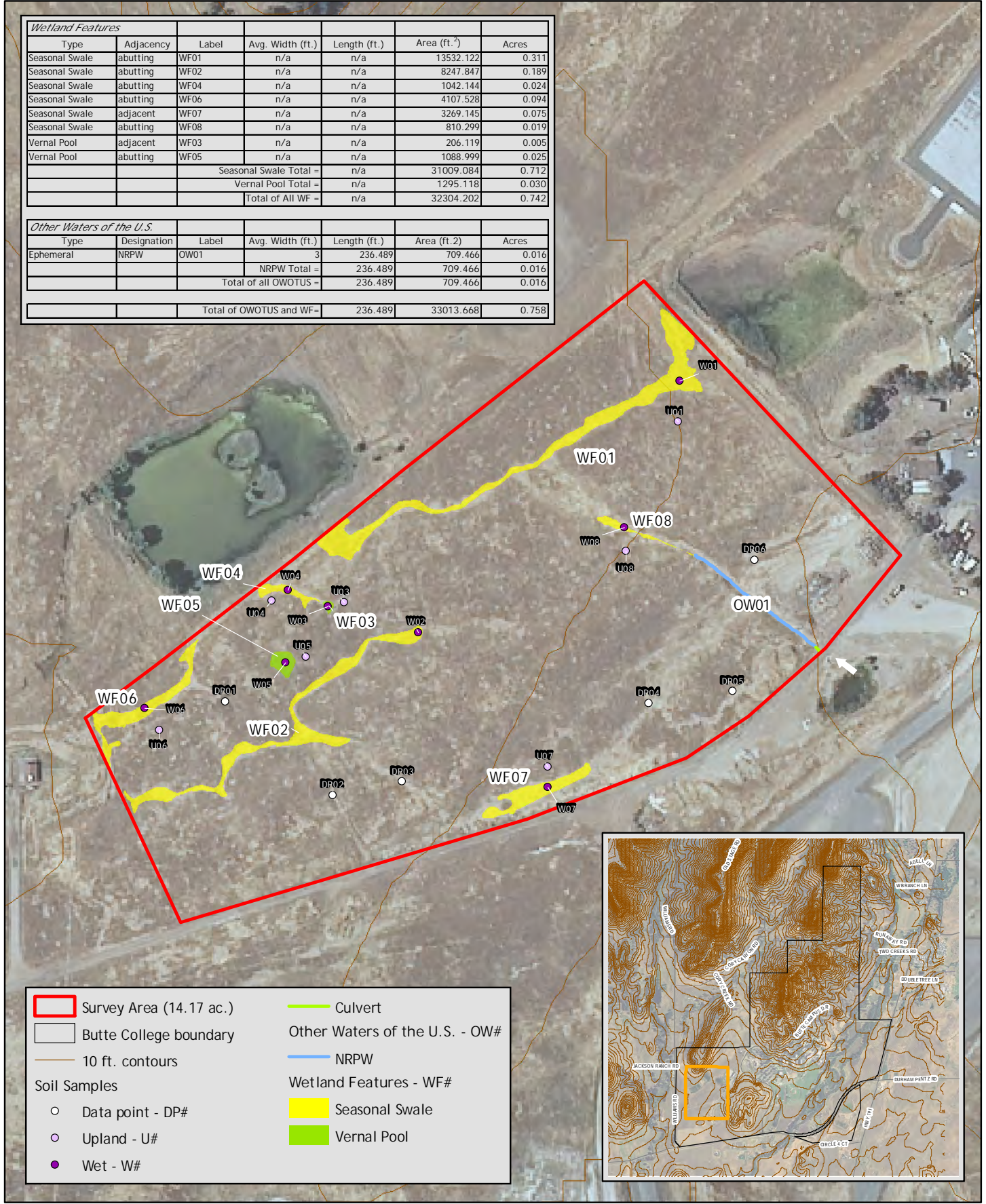
On January 9, 2001, the U.S. Supreme Court issued a decision in the case (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* [the SWANCC decision], 531 U.S. 159 [2001]). The Court determined that the USACE authority under the CWA § 404 did not extend to isolated wetlands if they are not “adjacent” to navigable waters. It held that the USACE exceeded its statutory authority by asserting CWA § 404 jurisdiction over the ponds that SWANCC wanted to fill based solely on the use of those “non-navigable, isolated, intrastate” waters by migratory birds. The parameters defined in the SWANCC case were used to identify “non-navigable, isolated, intrastate” wetlands within the project sites. These features will still be subject to regulation under the Regional Water Quality Control Board (RWQCB) and § 401 of the Clean Water Act.

Jurisdictional Boundary Determination and Acreage Calculation

The wetland-upland boundary was determined based on the presence or inference of positive indicators of all mandatory criteria. The project sites were traversed on foot to identify wetlands. Standard data sheets (**Appendix B**) were used to describe plants, soils, and hydrological characteristics. Gallaway Consulting conducted the field delineation and prepared the map and acreage calculations (**Figure 3** and **Figure 4**). The spatial data obtained during the preparation of this delineation was collected using a Trimble GeoXT Global Positioning System (GPS) Receiver on June 14, 2011. The maximum position dilution of precision (PDOP) during data collection was 7.5. No readings were taken with fewer than 5 satellites. Point data locations were recorded for 25 seconds at a rate of 1 position per second. Area and line data was recorded at a rate of 1 position per second while walking at a slow pace. All GPS data was differentially corrected for maximum accuracy using the nearest National Geodetic Survey’s Continuously Operating Reference Station (CORS).

Wetland Features						
Type	Adjacency	Label	Avg. Width (ft.)	Length (ft.)	Area (ft. ²)	Acres
Seasonal Swale	abutting	WF01	n/a	n/a	13532.122	0.311
Seasonal Swale	abutting	WF02	n/a	n/a	8247.847	0.189
Seasonal Swale	abutting	WF04	n/a	n/a	1042.144	0.024
Seasonal Swale	abutting	WF06	n/a	n/a	4107.528	0.094
Seasonal Swale	adjacent	WF07	n/a	n/a	3269.145	0.075
Seasonal Swale	abutting	WF08	n/a	n/a	810.299	0.019
Vernal Pool	adjacent	WF03	n/a	n/a	206.119	0.005
Vernal Pool	abutting	WF05	n/a	n/a	1088.999	0.025
Seasonal Swale Total =				n/a	31009.084	0.712
Vernal Pool Total =				n/a	1295.118	0.030
Total of All WF =				n/a	32304.202	0.742

Other Waters of the U.S.						
Type	Designation	Label	Avg. Width (ft.)	Length (ft.)	Area (ft.2)	Acres
Ephemeral	NRPW	OW01	3	236.489	709.466	0.016
NRPW Total =				236.489	709.466	0.016
Total of all OWOTUS =				236.489	709.466	0.016
Total of OWOTUS and WF=				236.489	33013.668	0.758



Survey Area (14.17 ac.)	Culvert
Butte College boundary	Other Waters of the U.S. - OW#
10 ft. contours	NRPW
Soil Samples	Wetland Features - WF#
Data point - DP#	Seasonal Swale
Upland - U#	Vernal Pool
Wet - W#	



All features to remain preliminary until written verification from the USACE.
 10 ft. contours derived from USGS DEM
 Survey date: 6/14/11 (EG)
 Aerial: 2010 (NAIP)
 Map date: 6/21/11

