

## **APPENDIX D**

# **LAKE WOHLFORD DAM REPLACEMENT PROJECT JURISDICTIONAL DELINEATION REPORT**



**JURISDICTIONAL DELINEATION REPORT  
FOR WATERS OF THE U.S. AND STATE OF CALIFORNIA  
LAKE WOHLFORD DAM REPLACEMENT PROJECT**



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## TABLE OF CONTENTS

<b><u>Section</u></b>	<b><u>Page</u></b>
1.0 SUMMARY .....	1
2.0 INTRODUCTION .....	2
2.1 Project Description.....	2
2.1 Purpose of Jurisdictional Delineation.....	3
3.0 REGULATORY FRAMEWORK .....	4
3.1 Federal Regulations.....	4
Clean Water Act, Section 404.....	4
Clean Water Act, Section 401.....	5
3.2 State Regulations .....	5
Lake and Streambed Alteration Program.....	5
Porter-Cologne Water Quality Control Act .....	6
4.0 ENVIRONMENTAL SETTING .....	6
4.1 Delineation Survey Area Location.....	6
4.2 Vegetation and Cover Types .....	7
4.3 Topography.....	8
4.4 Soils.....	8
4.5 Climate.....	8
4.6 Watershed .....	9
5.0 JURISDICTIONAL DELINEATION METHODOLOGY .....	9
5.1 Pre-Survey Investigations.....	9
5.2 Field Delineation of Federal Waters.....	10
5.3 Field Delineation for Waters of the State .....	22
6.0 RESULTS.....	23
6.1 Riparian and Wetland Plant Communities .....	24
Lakeshore .....	24
Coastal and Valley Freshwater Marsh (Holland Code 52410) .....	25
Southern Willow Scrub (Holland Code 63320).....	25
Emergent Wetland (Holland Code 52440) .....	26
Southern Coast Live Oak Riparian Forest (Holland Code 61310) .....	26
Engelmann Oak Woodland (Holland Code 71180) .....	26

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	Coast Live Oak Woodland (Holland Code 71160) .....	27
6.2	Hydric Soils .....	27
6.3	Wetland Hydrology .....	28
6.4	Waters of the U.S. and State .....	28
6.5	Preliminary JD Form for Waters of the U.S.....	30
6.6	Electronic Waters Upload Sheets for Waters of the U.S.....	32
7.0	DISCUSSION .....	33
7.1	Requisite Permitting.....	33
	CWA Section 404 Permitting .....	33
	CWA Section 401 Water Quality Certification .....	34
	CFGC Section 1600 et seq. Permitting.....	34
8.0	REFERENCES .....	35

ATTACHMENTS

- A Figures
- B Wetland Determination Data Forms – Arid West Region (Version 2.0)
- C Preliminary JD Form
- D Electronic Waters Upload Sheet (*CD-ROM only*)

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## LIST OF ATTACHMENT A FIGURES

### Figure

1	Regional Map
2	Vicinity Map
3	Vegetation Communities
4	Waters of the U.S. and State Overview Map
5a–5i	Waters of the U.S. and State
6	Soils
7	Watersheds
9	Representative Photographs 1 and 2
10	Representative Photographs 3 and 4
11	Representative Photographs 5 and 6
12	Representative Photographs 7 and 8
13	Representative Photographs 9 and 10
14	Representative Photographs 11 and 12
15	Representative Photographs 13 and 14
16	Representative Photographs 15 and 16

## LIST OF TABLES

### Table

### Page

1	Survey Dates and Personnel Conducting Field Delineation in the Survey Area.....	11
2	Riparian Vegetation Communities Occurring within the Survey Area .....	24
3	Hydric Soils Occurring within the Survey Area .....	27
4	Waters of the U.S. and State Occurring within the Survey Area.....	29
5	Summary of Waters of the U.S. and State Occurring within the Survey Area.....	30
6	Impacts to Waters of the U.S. and State .....	32

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## 1.0 SUMMARY

This jurisdictional delineation report (JDR) discusses the type and amount of potentially regulated aquatic resources occurring within the 272-acre Lake Wohlford site. The site is synonymous with the delineation survey area.

Lake Wohlford is a created reservoir owned by the City of Escondido (City) and located in the rural foothills of unincorporated San Diego County (County), approximately 0.5 mile east of the City's incorporated boundaries and 5 miles northeast of the City's downtown center. Lake Wohlford is within the County's unincorporated Valley Center Community Planning Area, on land owned by the City. The reservoir is formed by Lake Wohlford Dam, which is a 100-foot-high embankment dam composed primarily of rock fill on the downstream side and hydraulically placed fill on the upstream side. Lake Wohlford, located along Escondido Creek, is filled by runoff from its 7.3-square-mile drainage area, as well as water released from the City's Lake Henshaw reservoir, which is diverted from the San Luis Rey River through the 13-mile-long Escondido Canal.

As part of the environmental review process, this JDR outlines and summarizes the latest applicable federal and state guidance and methodologies employed in delineating waters of the U.S. and State of California (state); the results of the fieldwork; and the amount, type, and location of the jurisdictional waters occurring within the survey area.

Approximately 167.05 acres of waters of the U.S. and state were delineated within the survey area as vegetated wetland (27.28 acres) and other waters (139.77 acres). Jurisdictional wetlands under the purview of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) include coastal and valley freshwater marsh (12.39 acres), southern willow scrub (14.8 acres), and emergent wetland (0.08 acre). Other waters under the purview of USACE, RWQCB, and CDFW jurisdiction include lakeshore (9.08 acres), open water (130.11 acres), unvegetated channel (0.11 acre), and urban/developed (0.48 acre) (portion of the dam within the ordinary high water mark [OHWM]). Final acreages of waters of the U.S. will be based on the jurisdictional determination (JD) process established by USACE and the U.S. Environmental Protection Agency (USEPA).

Approximately 38.12 acres of aquatic features were delineated as exclusive waters of the state under the purview of CDFW. Of this, 2.88 acres are other waters (composed of lakeshore) and 35.24 acres are riparian extent (composed of Engelmann oak woodland

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[1.60 acres], coast live oak woodland, [19.89 acres], coast live oak riparian forest [2.42 acres], and southern willow scrub [11.32 acres]).

## **2.0 INTRODUCTION**

### **2.1 Project Description**

The City proposes the Lake Wohlford Dam Replacement Project (project), which would consist of construction of a replacement dam immediately downstream (west) of the existing dam and partial deconstruction of the existing dam. Lake Wohlford Dam was originally constructed as a rock-fill structure in 1895 to create a reservoir for the City's municipal water supply. In 1924, the dam was enlarged and raised to expand the reservoir's capacity by placing hydraulic fill upstream and on top of the original rock-fill dam. A 2007 seismic analysis of the dam identified a stability concern for the raised portion of the dam in the event of a major earthquake. As a result, the City reduced the reservoir's water level to limit the risk of a potential failure. The water level reduction decreased the reservoir's capacity to approximately 40% of its prior size. To improve the dam's seismic safety and regain the lost water storage capability, the City is planning to construct a replacement dam downstream of the existing dam and partially or completely deconstruct the existing dam. The replacement dam would be constructed so that the resultant reservoir level and storage capacity are equal to the elevation and capacity prior to the water level restriction, at 1,480 feet elevation and 6,500 acre feet, respectively. The project proposes no changes to Lake Wohlford's historic high water level or storage capacity.

The dam is planned to be constructed of roller compacted concrete, which is installed in layers and minimizes water content to allow material handling with conventional soil-placing methods using conveyors, dump trucks, dozers, and roller compactors. The replacement dam is proposed to be constructed immediately downstream of the existing dam, with the replacement dam's crest approximately 200 feet west of the existing dam's crest. Material would be excavated from the downstream canyon floor and rocky slopes to create a solid foundation and suitable surfaces to place the abutments. Excavation may require blasting and hydraulic drilling to remove rock. The new dam crest would rise approximately 125 feet above the foundation grade, to an elevation of 1,490 feet above mean sea level (amsl), and the crest would span approximately 650 feet from the right (north) abutment to the left (south) abutment. A spillway would be constructed of cast-in-place concrete in the center of the dam, with an elevation of 1,480 feet amsl, and would feature a stepped configuration on the downstream slope to

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dissipate energy from flowing water in the event of an overtopping of the dam. The spillway would empty into a stilling basin constructed of cast-in-place concrete at the foot of the dam, which would hold water before its release into the downstream channel. The dam crest would feature a maintenance access path for pedestrians and vehicles, and a pedestrian access bridge would be constructed over the spillway. A new outlet tower would be constructed on the upstream side of the dam, anchored to the dam's face, and the old outlet tower would be demolished above 1,442 feet amsl. The old outlet tower below 1,442 feet amsl and the associated tunnel would be filled and abandoned in place. To accommodate the configuration of the replacement dam's left abutment and provide maintenance access to the replacement dam, the project would also entail realignment of a portion of Oakvale Road toward the south, requiring excavation into the adjacent hillside to create room for the realignment.

The primary staging area for replacement dam construction is planned at the Lake Wohlford Marina and on the adjacent lakeshore area to the west. Construction activity would also occur in the canyon downstream of the dam. To enable worker and material access from the staging area to the dam construction zone, the project would entail construction of an access road northeast of the existing dam. This would require some excavation into the hillside to create a level surface for installation of the road. At completion of the project, the road would be removed and the area would be restored.

After completion of the project, the City would have the ability to fill the reservoir up to its 1,480 feet AMSL capacity. This does not mean the City would immediately fill to that level; most likely, the reservoir would return to its pre-drawdown conditions, in which it was subject to seasonal and temporal fluctuation in water levels. Initial refilling of the reservoir and subsequent maintenance of reservoir elevation will depend on rainfall within the reservoir's watershed, the availability of water deliveries from Lake Henshaw, and demand for municipal water in the reservoir's service area. This report shows the 1,480-foot maximum inundation level for informational purposes; this is not intended to imply that the reservoir would be filled to this level following construction and held at this level. The maximum level at which the reservoir would actually be filled would include some freeboard beneath the spillway, to prevent unnecessary release of water over the top of the dam.

## **2.1 Purpose of Jurisdictional Delineation**

The purpose of performing a jurisdictional delineation is to identify the presence or absence (including types, location, boundaries, and acreages) of waters of the U.S. and

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state (including wetlands) occurring within the survey area. Once the presence or absence of jurisdictional waters is identified per federal and state delineation methods and guidelines, the results of this JDR will be verified by USACE, CDFW, and the RWQCB.

This JDR is intended to support and provide documentation for the following:

- Support and assistance to the City with project design efforts and to allow for avoidance and/or minimization of impacts to waters of the U.S. and state.
- Permitting under Section 404 of the Clean Water Act (CWA), as regulated by USACE (as applicable).
- Certification of compliance under Section 401 of the CWA, as regulated by the RWQCB (as applicable).
- Issuance of Waste Discharge Requirements (WDRs) or waiver under Article 4 of the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) (as regulated by the RWQCB, as applicable).
- Permitting under California Fish and Game Code (CFGF) Chapter 6 Section 1600 et seq. (as regulated by CDFW, as applicable).

### **3.0 REGULATORY FRAMEWORK**

Aquatic environments and habitats occurring within California are regulated under the following federal and state laws, as applicable to the survey area.

#### **3.1 Federal Regulations**

##### **Clean Water Act, Section 404**

Pursuant to Section 404 of the CWA, USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S., which include those waters listed in 33 Code of Federal Regulations (CFR) Part 328 (Definitions). The fundamental rationale of Section 404 of the CWA is that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to aquatic resources, or if significant degradation would occur to waters of the U.S. (including wetlands).

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USACE, with oversight by USEPA, has the principal authority to issue CWA Section 404 Permits (40 CFR Part 230). Under two 1989 Memorandums of Agreement between USEPA and the Department of Defense, USACE is given sole responsibility for making final permit decisions pursuant to Section 404, and “conducts jurisdictional delineations associated with the day-to-day administration of the Section 404 program.” However, USEPA retains the authority to enforce compliance with Section 404, and maintains the power to overrule USACE decisions on the issuance or denial of permits. If there is a dispute about whether an area can be regulated, USEPA has the ultimate authority to determine the actual geographic scope of waters of the U.S. subject to jurisdiction under all sections of the CWA, including the Section 404 regulatory program (USEPA 1989a, 1989b).

### **Clean Water Act, Section 401**

If it is determined that an activity proposed within jurisdictional waters requires a permit pursuant to Section 404 of the CWA, then, pursuant to Section 401 of the CWA, the RWQCB (Region 9) must certify that the discharge will comply with state water quality standards, or waive the certification requirement. The RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

## **3.2 State Regulations**

### **Lake and Streambed Alteration Program**

Pursuant to Section 1600 et seq. of the CFGC, CDFW is authorized to regulate any activity that would alter the flow, bed, channel, or bank of streams and lakes. Jurisdictional waters of the state, as defined by Section 1600 regulations, include the “bed, channel, or bank of any river, stream, or lake designated by [CDFW] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.” In practice, CDFW usually extends its jurisdictional limit to the top of the bank of a stream or lake, or to the continuous outer edge of its riparian extent, whichever is wider.

Section 1601(a) is based on Title 14 California Code of Regulations (CCR) 720, which designates “all rivers, streams, lakes, and streambeds in the state of California, including all rivers, streams, and streambeds which may have intermittent flows of water” as regulated by the Lake and Streambed Alteration Program. Therefore, all semi-

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arid and arid region aquatic features with ephemeral flow (including swales that exhibit short-duration, low-volume flow) are under CDFW's regulation and protection because these semi-arid and arid region aquatic features can and do support fish and wildlife (directly or indirectly). CDFW links stream protection, conservation, and management with the presence (and/or indirect consideration) of fish and wildlife and their habitats.

## **Porter-Cologne Water Quality Control Act**

Pursuant to Section 13000 et seq. of the California Water Code (CWC) (Porter-Cologne), the RWQCB is authorized to regulate any activity that will result in discharges of waste or fill material into waters of the state, including "isolated" waters and/or wetlands (e.g., vernal pools and seeps), saline waters, and groundwater within the boundaries of the state (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all waters of the state, and directs the RWQCB to develop and implement regional Basin Plans that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region (CWC Section 13050[j]).

CWC Section 13170 also authorizes the SWRCB to adopt water-quality control plans on its own initiative. The Water Quality Control Plan for the San Diego Basin (RWQCB Region 9), as amended, is designed to maintain, preserve, and enhance the quality of water resources. The purpose of the plan is to designate beneficial uses of surface and ground waters, designate water-quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives within RWQCB Region 9 (RWQCB 1994). One of the designated beneficial uses of state waters that may be protected against degradation includes preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

## **4.0 ENVIRONMENTAL SETTING**

### **4.1 Delineation Survey Area Location**

The approximately 272-acre survey area encompasses Lake Wohlford and the proposed surrounding inundation area up to 1,480 feet elevation, representing the

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maximum reservoir level.<sup>1</sup> It also includes the adjacent dam reconstruction footprint, the Oakvale Road realignment, and the staging area and access road location (Figures 1 and 2; all figures are provided in Attachment A). The survey area location is within the U.S. Geological Survey (USGS) Rodriguez Mountain Quadrangle (7.5-minute series [USGS 1988]) and Valley Center Quadrangle (7.5-minute series [USGS 1975]) (Figure 2). Lake Wohlford is a created reservoir owned by the City and located in the rural foothills of unincorporated San Diego County, approximately 0.5 mile east of the City's incorporated boundaries and 5 miles northeast of the City's downtown center. Lake Wohlford is also located within the County's unincorporated Valley Center Community Planning Area, on land owned by the City.

The reservoir is formed by Lake Wohlford Dam, which is a 100-foot-high embankment dam composed primarily of rock fill on the downstream side and hydraulically placed fill on the upstream side. Lake Wohlford, located along Escondido Creek, is filled by runoff from its 7.3-square-mile drainage area, as well as water released from the City's Lake Henshaw reservoir, which is diverted from the San Luis Rey River through the 13-mile-long Escondido Canal.

#### **4.2 Vegetation and Cover Types**

The survey area is currently dominated by open water of the lake fringed by lakeshore habitat and swaths of freshwater marsh, emergent wetland, southern willow scrub, and oak woodlands (including both coast live oak woodland and Engelmann oak woodland). Coast live oak riparian forest occurs along Escondido Creek at the eastern end of the survey area. Several unvegetated ephemeral channels also occur within the survey area as small tributaries to Escondido Creek and the lake (Figures 3, 4, and 5a through 5i).

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<sup>1</sup> The wetland delineation field work conducted for this project was performed based on an assumption of the construction limits of disturbance that was later updated by the project design engineers, which reduced the potential impact area. In addition, the survey area around the reservoir was based on a 1,480 foot elevation level from 1975 USGS mapping information, which was subsequently updated with data from a topographic survey conducted for the project. The figures provided in this report show the updated project limits and maximum reservoir elevation, but they show the area delineated based on the original information. All acreages listed in this report are based on the updated limits as shown in the figures.

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### **4.3 Topography**

Topography across the survey area is gradually sloped from surrounding hills and lakeshore down to the current reservoir level. Within the maximum inundation area, elevation ranges from approximately 1,480 feet above sea level (asl) to approximately 1,380 feet asl. Within the proposed construction area at the western end of the reservoir near the dam, the upper elevation limit is 1,610 feet asl. Escondido Creek flows through the eastern portion of the survey area and into Lake Wohlford. Several ephemeral tributaries flow into Escondido Creek and the lake from the surrounding landscape.

### **4.4 Soils**

The survey area supports a variety of soil types, including Las Posas series, Vista series, Cieneba series, and Visalia series. All soils underlying the survey area, with the exception of the Visalia series, are upland soil series that typically occur on rolling and mountainous upland profiles (Bowman 1973). The Visalia series, located primarily along Escondido Creek leading into Lake Wohlford, is the only soil series that is typically found in alluvial fans and floodplain areas.

None of the above soil types are listed as hydric by the Natural Resources Conservation Service (NRCS 2014a). Although the Visalia series is typically associated with floodplains, the soil series found within the survey area, Visalia sandy loam, 5 to 9% slopes (VaC), is not considered a hydric soil. However, given the relatively recent conversion of land to waters from the Lake Wohlford dam, there are likely to be hydric inclusions developing within all of these soil types. The delineated waters of the U.S. and state within the survey area are located within the above soil types (Figure 6).

### **4.5 Climate**

The climate in this region of California is dominated by the semi-permanent Pacific high-pressure cell located over the Pacific Ocean. This high-pressure cell drives the dominant onshore circulation, maintaining clear skies for much of the year (NOAA 2014).

The most recently active climatological station closest to the survey area that monitors temperature and precipitation is the San Pasqual Animal Park Climate Station (COOP

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ID: 047874).<sup>2</sup> The mean annual temperatures at the San Pasqual Animal Park Climate Station range from a minimum of 49.3 degrees Fahrenheit (°F) to a maximum of 80.0°F. Mean annual rainfall at the San Pasqual Animal Park Climate Station is 13.80 inches (WRCC 2014).

#### **4.6 Watershed**

The survey area is located within the east portion of the approximately 84.8-square-mile Escondido Creek Watershed (Hydrologic Unit Code [HUC]: 1807030304). Contained within the Escondido Watershed is the 210.1-square-mile Carlsbad Hydrologic Unit (HU: 904). Within the Carlsbad Hydrologic Unit is the approximately 85-square-mile Escondido Creek Hydrologic Area (HA: 904.6). Within the Escondido Creek Hydrologic Area is the approximately 46-square-mile Escondido Hydrologic Subarea (HSA: 904.62) and the 8-square-mile Lake Wohlford Hydrologic Subarea (HSA: 904.63). All watersheds are within the approximately 3,882-square-mile RWQCB, Region 9, San Diego Hydrologic Basin Planning Area (RWQCB 1994 [as amended]) (Figure 7).