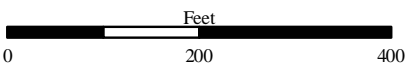
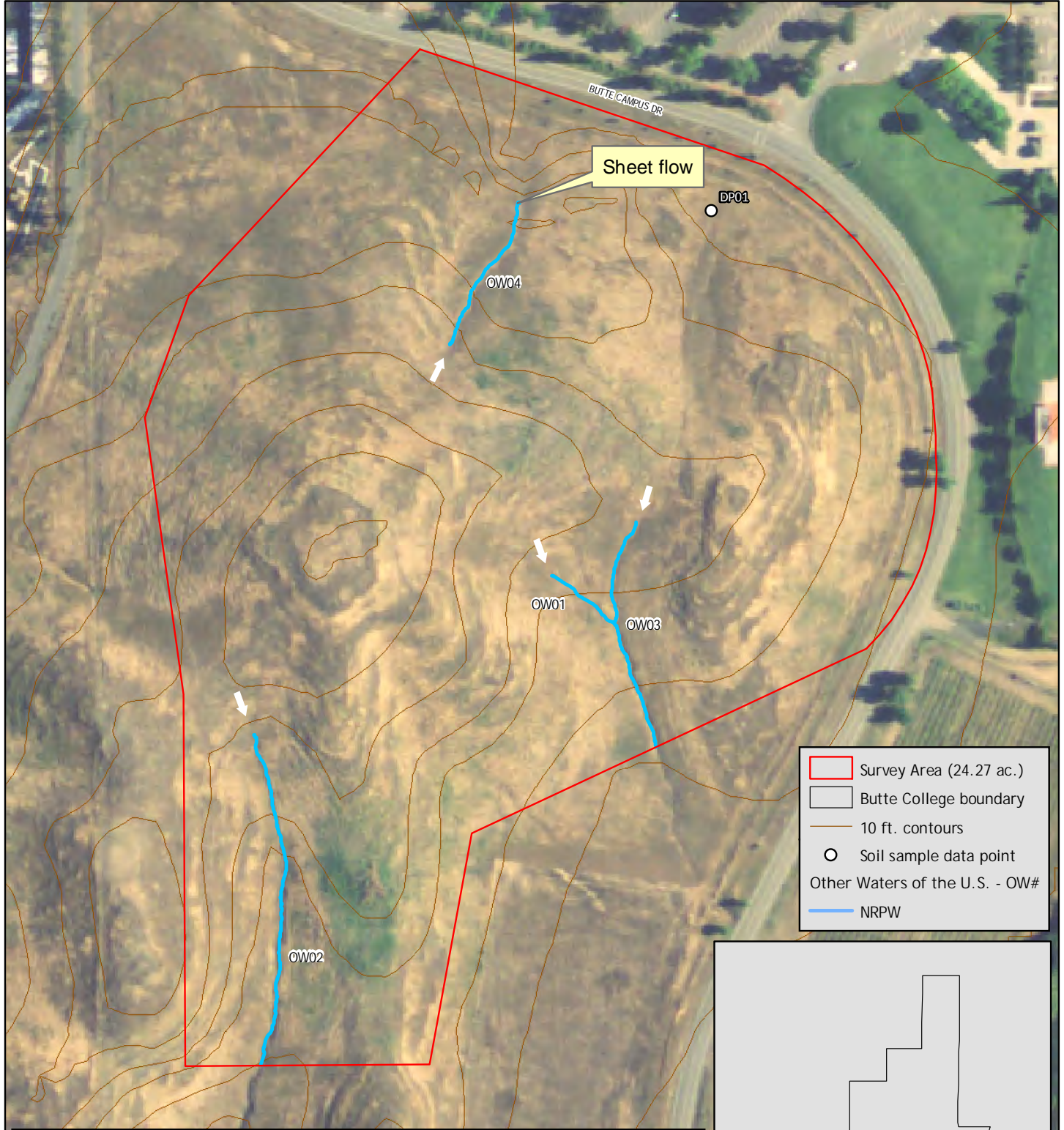
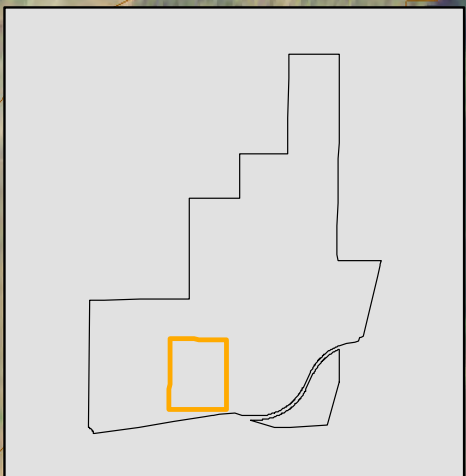


Figure 3



- Survey Area (24.27 ac.)
- Butte College boundary
- 10 ft. contours
- Soil sample data point
- Other Waters of the U.S. - OW#
- NRPW



<i>Other Waters of the U.S.</i>						
Type	Designation	Label	Avg. Width (ft.)	Length (ft.)	Area (ft. 2)	Acres
Ephemeral	NRPW	OW01	1	114.280	114.280	0.003
Ephemeral	NRPW	OW02	1	491.467	491.467	0.011
Ephemeral	NRPW	OW03	1	344.736	344.736	0.008
Ephemeral	NRPW	OW04	1	238.474	238.474	0.005
NRPW Total =				1188.957	1188.957	0.027
Total of all OWOTUS =				1188.957	1188.957	0.027



All features to remain preliminary until written verification from the USACE.
 10 ft. contours derived from USGS DEM
 Survey date: 6/14/11 (EG)
 Aerial: 2005 (NAIP)
 Map date: 6/21/11

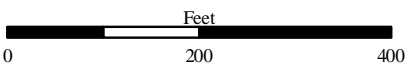


Figure 4

Results

A total of 0.758 acres of pre-jurisdictional waters of the U.S. were delineated within Project Site 1 and a total of 0.027 acre of pre-jurisdictional waters of the U.S. were delineated within Project Site 2. The types of waters of the U.S. identified within the project sites are distinguished as vernal pools, seasonal swales, and other waters including small non-relatively permanent (NRPW) drainages (**Table 1**). These features are mapped at a 1" to 200' scale and are presented in **Figure 3** and **Figure 4**. Waters of the U.S. acreages presented in this report should be considered preliminary, subject to review and modification by the USACE during the wetland delineation verification process. The wetlands, and the data of interpretation used to delineate their jurisdictional boundaries are described below.

Table 1. Jurisdictional wetland totals delineated within the Butte Community College: Project Site 1 and 2 survey areas.

<i>Site 1</i>						
<i>Wetland Features</i>						
Type	Adjacency	Label	Avg. Width (ft.)	Length (ft.)	Area (ft. ²)	Acres
Seasonal Swale	abutting	WF01	n/a	n/a	13532.122	0.311
Seasonal Swale	abutting	WF02	n/a	n/a	8247.847	0.189
Seasonal Swale	abutting	WF04	n/a	n/a	1042.144	0.024
Seasonal Swale	abutting	WF06	n/a	n/a	4107.528	0.094
Seasonal Swale	adjacent	WF07	n/a	n/a	3269.145	0.075
Seasonal Swale	abutting	WF08	n/a	n/a	810.299	0.019
Vernal Pool	adjacent	WF03	n/a	n/a	206.119	0.005
Vernal Pool	abutting	WF05	n/a	n/a	1088.999	0.025
Seasonal Swale Total =				n/a	31009.084	0.712
Vernal Pool Total =				n/a	1295.118	0.030
Total of All WF =				n/a	32304.202	0.742

<i>Other Waters of the U.S.</i>						
Type	Designation	Label	Avg. Width (ft.)	Length (ft.)	Area (ft.2)	Acres
Ephemeral	NRPW	OW01	3	236.489	709.466	0.016
NRPW Total =				236.489	709.466	0.016
Total of all OWOTUS =				236.489	709.466	0.016

Total of OWOTUS and WF=				236.489	33013.668	0.758
-------------------------	--	--	--	---------	-----------	-------

Table 1. (continued)

<i>Site 2</i>						
<i>Other Waters of the U.S.</i>						
Type	Designation	Label	Avg. Width (ft.)	Length (ft.)	Area (ft.2)	Acres
Ephemeral	NRPW	OW01	1	114.280	114.280	0.003
Ephemeral	NRPW	OW02	1	491.467	491.467	0.011
Ephemeral	NRPW	OW03	1	344.736	344.736	0.008
Ephemeral	NRPW	OW04	1	238.474	238.474	0.005
NRPW Total =				1188.957	1188.957	0.027
Total of all OWOTUS =				1188.957	1188.957	0.027

Jurisdictional Features

Vernal Pools

Vernal pools are defined by the positive indication of three wetland parameters: hydrophytic vegetation specific to vernal pools, hydric soils, and hydrology (*i.e.*, ponding). All three parameters must be present to satisfy the vernal pool definition, which was applied while delineating all vernal pools present on-site. In addition to supporting positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology, vernal pools exhibit unique characteristics. Vernal pools form where there is a soil layer below or at the surface that is impermeable or nearly impermeable [U.S. Fish and Wildlife Service (USFWS 2006)]. Precipitation and surface runoff become trapped or “perched” above this layer. Hardpans are formed by leaching, re-deposition, and cementing of silica materials from high in the soil horizon to a lower (“B”) horizon (USFWS 2006). In addition, vernal pools typically occur in landscapes that, at a broad scale, are shallowly sloping or nearly level, but on a finer scale may be quite bumpy or uneven. Since appropriate combinations of climate, soil, and topography often occur over continuous areas rather than in isolated spots, vernal pools in the Central Valley tend to occur in clusters called “complexes.” Within these complexes, pools may be fed or connected by low drainage pathways called “swales,” which were detected throughout the site. Vernal pools may remain inundated until spring or early summer, sometimes filling and emptying numerous times during the wet season. Vernal pools gradually dry down during the spring, often forming a unique “bathtub ring” of flowers from endemic vernal pool plants blooming successively at the pool margins. Project Site 1 supports 0.030 acre of vernal pools.

Seasonal Swales

Seasonal swales are defined by the positive indication of three wetland parameters: hydrophytic vegetation, hydric soils, and hydrology (*i.e.*, ponding). All three parameters must be present to satisfy the wetland definition, which was applied while delineating all seasonal swales present on-site. These features allow water to pond for a long enough period of time to support hydrophytic vegetation and hydric soils. Seasonal swales are low drainage pathways that are often themselves seasonal wetlands that remain inundated with water for much of the wet season,

but not long enough to support strong vernal pool characteristics. Seasonal swales may remain inundated until spring or early summer. Project Site 1 supports 0.712 acre of seasonal swales.

Other Waters of the United States

Other waters of the U.S. are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (*i.e.*, hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4). The above definition was applied while delineating all other waters of the U.S. on-site. Drainages exhibited an ordinary high water mark and contained bed, bank, and/or scour morphology. A total of 0.016 acre (236.489 linear feet) of other waters of the U.S. were delineated within Project Site 1 and a total of 0.027 acre (1188.957 linear feet) of other waters of the U.S. were delineated within Project Site 2.

Traditional Navigable Waters

No traditional navigable waters (TNWs) occur within the project sites.

Relatively Permanent Waters

No relatively permanent waters (RPWs) occur within the project sites.

Non-Relatively Permanent Waters

One NRPW was delineated within Project Site 1. This NRPW, OW 01, drains the land to the east of the survey area and the small man-made pond to the southeast of the project boundary. The drainage flows southeast to northwest through Project Site 1 and then at WF 08, the topography flattens creating the seasonal swale. The feature is connected to WF 01 via sheet flow.

Four NRPWs were delineated within Project Site 2. These NRPWs drain the hilltops and surrounding land in the immediate area. With the exception of OW 04, all of the drainages form a direct connection to an unnamed tributary of Clear Creek. Other Waters 04 has an indirect connection to the unnamed tributary of Clear Creek since it flows to the north and at its terminus it begins to sheet flow into a roadside flow line along Butte Campus Drive.

Non-Jurisdictional Features

No non-jurisdictional features were delineated within the project sites. A few areas within the project sites showed some remnant swale indicators or unusual aerial signatures, but after examining these areas during the field survey, these areas were determined to not exhibit the 3 wetland parameters. Data points were taken in these areas (**Appendix B**).

Significant Nexus

Project Site 1:

A significant nexus determination will be required per the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (May 30, 2007) and the *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision Rapanos v. United States*

and Carabell v. United States for the one NRPW and the wetlands that abut NRPWs within Project Site 1. Wetlands adjacent to NRPWs and NRPWs within the site are located within hydric soils and exhibit all wetland or other water parameters. These wetlands and the NRPW have a significant affect on the chemical, physical, and biological integrity of downstream TNWs. The one NRPW, OW 01, appears to drain an offsite detention pond and flows into WF 08, where the drainage widens and becomes a seasonal swale. The seasonal swale, WF 08, ends where the topography flattens and widens even more; however, WF 08 is connected to WF 01 via sheet flow. Wetlands within the site hold floodwaters, intercept sheet flow from uplands releasing water in a more consistent manner. These wetlands collect and hold water during significant rain events acting as a biological filter collecting the first flush prior to filtering into the TNWs. In addition, they prevent erosion and sedimentation of more permanent systems by reducing flow, which in turn provides habitat for waterfowl, song birds, small mammals and amphibians within the wetlands. All of the wetlands delineated on-site are remnants of features that occurred on-site prior to human disturbance. It is apparent that due to the construction of the detention pond to the east of the project boundary that the natural vernal hydrology has been altered to resemble a more seasonal hydrology. In addition, earthwork conducted along the road at the southern boundary has also altered the hydrology of the site by creating berms. These berms have disconnected the natural hydrology, allowing less water to flow into the remnant wetland features and creating new flat areas that exhibit some of the 3 wetland parameters. The topography of the site indicates that the wetlands all drain either directly or via sheet flow into WF 06 in the northwest corner of the site boundary. Wetland features that flow directly into WF 06 include WF 01-04. The wetland features that are connected to WF 06 via sheet flow include WF 05, 07, and 08. Wetland Feature 06 is actually one portion of the main swale that flows through Project Site 1, which includes WF 01 that connects directly into WF 06 just outside of the northern boundary of the site (**Figure 3**). Wetland Feature 06 continues offsite to the northwest where it flows directly into a small unnamed tributary of Little Dry Creek.

Project site 2:

A significant nexus determination will be required per the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (May 30, 2007) and the *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision Rapanos v. United States and Carabell v. United States* for the NRPWs delineated within Project Site 2. The NRPWs within the site are located within hydric soils and exhibited other water indicators including showing signs of scour and drainage patterns. The NRPWs OW 01-03 have an obvious significant affect on the chemical, physical, and biological integrity of downstream TNWs. These NRPWs drain multiple hills in the site and OW 01 and 03 merge and flow offsite to the southeast into a culvert under Butte Campus Drive and eventually flows indirectly into Clear Creek via a pipe culvert that outfalls into the West Branch of Clear Creek. Other Waters 02 continues offsite to the south and follows a roadside ditch along Durham-Pentz Road before flowing across Durham-Pentz Road via a culvert into an unnamed tributary of Clear Creek. The NRPW OW 04 has a less obvious affect on downstream TNWs since it does not have a direct connection to any other NRPWs or RPWs. This drainage drains the large hill on the site but at its terminus, fans out and sheet flows in a northern directionality. It is likely that water from this drainage is not significant and sheet flows into a roadside flow-line along Butte Campus Drive, which would then connect into either an underground stormwater system or connect to OW 03.

Soils

The U.S. Department of Agriculture (USDA) NRCS 2006 *Soil Survey of Butte Area, California Parts of Butte and Plumas Counties* identified 3 soil map units within Project Site 1 including the Carhart-Anita Taxadjunct Complex, 0-12 percent slopes, the Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3 percent slopes, and the Lucksev-Butteside-Carhart Complex, 2-15 percent slopes (**Figure 2**). In Project Site 2, the NRCS identified 2 soil map units including Lucksev-Butteside-Carhart Complex, 2-15 percent slopes, and the Lucksev-Butteside Complex, 15-35 percent slopes (**Figure 2**). All of these soils, with the exception of the Lucksev-Butteside Complex, 15-35 percent slopes, soil unit, are considered hydric by the NRCS in California. Soil series descriptions are presented in **Appendix A** and wetland data sheets are presented in **Appendix B**.

When pooled water and/or obligate plants were present, hydric soils were assumed. In areas with questionable upland/wetland distinction, soil pit samples were observed to determine the presence or absence of hydric soil indicators. Pooled water was observed at depths ranging from 0 to 4 inches in a few of the wetland features in Project Site 1. Water was not observed within any of the drainages within Project Site 2.

Vegetation

Vegetation in Project Site 1 was typical of annual grassland habitats. The upland areas of the site were dominated by soft chess (UPL), hawkbit (no indicator), Fitch's spikeweed (no indicator), June century (no indicator), medusahead (UPL), Mediterranean barley (FAC), marigold navarretia (no indicator), and six-weeks fescue (UPL). The seasonal swales and vernal pools present were dominated by Italian rye (FAC), coyote thistle (OBL), white pin-cushion (OBL), popcorn-flower (OBL), pacific foxtail (OBL), pale spikerush (OBL), annual hairgrass (FACW), annual beardgrass (FACW), and Mediterranean barley (FAC).

Project Site 2 was dominated by medusahead, barbed goatgrass (UPL), yellow star thistle (UPL), wild oats (UPL), hawkbit, June century, Italian rye, marigold navarretia, purple clarkia (no indicator), and California brodiaea (no indicator). Areas on the aerial photos that exhibited a darker green signature were dominated by yellow-star thistle (**Figure 4**).

Hydrology

The hydrology within Project Site 1 is characterized by localized runoff from precipitation events. However, the natural hydrology on the site has been altered due to construction activities and earthmoving work on the Campus. The natural hydrology supported vernal features on-site, but due to the creation of the detention pond to the east of the site, the hydrology is characterized by more seasonal flow. Also, the hydrology has become more broken due to the berms present along the road at the southern boundary of the site. The one NRPW and multiple remnant wetland features all drain into the now seasonal swale WF 06. This seasonal swale continues offsite to the northwest where it flows into an unnamed NRPW that flows directly into Little Dry Creek approximately 0.35 miles southwest of the Project boundary. Little Dry Creek is a

tributary of Dry Creek, an RPW, which then makes its way to the Butte Sink approximately 25 miles to the south.

The hydrology within Project Site 2 is characterized by localized runoff from precipitation events. Three small drainages occur within the site, which drain the hills on-site. The drainages OW 01 and 03 merge and flow offsite to the southeast where the drainage then flows under Butte Campus Drive and into an underground pipe (under an active vineyard) that outfalls into the West Branch of Clear Creek. The small drainage OW 04 appears to flow offsite to the north into a roadside flow-line via sheet flow and likely forms an indirect connection to Clear Creek. The last drainage, OW 02, flows offsite to the south into a roadside ditch along Durham-Pentz Road, which then flows under the road via a culvert and continues to the south into an unnamed tributary of Clear Creek.

Copies of field data sheets are provided in **Appendix B**.

Site Photos



Site 1: WF 01 looking northwest



Site 1: The terminus of WF 08 looking northwest



Site 1: WF 05 looking northwest



Site 2: On a hilltop looking south at the start of OW 02 (in the background)

References

- Environmental Laboratory. 1987. U.S. Army Corps of Engineers wetlands delineation manual. (Technical Report Y-87-1). U.S. Army Waterways Experiment Station. Vicksburg, MS.
- Environmental Laboratory. 2006. Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West Region. U.S. Army Engineer Research and Development Center Vicksburg, MS.
- Federal Interagency Committee for Wetland Delineation. 1989. Federal manual for identifying and delineating jurisdictional wetlands. (Cooperative Technical Publication). U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Soil Conservation Service. Washington, DC.
- Hickman, James C., editor. 1993. *The Jepson Manual Higher Plants of California*. University of California Press, Berkeley.
- Natural Resources Conservation Service. 2007. On-line Soil Data Mart – Butte County Area Soil Survey Information (Hydric Soils and Soil Descriptions). Available on-line at <http://soildatamart.nrcs.usda.gov/>.
- _____. 2007. National Hydric Soils List. Available on-line at <http://soils.usda.gov/use/hydric/>.
- Reed, P.B., Jr. 1988. National list of plant species that occur in wetlands: California (Region 1). U.S. Fish and Wildlife Service Biological Report. 88(26.10) 135pp.
- United States Fish and Wildlife Service. 2006. Sacramento Fish and Wildlife Office: Endangered Species Program, Species and Habitat Information. Sacramento, CA.
- U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter: Ordinary High Water Mark Identification.
- U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2007. *Jurisdictional Determination Form Instructional Guidebook*.
- U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2008. *Regional Supplement to the corps of Engineers Wetland Delineation manual: Arid West Region (Version 2.0)*
- U.S. Department of Agriculture (USDA). 2006. *Soil Survey of Butte Area, California Parts of Butte and Plumas Counties*. Natural Resources Conservation Service.
- Western Regional Climate Center. 2011. Western U.S. Climate Historical Summaries, Oroville, CA (046521). Available on-line at <http://www.wrcc.dri.edu/summary/climsmnca.html>

Wetland Training Institute. 1995. Field guide for wetland delineation: 1987 Corps of Engineers Manual (WTI 95-3). Poolsville, MD.