Escondido Creek and Lake Wohlford are listed on the CWA 303(d) List (impaired water bodies) (SWRCB 2014). The entire reach of Escondido Creek from Lake Wohlford to the creek's outlet at the Pacific Ocean is listed. The causes for impairment are DDT, enterococcus bacteria, fecal coliform, manganese, total nitrogen, phosphate, selenium, sulfates, total dissolved solids, and toxicity.

### **5.0 JURISDICTIONAL DELINEATION METHODOLOGY**

#### **5.1 Pre-Survey Investigations**

The purpose of pre-survey investigations is to obtain contextual information relevant to a survey area that may aid in the evaluation of jurisdictional waters and may not be evident from the ground during the field survey. Before conducting the field delineation for waters of the U.S. and state (including wetlands), AECOM biologists Brian Felton and Lanika Cervantes reviewed historical aerials, local and regional climactic data, and areas with topographical configurations and vegetative signatures occurring within the survey area that may suggest the potential for or presence of waters of the U.S. and

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<sup>2</sup> Climactic data was collected at the San Pasqual Animal Park Climate Station beginning in 1979 and had been in continuous operation between 1979 and 2010 (when climactic data collection ceased). This climate station is located approximately 5 miles south of the survey area (WRCC 2014).

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state at the time of the field survey. This information was evaluated by consulting the following available sources:

- 7.5-minute Rodriguez Mtn Quadrangle (USGS 1988) and Valley Center Quadrangle (USGS 1975)
- The web-based National Hydrography Dataset (USGS 2014)
- 2012 aerial maps of the survey area (U.S. Department of Agriculture [USDA] National Agriculture Imagery Program) (USDA 2012)
- The 2014 Updated National Wetland Plant List (NWPL) (Lichvar et al. 2014)
- The web-based National Wetlands Inventory Wetlands Mapper (USFWS 2014)
- The Soil Survey of San Diego County (Bowman 1973)
- The web-based Natural Resources Conservation Service (NRCS) Soils Website (NRCS 2014b)
- The web-based NRCS Web Soil Survey (NRCS 2014c)
- The web-based Soil Survey Geographic Database (SSURGO) (NRCS 2014d)
- The web-based U.S. Hydric Soil Technical Notes (NRCS 2014e)
- The web-based National List of Hydric Soils (NRCS 2012)
- The web-based Western Regional Climate Center (WRCC 2014)
- The web-based National Weather Service Climate Office (NOAA 2014)
- The web-based Digital Watershed (USEPA 2014)
- The web-based California Watershed Portal (CalEPA 2014)
- The web-based Project Clean Water San Diego (Project Clean Water 2014)

## **5.2 Field Delineation of Federal Waters**

AECOM biologists delineated the jurisdictional waters (including wetlands) occurring within the survey area. All acquired field data were obtained by recording the presence (including extents, types, and boundaries) of jurisdictional waters using a Trimble XH subfoot accuracy handheld Global Positioning System (GPS) unit.

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All acquired field data were post-field processed using geographic information system (GIS) software. Post-field analysis to code, define, designate, and edit all acquired GPS field data representing jurisdictional waters occurring within the survey area was conducted using Trimble GPS Analyst (Version 2.1) GIS software by AECOM GIS specialists and the biologists who performed the fieldwork. The dates, AECOM personnel, and type of activity conducted for this field jurisdictional delineation are listed in Table 1.

**Table 1**  
**Survey Dates and Personnel Conducting Field Delineation in the Survey Area**

<b>Date</b>	<b>Personnel</b>	<b>Activity</b>
8/2/2014	Brian Felten and Fred Sproul	Formal Delineation
8/9/2014	Brian Felten and Lanika Cervantes	Formal Delineation
9/22/2014	Lanika Cervantes and Bonnie Hendricks	Formal Delineation

Waters of the U.S. include those waters listed in 33 CFR 328.3 (Definitions of Waters of the United States). All waters of the U.S. were delineated to their jurisdictional limits as defined by 33 CFR 328.4 (Limits of Jurisdiction), which states that, in nontidal waters, the limits of jurisdiction are as follows:

1. In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark (OHWM); or
2. When adjacent wetlands are present, the jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands; or
3. When the water of the U.S. consists only of wetlands, the jurisdiction extends to the limit of the wetland.

Through pre-field surveys (remote analysis), the survey area was determined to have potential for the presence of wetlands and other waters as defined in 33 CFR 328.3(b), 40 CFR 230.3(t), and USACE guidance documents, warranting the two field methodologies described below.

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## Methodology One: Delineations for Waters of the U.S. in the Form of Wetlands

Delineations for waters of the U.S. in the form of wetlands are based on the three-parameter method (Environmental Laboratory 1987). The three-parameter method for identifying and delineating wetlands is outlined in, and in accordance with, the latest federal guidance, methodologies, and procedures provided in the following:

- *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987)
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008 Supplement) (Environmental Laboratory 2008)
- 2014 National Wetland Plant List (NWPL) (Lichvar et al. 2014)
- *USACE Wetland Plants of Specialized Habitats in the Arid West* (Lichvar and Dixon 2007)
- All applicable USACE Regulatory Guidance Letters (RGLs) and Special Public Notices (SPNs) for wetlands

With the exception of some atypical situations, USACE guidelines for delineating wetlands (i.e., 1987 Manual and 2008 Supplement) require co-occurrence of positive wetland indicators for each parameter (i.e., hydrophytic vegetation, wetland hydrology, and hydric soil).

The delineation for federally defined wetlands was conducted in accordance with Part IV (Methods), Section D (Routine Determinations), Subsection 1 (Onsite Inspection Necessary) of the 1987 Manual's "Routine Determinations for Areas Greater Than Five Acres in Size." The 1987 Manual recommends that a baseline be established that parallels a major watercourse(s) (and/or should be perpendicular to the hydrologic gradient) through the survey area.

A positive wetland determination was made for those observation points that exhibited positive wetland field indicators for each of the three wetland parameters. Furthermore, for wetland delineation purposes, an area is considered to be vegetated if it has 5% or more total plant cover at the peak of the growing season (Environmental Laboratory 2008). A positive determination for potential nonwetland waters of the U.S. was made

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for areas that did not meet all three parameters for a federally defined wetland, but met the definitions of other waters of the U.S. (see Methodology Two, below).

Although the 2008 Supplement also uses the three-parameter method that is outlined in the 1987 Manual, it identifies specific sections of the 1987 Manual that are replaced by 2008 Supplement guidance (see Table 1 of the 2008 Supplement) that must be used within applicable land resource regions, as outlined in the 2008 Supplement (the survey area is within Region C [Mediterranean California]). Therefore, the 2008 Supplement takes precedence over the 1987 Manual for applications in the Arid West region, and states the following in Chapter 3:

(Hydric) indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators.

In Chapter 4:

The Arid West is characterized by extended dry seasons in most years and by extreme temporal and spatial variability in rainfall even in “normal” years. Many wetlands in the region are dry for much of the year and, at those times, may lack hydrology indicators entirely. Therefore, *lack of an indicator is not evidence for the absence of wetland hydrology.* [Italics in the original.]

In Chapter 5:

In general, *wetland determinations on difficult or problematic sites must be based on the best information available to the field inspector, interpreted in light of his or her personal experience, and knowledge of the ecology of wetlands in the region.* [Italics in the original.]

Where feasible, the baseline for establishing the transect (and field data point) location(s) was situated in upland and/or nonwetland, nonaquatic habitat so that the initial observation points of the transect were likely outside of any potential wetland boundaries or on either side of the potential jurisdictional waters (in the form of wetland), and extended across the jurisdictional feature to upland habitat on the opposite side.

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This baseline placement ensured that the outer observation point for each transect was also located in representative nonwetland (or upland) habitat, allowing for accurate demarcation of the limits of potential jurisdictional areas. Additionally, a field data point was used to confirm the presence or absence of a federally defined wetland within a feature that presented the potential to support the simultaneous presence of all three wetland parameters (as defined in the 1987 Manual and 2008 Supplement) occurring at such a confirmation point.

For this jurisdictional delineation, eight transects comprising a cumulative total of 16 field data points were determined to be adequate for accurate and precise wetland field delineation data collection. Obvious upland areas (with exception to upland confirmation points) were not mapped as part of this analysis, as they did not represent potential waters, wetland, and/or riparian communities that warranted a jurisdictional delineation. Additional soil pits were dug in proximity to confirmation points to accurately confirm the field findings (see results, below).

In accordance with the 1987 Manual and the 2008 Regional Supplement, the following wetland delineation criteria, primary field indicators, and best professional judgment were used for the collection of data pertinent to assessment of the mandatory technical criteria. Field data were recorded in the 2008 Supplement Wetland Determination Data Forms – Arid West Region (Version 2.0) (data forms), which is appropriate for application of both the 1987 Manual and the 2008 Supplement “routine” method. Copies of the Arid West region data forms prepared for this delineation are included in Attachment B.

### *Hydrophytic Vegetation*

Only those plant species that are listed within the 2014 Updated NWPL (Lichvar et al. 2014) as hydrophytic, or have the potential to be hydrophytic, and form wetland plant communities within the survey area are addressed herein. This JDR uses the Holland Code Classification System (Holland 1986) as modified by Oberbauer (Oberbauer et al. 2008) to describe riparian and wetland (e.g., hydrophytic) vegetation communities occurring within the survey area.

An area was determined to support hydrophytic vegetation if more than 50% of the dominant species was listed as Obligate Wetland (OBL), Facultative Wetland (FACW), or Facultative (FAC) species on the 2014 Updated NWPL (Lichvar et al. 2014).

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Vegetation was assessed using the “50/20 Rule” to determine dominant species and federally accepted hydrophytic vegetation communities.

By definition, dominant species are the most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that exceed 50% of the total dominance measure (e.g., basal area or areal coverage) for the stratum, plus any additional species that individually compose 20% or more of the total dominance measure for the stratum (Tiner 1999).

### *Hydric Soil*

AECOM consulted and field-verified within the survey area the *Soil Survey of San Diego County, California* (Bowman 1973) and the digital soil survey metadata provided in the USDA NRCS Soil Survey Geographic Database (SSURGO) and State Soil Geographic Database (STATSGO).

Guidance for using soil surveys in the Arid West region is found in the 2008 Arid West Region (Version 2.0) Supplement: Chapter 3 (Hydric Soil Indicators), page 34, “Use of existing soil data; soil surveys, which emphasizes groundtruthing to document the soil survey” and field conditions.

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as “a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part” (NRCS 2014e). The NTCHS definition identifies general soil properties that are associated with wetness. Additionally, specific criteria that identify those estimated soil properties unique to hydric soils have been established by NTCHS (NTCHS 1995). Therefore, hydric soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

Hydric soil definitions and NTCHS-approved hydric soil criteria are used to generate hydric soil lists (Environmental Laboratory 2008). The National Hydric Soils List (NRCS 2012), primarily used as a pre-survey assessment tool, contains a listing of soils that have a probability of being hydric. Hydric soil indicators are primarily morphological indicators used for field identification of hydric soils and/or soils meeting the hydric soil definition. These hydric soil indicators are a subset of the NTCHS *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 7.0* (USDA 2010).

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If hydric soil indicators are absent, and indicators of understory and/or herbaceous hydrophytic vegetation and wetland hydrology are simultaneously present within an appropriate landscape setting, then, by definition, the presence of a problematic soil would be justified as meeting the criteria to be considered a hydric soil (Environmental Laboratory 2008). Guidance for soil lacking hydric indicators is found in the 2008 Supplement Chapter 3, page 27, which states:

Indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators.

Guidance used for problem wetland situations in the Arid West for a soil considered hydric (or considered “hydric by definition”), but lacking hydric indicators, is found in the 2008 Supplement: Chapter 5, page 96, which outlines that a soil can be considered as hydric with faint or no hydric soil indicators (for example, recently developed wetlands may lack hydric soil indicators because insufficient time has passed for their development and/or where a soil underlies an area where there is evidence of wetland hydrology and hydrophytic vegetation being simultaneously present). Therefore, a soil can be considered hydric by definition and meet the definition of a hydric soil despite the lack of other hydric indicators.

The 2008 Supplement provides guidance for “Difficult Situations in the Arid West” concerning “hydric soil indicators for problem soils” (Chapter 5, page 54), which states:

[Hydric] indicators are not currently recognized for general application by the NTCHS, or they are not recognized in the specified geographic area. However, these indicators may be used in problem wetland situations in the Arid West where there is evidence of wetland hydrology and hydrophytic vegetation, and the soil is believed to meet the definition of a hydric soil despite the lack of other indicators of a hydric soil. To use these indicators, follow the procedure described in the section on Problematic Hydric Soils in Chapter 5 (of the 2008 Supplement). If any of the following indicators is observed, it is recommended that the NTCHS be notified by following the protocol described in the “Comment on the Indicators” section of *Field Indicators of Hydric Soils in the United States* (retained in USDA 2010).

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Therefore, if a feature or an area under delineation simultaneously supports wetland hydrology *and* hydrophytic vegetation,<sup>3</sup> the soil can potentially be considered hydric by definition (with or without a subsurface investigation) at the point of investigation.

The survey area soil pits were also evaluated for the presence of subsurface wetland hydrology indicators such as soil saturation, oxidized root channels, and other hydric soil indicators such as fluvial depositional material (see results discussion in Section 6.0, below).

### *Wetland Hydrology*

Wetland hydrology is essentially a result of watershed-driven processes of hydrological inputs from precipitation that provide sufficient groundwater and/or surface flows to support hydrophytic plants. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987).

The formation, persistence, size, and function of wetlands are controlled by hydrologic processes within the watershed. Water sources from continual inputs (e.g., immediate proximity to a hydrological feature such as a lake, a river [including small intermittent stream features], the ocean, and/or a wet climate) and the ability to retain or slow down water flow are necessary for the creation and existence of wetlands. Hydrologic processes occurring in wetlands are the same processes that occur in uplands and are collectively referred to as the hydrologic cycle. Major components of the hydrologic cycle are precipitation, surface-water retention, surface-water flow, groundwater flow, and evapotranspiration. Wetlands and uplands continually receive or lose water through exchange with the atmosphere, streams, and groundwater. Wetland hydrology is a result of a favorable topographic and geologic setting and an adequate or persistent supply of water (USGS 1996).

USACE has set a quantitative wetland hydrology threshold as it applies to all types of nontidal wetlands (Environmental Laboratory 1987). Specifically, an area has wetland

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<sup>3</sup> For wetland delineation purposes, an area is considered to be vegetated if it has 5% or more total plant cover at the peak of the growing season (Environmental Laboratory 2008).

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hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence).<sup>4</sup>

Additionally, the hydrology requirements for a wetland can be defined as follows: On average, an area must be inundated or the soils saturated to the surface in more than half the years (1 out of 2, 5 out of 10, or 50 out of 100) for more than 5% of the growing season to conclude with reasonable certainty that the area has wetland hydrology. The survey area is located in a region that supports a Mediterranean climate, where the growing season is year-round. By using this protocol, the hydrology of nontidal jurisdictional wetlands can often be empirically identified using a minimum of 10 years of climactic data (to represent normal conditions).

The survey area was evaluated for wetland hydrology factors (per the guidance outlined in the 1987 Manual and 2008 Supplement) such as stratigraphy (and groundwater levels), topography, soil permeability, and plant cover, in concert with available climactic data. All observation points within a hydrophytic vegetation community were surveyed for the presence of surface wetland hydrological field indicators such as inundation, saturation, water marks, drift lines, drainage patterns, and sediment deposits. All wetland hydrology indicators (both primary and secondary) observed were recorded where there was adequate potential for surface water inundation, saturation, and retention occurring in exposed soil (e.g., unlined channels and/or swales or low topographic areas). Areas that have hydrophytic vegetation and hydric soils generally also have wetland hydrology unless the hydrologic regime has changed due to natural events or human activities (National Research Council 1995).

#### Methodology Two: Delineations for Waters of the U.S. in the Form of Other Waters

Delineations for “other waters” of the U.S. in the form of other nonwetland waters were based on field indicators to define and identify the jurisdictional lateral extent of the OHWM, as defined by 33 CFR 328.3(e), federal guidance, methodologies, and procedures, including the following:

- *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008)<sup>5</sup>

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<sup>4</sup> The growing season in Southern California is estimated to be 365 days a year; therefore, an area has wetland hydrology if it is inundated or saturated to the surface continuously for 18 days.

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- *Review and Synopsis of Natural and Human Controls on Fluvial Channel Processes in the Arid West Channels* (Lichvar and Field 2007)
  - *Distribution of Ordinary High Water Mark (OHWM) Indicators and their Reliability in Identifying the Limits of “Waters of the United States” in Arid Southwestern Channels* (Lichvar et al. 2006)
  - All applicable USACE RGLs and SPNs for other waters (including RGL 88-06 and RGL 05-05)

OHWM indicators were used to delineate the lateral jurisdictional extent of nonwetland waters of the U.S. Lateral jurisdictional limits were established for all drainage features/channels occurring within the survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits. The OHWM of the drainage features/channels was identified on the basis of one (or more) of the following:

- water marks within their respective channel banks established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the banks;
- scour and shelving, local deposition, distinct and indistinct terraces, and changes in the character of soil;
- the presence of developed longitudinal bars within channel margins;
- type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation, and the presence and absence of litter and debris within the ephemeral dry washes;
- ephemeral dry wash configuration, estimated streamflow behavior, and other subtle geomorphic evidence indicative of regular flow levels;
- consideration of precipitation patterns and lack of consistent flow;
- geomorphic OHWM indicators (e.g., surface relief, cobblebars, benches, crested ripples, particle size distribution, mudcracks, and gravel sheets); and/or

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<sup>5</sup> Datasheets from this field delineation manual were used as guidance documents only and are not included in this JDR.

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- pattern and location of abandoned (or relictual) channels and discontinuous drainage features.

The lateral limits of jurisdiction specified by a technically defensible method such as the portion of the drainage features/channels supporting an OHWM would indicate a sufficiency to carry the mean annual flow, as determined through the extrapolation of field indicators and rainfall data. Lateral jurisdictional limits were established for both the channels and lake occurring within the survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits (and other waters of the U.S. existing within this limit). Recent elevation data from USGS is not available for Lake Wohlford; therefore, OHWM indicators were used to determine the OHWM of the lake. The OHWM for the lake typically was observed to have an elevation of 1,464 to 1,472 feet asl.

The criteria for frequency and duration of the OHWM have not been defined under the CWA or under any guidance from USACE for field delineators. Therefore, identifiable field indicators and characteristics of OHWM, best professional judgment, and appropriate RGLs were applied to determine the potential jurisdictional extent of OHWM within the survey area. Fluvial channels occurring within the Arid West region of the U.S. have recently been described as “ordinary” when they typically correspond to a 5- to 8-year event, and typically have an active floodplain with sparse vegetation cover, shifts in soil texture, and occasional alignment with distinctive bed and bank features (Lichvar and Field 2007). However, modeling has shown that slightly larger events (5- to 10-year recurrence) may be necessary to engage the active floodplain in arid systems (Lichvar et al. 2006).