Butte Area, California, Parts of Butte and Plumas Counties

676—CARHART-ANITA TAXADJUNCT COMPLEX, 0 TO 12 PERCENT SLOPES

Map Unit Setting

Elevation: 140 to 500 feet

Mean annual precipitation: 25 to 30 inches

Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 250 to 260 days

Map Unit Composition

Carhart, clay, and similar soils: 50 percent

Anita taxadjunct, clay, and similar soils: 40 percent

Minor components: 10 percent

Description of Carhart, Clay

Setting

Landform: Hills

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey alluvium derived from volcanic rock

Properties and qualities

Slope: 0 to 12 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 40 inches

Frequency of flooding: None

Frequency of ponding: Occasional

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline (0.0 to 0.5 mmhos/cm)

Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 5w

Land capability (nonirrigated): 5w

Typical profile

0 to 2 inches: Clay

2 to 12 inches: Clay

12 to 24 inches: Clay

24 to 30 inches: Clay

30 to Bedrock

Description of Anita Taxadjunct, Clay

Setting

Landform: Hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Side slope

Custom Soil Resource Report

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Clayey alluvium derived from volcanic rock

Properties and qualities

Slope: 0 to 12 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 20 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Maximum salinity: Nonsaline (0.0 to 0.5 mmhos/cm)

Available water capacity: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): 7w

Land capability (nonirrigated): 7w

Typical profile

0 to 2 inches: Clay

2 to 6 inches: Clay

6 to 11 inches: Clay

11 to Bedrock

Minor Components

Anita, gravelly duripan

Percent of map unit: 6 percent

Landform: Hills

Clearhayes

Percent of map unit: 2 percent

Landform: Strath terraces

Unnamed, loamy, bedrock 2 to 20 inches

Percent of map unit: 2 percent

Landform: Hills

677—TUSCAN-FALLAGER-ANITA, GRAVELLY DURIPAN, COMPLEX, 0 TO 3 PERCENT SLOPES

Map Unit Setting

Elevation: 140 to 540 feet

Mean annual precipitation: 24 to 35 inches

Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 250 to 255 days

Map Unit Composition

Tuscan, gravelly loam, and similar soils: 40 percent
Fallager, loam, and similar soils: 25 percent
Anita, gravelly duripan, and similar soils: 15 percent
Minor components: 20 percent

Description of Tuscan, Gravelly Loam

Setting

Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Mounds
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy over clayey over cemented gravelly alluvium derived from volcanic rock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 20 inches to duripan; 11 to 56 inches to paralithic bedrock
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 2 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water capacity: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability (nonirrigated): 7s

Typical profile

0 to 2 inches: Gravelly loam
2 to 4 inches: Clay loam
4 to 7 inches: Gravelly clay
7 to 11 inches: Cobbly clay
11 to Cemented gravelly material

Description of Fallager, Loam

Setting

Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Swales
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy over clayey over cemented gravelly alluvium derived from volcanic rock

Properties and qualities

Slope: 0 to 3 percent

Custom Soil Resource Report

Depth to restrictive feature: 4 to 10 inches to duripan; 5 to 46 inches to paralithic bedrock

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: About 0 to 10 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Maximum salinity: Nonsaline (0.0 to 0.5 mmhos/cm)

Available water capacity: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): 8

Land capability (nonirrigated): 8

Typical profile

0 to 1 inches: Loam

1 to 3 inches: Gravelly clay loam

3 to 7 inches: Gravelly clay

7 to Cemented gravelly material

Description of Anita, Gravelly Duripan

Setting

Landform: Strath terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Microfeatures of landform position: Swales

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Clayey over cemented gravelly alluvium derived from volcanic rock

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: 10 to 20 inches to duripan; 11 to 56 inches to paralithic bedrock

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: About 0 to 20 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 1 percent

Maximum salinity: Nonsaline (0.0 to 0.5 mmhos/cm)

Available water capacity: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): 7w

Land capability (nonirrigated): 7w

Typical profile

0 to 3 inches: Gravelly clay

3 to 8 inches: Gravelly clay

8 to 15 inches: Gravelly clay

15 to Cemented gravelly material

Minor Components

Redtough

Percent of map unit: 10 percent
Landform: Strath terraces
Microfeatures of landform position: Mounds

Unnamed, frequent long ponding

Percent of map unit: 3 percent
Landform: Strath terraces
Microfeatures of landform position: Vernal pools

Unnamed, no duripan, bedrock 2 to 10 inches

Percent of map unit: 2 percent
Landform: Strath terraces
Microfeatures of landform position: Swales

Unnamed, no duripan, bedrock 10 to 20 inches

Percent of map unit: 2 percent
Landform: Strath terraces
Microfeatures of landform position: Mounds

Unnamed, riser slopes

Percent of map unit: 1 percent
Landform: Strath terraces

Unnamed, bedrock (lithic) 2 to 20 inches

Percent of map unit: 1 percent
Landform: Strath terraces

Carhart

Percent of map unit: 1 percent
Landform: Strath terraces

679—LUCKSEV-BUTTESIDE-CARHART COMPLEX, 2 TO 15 PERCENT SLOPES

Map Unit Setting

Elevation: 140 to 760 feet
Mean annual precipitation: 24 to 35 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 260 days

Map Unit Composition

Lucksev, loam, and similar soils: 40 percent
Butteside, gravelly loam, and similar soils: 35 percent
Carhart, clay, and similar soils: 15 percent
Minor components: 10 percent

Description of Lucksev, Loam

Setting

Landform: Hills

Landform position (two-dimensional): Backslope, summit, toeslope

Landform position (three-dimensional): Crest, tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy alluvium and/or residuum over clayey alluvium and/or residuum weathered from volcanic rock

Properties and qualities

Slope: 2 to 15 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: 4 to 20 inches to paralithic bedrock

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.13 to 0.43 in/hr)

Depth to water table: About 2 to 20 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability (nonirrigated): 6e

Typical profile

0 to 2 inches: Loam

2 to 7 inches: Clay loam

7 to 15 inches: Clay

15 to Bedrock

Description of Butteside, Gravelly Loam

Setting

Landform: Hills

Landform position (two-dimensional): Summit, toeslope

Landform position (three-dimensional): Crest, tread

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loamy alluvium and/or residuum over clayey alluvium and/or residuum weathered from volcanic rock

Properties and qualities

Slope: 2 to 15 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability (nonirrigated): 3e

Typical profile

0 to 2 inches: Gravelly loam

2 to 8 inches: Clay loam

8 to 13 inches: Clay loam

13 to 27 inches: Clay

27 to Bedrock

Description of Carhart, Clay

Setting

Landform: Hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Head slope

Down-slope shape: Concave

Across-slope shape: Convex

Parent material: Clayey alluvium derived from volcanic rock

Properties and qualities

Slope: 2 to 15 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 40 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline (0.0 to 0.5 mmhos/cm)

Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 5w

Land capability (nonirrigated): 5w

Typical profile

0 to 2 inches: Clay

2 to 12 inches: Clay

12 to 24 inches: Clay

24 to 30 inches: Clay

30 to Bedrock

Minor Components

Anita taxadjunct

Percent of map unit: 2 percent

Landform: Hills

Unnamed, fine-loamy

Percent of map unit: 2 percent

Landform: Hills

Unnamed, bedrock 40 to 60 inches

Percent of map unit: 2 percent

Landform: Hills

Custom Soil Resource Report

Ultic haploxeralfs

Percent of map unit: 2 percent

Landform: Hills

Unnamed, loamy

Percent of map unit: 1 percent

Landform: Hills

Rock outcrop, mudflow breccia

Percent of map unit: 1 percent

Landform: Hills

Custom Soil Resource Report

12 to 24 inches: Clay
24 to 30 inches: Clay
30 to Bedrock

Minor Components

Anita taxadjunct

Percent of map unit: 2 percent
Landform: Hills

Unnamed, fine-loamy

Percent of map unit: 2 percent
Landform: Hills

Unnamed, bedrock 40 to 60 inches

Percent of map unit: 2 percent
Landform: Hills

Ultic haploxeralfs

Percent of map unit: 2 percent
Landform: Hills

Unnamed, loamy

Percent of map unit: 1 percent
Landform: Hills

Rock outcrop, mudflow breccia

Percent of map unit: 1 percent
Landform: Hills

680—LUCKSEV-BUTTESIDE COMPLEX, 15 TO 35 PERCENT SLOPES

Map Unit Setting

Elevation: 180 to 700 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 260 days

Map Unit Composition

Lucksev, loam, and similar soils: 45 percent
Butteside, gravelly loam, and similar soils: 40 percent
Minor components: 15 percent

Description of Lucksev, Loam

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave

Custom Soil Resource Report

Across-slope shape: Convex

Parent material: Loamy colluvium over clayey residuum weathered from volcanic rock

Properties and qualities

Slope: 15 to 35 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: 4 to 20 inches to paralithic bedrock

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.13 to 0.43 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability (nonirrigated): 6e

Typical profile

0 to 2 inches: Loam

2 to 7 inches: Clay loam

7 to 15 inches: Clay

15 to Bedrock

Description of Butteside, Gravelly Loam

Setting

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Loamy colluvium over clayey residuum weathered from volcanic rock

Properties and qualities

Slope: 15 to 35 percent

Surface area covered with cobbles, stones or boulders: 2.0 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability (nonirrigated): 6e

Typical profile

0 to 2 inches: Gravelly loam

2 to 8 inches: Clay loam

8 to 13 inches: Clay loam

13 to 27 inches: Clay

Custom Soil Resource Report

27 to Bedrock

Minor Components

Ultic haploxeralfs

Percent of map unit: 4 percent

Landform: Hills

Rock outcrop, mudflow breccia

Percent of map unit: 4 percent

Landform: Hills

Unnamed, bedrock 40 to 60 inches

Percent of map unit: 2 percent

Landform: Hills

Unnamed, fine-loamy

Percent of map unit: 2 percent

Landform: Hills

Unnamed, loamy

Percent of map unit: 2 percent

Landform: Hills

Anita taxadjunct

Percent of map unit: 1 percent

Landform: Hills

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 01
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 39.645736 Long: -121.657612 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																								
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)																								
2. _____				Total Number of Dominant Species Across All Strata: 3 (B)																								
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)																								
4. _____				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">Total % Cover of:</td> <td style="width:30%;">Multiply by:</td> <td style="width:40%;"></td> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td>0</td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td>0</td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td>60</td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td>0</td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td>400</td> </tr> <tr> <td>Column Totals:</td> <td></td> <td>100 (A) 460 (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A =</td> <td>4.60</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	0	FACW species	x 2 =	0	FAC species	x 3 =	60	FACU species	x 4 =	0	UPL species	x 5 =	400	Column Totals:		100 (A) 460 (B)	Prevalence Index = B/A =		4.60
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	0																										
FACW species	x 2 =	0																										
FAC species	x 3 =	60																										
FACU species	x 4 =	0																										
UPL species	x 5 =	400																										
Column Totals:		100 (A) 460 (B)																										
Prevalence Index = B/A =		4.60																										
Total Cover: _____ %																												
Sapling/Shrub Stratum																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: _____ %																												
Herb Stratum																												
1. <i>Parvisedum pumilum</i>	15		UPL																									
2. <i>Vulpia bromoides</i>	30	Yes	UPL																									
3. <i>Lolium multiflorum</i>	20	Yes	FAC																									
4. <i>Navarretia intertexta</i>	10		UPL																									
5. <i>Taeniatherum caput-medusae</i>	25	Yes	UPL																									
6. _____																												
7. _____																												
8. _____																												
Total Cover: 100%																												
Woody Vine Stratum																												
1. _____																												
2. _____																												
Total Cover: _____ %																												
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %																											

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 02
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): slightly convex Slope (%): 3
 Subregion (LRR): C - Mediterranean California Lat: 39.645358 Long: -121.657158 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

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

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____				Total Number of Dominant Species Across All Strata:	1 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____				Prevalence Index worksheet:	
Sapling/Shrub Stratum		%		Total % Cover of: Multiply by:	
1. _____				OBL species	x 1 = 0
2. _____				FACW species	x 2 = 0
3. _____				FAC species	40 x 3 = 120
4. _____				FACU species	x 4 = 0
5. _____				UPL species	60 x 5 = 300
Herb Stratum		Total Cover: %		Column Totals:	100 (A) 420 (B)
1. <i>Taeniatherum caput-medusae</i>	10		UPL	Prevalence Index = B/A = 4.20	
2. <i>Bromus hordeaceus</i>	50	Yes	UPL	Hydrophytic Vegetation Indicators:	
3. <i>Lolium multiflorum</i>	40		FAC		
4. _____					
Woody Vine Stratum		Total Cover: 100%		<input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
1. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
2. _____					
Total Cover: %				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
% Bare Ground in Herb Stratum	%	% Cover of Biotic Crust	%		
Remarks:					

SOIL

Sampling Point: DP 02

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 03
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): slightly convex Slope (%): 3
 Subregion (LRR): C - Mediterranean California Lat: 39.645408 Long: -121.656784 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																									
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)																									
2. _____				Total Number of Dominant Species Across All Strata: 2 (B)																									
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																									
4. _____				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <th style="width:40%;">Total % Cover of:</th> <th colspan="2">Multiply by:</th> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td>0</td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td>4</td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td>78</td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td>0</td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td>360</td> </tr> <tr> <td>Column Totals:</td> <td>100 (A)</td> <td>442 (B)</td> </tr> <tr> <td colspan="3">Prevalence Index = B/A =</td> <td>4.42</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	0	FACW species	x 2 =	4	FAC species	x 3 =	78	FACU species	x 4 =	0	UPL species	x 5 =	360	Column Totals:	100 (A)	442 (B)	Prevalence Index = B/A =			4.42
Total % Cover of:	Multiply by:																												
OBL species	x 1 =	0																											
FACW species	x 2 =	4																											
FAC species	x 3 =	78																											
FACU species	x 4 =	0																											
UPL species	x 5 =	360																											
Column Totals:	100 (A)	442 (B)																											
Prevalence Index = B/A =			4.42																										
Total Cover: _____ %																													
Sapling/Shrub Stratum																													
1. _____																													
2. _____																													
3. _____																													
4. _____																													
5. _____																													
Total Cover: _____ %																													
Herb Stratum																													
1. <i>Taeniatherum caput-medusae</i>	35	Yes	UPL																										
2. <i>Bromus hordeaceus</i>	32	Yes	UPL																										
3. <i>Lolium multiflorum</i>	25		FAC																										
4. <i>Leontodon taraxacoides</i>	5		UPL																										
5. <i>Briza minor</i>	2		FACW																										
6. <i>Rumex crispus</i>	1		FAC																										
7. _____																													
8. _____																													
Total Cover: 100%																													
Woody Vine Stratum																													
1. _____																													
2. _____																													
Total Cover: _____ %																													
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %																												
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																													

Remarks:

SOIL

Sampling Point: DP 03

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 04
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 39.645668 Long: -121.655302 Datum: WGS 84
 Soil Map Unit Name: Lucksev-Butteside-Carhart Complex, 2-15% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)																
2. _____				Total Number of Dominant Species Across All Strata: 1 (B)																
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																
4. _____				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td>x 1 = 0</td> </tr> <tr> <td>FACW species</td> <td>x 2 = 0</td> </tr> <tr> <td>FAC species</td> <td>x 3 = 0</td> </tr> <tr> <td>FACU species</td> <td>x 4 = 0</td> </tr> <tr> <td>UPL species</td> <td>x 5 = 500</td> </tr> <tr> <td>Column Totals:</td> <td>100 (A) 500 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = 5.00</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species	x 1 = 0	FACW species	x 2 = 0	FAC species	x 3 = 0	FACU species	x 4 = 0	UPL species	x 5 = 500	Column Totals:	100 (A) 500 (B)	Prevalence Index = B/A = 5.00	
Total % Cover of:	Multiply by:																			
OBL species	x 1 = 0																			
FACW species	x 2 = 0																			
FAC species	x 3 = 0																			
FACU species	x 4 = 0																			
UPL species	x 5 = 500																			
Column Totals:	100 (A) 500 (B)																			
Prevalence Index = B/A = 5.00																				
Sapling/Shrub Stratum																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
Total Cover: _____ %																				
Herb Stratum																				
1. <i>Taeniatherum caput-medusae</i>	20		UPL																	
2. <i>Hemizonia fitchii</i>	20		UPL																	
3. <i>Bromus hordeaceus</i>	60	Yes	UPL																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
Total Cover: 100 %																				
Woody Vine Stratum																				
1. _____																				
2. _____																				
Total Cover: _____ %																				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %																		

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: DP 04

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<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 Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	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 - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 05
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 39.645714 Long: -121.654889 Datum: WGS 84
 Soil Map Unit Name: Lucksev-Butteside-Carhart Complex, 2-15% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____				Total Number of Dominant Species Across All Strata:	1 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species	x 1 = 0
1. _____				FACW species	x 2 = 0
2. _____				FAC species	10 x 3 = 30
3. _____				FACU species	x 4 = 0
4. _____				UPL species	90 x 5 = 450
5. _____				Column Totals:	100 (A) 480 (B)
Total Cover: _____ %				Prevalence Index = B/A = 4.80	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Taeniatherum caput-medusae</i>	20		UPL	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Hemizonia fitchii</i>	10		UPL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Bromus hordeaceus</i>	60	Yes	UPL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Lolium multiflorum</i>	10		FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____				Hydrophytic Vegetation Present?	
7. _____				Yes <input type="radio"/>	No <input checked="" type="radio"/>
8. _____					
Total Cover: 100%					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %			