OHWM and the limits of jurisdiction are discussed in the preamble to the USACE November 13, 1986, Final Rule, Regulatory Programs of the Corps of Engineers, Federal Register Volume 51, No. 219, page 41217, which discusses the proper interpretation of 33 CFR Part 328.4 (c)(1) as follows:

Section 328.4: *Limits of Jurisdiction*. Section 328.4 (c)(1) defines the lateral limit of jurisdiction in nontidal waters as the OHWM provided that the jurisdiction is not extended by the presence of wetlands. Therefore, it should be concluded that in the absence of wetlands, the upstream limit of [USACE] jurisdiction also stops when the OHWM is no longer perceptible.

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In addition, RGL 88-06, issued June 27, 1988, discussed the OHWM as follows:

The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel high flows, not the average annual flood elevation that generally extends beyond the channel.

RGL 05-05, issued December 7, 2005, discusses the field practice and practicability of identifying, determining, and applying the OHWM for nontidal waters under Section 404 of the CWA (and under Sections 9 and 10 of the Rivers and Harbors Act of 1899), and states the following:

Where the physical characteristics are inconclusive, misleading, unreliable, or otherwise not evident, districts may determine OHWM by using other appropriate means that consider the characteristics of the surrounding areas, provided those other means are reliable.<sup>6</sup> Such other reliable methods that may be indicative of the OHWM include, but are not limited to, lake and stream gage data, elevation data, spillway height, flood predictions, historic records of water flow, and statistical evidence.

Many stream channels in arid regions are dry for much of the year and, at times, may lack hydrology indicators entirely or exhibit relic OHWM features from exceptional hydrological events. RGL 05-05 further states the following:

When making OHWM determinations, districts should be careful to look at characteristics associated with ordinary high water events [that] occur on a regular or frequent basis. Evidence resulting from extraordinary events, including major flooding and storm surges, is not indicative of OHWM. For instance, a litter or wrack line resulting from a 200-year flood event would, in most cases, not be considered evidence of an OHWM.

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<sup>6</sup> In some cases, the physical characteristics may be misleading and would not be reliable for determining the OHWM. For example, water levels or flows may be manipulated by human intervention by channelization (or constriction points), power generation, or water supply. For such cases, districts should consider using other appropriate means to determine the OHWM (RGL 05-05).

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### 5.3 Field Delineation for Waters of the State

In addition to pre-field surveys, waters of the state were assessed and delineated within the survey area. Two state agencies may have jurisdiction over aquatic features occurring within the survey area (CDFW and RWQCB), each with its own definition of jurisdictional waters, as summarized below. Three separate delineation methodologies for state-regulated waters were required, as defined and described below.

#### CDFW

CDFW has one published delineation manual for California titled *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013). The survey areas are located along a perennial stream, Escondido Creek, and a lake, Lake Wohlford, so this manual is not relevant to the survey areas. Therefore, in addition to the regulatory framework outlined above for the state's Lake and Streambed Alteration Program, waters of the state regulated by CDFW were assessed and delineated by AECOM within the survey area pursuant to definitions and guidance provided in the following:

- All applicable and relevant guidance outlined in *A Review of Stream Processes and Forms in Dryland Watersheds* (CDFG 2010)
- *Project Conservation Challenges in a Dryland Stream Environment* (Vyverberg 2010)
- *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin et al. 1979)

#### Field Methods for Riverine Features

Boundaries for waters of the state in the form of unvegetated channels were determined (and recorded) by the presence of shelving and/or scour resulting in an established bank, bed, or channel, and any associated riparian areas (where applicable).

#### Field Methods for Riparian Component

State waters under the purview of CDFW are also represented by the associated riparian component of unvegetated channels and lakes. The riparian component does

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not necessarily have to be composed of a hydrophytic vegetation community, and only needs to be an aquatic-related resource that includes the habitat upon which fish and/or wildlife depend for continued viability.

For aquatic-related habitats occurring in California, CDFW relies on the U.S. Fish and Wildlife Service's (USFWS) wetland definition and classification system, which is based on *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin et al. 1979). The Cowardin method requires diligence to avoid false positive conclusions (e.g., concluding that an area with no transitional relation to the aquatic system is a wetland based on presence of vegetation equally likely to be found in wetland or nonwetland circumstances).

Therefore, the riparian component within the survey area is included as the extent of riparian habitat composed of both hydrophytic and nonhydric vegetation communities. These hydrophytic vegetation communities can support fish and wildlife dependent on aquatic-related resources, and are distinct from the surrounding upland habitat, which cannot.

### RWQCB

For jurisdictional water features occurring within the survey area, RWQCB jurisdiction was mapped identically for nonwetland waters (riverine features), as noted above for USACE jurisdiction. RWQCB jurisdiction was delineated based on the presence of aquatic features that simultaneously meet the definition for waters of the state (CWC Section 13050[e]) and present "beneficial use" as outlined in the *Water Quality Control Plan for the San Diego Basin* (RWQCB 1994 [as amended]). Therefore, if it was determined that any type of aquatic and/or aquatic-related features occurring within the survey area would present "beneficial use," the aquatic feature would be delineated (this would include swale features).

## **6.0 RESULTS**

Specific findings for hydrophytic vegetation, hydric soils, and wetland hydrology are discussed in detail below.

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## 6.1 Riparian and Wetland Plant Communities

Seven riparian vegetation communities were recorded and mapped within the survey area during the field delineation and vegetation surveys (Figure 4). These riparian vegetation communities and their acreage occurring within the survey area are summarized in Table 2. These vegetation communities include lakeshore, coastal and valley freshwater marsh, southern willow scrub, emergent wetland, southern coast live oak riparian forest, coast live oak woodland, and Engelmann oak woodland.

**Table 2**  
**Riparian Vegetation Communities Occurring within the Survey Area<sup>a</sup>**

<b>Vegetation Community (Holland 1986; Oberbauer et al. 2008)</b>	<b>Acreage within the Survey Area</b>
Lakeshore	11.96
Coastal and Valley Freshwater Marsh	12.39
Emergent Wetland	0.08
Southern Willow Scrub	25.40
Southern Coast Live Oak Riparian Forest	2.42
Coast Live Oak Woodland	19.89
Engelmann Oak Woodland	1.60
<b>Total Acres</b>	<b>73.74</b>

<sup>a</sup> Acreage of the vegetation communities occurring within the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

### Lakeshore<sup>7</sup>

Lakeshore is the region at the margin of the water level that varies according to rainfall, inputs from the Escondido Canal and Escondido Creek, and the inundation level that is currently maintained at approximately 1,458 feet above mean sea level. The reservoir draw-down has exposed a wider lake margin that is beginning to support a zone that is dominated by wetland/upland transitional species such as telegraph weed (*Heterotheca grandiflora*), dock (*Rumex spp.*), knotweed (*Polygonum sp.*), Hooker's primrose (*Oenothera elata*), salt heliotrope (*Heliotropium curassavicum*), Bermuda grass (*Cynodon dactylon*), narrow-leaf frog fruit (*Phyla nodiflora*), willows (mostly *Salix gooddingii*, but including *Salix exigua* and *Salix lasiolepis*), cattail (*Typha domingensis*) and bulrush (*Schoenoplectus californicus*). Recent USGS elevation data is not available

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<sup>7</sup> No Holland code for lakeshore habitat.

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for Lake Wohlford; therefore, OHWM indicators were used to determine the OHWM of the lake. The OHWM for the lake typically was observed to have an elevation of 1,464 to 1,472 feet asl. Lakeshore habitat that occurred within this elevation was determined to be waters of the U.S. in the form of other waters. Lakeshore habitat outside of waters of the U.S. did not support hydrology indicators and did not receive regular inundation from the lake, but functioned as a “top of bank” and was determined to be waters of the state under CDFW jurisdiction.

### **Coastal and Valley Freshwater Marsh (Holland Code 52410)**

Coastal and valley freshwater marsh is composed mostly of emergent wetland species and occurs where marshes or lake edges are permanently inundated. It is dominated by such species as cattail and bulrush. At Lake Wohlford, these species still dominate the upstream floodplain. However, since the draw-down of the lake, some of these areas are being replaced by willow and mulefat. Large clones of these emergent wetland species persist as thickets of dried stems and leaves that are being gradually replaced by southern willow scrub. All areas delineated as coastal and valley freshwater marsh were waters of the U.S.

### **Southern Willow Scrub (Holland Code 63320)**

Southern willow scrub occurs mostly at the mouth of Escondido Creek, which enters the Lake Wohlford impoundment in a floodplain at its east end. Streams that meander through the alluvium at the east end of this basin support linear stands of riparian scrub composed mostly of arroyo willow (*Salix lasiolepis*) and black willow (*Salix gooddingii*), with some mulefat (*Baccharis salicifolia*) at its margins. Recently, the lake has been drawn-down, reducing the level of the lake surface and exposing more of this alluvium above the permanently inundated zone. This has allowed the expansion of willow scrub in an area that had formerly been dominated exclusively by freshwater marsh. The lowered level of the lakeshore has also become populated by dense thickets of willows, especially along portions of the southern lakeshore and at several tributaries that enter the lake along its northern lakeshore. Other wetland trees associated with this habitat are western sycamore (*Platanus racemosa*) and western cottonwood (*Populus fremontii*). Southern willow scrub delineated as waters of the U.S. was dominated by black willow and typically did not support an understory, and southern willow scrub delineated as waters of the state under CDFW only were dominated by arroyo willow and supported an understory consisting of upland herbaceous vegetation.

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### **Emergent Wetland (Holland Code 52440)**

Emergent wetland occurs at the mouth of Escondido Creek, which enters the Lake Wohlford impoundment in the floodplain at its east end. It occurs mostly at the drier margin of the tree canopy. Riparian herbs such as mugwort (*Artemisia douglasiana*), giant nettle (*Urtica dioica*), Mexican rush (*Juncus mexicanus*), muley grass (*Mulenbergia rigens*), some remnant stands of bulrush, and common mullein (*Verbascum thapsus*) dominate the outer portions of this lowland habitat. This habitat is apparently shifting to less aquatic plant species such as brome grasses and velvet ash (*Fraxinus vetlutina*) after the draw-down of the reservoir, which occurred around 2008. All areas delineated as emergent wetland were waters of the U.S.

### **Southern Coast Live Oak Riparian Forest (Holland Code 61310)**

Southern coast live oak riparian forest occurs along the mouth of Escondido Creek along a riparian stream that carries water from the Escondido Canal. It is an open to dense evergreen riparian forest that is dominated by coast live oak (*Quercus agrifolia*). Southern coast live oak riparian forest is associated with bottomlands and outer floodplains along larger streams, and occurs on fine-grained, rich alluvium (Holland 1986). Structurally, this habitat generally consists of western sycamores, cottonwoods, and willows at the channel margins, bordered by coast live oak at slightly higher elevations. In addition to coast live oak, it is co-dominated by arroyo willow, with occasional black willow and western sycamore and a dense understory of giant nettle. All areas delineated as southern coast live oak riparian forest were delineated as waters of the state under CDFW.

### **Engelmann Oak Woodland (Holland Code 71180)**

Engelmann oak woodland is scattered along the upland perimeter of Lake Wohlford, most prominently along its northern boundary. Woodlands on this side of the lake have a much more open canopy, with some incursions of sage scrub and chaparral. Although there are some uniform stands of Engelmann oak (*Quercus engelmannii*) where it is the dominant tree cover, more often it is co-dominant in mixed stands with coast live oak (*Quercus agrifolia* var. *agrifolia*). These mixed oak stands are more typical of the southern boundary of the lake. All areas delineated as Engelmann oak woodland were delineated as waters of the state under CDFW.

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## Coast Live Oak Woodland (Holland Code 71160)

In Southern California, coast live oak woodland exists on the outer fringes of riparian habitats and on steep, mesic north-facing slopes. At Lake Wohlford, it is mostly along its southern perimeter dominated by much more coast live oak, with fewer Engelmann oak occurring in scattered locations, especially at the east end of the lake. The subdivision of these two oak tree species into separately mapped woodlands is based on the quantitative dominance of each species, with coast live oak clearly dominating the tree canopy. Along steep north-facing slopes, this woodland has an herbaceous understory of a highly diverse native flora. Important plants include poison oak (*Toxicodendron diversilobum*), heart-leaf Penstemon (*Keckiella cordifolia*), virgin's bower (*Clematis lasiantha*), giant wild-rye (*Elymus condensatus*), California blackberry (*Rubus ursinus*), milk maids (*Cardamine californica*), and several fern species. All areas delineated as coast live oak woodland were delineated as waters of the state under CDFW.

### 6.2 Hydric Soils

As addressed in Section 5.0, none of the soils within the survey area are listed as hydric; however, several have diagnostic hydric properties and/or features, have hydric inclusions, meet the criteria and/or definition for a hydric soil, or have the potential for being hydric by definition and are addressed herein.

Six soil series, with their respective phase(s), occur within the survey area and are listed in Table 3.

**Table 3**  
**Hydric Soils Occurring within the Survey Area**

Hydric Soil Series/Land Type
Las Posas fine sandy loam, 15 to 30% slopes (LpE2)
Vista rocky coarse sandy loam, 30 to 65% slopes (VvG)
Vista coarse sandy loam, 15 to 30% slopes (VsE)
Visalia sandy loam, 5 to 9% slopes (VaC)
Visalia sandy loam, 9 to 15% slopes (VaD)

Distinct redoximorphic features (hydric soil field indicators) were not present at all points of investigation in the survey area, which was overwhelmingly composed of a riparian system. As noted above, the general absence of hydric soil field indicators should not exclude the soils occurring within the survey area from being considered as hydric

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where the field indicators for understory and/or herbaceous hydrophytic vegetation and wetland hydrology are simultaneously present.

### **6.3 Wetland Hydrology**

Escondido Creek flows east to west and drains into the Pacific Ocean via San Elijo Lagoon, located approximately 17 miles downstream. The upstream portion of Escondido Creek, located immediately off-site, is an intermittent stream that only conveys surface water directly after normal climactic and weather conditions. As Escondido Creek enters the eastern portion of the survey area, Escondido Canal merges into Escondido Creek via a culvert and contributes the vast majority of water into this perennial creek (which would otherwise flow only seasonally). Escondido Creek supports the majority of USACE wetlands delineated within the survey area. This area supports an extensive riparian wetland composed of hydrophytic overstory plants such as willow species and areas of freshwater marsh composed of herbaceous hydrophytic plant species. The smaller tributaries that drain into Lake Wohlford are ephemeral channels, draining only the nearby hillsides. Surface conveyance in these areas is primarily flood- and storm-related.

Hydrologic indicators observed within the survey area included the following primary indicators: oxidized rhizospheres along living roots, high water table, saturation, debris deposits (nonriverine), and sediment deposits (nonriverine). Secondary indicators were water marks, sediment deposits, and drift deposits.

### **6.4 Waters of the U.S. and State**

The collective area of waters of the U.S. (and state) regulated by USACE that occur within the survey area totals 167.05 acres.<sup>8</sup>

The extent and distribution of jurisdictional waters regulated by the RWQCB is identical to the waters of the U.S. under USACE jurisdiction: 167.05 acres. The other waters summarized below that are regulated by CDFW exclusively do not fall under RWQCB regulation because they do not meet the definition at CWC Section 13050(e) (i.e., they are not surface waters that present a “beneficial use”).

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<sup>8</sup> The jurisdictional status is based on a preliminary Jurisdictional Determination (see below).

The extent and distribution of jurisdictional waters regulated by CDFW includes 167.05 acres that is under USACE and RWQCB jurisdiction, and also includes approximately 38.11 acres that is considered waters of the state exclusively. The types of waters that compose these totals within the survey area are listed in Table 4.

**Table 4**  
**Waters of the U.S. and State Occurring within the Survey Area**

Type of Jurisdictional Waters	Type of Habitat (Holland 1986; Oberbauer et al. 2008)	Type of Habitat (Cowardin et al. 1979)	Area of Aquatic Resource (acres/linear feet) <sup>a,b</sup>
<b>Waters of the U.S. (USACE, RWQCB, and CDFW)</b>			
Wetland	Coastal and Valley Freshwater Marsh	Palustrine, emergent, persistent, permanently flooded, fresh	12.39
Wetland	Southern Willow Scrub	Palustrine, emergent, persistent, permanently flooded, fresh	14.80
Wetland	Emergent Wetland	Palustrine, emergent, persistent, permanently flooded, fresh	0.08
Other Waters	Open Water	Riverine; unconsolidated bottom, sand, perennially flooded, fresh	130.11/11,792 <sup>c</sup>
Other Waters	Unvegetated Channel	Riverine; unconsolidated bottom, sand, perennially flooded, fresh	0.11/1,526
Other Waters	Lakeshore	N/A	9.08
Other Waters	Urban/Development (Dam)	N/A	0.48
<i>Subtotal Waters of the U.S.</i>			<i>167.05/13,318</i>
<b>Waters of the State, Exclusively CDFW</b>			
Riparian Canopy	Southern Coast Live Oak Riparian Forest	Palustrine; forested broad-leaved, deciduous, seasonally flooded, fresh	2.42
Riparian Canopy	Southern Willow Scrub	Palustrine, emergent, persistent, permanently flooded, fresh	11.32
Riparian Canopy	Coast Live Oak Woodland	N/A	19.89
Riparian Canopy	Engelmann Oak Woodland	N/A	1.60
Other Waters	Lakeshore	N/A	2.88
<i>Subtotal Waters of the State, Exclusively CDFW</i>			<i>38.12</i>
<b>Grand Total Jurisdictional Waters</b>			<b>205.17/13,318</b>

<sup>a</sup> Jurisdictional waters acreage of the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

<sup>b</sup> USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features will have acreage *and* linear feet provided as a component of measurement for established features and potential projected impacts occurring within the survey area boundary.

<sup>c</sup> Open water includes Escondido Channel prior to entering the lake and the lake itself. Escondido Creek accounts for 1.20 acres and 5,260 linear feet, and the lake accounts for the remaining 128.91 acres and 6,532 linear feet.

A summary of the waters of the U.S. and state occurring within the survey area is provided in Table 5. A map of the location and distribution of waters of the U.S. and state, delineation field transects, field data point, and locations and orientation of the field photographs taken during the field delineation is provided in Figures 5a through 5i. Representative survey area photos of the field delineation are included in Figures 8 through 15.

**Table 5**  
**Summary of Waters of the U.S. and State**  
**Occurring within the Survey Area**

Type of Habitat	USACE (Acres) <sup>a</sup>	RWQCB (Acres) <sup>a</sup>	CDFW (Acres) <sup>a</sup>
<b>Waters of the U.S.</b>			
Wetland	27.27	27.27	27.27
Other Waters	139.78	139.78	139.78
<i>Subtotal Waters of the U.S.</i>	<i>167.05</i>	<i>167.05</i>	<i>167.05</i>
<b>Waters of the State</b>			
Riparian Component	-		35.23
Other Waters	-	-	2.88
<i>Subtotal Waters of the State</i>	<i>-</i>	<i>-</i>	<i>38.12</i>
<b>Grand Total Jurisdictional Waters</b>	<b>167.05</b>	<b>167.05</b>	<b>205.17</b>

<sup>a</sup> Jurisdictional waters acreage of the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

## 6.5 Preliminary JD Form for Waters of the U.S.

Based on RGL 08-02, the permit applicant may elect to use a preliminary JD to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner, permit applicant, or other “affected party” to move ahead expeditiously to obtain CWA Section 404 permit authorization where applicants determine that it is in their best interest to do so.