Remarks:

SOIL

Sampling Point: DP 05

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils:⁴	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)		<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)		<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)		<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)		<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
			<input type="checkbox"/> Shallow Aquitard (D3)
			<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 06
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): C - Mediterranean California Lat: 39.646291 Long: -121.654753 Datum: WGS 84
 Soil Map Unit Name: Lucksev-Butteside-Carhart Complex, 2-15% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2. _____				Total Number of Dominant Species Across All Strata: 1 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)
4. _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by:
2. _____				OBL species _____ x 1 = 0
3. _____				FACW species _____ x 2 = 0
4. _____				FAC species 30 x 3 = 90
5. _____				FACU species _____ x 4 = 0
Total Cover: _____ %				UPL species 50 x 5 = 250
Herb Stratum				Column Totals: 80 (A) 340 (B)
1. <i>Taeniatherum caput-medusae</i>	5		UPL	Prevalence Index = B/A = 4.25
2. <i>Hordeum marinum gussoneanum</i>	5		FAC	
3. <i>Bromus hordeaceus</i>	30	Yes	UPL	
4. <i>Lolium multiflorum</i>	25		FAC	
5. <i>Navarretia intertexta</i>	5		UPL	
6. <i>Leontodon taraxacoides</i>	10		UPL	
7. _____				
8. _____				
Total Cover: 80 %				Hydrophytic Vegetation Indicators:
Woody Vine Stratum				<input checked="" type="checkbox"/> Dominance Test is >50%
1. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
2. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Total Cover: _____ %				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
% Bare Ground in Herb Stratum 20 % % Cover of Biotic Crust _____ %				¹ Indicators of hydric soil and wetland hydrology must be present.
Remarks:				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

SOIL

Sampling Point: DP 06

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils:⁴
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)	

Histosol (A1)

1 cm Muck (A9) (LRR C)

2 cm Muck (A10) (LRR B)

Reduced Vertic (F18)

Red Parent Material (TF2)

Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	Secondary Indicators (2 or more required)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Water-Stained Leaves (B9)		

Water Marks (B1) (Riverine)

Sediment Deposits (B2) (Riverine)

Drift Deposits (B3) (Riverine)

Drainage Patterns (B10)

Dry-Season Water Table (C2)

Thin Muck Surface (C7)

Crayfish Burrows (C8)

Saturation Visible on Aerial Imagery (C9)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

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: Biotic crust is due to the shallow soils not an indicator of wetland hydrology

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 01
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 39.647043 Long: -121.655198 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Seasonal Swale

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. _____				Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
4. _____				Prevalence Index worksheet:	
		Total Cover: _____ %		Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum				OBL species	70 x 1 = 70
1. _____				FACW species	15 x 2 = 30
2. _____				FAC species	5 x 3 = 15
3. _____				FACU species	_____ x 4 = 0
4. _____				UPL species	_____ x 5 = 0
5. _____				Column Totals:	90 (A) 115 (B)
Total Cover: _____ %				Prevalence Index = B/A = 1.28	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Eleocharis macrostachya</i>	20	Yes	OBL	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Glyceria occidentalis</i>	20	Yes	OBL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Deschampsia danthonoides</i>	5		FACW	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Hordeum marinum gussoneanum</i>	5		FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Eryngium castrense</i>	20	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must be present.	
6. <i>Polypogon monspeliensis</i>	10		FACW		
7. <i>Plagiobothrys stipitatus</i>	10		OBL		
8. _____				Hydrophytic Vegetation Present?	
Total Cover: 90 %				Yes <input checked="" type="radio"/> No <input type="radio"/>	
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>10</u> %		% Cover of Biotic Crust _____ %			

Remarks: The bare ground stratum consisted of either bare ground or open water.

SOIL

Sampling Point: WF 01

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No soil sample was taken due to the presence of ponded water, saturated soil and the dominance of hydrophytic plant species.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0-4</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 01
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 39.647043 Long: -121.655198 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																								
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)																								
2. _____				Total Number of Dominant Species Across All Strata: 1 (B)																								
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																								
4. _____				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">Total % Cover of:</td> <td style="width:30%;">Multiply by:</td> <td style="width:40%;"></td> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td>0</td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td>0</td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td>90</td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td>0</td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td>325</td> </tr> <tr> <td>Column Totals:</td> <td></td> <td>95 (A) 415 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A =</td> <td>4.37</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	0	FACW species	x 2 =	0	FAC species	x 3 =	90	FACU species	x 4 =	0	UPL species	x 5 =	325	Column Totals:		95 (A) 415 (B)	Prevalence Index = B/A =		4.37
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	0																										
FACW species	x 2 =	0																										
FAC species	x 3 =	90																										
FACU species	x 4 =	0																										
UPL species	x 5 =	325																										
Column Totals:		95 (A) 415 (B)																										
Prevalence Index = B/A =		4.37																										
Total Cover: _____ %																												
Sapling/Shrub Stratum																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: _____ %																												
Herb Stratum																												
1. <i>Leontodon taraxacoides</i>	30	Yes	UPL																									
2. <i>Hemizonia fitchii</i>	10		UPL																									
3. <i>Lolium multiflorum</i>	20		FAC																									
4. <i>Hordeum marinum gussoneanum</i>	10		FAC																									
5. <i>Bromus hordeaceus</i>	10		UPL																									
6. <i>Centaurium muehlenbergii</i>	15		UPL																									
7. _____																												
8. _____																												
Total Cover: 95 %																												
Woody Vine Stratum																												
1. _____																												
2. _____																												
Total Cover: _____ %																												
% Bare Ground in Herb Stratum <u>5</u> %	% Cover of Biotic Crust _____ %																											
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.																												
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																												
Remarks:																												

SOIL

Sampling Point: U 01

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	7.5 YR 3/3	85	2.5 YR 5/8	15	C	M	clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<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 Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	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 - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 02
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 1.5
 Subregion (LRR): C - Mediterranean California Lat: 39.645857 Long: -121.656966 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Seasonal Swale

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)														
2. _____																		
3. _____																		
4. _____																		
Sapling/Shrub Stratum _____ %				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = 0</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = 0</td> </tr> <tr> <td>FAC species 60</td> <td>x 3 = 180</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = 0</td> </tr> <tr> <td>UPL species 40</td> <td>x 5 = 200</td> </tr> <tr> <td>Column Totals: 100 (A)</td> <td>380 (B)</td> </tr> </table> Prevalence Index = B/A = 3.80	Total % Cover of:	Multiply by:	OBL species _____	x 1 = 0	FACW species _____	x 2 = 0	FAC species 60	x 3 = 180	FACU species _____	x 4 = 0	UPL species 40	x 5 = 200	Column Totals: 100 (A)	380 (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = 0																	
FACW species _____	x 2 = 0																	
FAC species 60	x 3 = 180																	
FACU species _____	x 4 = 0																	
UPL species 40	x 5 = 200																	
Column Totals: 100 (A)	380 (B)																	
Total Cover: _____ %																		
Herb Stratum																		
1. <i>Lolium multiflorum</i>	40	Yes	FAC															
2. <i>Leontodon taraxacoides</i>	10		UPL															
3. <i>Hordeum marinum gussoneanum</i>	15		FAC															
4. <i>Bromus hordeaceus</i>	10		UPL															
5. <i>Taeniatherum caput-medusae</i>	15		UPL															
6. <i>Hemizonia fitchii</i>	5		UPL															
7. <i>Epilobium sp.</i>	5		FAC															
8. _____																		
Total Cover: 100%																		
Woody Vine Stratum																		
1. _____																		
2. _____																		
Total Cover: _____ %																		
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>														

Remarks:

SOIL

Sampling Point: WF 02

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	5 YR 2.5/2	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<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 Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>2</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 02, U05
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 39.645871 Long: -121.657346 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

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

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____					
Sapling/Shrub Stratum					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
Total Cover: _____ %					
Herb Stratum					
1. <i>Taeniatherum caput-medusae</i>	35	Yes	UPL		
2. <i>Hemizonia fitchii</i>	10		UPL		
3. <i>Centaureum muehlenbergii</i>	15		UPL		
4. <i>Navarretia intertexta</i>	5		UPL		
5. <i>Bromus hordeaceus</i>	35	Yes	UPL		
6. _____					
7. _____					
8. _____					
Total Cover: 100 %					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %					
% Cover of Biotic Crust _____ %					

Prevalence Index worksheet:		
Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species	x 3 =	0
FACU species	x 4 =	0
UPL species	x 5 =	500
Column Totals:	100 (A)	500 (B)
Prevalence Index = B/A = 5.00		

Hydrophytic Vegetation Indicators:

Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: U 02, U0

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 03
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 0.5
 Subregion (LRR): C - Mediterranean California Lat: 39.646117 Long: -121.657055 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Vernal Pool

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species	40 x 1 = 40
				FACW species	x 2 = 0
				FAC species	10 x 3 = 30
				FACU species	x 4 = 0
				UPL species	x 5 = 0
				Column Totals:	50 (A) 70 (B)
Herb Stratum				Prevalence Index = B/A = 1.40	
1. <i>Plagiobothrys stipitatus</i>	15	Yes	OBL	Hydrophytic Vegetation Indicators:	
2. <i>Navarretia leucocephala</i>	20	Yes	OBL	<input checked="" type="checkbox"/> Dominance Test is >50%	
3. <i>Eryngium castrense</i>	5		OBL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
4. <i>Lolium multiflorum</i>	10		FAC	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
7. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
8. _____					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: 50 %					
% Bare Ground in Herb Stratum 50 %		% Cover of Biotic Crust _____ %			

Remarks: The bare ground stratum consisted of cracked soil and cobble.