Preliminary JDs do not make an official determination of jurisdictional waters and are nonbinding advisements that waters of the U.S. (including wetlands) may be present within a site and therefore should be assumed to be jurisdictional by USACE. A preliminary JD is not appealable under the USACE appeal process because it is not an official jurisdictional determination. If a preliminary JD is received by USACE, an approved JD can always be requested by the applicant at a later time, if necessary. Preliminary JDs cannot be used for determining whether a site has no aquatic features, no waters of the U.S.

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(including wetlands), geographically isolated waters and/or wetlands, or some jurisdictional and some nonjurisdictional waters.

This JDR and one preliminary JD Form (Attachment C) are meant to provide assistance and support to USACE (Los Angeles District, Carlsbad Field Office) to determine that approximately 167.05 acres of delineated aquatic features (in the form of wetlands and other waters) “may be” waters of the U.S. and, thus, under its regulatory administration. For this jurisdictional delineation, a preliminary JD Form was prepared to present the following:

- 139.78 acres of waters of the U.S. (in the form of other waters) as stream channel and open water (OHWM) existing as a non-relatively permanent waterway (RPW) and RPWs (e.g., Escondido Creek and its ephemeral tributaries), or directly abutting to RPWs, that that presents a “significant nexus” (SNX) by flowing directly or indirectly into a Traditional Navigable Water (TNW) (e.g., the Pacific Ocean).
- 27.27 acres of waters of the U.S. (in the form of vegetated wetlands) directly abutting an RPW that presents an SNX by flowing directly into a TNW (e.g., the Pacific Ocean).

The completed preliminary JD Form for this jurisdictional delineation is located in Attachment C.

Table 6 presents the amount and type of waters of the U.S. and state that are within the limits of construction and the maximum reservoir level, as refined following the field work and original mapping for this report. A total of 10.33 acres of waters of the U.S. and state are located within the proposed construction limits, and a total of 55.09 acres of waters of the U.S. and state are located within the maximum reservoir level.

Of the 10.33 acres within the construction limits, 3.08 acres is waters of the U.S. and an additional 7.25 acres is waters of the state under the exclusive purview of CDFW. Of the 55.09 acres within the maximum reservoir level, 35.86 acres is waters of the U.S. and 19.23 acres is waters of the state under the exclusive purview of CDFW.

**Table 6  
Waters of the U.S. and State in Project Limits**

Type of Jurisdictional Waters	Type of Habitat (Holland 1986; Oberbauer et al. 2008)	Limits of Disturbance (Acres/Linear Feet) <sup>a,b</sup>	Maximum Reservoir Level (Acres/Linear Feet) <sup>a,b</sup>
<b>Waters of the U.S. (USACE, RWQCB, and CDFW)</b>			
Wetland	Coastal and Valley Freshwater Marsh	-	12.39
Wetland	Southern Willow Scrub	0.04	14.73
Wetland	Emergent Wetland	-	0.08
Other Waters	Open Water <sup>c</sup>	2.12	-
Other Waters	Unvegetated Channel	-	0.09/1,386
Other Waters	Lakeshore	0.44	8.56
Other Waters	Urban/Developed (Dam)	0.48	-
<i>Subtotal Waters of the U.S.</i>		<i>3.08</i>	<i>35.86/1,386</i>
<b>Waters of the State, Exclusively CDFW</b>			
Riparian Canopy	Southern Coast Live Oak Riparian Forest	-	0.88
Riparian Canopy	Southern Willow Scrub	0.37	9.61
Riparian Canopy	Coast Live Oak Woodland	5.77	5.90
Riparian Canopy	Engelmann Oak Woodland	0.37	0.71
Other Waters	Lakeshore	0.73	2.13
<i>Subtotal Waters of the State, Exclusively CDFW</i>		<i>7.25</i>	<i>19.23</i>
<b>Grand Total Jurisdictional Waters</b>		<b>10.33</b>	<b>55.09/1,386</b>

- <sup>a</sup> Jurisdictional waters acreage of the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).
- <sup>b</sup> USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features will have acreage *and* linear feet provided as a component of measurement for established features and potential projected impacts occurring within the survey area boundary.
- <sup>c</sup> Open water is not included in calculations within the maximum reservoir level because the project would not affect this wetland type.

## **6.6 Electronic Waters Upload Sheets for Waters of the U.S.**

A separate electronic version of the Waters Upload Sheet (collectively containing all potentially jurisdictional waters that were delineated) is provided on CD-ROM in Attachment D of this JDR. This electronic file is provided so that USACE can automatically populate the data fields in its Operations Regulatory Module (ORM) database.

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## 7.0 DISCUSSION

### 7.1 Requisite Permitting

#### **CWA Section 404 Permitting**

Based on the project description and the amount of potential permanent direct and indirect impacts to jurisdictional waters of the U.S. related to this project, the proposed activity (project) would likely have more than minimal individual and/or cumulative net adverse effects on the environment or otherwise may be contrary to the public interest. Therefore, USACE would likely recommend authorizing this project under the CWA Section 404 Standard Individual Permit.

For CWA Section 404 authorization, USACE requires compensatory mitigation for permanent impacts equal to or greater than 0.10 acre that cannot be avoided.<sup>9</sup> Therefore, it is anticipated that compensatory mitigation will be required for the project. All temporary impacts to waters of the U.S. are required to be restored to pre-construction contours and conditions in order to qualify as temporary.

For projects that require authorization from USACE, the Los Angeles District of USACE recognizes that, in addition to the discharge of dredged or fill into waters of the U.S., any activity that may result in the reduction of aquatic resource functions, values, or services that would result in the project having more than minimal impacts would require USACE/USEPA to ensure that all direct, indirect, and cumulative impacts are avoided, minimized, and mitigated, when appropriate.<sup>10</sup> The RWQCB regulates discharges and beneficial use toward waters of the state; RWQCB also considers cumulative impacts to waters of the U.S. as part of its review under Section 401 of the CWA.

Permit review and issuance by USACE follows a sequence process that encourages avoidance of impacts, followed by minimizing impacts, and, finally, requiring mitigation for unavoidable impacts to the aquatic environment. This sequence is described in the guidelines in Section 404(b)(1) of the CWA. For any temporary and permanent loss of waters of the U.S., mitigation is a requirement of CWA Section 404 permit applications.

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<sup>9</sup> Compensatory mitigation is used to meet the U.S. overall policy goal of “no net loss” of wetlands. However, the policy does not differentiate between no net loss of function and no net loss in area (Council on Environmental Quality 1993).

<sup>10</sup> Special Public Notice (posted February 16, 2012): Standard Operating Procedure for Determination of Mitigation Ratios.

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Compensatory mitigation will follow Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.<sup>11</sup>

### **CWA Section 401 Water Quality Certification**

Under Section 401 of the CWA, the RWQCB implements the water quality certification process for any activity that requires a federal permit or license and that may result in the discharge of pollutants into waters of the U.S. The RWQCB reviews the proposal to determine whether the activity would comply with state water quality objectives and, subsequently, will either issue a certification with conditions or deny the certification. According to the CWA, water quality standards include beneficial uses, water quality objectives, and complying with USEPA's anti-degradation policy.<sup>12</sup>

In many cases, the conditions of the RWQCB CWA Section 401 certification are more stringent than the CWA Section 404 permit. All parties proposing to discharge waste that could affect waters of the state but not federal waters (which requires a CWA Section 404 permit *and* CWA Section 401 certification), must also obtain a Waste Discharge Permit<sup>13</sup> or receive a Waiver.

It is anticipated that an application for CWA Section 401 Water Quality Certification will be submitted to RWQCB Region 9 for the project concurrently with the submittal of a Nationwide Permit Pre-Construction Notification.

### **CFGC Section 1600 et seq. Permitting**

A Lake or Streambed Alteration Agreement (SAA) Notification to the CDFW South Coast Region would be required for the project. CDFW will determine which (or all) of the delineated aquatic features occurring within the survey area will be under its regulatory administration. The SAA Notification process also allows CDFW to determine whether aquatic features will become "substantially adversely affected" under CFGC Section 1602(a), and to provide guidance on requisite and appropriate compensatory mitigation for any unavoidable impacts to these aquatic resources as a result of the project.

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<sup>11</sup> 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594–19705).

<sup>12</sup> 40 CFR Part 131.12.

<sup>13</sup> CWC Section 13260.

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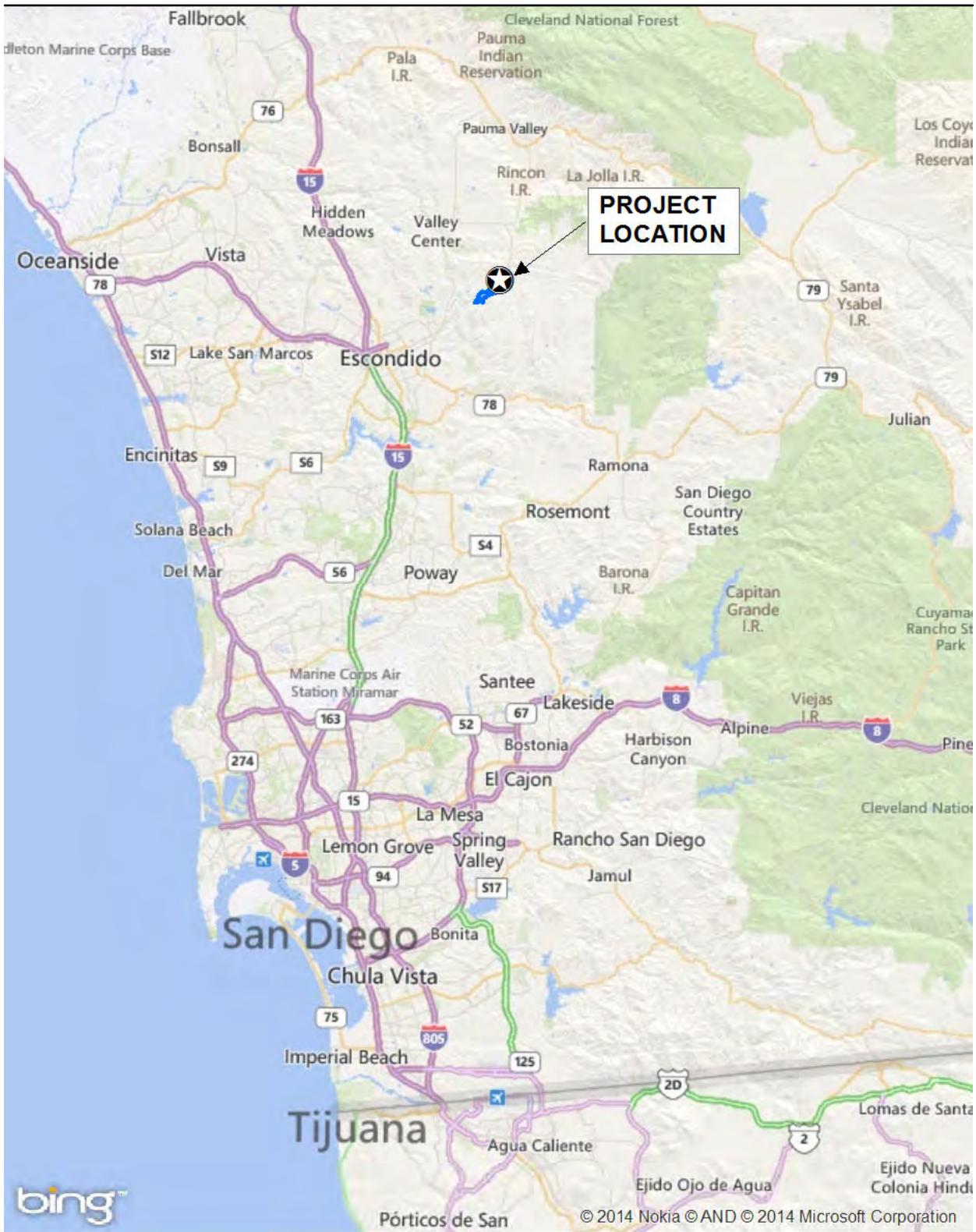
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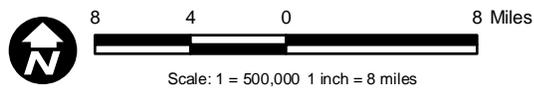
# **ATTACHMENT A**

## **FIGURES**





Source: Bing Maps 2012



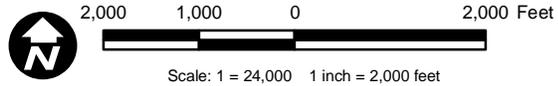
**Figure 1**  
**Regional Map**

Lake Wohlford Dam Replacement Project Jurisdictional Delineation Report

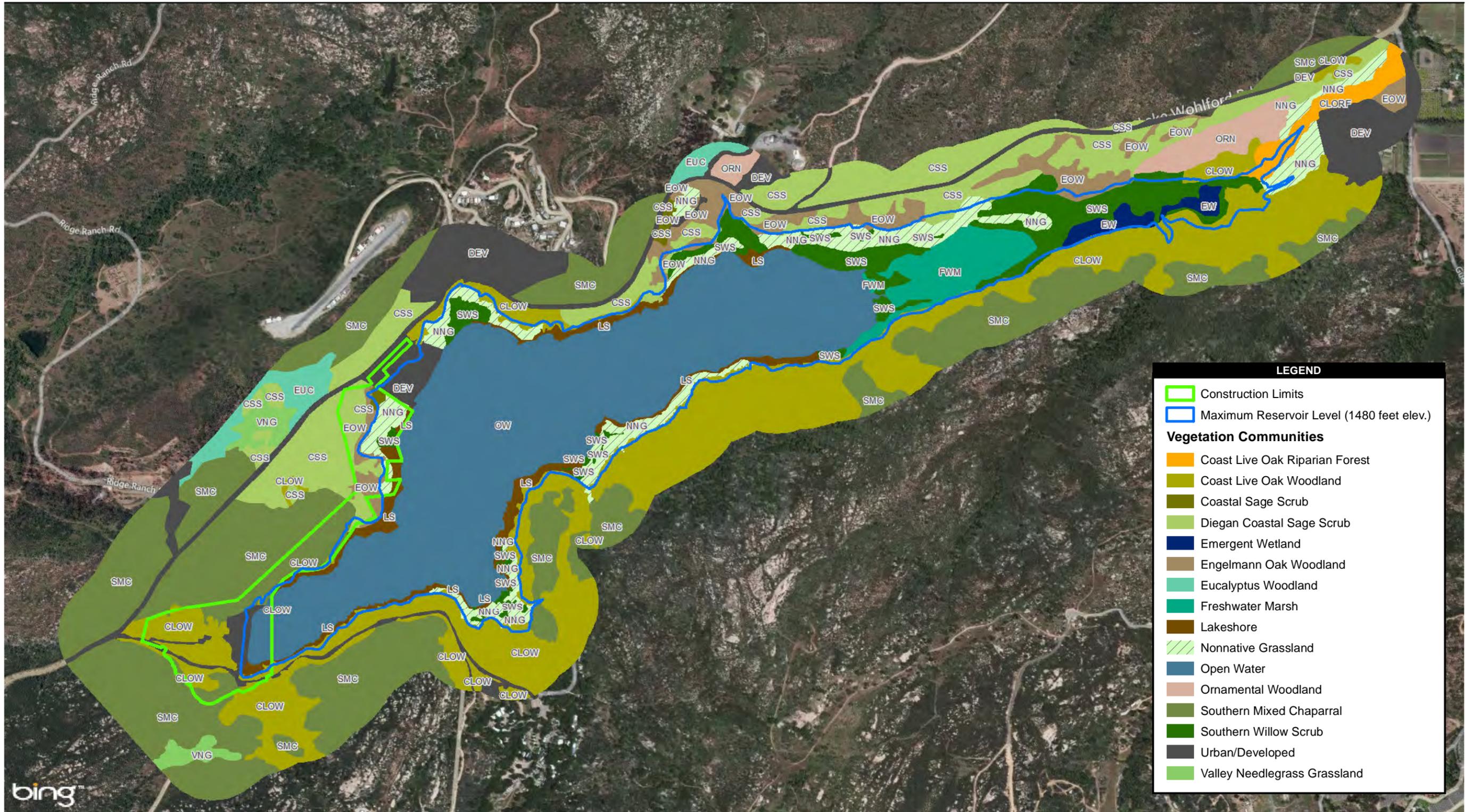
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Source: USGS 7.5' Topo Quads Rodriguez Mtn 1988 and Valley Center 1975



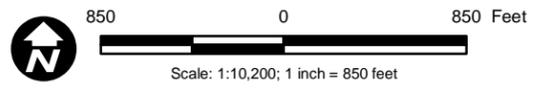
**Figure 2**  
**Project Vicinity**



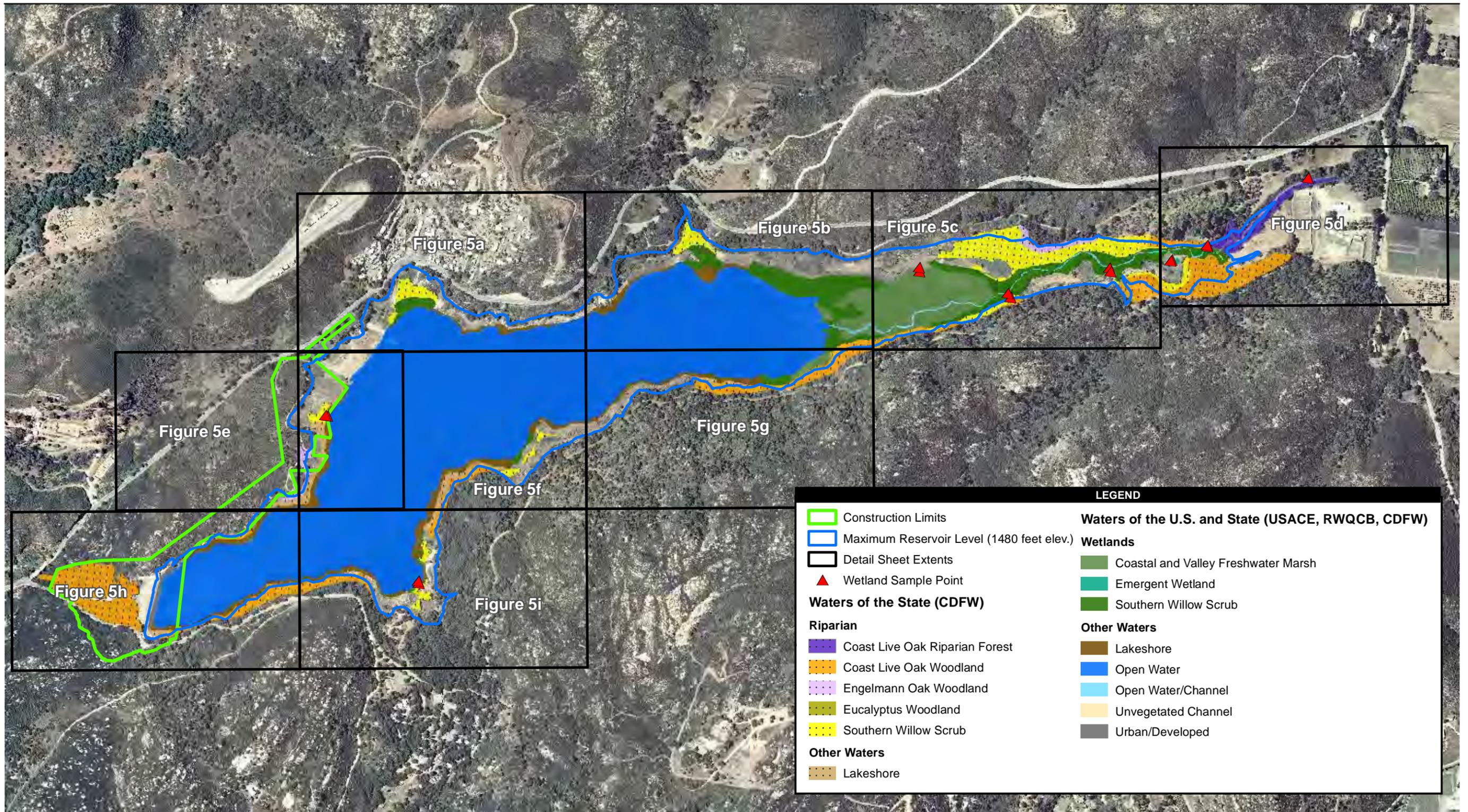
**LEGEND**

- Construction Limits
- Maximum Reservoir Level (1480 feet elev.)
- Vegetation Communities**
- Coast Live Oak Riparian Forest
- Coast Live Oak Woodland
- Coastal Sage Scrub
- Diegan Coastal Sage Scrub
- Emergent Wetland
- Engelmann Oak Woodland
- Eucalyptus Woodland
- Freshwater Marsh
- Lakeshore
- Nonnative Grassland
- Open Water
- Ornamental Woodland
- Southern Mixed Chaparral
- Southern Willow Scrub
- Urban/Developed
- Valley Needlegrass Grassland

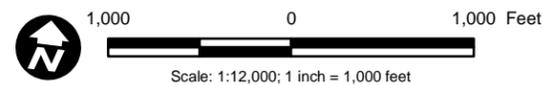
Source: Image courtesy of USGS © 2015 Microsoft Corporation © 2015 HERE © AND ; AECOM 2014



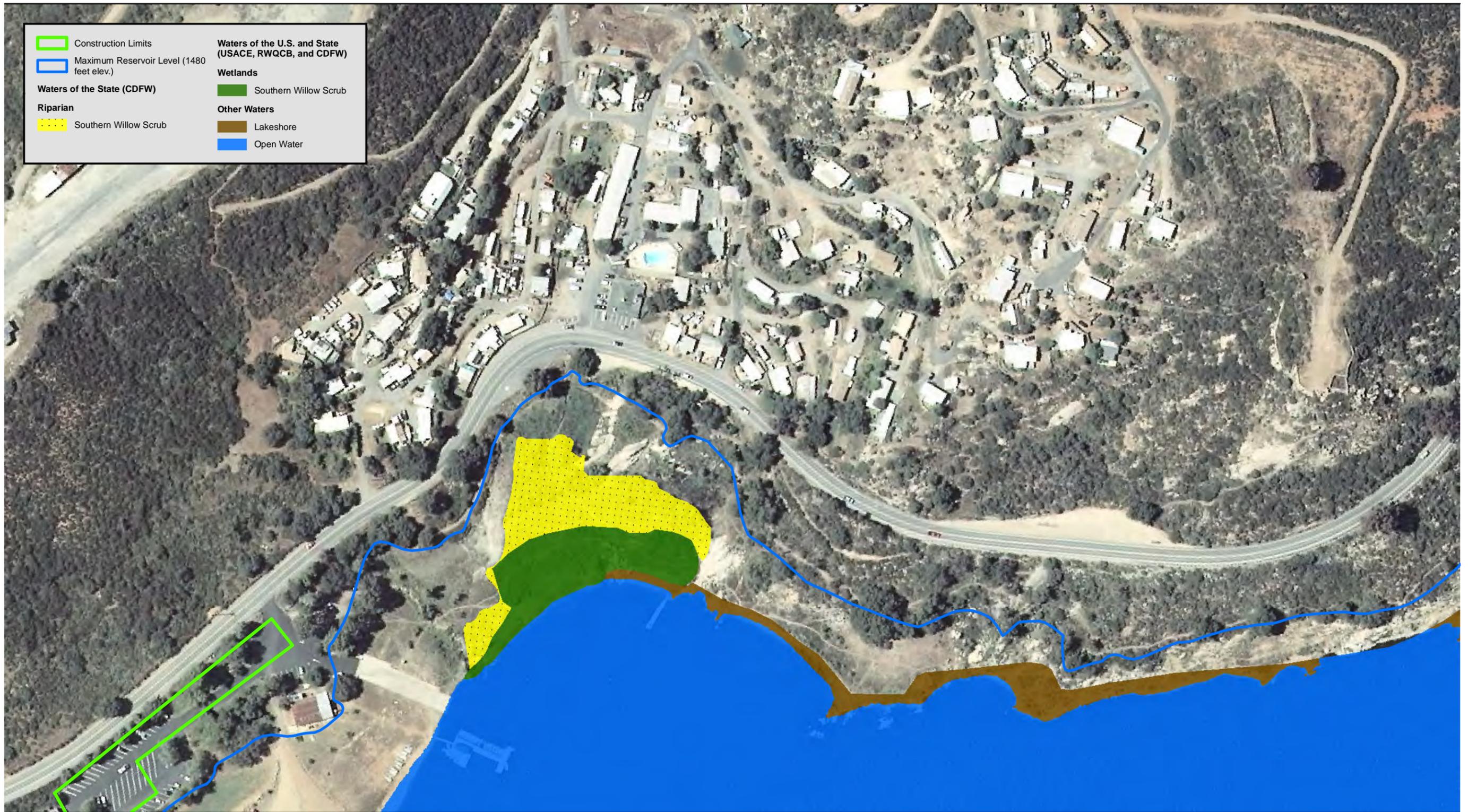
**Figure 3**  
**Vegetation Communities**



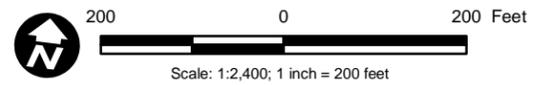
Source: SANDAG 2012; AECOM 2014



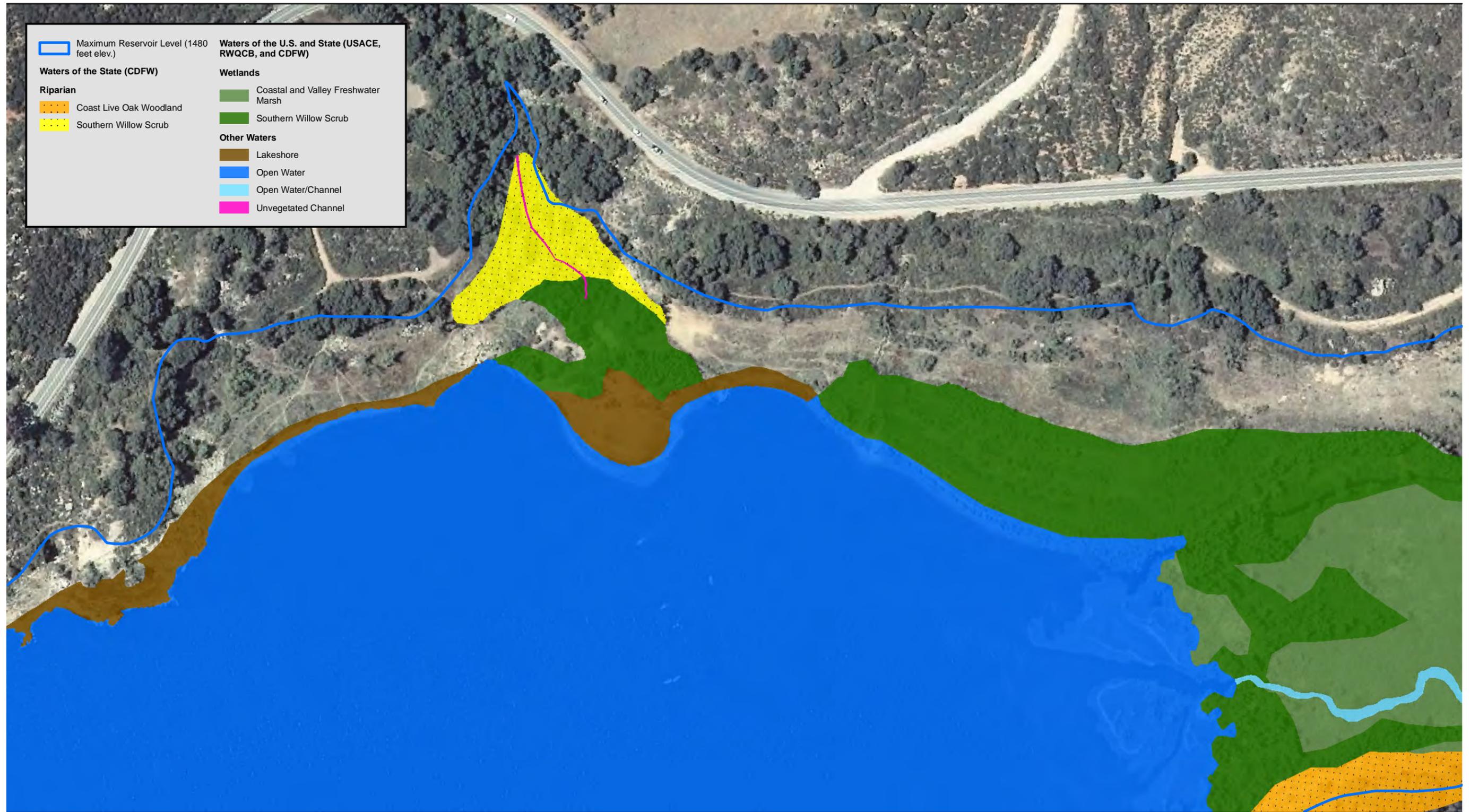
**Figure 4**  
**Waters of the U.S. and State Overview Map**



Source: SANDAG 2012; AECOM 2014

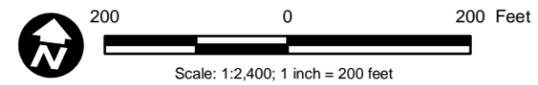


**Figure 5a**  
**Waters of the U.S. and State**

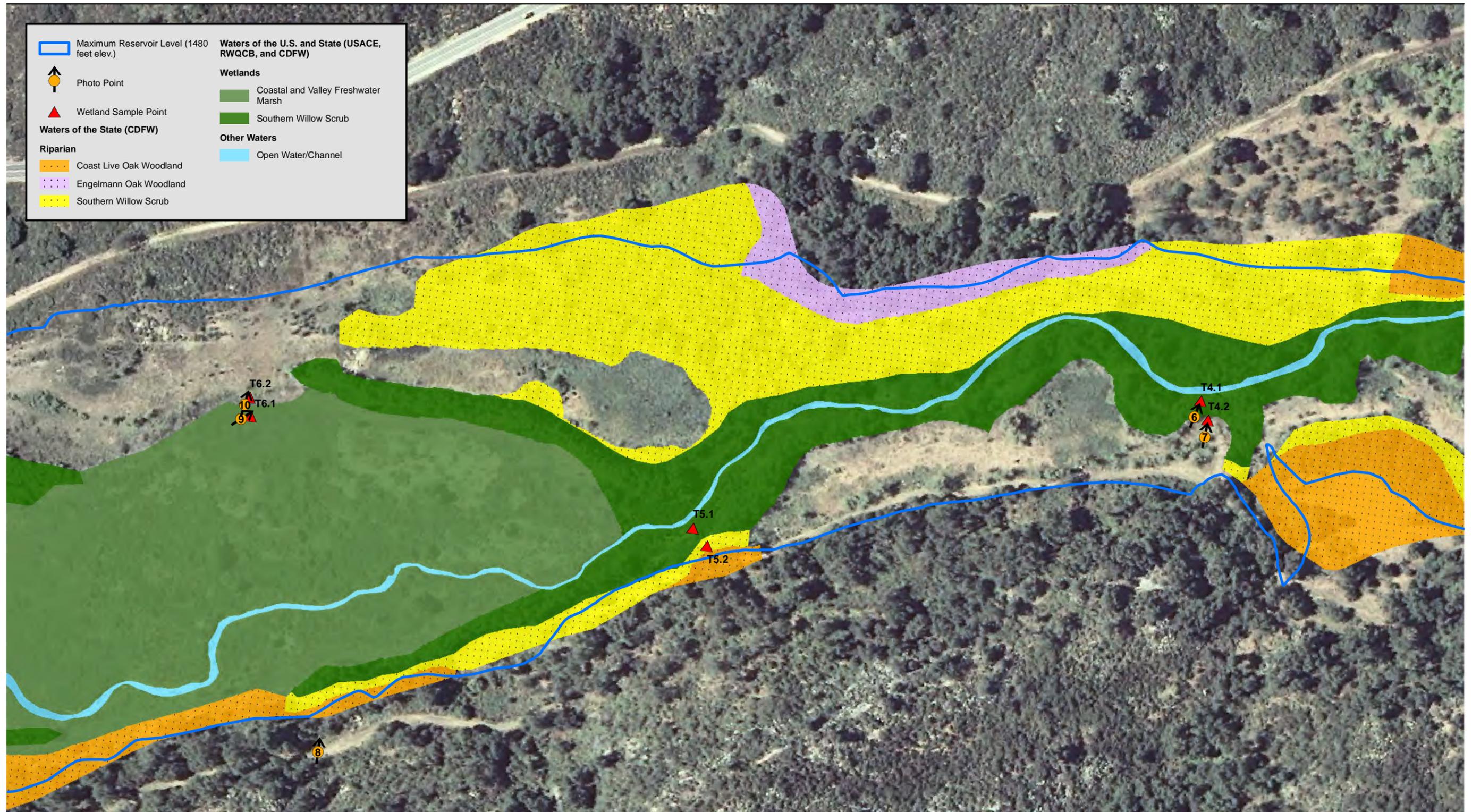


Maximum Reservoir Level (1480 feet elev.)	<b>Waters of the U.S. and State (USACE, RWQCB, and CDFW)</b>
<b>Waters of the State (CDFW)</b>	<b>Wetlands</b>
<b>Riparian</b>	Coastal and Valley Freshwater Marsh
Coast Live Oak Woodland	Southern Willow Scrub
Southern Willow Scrub	<b>Other Waters</b>
	Lakeshore
	Open Water
	Open Water/Channel
	Unvegetated Channel

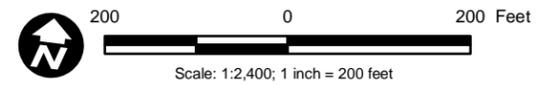
Source: SANDAG 2012; AECOM 2014



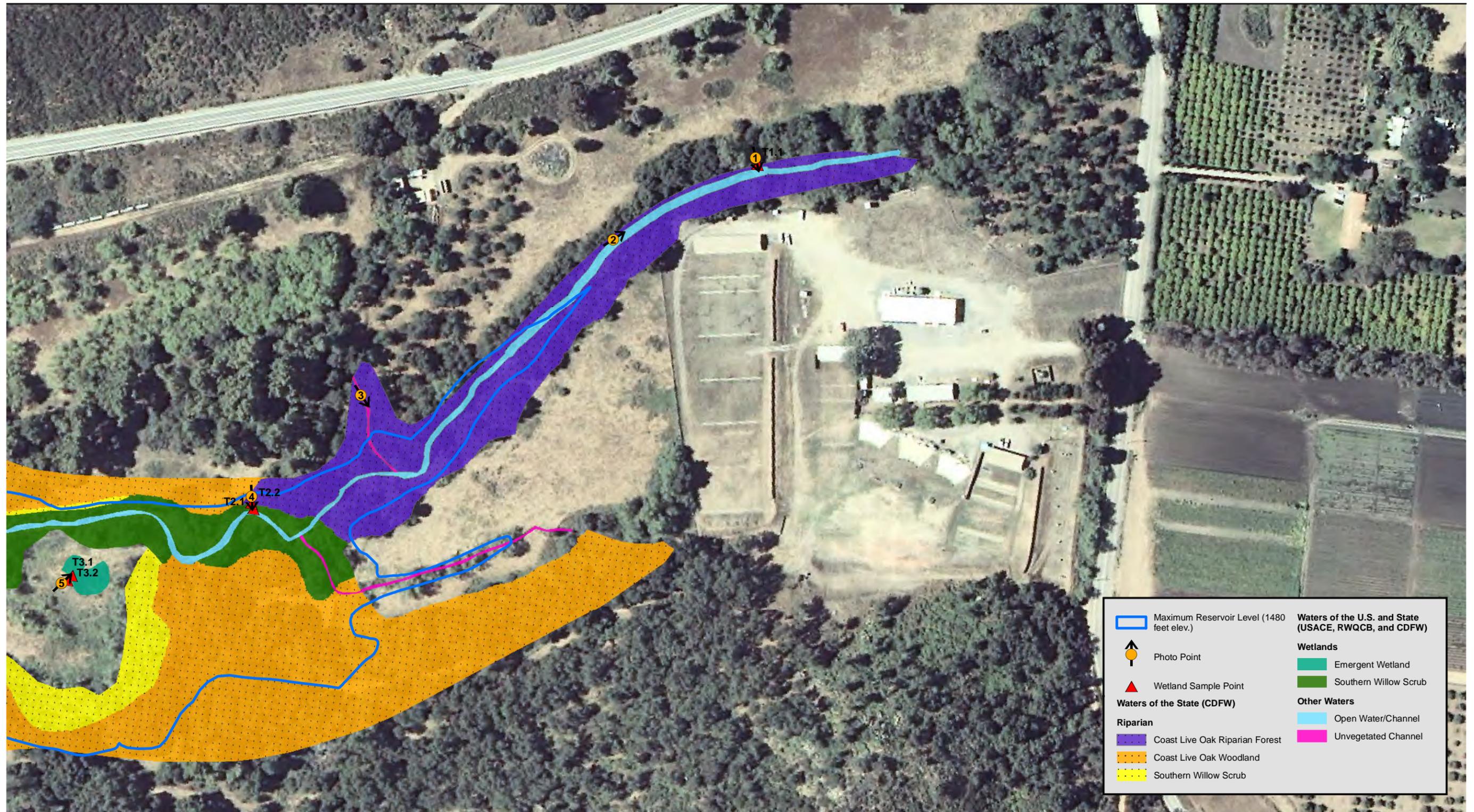
**Figure 5b**  
**Waters of the U.S. and State**