SOIL

Sampling Point: WF 03

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5 YR 2.5/2	100					clay loam	black organics present in matrix

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: duripan
 Depth (inches): 3

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Biotic Crust (B12)	
<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 Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0.5</u>

Wetland Hydrology Present? Yes No

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 03
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 39.646117 Long: -121.657055 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species	x 1 = 0
1. _____				FACW species	x 2 = 0
2. _____				FAC species	10 x 3 = 30
3. _____				FACU species	x 4 = 0
4. _____				UPL species	80 x 5 = 400
5. _____				Column Totals:	90 (A) 430 (B)
Total Cover: _____ %				Prevalence Index = B/A = 4.78	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Taeniatherum caput-medusae</i>	20	Yes	UPL	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Hemizonia fitchii</i>	5		UPL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Centaureum muehlenbergii</i>	15		UPL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Hordeum marinum gussoneanum</i>	10		FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Bromus hordeaceus</i>	35	Yes	UPL	¹ Indicators of hydric soil and wetland hydrology must be present.	
6. <i>Epilobium sp.</i>	10				
7. <i>Navarretia intertexta</i>	5		UPL		
8. _____				Hydrophytic Vegetation Present?	
Total Cover: 100 %				Yes <input type="radio"/>	No <input checked="" type="radio"/>
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %			
Remarks:					

SOIL

Sampling Point: U 03

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: _____			

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 04
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 1.5
 Subregion (LRR): C - Mediterranean California Lat: 39.646191 Long: -121.657283 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Seasonal Swale

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
				OBL species	20 x 1 = 20
				FACW species	x 2 = 0
				FAC species	80 x 3 = 240
				FACU species	x 4 = 0
				UPL species	x 5 = 0
				Column Totals:	100 (A) 260 (B)
				Prevalence Index = B/A = 2.60	
				Hydrophytic Vegetation Indicators:	
				<input checked="" type="checkbox"/> Dominance Test is >50%	
				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
				¹ Indicators of hydric soil and wetland hydrology must be present.	
				Hydrophytic Vegetation Present?	
				Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks:					

Sapling/Shrub Stratum		Total Cover: _____ %
1. _____		
2. _____		
3. _____		
4. _____		
5. _____		
Herb Stratum		Total Cover: 100%
1. <i>Lolium multiflorum</i>	45	Yes FAC
2. <i>Hordeum marinum gussoneanum</i>	35	Yes FAC
3. <i>Eryngium castrense</i>	20	OBL
4. _____		
5. _____		
6. _____		
7. _____		
8. _____		
Woody Vine Stratum		Total Cover: _____ %
1. _____		
2. _____		
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %

SOIL

Sampling Point: WF 04

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	5 YR 2.5/2	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>2</u>

Wetland Hydrology Present? Yes No

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 04
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 1.5
 Subregion (LRR): C - Mediterranean California Lat: 39.646191 Long: -121.657283 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																								
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																								
2. _____																												
3. _____																												
4. _____																												
Total Cover: _____ %				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 60%;">Total % Cover of:</th> <th style="width: 20%;">Multiply by:</th> <th style="width: 20%;"></th> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td>0</td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td>0</td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td>0</td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td>0</td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td>500</td> </tr> <tr> <td>Column Totals:</td> <td></td> <td>100 (A) 500 (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A =</td> <td>5.00</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	0	FACW species	x 2 =	0	FAC species	x 3 =	0	FACU species	x 4 =	0	UPL species	x 5 =	500	Column Totals:		100 (A) 500 (B)	Prevalence Index = B/A =		5.00
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	0																										
FACW species	x 2 =	0																										
FAC species	x 3 =	0																										
FACU species	x 4 =	0																										
UPL species	x 5 =	500																										
Column Totals:		100 (A) 500 (B)																										
Prevalence Index = B/A =		5.00																										
Sapling/Shrub Stratum																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: _____ %																												
Herb Stratum																												
1. <i>Taeniatherum caput-medusae</i>	35	Yes	UPL																									
2. <i>Hemizonia fitchii</i>	10		UPL																									
3. <i>Bromus hordeaceus</i>	30	Yes	UPL																									
4. <i>Navarretia intertexta</i>	5		UPL																									
5. <i>Vulpia bromoides</i>	20		UPL																									
6. _____																												
7. _____																												
8. _____																												
Total Cover: 100%																												
Woody Vine Stratum																												
1. _____																												
2. _____																												
Total Cover: _____ %																												
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %																										
Remarks:																												

Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
¹ Indicators of hydric soil and wetland hydrology must be present.	

SOIL

Sampling Point: U 04

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
--	--	---	--

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: _____	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <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 Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
---	---	--

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

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

Remarks: _____

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 05
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 0.1
 Subregion (LRR): C - Mediterranean California Lat: 39.645876 Long: -121.657346 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Vernal Pool

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
				OBL species	50 x 1 = 50
				FACW species	x 2 = 0
				FAC species	10 x 3 = 30
				FACU species	x 4 = 0
				UPL species	x 5 = 0
Total Cover: _____ %				Column Totals:	60 (A) 80 (B)
				Prevalence Index = B/A = 1.33	
Hydrophytic Vegetation Indicators:					
1. <i>Eleocharis macrostachya</i>				<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Navarretia leucocephala</i>				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Eryngium castrense</i>				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Lolium multiflorum</i>				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Alopecurus saccatus</i>					
6. <i>Hordeum marinum gussoneanum</i>					
7. _____					
8. _____					
Total Cover: 60 %					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>40 %</u>		% Cover of Biotic Crust _____ %		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks: The bare ground stratum consisted of cracked soil and cobble.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 06
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 1.5
 Subregion (LRR): C - Mediterranean California Lat: 39.645676 Long: -121.658091 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Seasonal Swale

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

VEGETATION

Tree Stratum (Use scientific names.)	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>100.0%</u> (A/B)
4. _____				Prevalence Index worksheet:	
Sapling/Shrub Stratum		%		Total % Cover of:	Multiply by:
1. _____				OBL species	<u>20</u> x 1 = <u>20</u>
2. _____				FACW species	x 2 = <u>0</u>
3. _____				FAC species	<u>70</u> x 3 = <u>210</u>
4. _____				FACU species	x 4 = <u>0</u>
5. _____				UPL species	x 5 = <u>0</u>
Herb Stratum		Total Cover: %		Column Totals:	<u>90</u> (A) <u>230</u> (B)
1. <i>Lolium multiflorum</i>	45	Yes	FAC	Prevalence Index = B/A = <u>2.56</u>	
2. <i>Hordeum marinum gussoneanum</i>	25		FAC	Hydrophytic Vegetation Indicators:	
3. <i>Eryngium castrense</i>	20		OBL		
4. _____					
5. _____				<input checked="" type="checkbox"/> Dominance Test is >50%	
6. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
7. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Woody Vine Stratum		Total Cover: <u>90</u> %		¹ Indicators of hydric soil and wetland hydrology must be present.	
1. _____				Hydrophytic Vegetation Present?	
2. _____				Yes <input checked="" type="radio"/>	No <input type="radio"/>
% Bare Ground in Herb Stratum <u>10</u> %		% Cover of Biotic Crust _____ %			

Remarks:

SOIL

Sampling Point: WF 06

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	5 YR 2.5/2	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Thin Muck Surface (C7)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Biotic Crust (B12)	
<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 Plowed Soils (C6)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>0.5</u>	

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 06
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 1.5
 Subregion (LRR): C - Mediterranean California Lat: 39.645676 Long: -121.658091 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

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

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																								
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 3 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																								
2. _____																												
3. _____																												
4. _____																												
Sapling/Shrub Stratum				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td>0</td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td>0</td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td>0</td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td>0</td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td>500</td> </tr> <tr> <td>Column Totals:</td> <td></td> <td>100 (A) 500 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A =</td> <td style="text-align: center;">5.00</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	0	FACW species	x 2 =	0	FAC species	x 3 =	0	FACU species	x 4 =	0	UPL species	x 5 =	500	Column Totals:		100 (A) 500 (B)	Prevalence Index = B/A =		5.00
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	0																										
FACW species	x 2 =	0																										
FAC species	x 3 =	0																										
FACU species	x 4 =	0																										
UPL species	x 5 =	500																										
Column Totals:		100 (A) 500 (B)																										
Prevalence Index = B/A =		5.00																										
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: _____ %																												
Herb Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.																								
1. <i>Taeniatherum caput-medusae</i>	30	Yes	UPL																									
2. <i>Hemizonia fitchii</i>	5		UPL																									
3. <i>Bromus hordeaceus</i>	30	Yes	UPL																									
4. <i>Navarretia intertexta</i>	5		UPL																									
5. <i>Vulpia bromoides</i>	30	Yes	UPL																									
6. _____																												
7. _____																												
8. _____																												
Total Cover: 100 %																												
Woody Vine Stratum																												
1. _____																												
2. _____																												
Total Cover: _____ %																												
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %																										
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																												
Remarks:																												