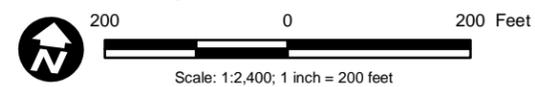
Source: SANDAG 2012; AECOM 2014



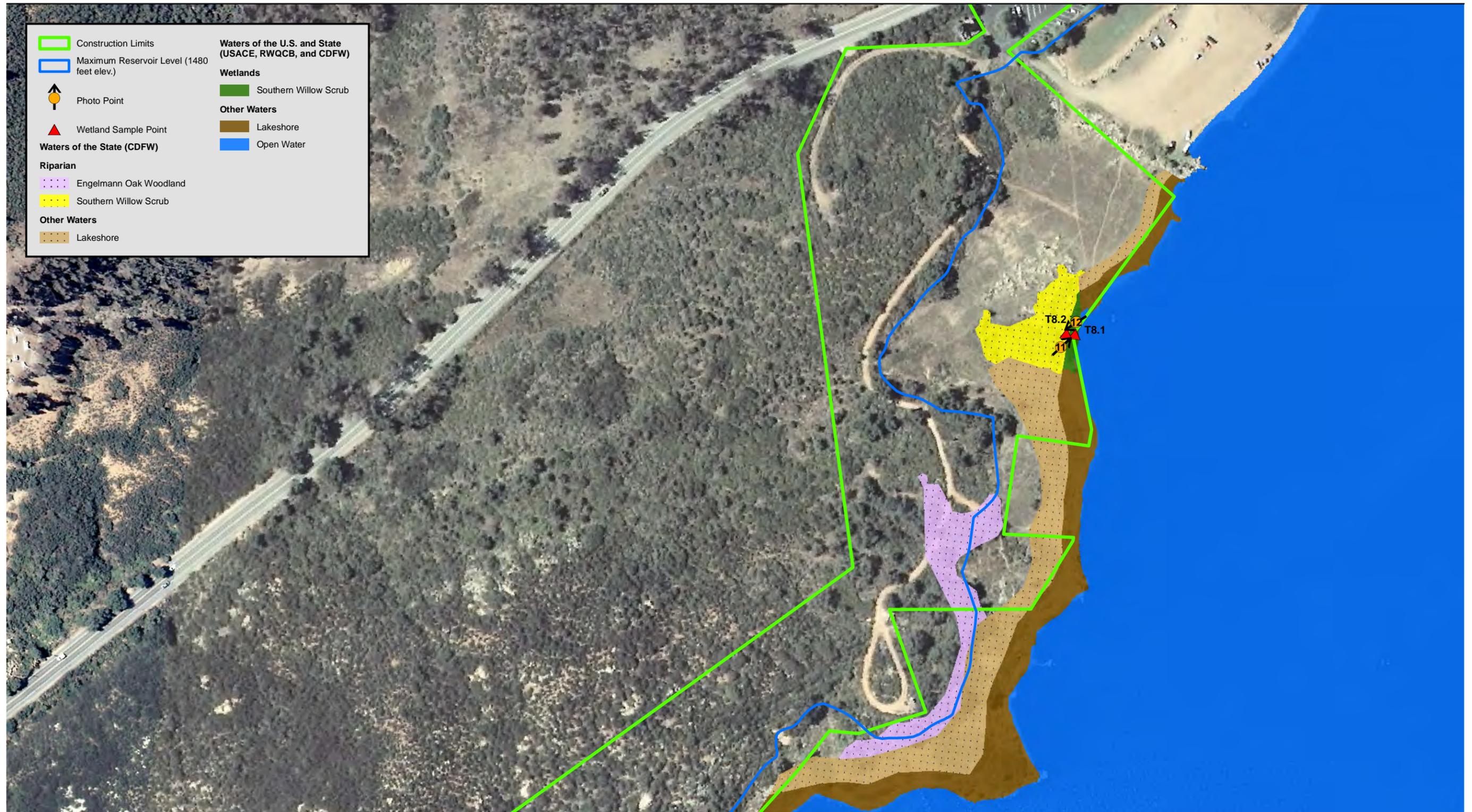
**Figure 5c**  
**Waters of the U.S. and State**



Source: SANDAG 2012; AECOM 2014

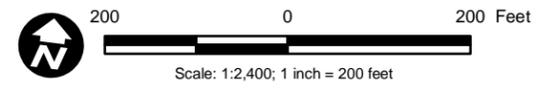


**Figure 5d**  
**Waters of the U.S. and State**

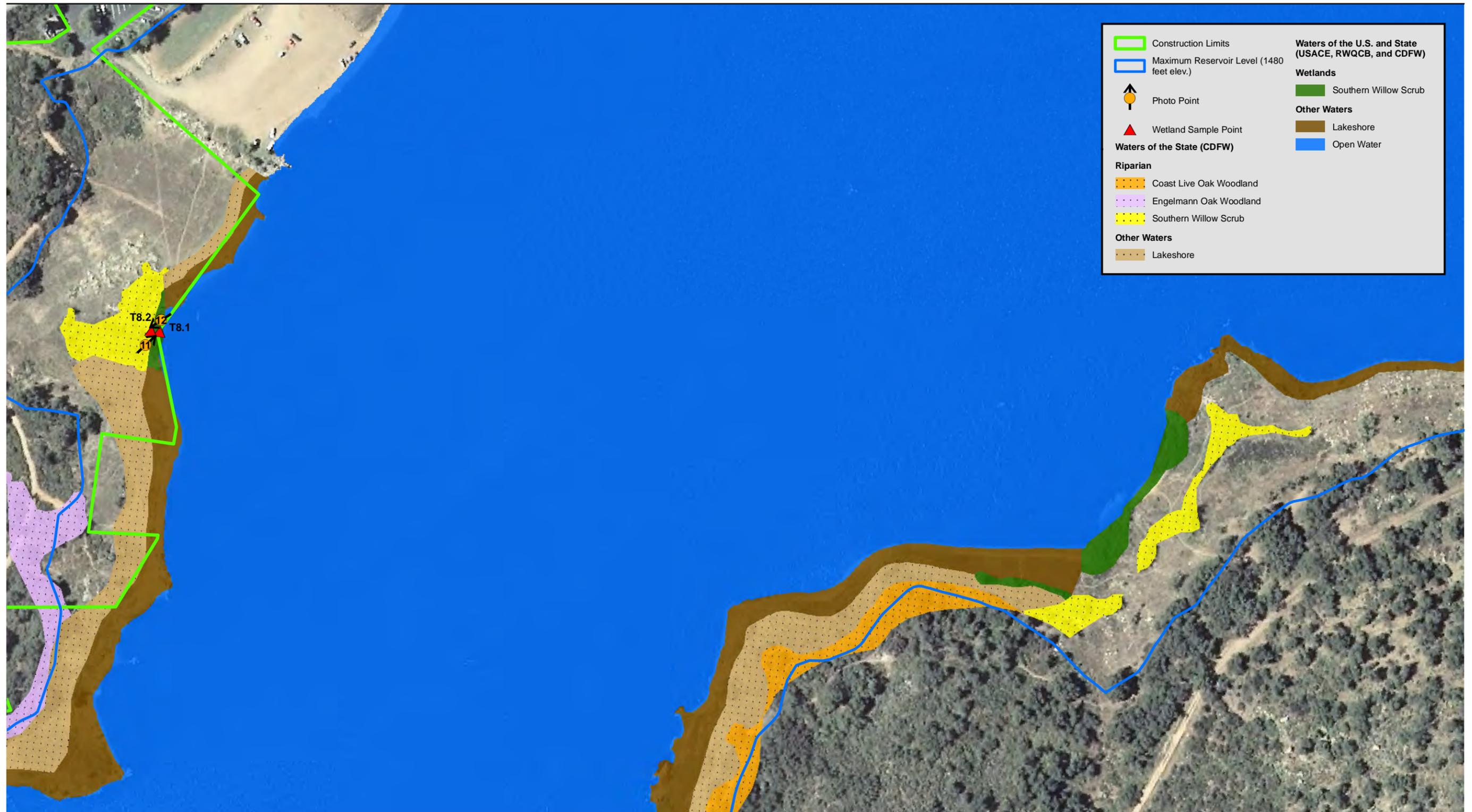


	Construction Limits	<b>Waters of the U.S. and State (USACE, RWQCB, and CDFW)</b>	
	Maximum Reservoir Level (1480 feet elev.)	<b>Wetlands</b>	
	Photo Point		Southern Willow Scrub
	Wetland Sample Point	<b>Other Waters</b>	
<b>Waters of the State (CDFW)</b>			Lakeshore
<b>Riparian</b>			Open Water
	Engelmann Oak Woodland		
	Southern Willow Scrub		
<b>Other Waters</b>			
	Lakeshore		

Source: SANDAG 2012; AECOM 2014



**Figure 5e**  
**Waters of the U.S. and State**



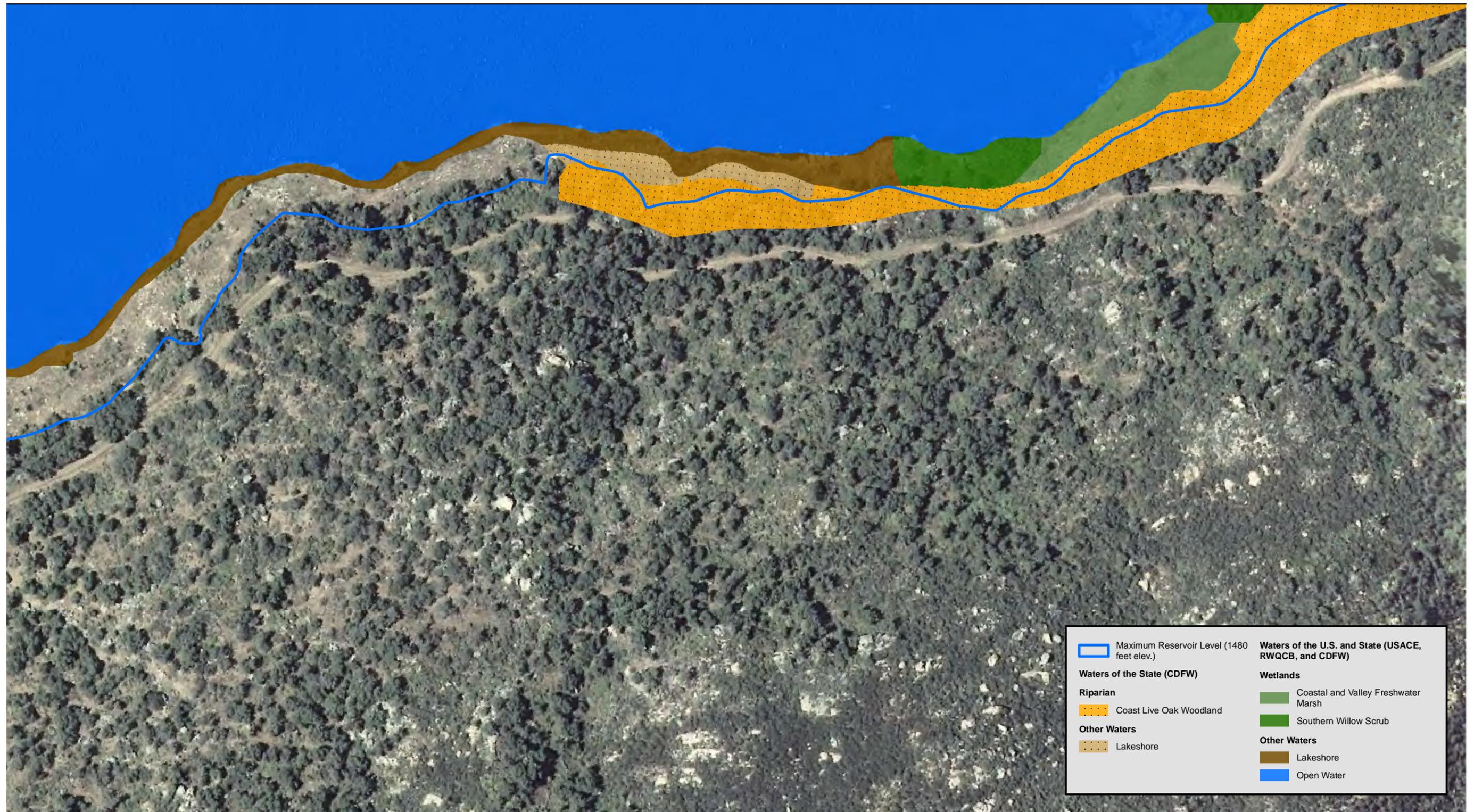
	Construction Limits	<b>Waters of the U.S. and State (USACE, RWQCB, and CDFW)</b>	
	Maximum Reservoir Level (1480 feet elev.)	<b>Wetlands</b>	
	Photo Point		Southern Willow Scrub
	Wetland Sample Point	<b>Other Waters</b>	
<b>Waters of the State (CDFW)</b>			Lakeshore
<b>Riparian</b>			Open Water
	Coast Live Oak Woodland		
	Engelmann Oak Woodland		
	Southern Willow Scrub		
<b>Other Waters</b>			
	Lakeshore		

Source: SANDAG 2012; AECOM 2014

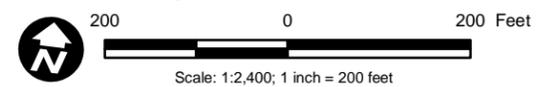
200 0 200 Feet

Scale: 1:2,400; 1 inch = 200 feet

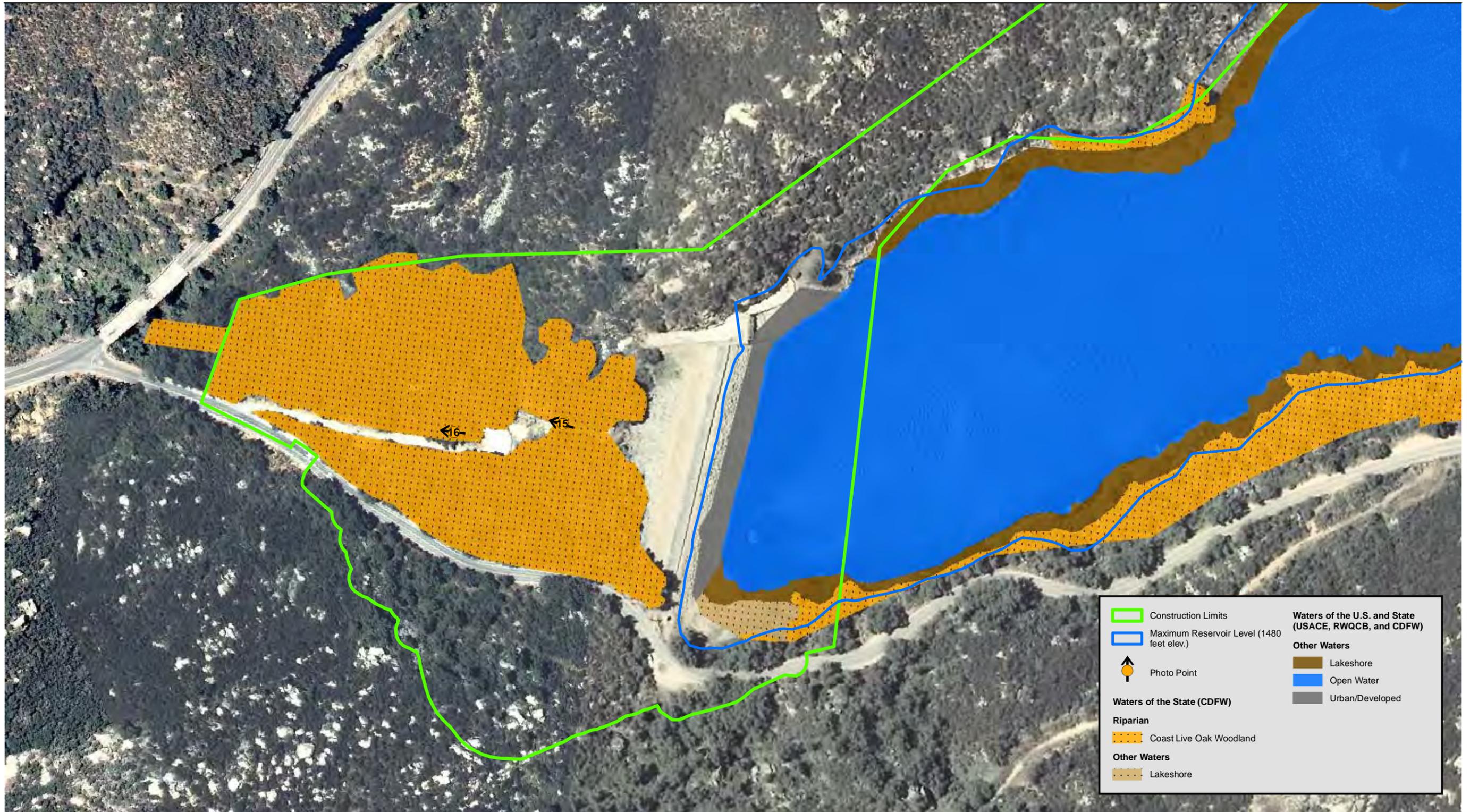
**Figure 5f**  
**Waters of the U.S. and State**



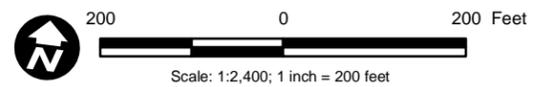
Source: SANDAG 2012; AECOM 2014



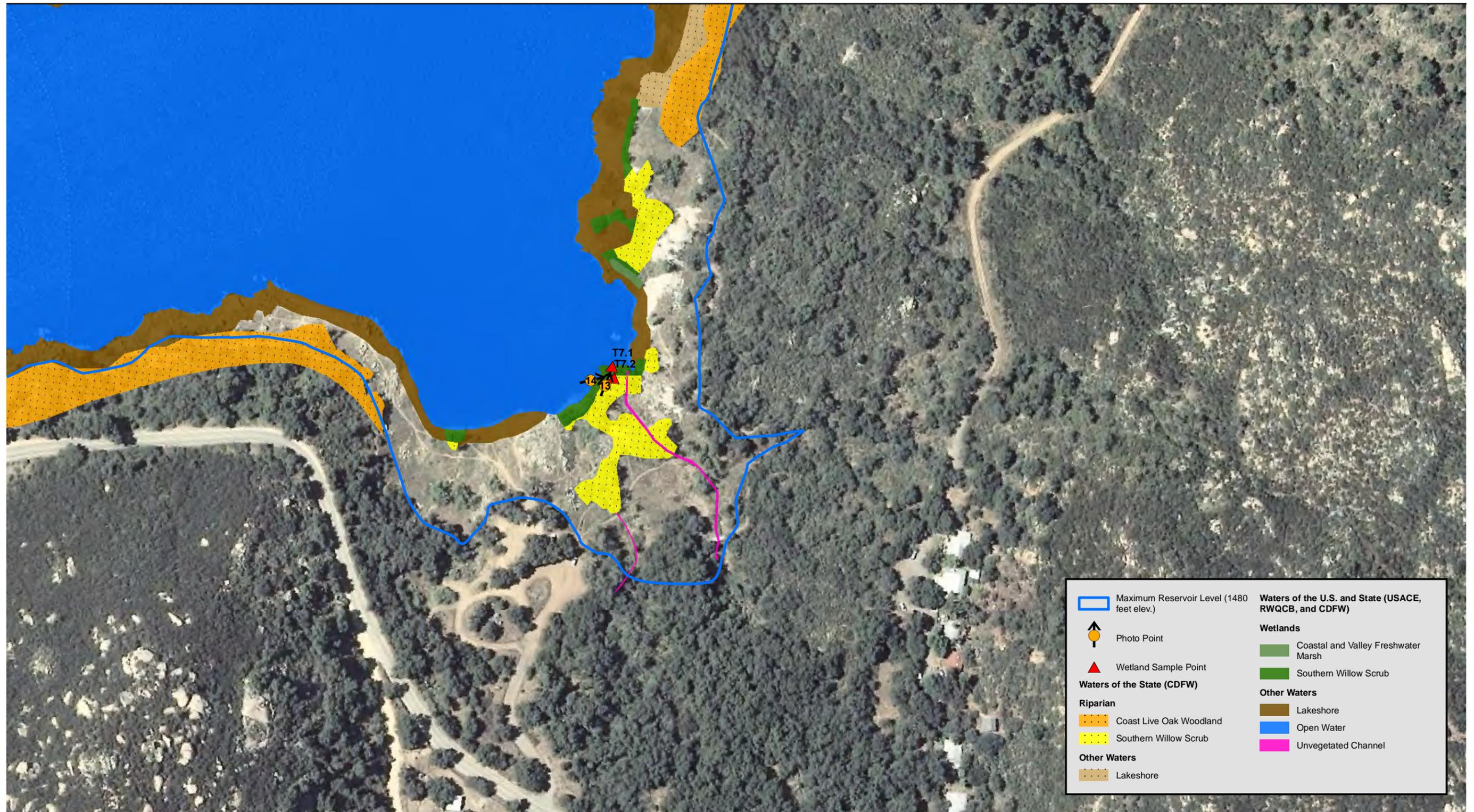
**Figure 5g**  
**Waters of the U.S. and State**



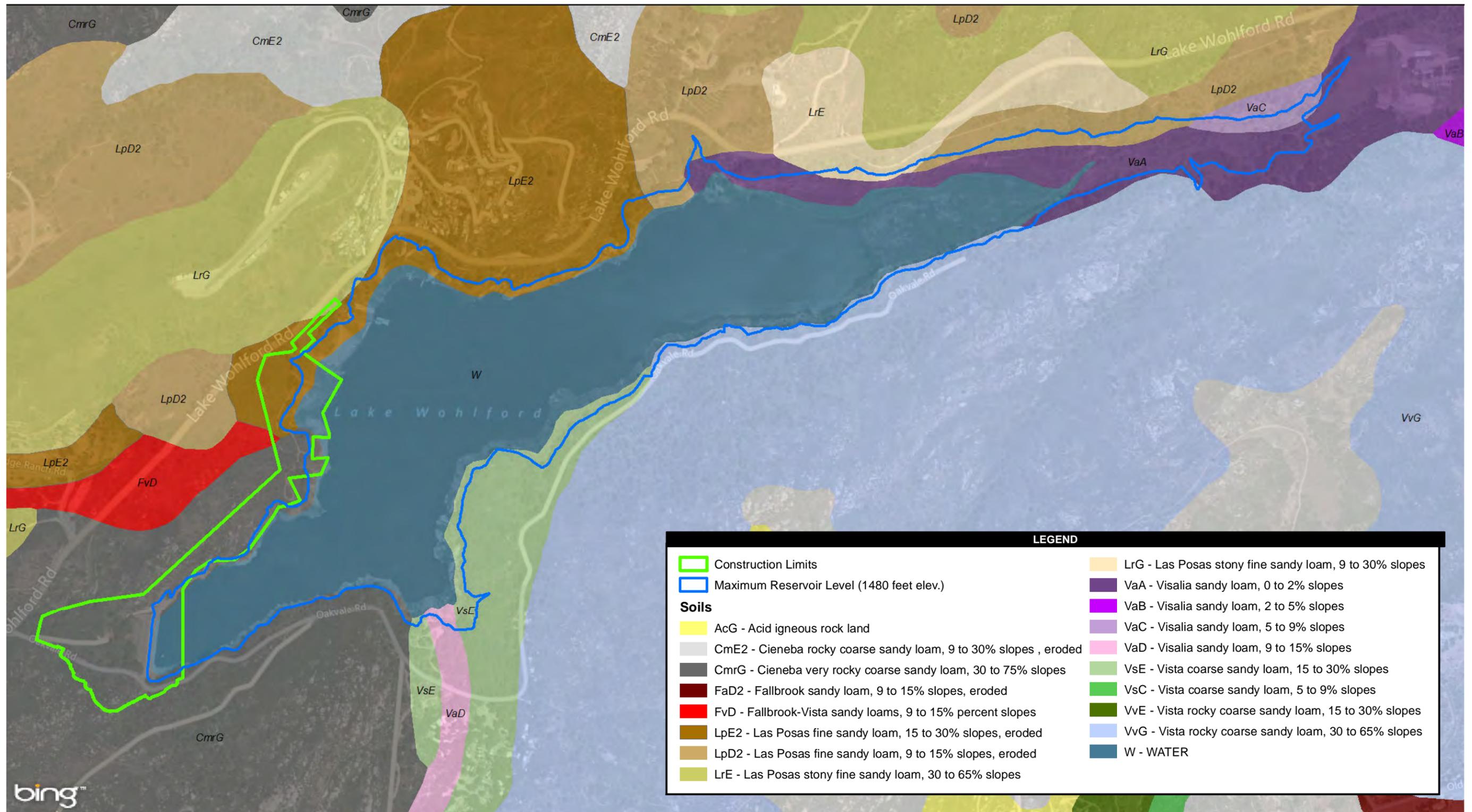
Source: SANDAG 2012; AECOM 2014



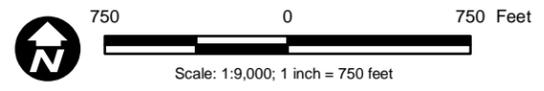
**Figure 5h**  
**Waters of the U.S. and State**



**Figure 5i**  
**Waters of the U.S. and State**



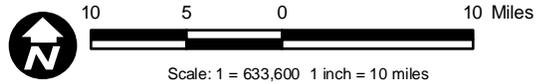
Source: Image courtesy of USGS © 2015 Microsoft Corporation © 2015 HERE © AND ; USDA; AECOM 2014



**Figure 6**  
**Soils**



Source: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013; NHD; CalWater 2014



**Figure 7**  
**Watersheds**

Lake Wohlford Dam Replacement Project Jurisdictional Delineation Report



Photograph 1: Looking south at T1.1 within Coast Live Oak Riparian Forest that occurs along the eastern portion of the Escondido Creek. No adjacent federal wetlands occur within this area due to the Creek's steep banks.



Photograph 2: Looking northeast (upstream) along Escondido Creek.

---

**Figure 8**  
**Representative Photographs**



Photograph 3: Looking southeast (downstream) at a small ephemeral channel that enters the site and flows into Escondido Creek.



Photograph 4: Looking south at T2.1 and T2.2 within the southern willow scrub. Near this area, the banks of Escondido Creek become less steep, allowing for the development of wetlands.

---

**Figure 9**  
**Representative Photographs**



Photograph 5: Looking northeast at T3.1 and T3.2. T3.1 occurs within a small area of emergent wetland dominated by Douglas' wormwood (*Artemisia douglasiana*), a facultative species. This area is surrounded by upland nonnative grasses.



Photograph 6: Looking north at T4.1 within southern willow scrub.

---

## Figure 10 Representative Photographs



Photograph 7: Looking north at T4.2 within upland nonnative grasses. This area is approximately 10 feet higher in elevation than T4.1.



Photograph 8: Overview photograph looking north across the site before Escondido Creek enters the lake.

---

## Figure 11 Representative Photographs



Photograph 9: Looking northeast at T6.1 within the coastal and valley fresh-water marsh.



Photograph 10: Looking north at T6.2 within the upland nonnative grassland that surrounds the site.

---

**Figure 12**  
**Representative Photographs**



Photograph 11: Looking northeast at T8.2 within southern willow scrub under CDFW jurisdiction. Although this area supports willow species, the understory is dominated by Canadian horseweed (*Conyza canadensis*), a facultative upland species.



Photograph 12: Looking southwest at T8.1 within the southern willow scrub. This area is within the OHWM of the lake and becomes inundated frequently.

---

**Figure 13**  
**Representative Photographs**



Photograph 13: Looking northeast at T7.1 within southern willow scrub. This area is within the OHWM of the lake and becomes inundated frequently.



Photograph 14: Looking east at T7.2 within southern willow scrub under CDFW jurisdiction. This area supports mature black willow (*Salix gooddingii*) that most likely established when the lake was higher in elevation, but now supports an upland nonnative grass understory.

---

**Figure 14**  
**Representative Photographs**



Photograph 15: Looking west (downstream of the dam), there is a non-jurisdictional feature that has been created by a leaking pipeline. This feature flows for approximately 300 linear feet before abating into uplands.



Photograph 16: Looking west within a large eroded non-jurisdictional area. This feature appears to have been formed due to the dam outlet. However, the outlet is sealed, and based on the amount of leaf litter within this area, it does not appear to flow often and abates into uplands.

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## Figure 15 Representative Photographs



**ATTACHMENT B**

**WETLAND DETERMINATION DATA FORMS –  
ARID WEST REGION (VERSION 2.0)**



**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/2/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T1.1  
 Investigator(s): Brian Felten, Fred Sproul Section, Township, Range: Section 34, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): drainage accross valley bottom Local relief (concave, convex, none): flat Slope (%): 10  
 Subregion (LRR): C - Mediterranean California Lat: 33.180309 Long: -116.973822 Datum: NAD 83  
 Soil Map Unit Name: VaA (Visalia sandy loam, 0 to 2 percent slopes) NWI classification: PFOC

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 type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Six feet north of bank</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Artemisia douglasiana</u>	60	Yes	FAC	
2. <u>Urtica dioica</u>	1	No	FAC	
3. <u>Rubus sp.</u>	3	No		
4. <u>Datura wrightii</u>	1	No	UPL	
5. <u>Cirsium sp.</u>	1	No		
6. <u>Clematis lasiantha</u>	1	No	UPL	
7. _____				
8. _____				
Total Cover: <u>67</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>30</u> %	% Cover of Biotic Crust <u>0</u> %			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species 61 x 3 = 183  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species 2 x 5 = 10  
 Column Totals: 63 (A) 193 (B)  
 Prevalence Index = B/A = 3.06

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Salix laevigata and Platanus racemosa cover at pit and along stream

**SOIL**

Sampling Point: T1.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/1	100	no redox				Loamy/Clay	
6-18	10YR 3/1	100	no redox				Loamy/Clay	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: 0-6 inches makes a ball, noribbon, very fine grit  
6-18 inches same as above

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: no hydrology inhibitors

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/2/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T2.1  
 Investigator(s): Brian Felten, Fred Sproul Section, Township, Range: Section 34, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): sloping channel Local relief (concave, convex, none): none Slope (%): 10  
 Subregion (LRR): C - Mediterranean California Lat: 33.1784 Long: -116.976388 Datum: NAD 83  
 Soil Map Unit Name: VaC (Visalia sandy loam, 5 to 9 percent slopes) NWI classification: R3UBH

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>none</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Ambrosia psilostachya</i>	30	Yes	FACU	
2. <i>Polygonum ramosissimum</i>	15	Yes	FAC	
3. <i>Juncus acutus</i>	5	No	FACW	
4. <i>Carduus sp.</i>	1	No	UPL	
5. <i>Bromus diandrus</i>	<1	No	UPL	
6. <i>Phacelia cicutaria</i>	<1	No	UPL	
7. _____				
8. _____				
Total Cover: <b>51</b> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>49</u> %		% Cover of Biotic Crust <u>0</u> %		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:	
OBL species	x 1 =	<u>0</u>
FACW species	x 2 =	<u>10</u>
FAC species	x 3 =	<u>45</u>
FACU species	x 4 =	<u>120</u>
UPL species	x 5 =	<u>5</u>
Column Totals:		<u>180</u> (B)
Prevalence Index = B/A =		<u>3.53</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Due to extended drought conditions, vegetation is problematic. Both hydric soils and hydrology indicators observed therefore, hydrophytic vegetation assumed.

**SOIL**

Sampling Point: T2.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 4/1	100	no redox				Loamy/Clay	
5-18	10YR 3/1	95	5 YR 3/4	5	C	PL	Loamy/Clay	redox located in Matrix also

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: 0-5 inches soil no ribbon slightly gritty  
5-18 inches <1inch ribbon some grit

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: sample pit within 5 feet of stream bank

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/2/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T2.2  
 Investigator(s): Brian Felten, Fred Sproul Section, Township, Range: Section 34, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): sloping channel bank Local relief (concave, convex, none): flat Slope (%): 10  
 Subregion (LRR): C - Mediterranean California Lat: 33.178425 Long: -116.976405 Datum: NAD 83  
 Soil Map Unit Name: VaC (Visalia sandy loam, 5 to 9 percent slopes) NWI classification: PEMA

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

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Quercus agrifolia</i>	25	Yes	UPL	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: 25 %				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Bromus diandrus</i>	40	Yes	UPL	
2. <i>Avena barbata</i>	1	No	UPL	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 41 %				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>66</u>	x 5 =	<u>330</u>
Column Totals:	<u>66</u> (A)		<u>330</u> (B)
Prevalence Index = B/A = <u>5.00</u>			

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: lots of oak leaf litter (>50% of bare ground)

**SOIL**

Sampling Point: T2.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 4/1	100	no redox				Loamy/Clay	
5-18	10YR 3/1	95	5YR 3/4	5			Loamy/Clay	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: 0-5 inches soil no ribbon slightly gritty  
 5-18 inches <1inch ribbon some grit

Soils are the same a Sampling Point 2.1

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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:none

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T3.1  
 Investigator(s): Brian Felten, Fred Sproul Section, Township, Range: Township 11 South Range 1 West, Section 34  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33.177984 Long: -116.977358 Datum: NAD 83  
 Soil Map Unit Name: VaA (Visalia sandy loam, 0 to 2 percent slopes) NWI classification: PEMAh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>none</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. _____				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																								
2. _____																												
3. _____																												
4. _____																												
Total Cover: _____ %				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center">Total % Cover of:</td> <td align="center">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>300</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>100</u> (A)</td> <td><u>300</u> (B)</td> </tr> <tr> <td align="center" colspan="3">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>300</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	<u>100</u> (A)	<u>300</u> (B)	Prevalence Index = B/A = <u>3.00</u>		
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	<u>0</u>																										
FACW species	x 2 =	<u>0</u>																										
FAC species	x 3 =	<u>300</u>																										
FACU species	x 4 =	<u>0</u>																										
UPL species	x 5 =	<u>0</u>																										
Column Totals:	<u>100</u> (A)	<u>300</u> (B)																										
Prevalence Index = B/A = <u>3.00</u>																												
<b>Sapling/Shrub Stratum</b>																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: _____ %																												
<b>Herb Stratum</b>																												
1. <u>Artemisia douglasiana</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>																									
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
Total Cover: <u>100%</u>																												
<b>Woody Vine Stratum</b>																												
1. _____																												
2. _____																												
Total Cover: _____ %																												
% Bare Ground in Herb Stratum <u>0 %</u> % Cover of Biotic Crust <u>0 %</u>																												
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																												
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																												
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																												
Remarks: <u>Patches of Artemisia douglasiana in grassy meadow with groves of Salix goodnigii. Some associated species can be found in the depressions dominated by Polygonum sp., Conium maculatum, Thalictum sp., Urtica dioica, as well as Carduus pycnocephalus. Some Amorpha fruticosa and Fraxinus velutina can be found in the area as well.</u>																												

**SOIL**

Sampling Point: T3.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR 3/2	100	no redox				Loamy/Clay	
3-18	10YR 3/2	95	7.5YR 3/4	5	C	PL	Loamy/Clay	Also in Matrix

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: 0-3 no ribbon some grit predominately smooth  
              3-18 no ribbon very gritty

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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?    Yes     No     Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes     No

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

Remarks: no surface indicators observed.

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T3.2  
 Investigator(s): Brian Felten, Fred Sproul Section, Township, Range: Township 11 South Range 1 West, Section 34  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33.177961 Long: -116.977381 Datum: NAD 83  
 Soil Map Unit Name: VaA (Visalia sandy loam, 0 to 2 percent slopes) NWI classification: PEMAh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>none</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Festuca myuros</i>	15	Yes	UPL	
2. <i>Bromus diandrus</i>	15	Yes	UPL	
3. <i>Bromus hordeaceus</i>	15	Yes	FACU	
4. <i>Bromus madritensis</i>	15	Yes	UPL	
5. <i>Ambrosia psilostachya</i>	15	Yes	FACU	
6. <i>Hirschfeldia incana</i>	10	No	UPL	
7. _____				
8. _____				
Total Cover: <b>85</b> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>15</u> %		% Cover of Biotic Crust <u>0</u> %		

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:
OBL species	<u>0</u>	x 1 = <u>0</u>
FACW species	<u>0</u>	x 2 = <u>0</u>
FAC species	<u>0</u>	x 3 = <u>0</u>
FACU species	<u>30</u>	x 4 = <u>120</u>
UPL species	<u>55</u>	x 5 = <u>275</u>
Column Totals:	<u>85</u> (A)	<u>395</u> (B)
Prevalence Index = B/A =		<u>4.65</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks:

**SOIL**

Sampling Point: T3.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 2/1	100	no redox				Loamy/Clay	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

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

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: 0-18 no ribbon more gritty than smooth

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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? Yes  No       Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

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

Remarks: no real indicators, review historical aerial photos of this area and other sources.

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T4.1  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 34, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): upper flood plain Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33.177625 Long: -116.97907 Datum: NAD 83  
 Soil Map Unit Name: VaA (Visalia sandy loam, 0 to 2 percent slopes) NWI classification: PEMCh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Stream bank is 10 feet north of the point.</u>	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Salix gooddingii</u>	20	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover: <u>20 %</u>																																				
<b>Sapling/Shrub Stratum</b>																																				
1.				<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Total % Cover of:</td> <td style="width: 20%;"></td> <td style="width: 20%;">Multiply by:</td> <td style="width: 20%;"></td> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">20</td> <td>x 2 =</td> <td style="text-align: center;">40</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">90</td> <td>x 3 =</td> <td style="text-align: center;">270</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">110</td> <td>(A)</td> <td style="text-align: center;">310 (B)</td> </tr> <tr> <td colspan="3" style="text-align: right;">Prevalence Index = B/A =</td> <td style="text-align: center;">2.82</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species		x 1 =	0	FACW species	20	x 2 =	40	FAC species	90	x 3 =	270	FACU species		x 4 =	0	UPL species		x 5 =	0	Column Totals:	110	(A)	310 (B)	Prevalence Index = B/A =			2.82
Total % Cover of:		Multiply by:																																		
OBL species		x 1 =	0																																	
FACW species	20	x 2 =	40																																	
FAC species	90	x 3 =	270																																	
FACU species		x 4 =	0																																	
UPL species		x 5 =	0																																	
Column Totals:	110	(A)	310 (B)																																	
Prevalence Index = B/A =			2.82																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover: <u>    %  </u>																																				
<b>Herb Stratum</b>																																				
1. <u>Urtica dioica</u>	90	Yes	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover: <u>90 %</u>																																				
<b>Woody Vine Stratum</b>																																				
1.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
2.																																				
Total Cover: <u>    %  </u>																																				
% Bare Ground in Herb Stratum <u>10 %</u>	% Cover of Biotic Crust <u>0 %</u>																																			

Remarks: none

**SOIL**

Sampling Point: T4.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR 3/2	98	7.5 YR 4/4	2	RM	PL	loamy clay	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: none

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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?    Yes     No     Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes     No

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

Remarks: Ten feet higher in elevation from stream surface.

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T4.2  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 34, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): upper flood plain Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33.177537 Long: -116.979018 Datum: NAD 83  
 Soil Map Unit Name: VaA (Visalia sandy loam, 0 to 2 percent slopes) NWI classification: PEMCh

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 checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: none	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Bromus diandrus</i>	50	Yes	UPL	
2. <i>Brassica nigra</i>	40	Yes	UPL	
3. <i>Ambrosia psilostachya</i>	5	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <b>95</b> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0</u> %		% Cover of Biotic Crust <u>0</u> %		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>5</u>	x 4 =	<u>20</u>
UPL species	<u>90</u>	x 5 =	<u>450</u>
Column Totals:	<u>95</u> (A)		<u>470</u> (B)
Prevalence Index = B/A =			<u>4.95</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: none

**SOIL**

Sampling Point: T4.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 3/1	100					loamy clay	
4-10	10YR 2/2	85	5YR 4/6	15	C	M	loamy clay	
refusal								

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: Area use to be historically inundated, however the water was lowered in 2001 and therefore these may be relic hydric soils and no longer indicative of current conditions.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: No indicators

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T5.1  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 33, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): flood plain Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33.176738 Long: -116.981824 Datum: NAD 83  
 Soil Map Unit Name: Wetland NWI classification: L1UBHh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Ten feet higher in elevation from slow flow channel and live Typha latifolia along photo point. Channel has the only dead rooted Typha latifolia in the area.</u>	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Urtica dioica</u>	45	Yes	FAC	
2. <u>Typha latifolia</u>	25	Yes	OBL	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>70</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0</u> %		% Cover of Biotic Crust <u>0</u> %		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:		Multiply by:	
OBL species	25	x 1 =		25
FACW species		x 2 =		0
FAC species	45	x 3 =		135
FACU species		x 4 =		0
UPL species		x 5 =		0
Column Totals:	70	(A)		160 (B)
Prevalence Index = B/A =				2.29

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: The Typha was dead but rooted in the area under investigation.

**SOIL**

Sampling Point: T5.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR 3/1	100	no redox				loamy clay	fine silty soils
2-18	10YR 3/1	95	7.5YR 5/8	5	C	M	loamy clay	Loc - M/PL

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: none

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: This point is a slightly higher than the flowing channel.

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T5.2  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 33, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 45  
 Subregion (LRR): C - Mediterranean California Lat: 33.176662 Long: -116.981734 Datum: NAD 83  
 Soil Map Unit Name: VaA (Visalia sandy loam, 0 to 2 percent slopes) NWI classification: PEMCh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>rip rap / bolder slope</u>	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Bromus diandrus</i>	35	Yes	UPL	
2. <i>Phacelia cicutaria</i>	10	Yes	UPL	
3. <i>Urtica dioica</i>	5	No	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>50</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0</u> %		% Cover of Biotic Crust <u>0</u> %		

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species \_\_\_\_\_ x 1 = 0  
 FACW species \_\_\_\_\_ x 2 = 0  
 FAC species 5 x 3 = 15  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species 45 x 5 = 225  
 Column Totals: 50 (A) 240 (B)  
 Prevalence Index = B/A = 4.80

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: vegetation emerging from the border within a boulder field

**SOIL**

Sampling Point: T5.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
n/a								

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: rip rap hillside  
 Depth (inches): surface

Hydric Soil Present? Yes  No

Remarks: rip rap along the hillside has no area to dig a pit

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks: no hydrologic indicators

## WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T6.1  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 33, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): flood plain Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C - Mediterranean California Lat: 33.177006 Long: -116.984373 Datum: NAD 83  
 Soil Map Unit Name: Water NWI classification: L1UBHh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>none</u>	

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Typha latifolia</u>	20	Yes	OBL	
2. <u>Juncus acutis</u>	5	No	FACW	
3. <u>Rumex crispus</u>	5	No	FAC	
4. <u>Urtica sp.</u>	2	No	FAC	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>32</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0</u> %	% Cover of Biotic Crust <u>0</u> %			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 20 x 1 = 20  
 FACW species 5 x 2 = 10  
 FAC species 7 x 3 = 21  
 FACU species \_\_\_\_\_ x 4 = 0  
 UPL species \_\_\_\_\_ x 5 = 0  
 Column Totals: 32 (A) 51 (B)  
 Prevalence Index = B/A = 1.59

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Approximately ten percent of the Typha is dead and matted down. Dead Rumex forms 100% debris layer on the ground.

**SOIL**

Sampling Point: T6.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10 YR 4/2	90	5 YR 4/6	10	C	M	loamy clay	fine silt

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: none

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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?    Yes     No     Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes     No

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

Remarks: none

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T6.2  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 33, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): outer floodplain Local relief (concave, convex, none): slightly convex Slope (%): 1  
 Subregion (LRR): C - Mediterranean California Lat: 33.177094 Long: -116.984394 Datum: NAD 83  
 Soil Map Unit Name: Water NWI classification: L1UBHh

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 checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: none	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Bromus madritensis</i>	35	Yes	UPL	
2. <i>Bromus diandrus</i>	15	No	UPL	
3. <i>Brassica nigra</i>	15	No	UPL	
4. <i>Cirsium sp.</i>	15	No	FAC	
5. <i>Urtica sp.</i>	5	No	FAC	
6. _____				
7. _____				
8. _____				
Total Cover: <b>85</b> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>15</u> %	%		% Cover of Biotic Crust <u>0</u> %	
Remarks: none				

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>20</u>	x 3 =	<u>60</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>65</u>	x 5 =	<u>325</u>
Column Totals:	<u>85</u> (A)		<u>385</u> (B)
Prevalence Index = B/A =			<u>4.53</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: T6.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/3	95	10 YR 4/6	5	C	M	loamy clay	
6-18	10YR 3/3	90	7.5 YR 2.5/3	10	C	M	loamy clay	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR D)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Depleted Below Dark Surface (A11)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Thick Dark Surface (A12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Sandy Mucky Mineral (S1)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" 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)		

**Indicators for Problematic Hydric Soils:**

<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)

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: Area use to be historically inundated, however the water was lowered in 2001 and therefore these may be relic hydric soils and no longer indicative of current conditions.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (any one indicator is sufficient)</b>	<b>Secondary Indicators (2 or more required)</b>
<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"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<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"/> Thin Muck Surface (C7)	
<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: none

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T7.1  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 33, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): lakeshore Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR): C - Mediterranean California Lat: 33.168377 Long: -116.99741 Datum: NAD 83  
 Soil Map Unit Name: Water NWI classification: L1UBHh

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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: none	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Cyperus eragrostis</i>	40	Yes	FACW	
2. <i>Gnaphalium palustre</i>	30	Yes	FACW	
3. <i>Conyza canadensis</i>	20	No	UPL	
4. <i>Polypogon monspeliensis</i>	10	No	FACW	
5. <i>Rumex crispus</i>	3	No	FAC	
6. _____				
7. _____				
8. _____				
Total Cover: <b>103%</b>				
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>0 %</u>		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:	
OBL species	x 1 =	<u>0</u>
FACW species <u>80</u>	x 2 =	<u>160</u>
FAC species <u>3</u>	x 3 =	<u>9</u>
FACU species	x 4 =	<u>0</u>
UPL species <u>20</u>	x 5 =	<u>100</u>
Column Totals: <u>103</u> (A)		<u>269</u> (B)
Prevalence Index = B/A = <u>2.61</u>		

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: none

**SOIL**

Sampling Point: T7.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5 YR 3/3	100	none				sand	
6-12	10YR 2/1	100	none				sand	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: soil is moist to surface. Soils are sandy alluvial soils and therefore due to the alluvial nature of the soils, redox is unlikely within this area and are problematic. In addition, hydrophytic vegetation and hydrology are met therefore soils are assumed hydric.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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): 12 inches  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 10 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: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T7.2  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 33, Township 11 South Range 1 West h  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3  
 Subregion (LRR): C - Mediterranean California Lat: 33.168304 Long: -116.997363 Datum: NAD 83  
 Soil Map Unit Name: Water NWI classification: L1UBHh

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 type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>none</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix gooddingii</i>	80	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover:	80 %																																			
<b>Sapling/Shrub Stratum</b>																																				
1. <i>Baccharis salicifolia</i>	5	Yes	FAC	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">0</td> <td align="center">x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">80</td> <td align="center">x 2 =</td> <td align="center">160</td> </tr> <tr> <td>FAC species</td> <td align="center">5</td> <td align="center">x 3 =</td> <td align="center">15</td> </tr> <tr> <td>FACU species</td> <td align="center">0</td> <td align="center">x 4 =</td> <td align="center">0</td> </tr> <tr> <td>UPL species</td> <td align="center">94</td> <td align="center">x 5 =</td> <td align="center">470</td> </tr> <tr> <td>Column Totals:</td> <td align="center">179</td> <td align="center">(A)</td> <td align="center">645 (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.60</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	80	x 2 =	160	FAC species	5	x 3 =	15	FACU species	0	x 4 =	0	UPL species	94	x 5 =	470	Column Totals:	179	(A)	645 (B)	Prevalence Index = B/A = <u>3.60</u>			
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	80	x 2 =	160																																	
FAC species	5	x 3 =	15																																	
FACU species	0	x 4 =	0																																	
UPL species	94	x 5 =	470																																	
Column Totals:	179	(A)	645 (B)																																	
Prevalence Index = B/A = <u>3.60</u>																																				
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover:	5 %																																			
<b>Herb Stratum</b>																																				
1. <i>Bromus diandrus</i>	90	Yes	UPL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
2. <i>Bromus madritensis ssp. rubens</i>	2	No	UPL																																	
3. <i>Brassica nigra</i>	2	No	UPL																																	
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover:	94 %																																			
<b>Woody Vine Stratum</b>																																				
1.				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																
2.																																				
Total Cover:	%																																			
% Bare Ground in Herb Stratum <u>0 %</u> % Cover of Biotic Crust <u>0 %</u>																																				

Remarks: only mature phreatophyte wetland species exist within this area. Most likely established when the lake was higher in elevation. Focus on upland understory for current conditions.

**SOIL**

Sampling Point: T7.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10 YR 3/2	100	none				loamy clay	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks: none

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: none

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T8.1  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 32, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): C - Mediterranean California Lat: 33.171955 Long: -117.000452 Datum: NAD 83  
 Soil Map Unit Name: Water NWI classification: L1UBHh

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

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <i>Salix goodingii</i>	50	Yes	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: 50 %				
Herb Stratum				
1. <i>Cyperus esculentus var. leptostachyus</i>	35	Yes	FACW	
2. <i>Cyperus eragrostis</i>	35	Yes	FACW	
3. <i>Epilobium sp.</i>	20	Yes		
4. <i>Rumex crispus</i>	10	No	FAC	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 100%				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>5 %</u>		

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:	
OBL species	<u>      </u>	x 1 =	<u>0</u>
FACW species	<u>120</u>	x 2 =	<u>240</u>
FAC species	<u>10</u>	x 3 =	<u>30</u>
FACU species	<u>      </u>	x 4 =	<u>0</u>
UPL species	<u>      </u>	x 5 =	<u>0</u>
Column Totals:	<u>130</u>	(A)	<u>270</u> (B)
Prevalence Index = B/A =			<u>2.08</u>

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: Typha dominant in adjacent portions of wetland

**SOIL**

Sampling Point: T8.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 4/4		none				sand	
4-16	Gley1 310Y		5 YR 4/6	10	C	PL	sand	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: none

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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): 16

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: none

**WETLAND DETERMINATION DATA FORM - Arid West Region**

Project/Site: Lake Wohlford City/County: San Diego Sampling Date: 8/8/14  
 Applicant/Owner: City of Escondido State: CA Sampling Point: T8.2  
 Investigator(s): Brian Felten, Lanika Cervantes Section, Township, Range: Section 32, Township 11 South Range 1 West  
 Landform (hillslope, terrace, etc.): lake shore Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR): C - Mediterranean California Lat: 33.171932 Long: -117.000496 Datum: NAD 83  
 Soil Map Unit Name: Water NWI classification: L1UBHh

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 type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>none</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Salix goodingii</u>	10	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover:	10 %			<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>  </u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>95</u></td> <td>x 2 =</td> <td align="center"><u>190</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>  </u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>80</u></td> <td>x 4 =</td> <td align="center"><u>320</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>5</u></td> <td>x 5 =</td> <td align="center"><u>25</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>180</u></td> <td>(A)</td> <td align="center"><u>535</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.97</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>  </u>	x 1 =	<u>0</u>	FACW species	<u>95</u>	x 2 =	<u>190</u>	FAC species	<u>  </u>	x 3 =	<u>0</u>	FACU species	<u>80</u>	x 4 =	<u>320</u>	UPL species	<u>5</u>	x 5 =	<u>25</u>	Column Totals:	<u>180</u>	(A)	<u>535</u> (B)	Prevalence Index = B/A = <u>2.97</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>  </u>	x 1 =	<u>0</u>																																	
FACW species	<u>95</u>	x 2 =	<u>190</u>																																	
FAC species	<u>  </u>	x 3 =	<u>0</u>																																	
FACU species	<u>80</u>	x 4 =	<u>320</u>																																	
UPL species	<u>5</u>	x 5 =	<u>25</u>																																	
Column Totals:	<u>180</u>	(A)	<u>535</u> (B)																																	
Prevalence Index = B/A = <u>2.97</u>																																				
<b>Sapling/Shrub Stratum</b>																																				
1. <u>Salix goodingii</u>	85	Yes	FACW																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover:	85 %																																			
<b>Herb Stratum</b>																																				
1. <u>Coryza canadensis</u>	80	Yes	FACU																																	
2. <u>Cynodon dactylon</u>	5	No	UPL																																	
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover:	85 %																																			
<b>Woody Vine Stratum</b>																																				
1.																																				
2.																																				
Total Cover:	%																																			
% Bare Ground in Herb Stratum <u>15 %</u>	% Cover of Biotic Crust <u>  </u> %																																			

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: none

**SOIL**

Sampling Point: T8.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
10-18	10YR 4/2	80	5 YR 4/6	20	C	M	sand	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

**Indicators for Problematic Hydric Soils:**

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

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: Area use to be historically inundated, however the water was lowered in 2001 and therefore these may be relic hydric soils and no longer indicative of current conditions. none

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: none

**ATTACHMENT C**

**PRELIMINARY JD FORM**



# PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office  File/ORM #  PJD Date:

State  City/County   
Nearest Waterbody:   
Location: TRS,  
LatLong or UTM:

Name/  
Address of  
Person  
Requesting  
PJD

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters:  linear ft  width  acres Stream Flow:   
Wetlands:  acre(s) Cowardin Class:

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal:  Non-Tidal:   
 Office (Desk) Determination  
 Field Determination: Date of Field Trip:

**SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite quad name:
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is:
- Photographs:  Aerial (Name & Date): 
  - Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Other information (please specify):

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

Signature and Date of Regulatory Project Manager  
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD  
(REQUIRED, unless obtaining the signature is impracticable)

**EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:**

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

**This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:**

**Appendix A - Sites**

District Office  File/ORM #  PJD Date:   
State  City/County  Person Requesting PJD

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>				

**Notes:**

Please refer to the Jurisdictional Delineation Report for specific information on the aquatic resources delineated within the survey area. Also, see the attached Table 1 that contains the full list of aquatic resources within the survey area.

Table 1

## Aquatic Resources within the Survey Area

Site Name	Holland Classification	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	Coastal and Valley Freshwater Marsh	33.176377	-116.984520	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	9.4142	Non-Section 10 wetland
2	Coastal and Valley Freshwater Marsh	33.175858	-116.984277	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	2.0530	Non-Section 10 wetland
3	Coastal and Valley Freshwater Marsh	33.175780	-116.986930	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	0.2773	Non-Section 10 wetland
4	Coastal and Valley Freshwater Marsh	33.168802	-116.997366	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	0.0212	Non-Section 10 wetland
5	Coastal and Valley Freshwater Marsh	33.174489	-116.987106	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	0.6244	Non-Section 10 wetland
6	Coastal and Valley Freshwater Marsh	33.174066	-116.987569	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	0.0000	Non-Section 10 wetland
7	Emergent Wetland	33.177994	-116.977275	Palustrine, Emergent, Persistent, Permanently flooded, Fresh	0.0824	Non-Section 10 wetland
8	Lakeshore	33.168935	-116.997457	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.3311	Non-Section 10 non-wetland
9	Lakeshore	33.169694	-116.997446	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.3450	Non-Section 10 non-wetland
10	Lakeshore	33.170959	-116.996466	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.9475	Non-Section 10 non-wetland
11	Lakeshore	33.173365	-116.991432	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	1.4479	Non-Section 10 non-wetland
12	Lakeshore	33.176420	-116.990192	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.6491	Non-Section 10 non-wetland
13	Lakeshore	33.175602	-116.992667	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.7394	Non-Section 10 non-wetland
14	Lakeshore	33.174542	-116.996243	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.7591	Non-Section 10 non-wetland
15	Lakeshore	33.172392	-117.000210	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.1700	Non-Section 10 non-wetland
16	Lakeshore	33.169686	-117.001668	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	2.0287	Non-Section 10 non-wetland
17	Lakeshore	33.167686	-117.001335	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	1.5692	Non-Section 10 non-wetland
18	Lakeshore	33.168007	-116.997939	Lacustrine; Unconsolidated Shore, Sand, Perennially Flooded, Fresh	0.0895	Non-Section 10 non-wetland
19	Open Water	33.172358	-116.995993	Lacustrine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	128.9114	Non-Section 10 non-wetland
20	Open Water/Channel	33.177663	-116.979688	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	1.1982	Non-Section 10 non-wetland
21	Southern Willow Scrub	33.177315	-116.980229	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	3.3138	Non-Section 10 wetland

Site Name	Holland Classification	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
22	Southern Willow Scrub	33.178205	-116.976248	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.2465	Non-Section 10 wetland
23	Southern Willow Scrub	33.176336	-116.987225	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	4.8913	Non-Section 10 wetland
24	Southern Willow Scrub	33.175223	-116.986348	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.8940	Non-Section 10 wetland
25	Southern Willow Scrub	33.177506	-116.980669	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	2.6795	Non-Section 10 wetland
26	Southern Willow Scrub	33.176716	-116.990504	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.9170	Non-Section 10 wetland
27	Southern Willow Scrub	33.168238	-116.997442	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0811	Non-Section 10 wetland
28	Southern Willow Scrub	33.168858	-116.997423	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0148	Non-Section 10 wetland
29	Southern Willow Scrub	33.169035	-116.997482	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0366	Non-Section 10 wetland
30	Southern Willow Scrub	33.169312	-116.997443	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0127	Non-Section 10 wetland
31	Southern Willow Scrub	33.169497	-116.997444	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0250	Non-Section 10 wetland
32	Southern Willow Scrub	33.171277	-116.995521	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0483	Non-Section 10 wetland
33	Southern Willow Scrub	33.171735	-116.994910	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.2501	Non-Section 10 wetland
34	Southern Willow Scrub	33.174058	-116.988058	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.3932	Non-Section 10 wetland
35	Southern Willow Scrub	33.178245	-116.975932	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.1070	Non-Section 10 wetland
36	Southern Willow Scrub	33.174780	-116.998519	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.8279	Non-Section 10 wetland
37	Southern Willow Scrub	33.171939	-117.000499	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0478	Non-Section 10 wetland
38	Southern Willow Scrub	33.167945	-116.998211	Palustrine; Scrub-Shrub, Broad-leaved Deciduous, Seasonally Flooded, Fresh	0.0165	Non-Section 10 wetland
39	Unvegetated Channel	33.177268	-116.990965	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	0.0176	Non-Section 10 non-wetland
40	Unvegetated Channel	33.176966	-116.990641	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	0.0023	Non-Section 10 non-wetland
41	Unvegetated Channel	33.178863	-116.975798	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	0.0172	Non-Section 10 non-wetland
42	Unvegetated Channel	33.167962	-116.996973	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	0.0286	Non-Section 10 non-wetland

<b>Site Name</b>	<b>Holland Classification</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Cowardin Class</b>	<b>Est. Amount of Aquatic Resource in Review Area</b>	<b>Class of Aquatic Resource</b>
43	Unvegetated Channel	33.167506	-116.997167	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	0.0054	Non-Section 10 non-wetland
44	Unvegetated Channel	33.178260	-116.975367	Riverine; Unconsolidated Bottom, Sand, Perennially Flooded, Fresh	0.0409	Non-Section 10 non-wetland
45	Urban/Developed	33.167298	-117.004620	N/A	0.4766	Non-Section 10 non-wetland



**ATTACHMENT D**

**ELECTRONIC WATERS UPLOAD SHEET  
(*CD-ROM ONLY*)**