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 07
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 39.645435 Long: -121.655611 Datum: WGS 84
 Soil Map Unit Name: Lucksev-Butteside-Carhart Complex, 2-15% slopes NWI classification: Seasonal Swale

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)																
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)																
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)																
4. _____				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td>x 1 = 0</td> </tr> <tr> <td>FACW species</td> <td>x 2 = 10</td> </tr> <tr> <td>FAC species</td> <td>x 3 = 255</td> </tr> <tr> <td>FACU species</td> <td>x 4 = 0</td> </tr> <tr> <td>UPL species</td> <td>x 5 = 50</td> </tr> <tr> <td>Column Totals:</td> <td>100 (A) 315 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = 3.15</td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species	x 1 = 0	FACW species	x 2 = 10	FAC species	x 3 = 255	FACU species	x 4 = 0	UPL species	x 5 = 50	Column Totals:	100 (A) 315 (B)	Prevalence Index = B/A = 3.15	
Total % Cover of:	Multiply by:																				
OBL species	x 1 = 0																				
FACW species	x 2 = 10																				
FAC species	x 3 = 255																				
FACU species	x 4 = 0																				
UPL species	x 5 = 50																				
Column Totals:	100 (A) 315 (B)																				
Prevalence Index = B/A = 3.15																					
Sapling/Shrub Stratum																					
1. _____																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
Total Cover: _____ %																					
Herb Stratum																					
1. <i>Lolium multiflorum</i>	45	Yes	FAC																		
2. <i>Hordeum marinum gussoneanum</i>	35	Yes	FAC																		
3. <i>Rumex crispus</i>	5		FAC																		
4. <i>Briza minor</i>	5		FACW																		
5. <i>Bromus hordeaceus</i>	10		UPL																		
6. _____																					
7. _____																					
8. _____																					
Total Cover: 100%																					
Woody Vine Stratum																					
1. _____																					
2. _____																					
Total Cover: _____ %																					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																	
Remarks:																					

Remarks:

SOIL

Sampling Point: WF 07

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	5 YR 2.5/2	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations:			
Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 07
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 3
 Subregion (LRR): C - Mediterranean California Lat: 39.645435 Long: -121.655611 Datum: WGS 84
 Soil Map Unit Name: Lucksev-Butteside-Carhart Complex, 2-15% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																								
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																								
2. _____																												
3. _____																												
4. _____																												
Sapling/Shrub Stratum %				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 60%;">Total % Cover of:</th> <th colspan="2" style="text-align: center;">Multiply by:</th> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;">500</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">100 (A)</td> <td style="text-align: center;">500 (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = 5.00</td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	0	FACW species	x 2 =	0	FAC species	x 3 =	0	FACU species	x 4 =	0	UPL species	x 5 =	500	Column Totals:	100 (A)	500 (B)	Prevalence Index = B/A = 5.00		
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	0																										
FACW species	x 2 =	0																										
FAC species	x 3 =	0																										
FACU species	x 4 =	0																										
UPL species	x 5 =	500																										
Column Totals:	100 (A)	500 (B)																										
Prevalence Index = B/A = 5.00																												
Total Cover: %																												
Herb Stratum																												
1. <i>Taeniatherum caput-medusae</i>	45	Yes	UPL																									
2. <i>Hemizonia fitchii</i>	15		UPL																									
3. <i>Bromus hordeaceus</i>	35	Yes	UPL																									
4. <i>Navarretia intertexta</i>	5		UPL																									
5. _____																												
6. _____																												
7. _____																												
8. _____																												
Total Cover: 100 %																												
Woody Vine Stratum																												
1. _____																												
2. _____																												
Total Cover: %																												
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %																										
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																												
¹ Indicators of hydric soil and wetland hydrology must be present.																												
Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																												
Remarks:																												

SOIL

Sampling Point: U 07

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:⁴
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		
		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
		<input type="checkbox"/> Reduced Vertic (F18)
		<input type="checkbox"/> Red Parent Material (TF2)
		<input type="checkbox"/> Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: WF 08
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): concave Slope (%): 2.5
 Subregion (LRR): C - Mediterranean California Lat: 39.646379 Long: -121.655338 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Seasonal Swale

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)																
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)																
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)																
4. _____				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td>x 1 = 0</td> </tr> <tr> <td>FACW species</td> <td>x 2 = 0</td> </tr> <tr> <td>FAC species</td> <td>x 3 = 180</td> </tr> <tr> <td>FACU species</td> <td>x 4 = 0</td> </tr> <tr> <td>UPL species</td> <td>x 5 = 200</td> </tr> <tr> <td>Column Totals:</td> <td>100 (A) 380 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = 3.80</td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species	x 1 = 0	FACW species	x 2 = 0	FAC species	x 3 = 180	FACU species	x 4 = 0	UPL species	x 5 = 200	Column Totals:	100 (A) 380 (B)	Prevalence Index = B/A = 3.80	
Total % Cover of:	Multiply by:																				
OBL species	x 1 = 0																				
FACW species	x 2 = 0																				
FAC species	x 3 = 180																				
FACU species	x 4 = 0																				
UPL species	x 5 = 200																				
Column Totals:	100 (A) 380 (B)																				
Prevalence Index = B/A = 3.80																					
Sapling/Shrub Stratum																					
1. _____																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
Total Cover: _____ %																					
Herb Stratum																					
1. <i>Lolium multiflorum</i>	30	Yes	FAC																		
2. <i>Leontodon taraxacoides</i>	20		UPL																		
3. <i>Hordeum marinum gussoneanum</i>	30	Yes	FAC																		
4. <i>Bromus hordeaceus</i>	10		UPL																		
5. <i>Aegilops triuncialis</i>	10		UPL																		
6. _____																					
7. _____																					
8. _____																					
Total Cover: 100%																					
Woody Vine Stratum																					
1. _____																					
2. _____																					
Total Cover: _____ %																					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																	
Remarks:																					

Remarks:

SOIL

Sampling Point: WF 08

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	5 YR 2.5/2	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:
<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)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): <u>3</u>

Wetland Hydrology Present? Yes No

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Butte Community College: Site 1 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: U 08
 Investigator(s): E. Gregg Section, Township, Range: Section 29, T 21N, R 3E
 Landform (hillslope, terrace, etc.): fan terrace Local relief (concave, convex, none): convex Slope (%): 3
 Subregion (LRR): C - Mediterranean California Lat: 39.646379 Long: -121.655338 Datum: WGS 84
 Soil Map Unit Name: Tuscan-Fallager-Anita, gravelly duripan, Complex, 0-3% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 1 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)
2. _____				
3. _____				
4. _____				
Sapling/Shrub Stratum				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = 0 FACW species x 2 = 0 FAC species x 3 = 0 FACU species x 4 = 0 UPL species x 5 = 500 Column Totals: 100 (A) 500 (B) Prevalence Index = B/A = 5.00
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Herb Stratum				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. <i>Taeniatherum caput-medusae</i>	55	Yes	UPL	
2. <i>Hemizonia fitchii</i>	5		UPL	
3. <i>Centaureum muehlenbergii</i>	5		UPL	
4. <i>Bromus hordeaceus</i>	35		UPL	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 100 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		

Remarks:

SOIL

Sampling Point: U 08

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 2.5/2	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils:⁴	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)		<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)		<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)		<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	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 - Arid West Region

Project/Site: Butte Community College: Site 2 City/County: Butte County Sampling Date: 6/14/2011
 Applicant/Owner: Butte Community College State: CA Sampling Point: DP 01
 Investigator(s): E. Gregg Section, Township, Range: Section 28, T 21N, R 3E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): sloping Slope (%): 6
 Subregion (LRR): C - Mediterranean California Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Lucksev-Butteside-Carhart Complex, 2-15% slopes NWI classification: Upland

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2. _____				Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	25.0 % (A/B)
4. _____				Prevalence Index worksheet:	
				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species	x 1 = 0
1. _____				FACW species	x 2 = 0
2. _____				FAC species	30 x 3 = 90
3. _____				FACU species	x 4 = 0
4. _____				UPL species	70 x 5 = 350
5. _____				Column Totals:	100 (A) 440 (B)
Total Cover: _____ %				Prevalence Index = B/A = 4.40	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <i>Lolium multiflorum</i>	30	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Leontodon taraxacoides</i>	20	Yes	UPL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <i>Centaureum muehlenbergii</i>	20	Yes	UPL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Taeniatherum caput-medusae</i>	20	Yes	UPL	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. <i>Avena barbata</i>	5		UPL	¹ Indicators of hydric soil and wetland hydrology must be present.	
6. <i>Aegilops triuncialis</i>	5		UPL		
7. _____					
8. _____				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Total Cover: 100%					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %			
Remarks: _____ _____ _____					

SOIL

Sampling Point: DP 01

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	5 YR 3/1	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils:⁴
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)	

1 cm Muck (A9) (LRR C)
 2 cm Muck (A10) (LRR B)
 Reduced Vertic (F18)
 Red Parent Material (TF2)
 Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	Secondary Indicators (2 or more required)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Water-Stained Leaves (B9)		

Water Marks (B1) (Riverine)
 Sediment Deposits (B2) (Riverine)
 Drift Deposits (B3) (Riverine)
 Drainage Patterns (B10)
 Dry-Season Water Table (C2)
 Thin Muck Surface (C7)
 Crayfish Burrows (C8)
 Saturation Visible on Aerial Imagery (C9)
 Shallow Aquitard (D3)
 FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks: