PETERS CANYON REGIONAL PARK (PECA) RESOURCE MANAGEMENT PLAN

County of Orange, California

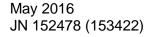
DRAFT BIOLOGICAL RESOURCES REPORT

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PETERS CANYON REGIONAL PARK (PECA) RESOURCE MANAGEMENT PLAN

COUNTY OF ORANGE, CALIFORNIA

DRAFT Biological Resources Report

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a biological resources assessment for the above-referenced project.

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Natural Resources/Regulatory Permitting

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Vice President

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Executive Summary

On behalf of OC Parks, Michael Baker International (Michael Baker) has prepared this Biological Resources Report (BRR) for the 340-acre Peters Canyon Regional Park (PECA; survey area) Resource Management Plan (RMP), located in Orange County, California.

This report was prepared to document all biological resources identified within the survey area during a general biological resources survey and vegetation/land use mapping, jurisdictional delineation, and information gathered during focused avian surveys conducted by Michael Baker, which includes the preliminary results of presence/absence surveys for least Bell's vireo (*Vireo bellii pusillus*; a Federally- and State-listed as Endangered species [FE/SE]) and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; a California Species of Special Concern [SSC]). Ongoing presence/absence surveys for coastal California gnatcatcher (*Polioptila californica californica*; a Federally-listed as Threatened species [FT] and SSC) are being conducted by Harmsworth Associates, Inc.

Additionally, because PECA is located within and is subject to the requirements and provisions set forth in the Central Subarea of the County of Orange Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (County NCCP/HCP), this report provides an in-depth assessment of the suitability of the habitats on-site to support the three "Target Species" of the County NCCP/HCP, which include coastal California gnatcatcher, coastal cactus wren, and orange-throated whiptail (*Aspidoscelis hyperythra*; SSC). The NCCP/HCP specifies that the populations of the target species shall be subject to long-term monitoring and that these taxa shall be treated as if they were listed under CESA/FESA.

Ultimately, the findings and conclusions report is intended for use by OC Parks as a baseline study of existing biological resources within PECA and the potential to support various special-status biological resources as guidance for the RMP in consideration of future management decisions at the park.

Special-status flora and fauna identified on-site during the surveys include four (4) plant species and twelve (12) wildlife species, including least Bell's vireo, coastal cactus wren, coastal California gnatcatcher, and orangethroat whiptail dispersed throughout their respective habitats. Areas associated with Peters Canyon Wash (PCW) and Upper Peters Canyon Reservoir (UPCR) include special-status vegetation communities mapped as southern cottonwood-willow riparian forest, southern riparian scrub (i.e., mule fat scrub), and southern willow scrub. The County NCCP/HCP primarily focuses on the protection of coastal sage scrub, found throughout the survey area in various forms and stages, and the organisms that depend on it for continued survival. Further, based on 4-quadrangle database record searches, Michael Baker determined

that the survey area also contains suitable habitat for eight (8) other special-status plant species and eleven (11) other special-status wildlife species.

Jurisdictional features on-site include a man-made reservoir (UPCR; currently dry) at the northern end, which is surrounded by associated wetland and riparian vegetation, including two basins and a few inlets, and fed by Santiago Canyon, urban runoff, and direct rainfall. Downstream of the dam, flows enter PCW, an intermittent stream, via groundwater from UPCR and by direct rainfall. PCW consists of a wetland/riparian corridor that conveys flows along the western side of the canyon (adjacent to residences), with relatively steep upland slopes to the east. At the southern end, the wash conveys flows into an off-site detention basin. Further, there are eight (8) ephemeral drainage features and eight (8) culverts throughout PECA that convey flows primarily from off-site sources and are tributary to UPCR and PCW.

Any proposed impacts will require a refined assessment of the resources mentioned above.

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Section 1 Introduction

On behalf of OC Parks, Michael Baker International (Michael Baker) has prepared this Biological Resources Report for the Peters Canyon Regional Park (PECA; survey area) Resource Management Plan (RMP). This report describes the biological resources record searches and literature review, survey methodologies, and results of the general and focused surveys conducted within the survey area to determine the presence or potential occurrence of Statelisted and/or Federally-listed as rare, threatened, or endangered, and other special-status plants, animals, and natural communities.

1.1 SITE LOCATION

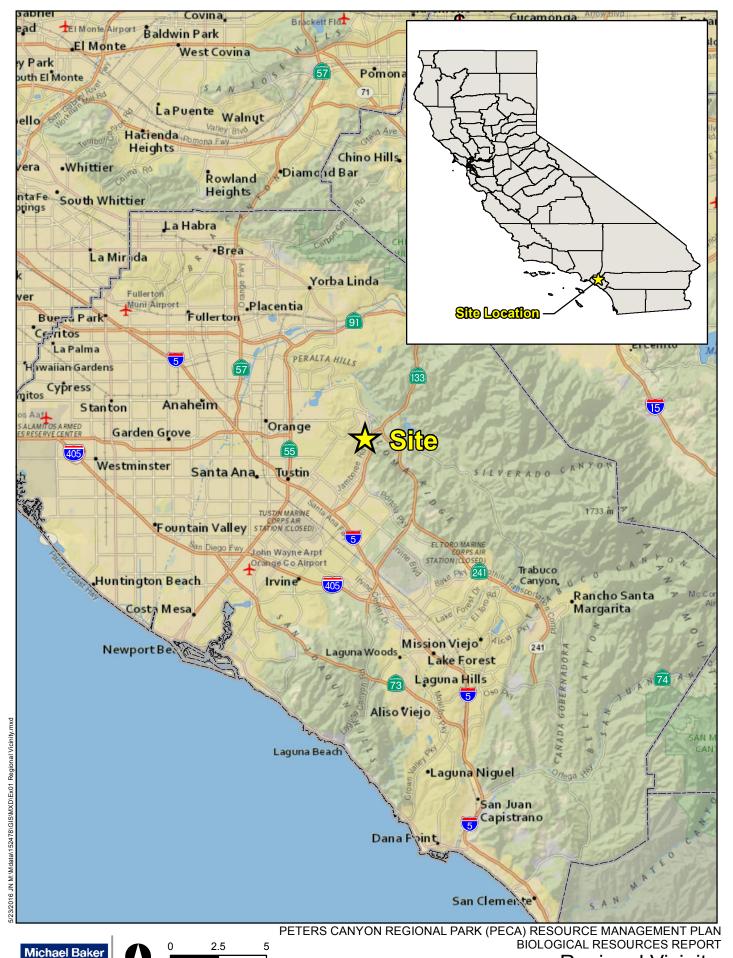
PECA, a regional park within the OC Parks, is located within the Cities of Orange and Tustin, Orange County, California (Figure 1, *Regional Vicinity*). Specifically, the park is located within Section 36 of Township 4 South, Range 9 West; Section 31 of Township 4 South, Range 8 West; Section 6 of Township 5 South, Range 8 West; and Section 1 of Township 5 South, Range 9 West, of the U.S. Geological Survey (USGS) *Orange, California* 7.5-minute topographic quadrangle map (Figure 2, *Site Vicinity*).

PECA (Figure 3, *Peters Canyon Regional Park*) is bounded by Skylark Place and Canyon View Avenue to the north (City of Orange); Cowan Heights residential development to the west (City of Tustin); a residential development, Jamboree Road, and State Route 261 to the east (City of Tustin); and Peters Canyon Road and a residential development to the south (City of Tustin).

1.2 BACKGROUND

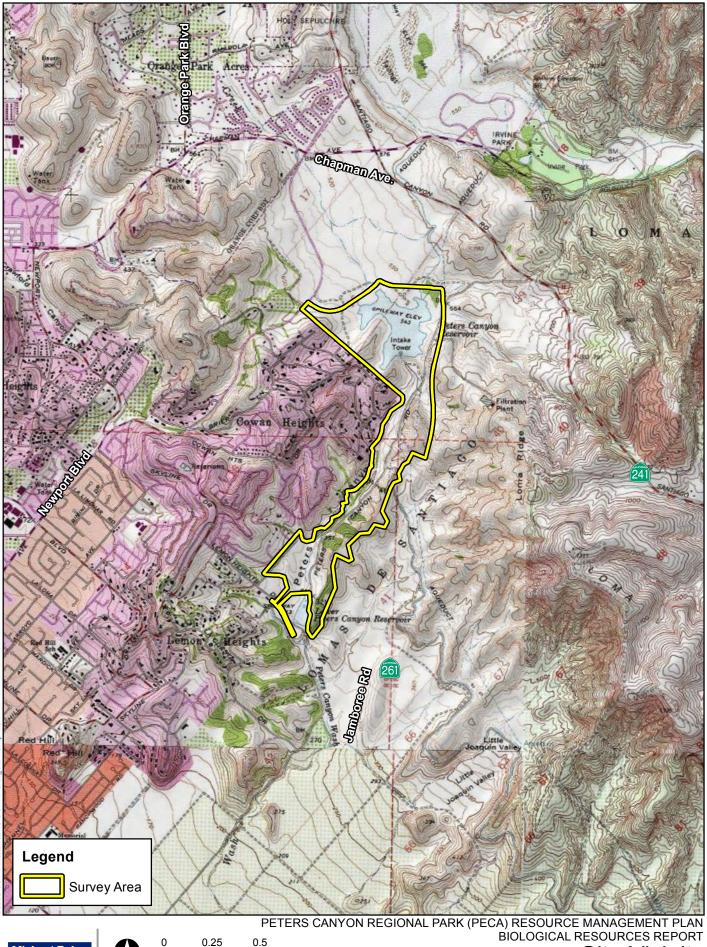
OC Parks includes regional, wilderness, and historical facilities, in addition to coastal areas throughout the County of Orange in California. OC Parks has about 60,000 acres of parkland, open space, and shoreline, with facilities that offer plenty of opportunities for the public to enjoy nature and learn about the history of Orange County.

PECA was originally part of the Spanish land grant, Rancho Lomas de Santiago. In 1897, the ranch was purchased by James Irvine, who then leased the canyon out to several farmers. James Peters, whom the canyon is named for, dry-farmed beans and barley in the upper canyon and is also responsible for planting the historical eucalyptus grove located near the off-site Lower Peters Canyon Retarding Basin (detention basin). To supply the increasing water needs for Irvine Ranch's growing agricultural industry, two reservoirs were constructed. The Upper Peters Canyon Reservoir (UPCR) was completed in 1931, followed by the off-site lower reservoir in 1940. Both reservoirs were used to regulate the Irvine Company's draft from Santiago Reservoir, in addition to conservation of run-off from Peters Canyon watershed. Today, the lower reservoir serves as a flood control basin and is under the purview of OC Public Works. On March 3, 1992, the Irvine

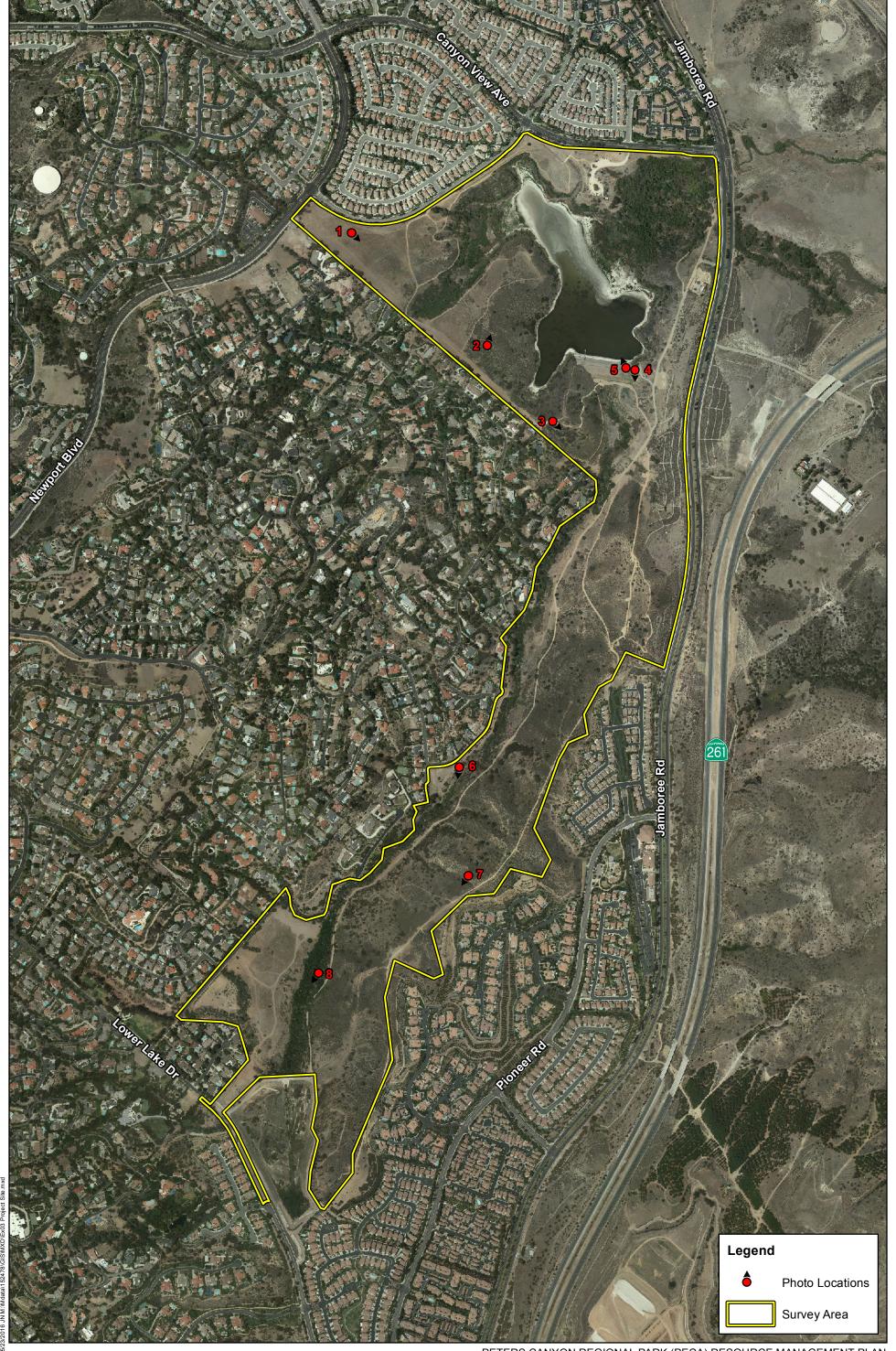


Miles

INTERNATIONAL







Company donated 340 acres of Peters Canyon to the County of Orange to be preserved as open space.

1.3 PURPOSE OF DOCUMENT

This report documents all biological resources identified within the survey area during a general biological resources survey and vegetation/land use mapping, jurisdictional delineation, and information gathered during focused avian surveys conducted by Michael Baker, which includes the preliminary results of presence/absence surveys for least Bell's vireo (Vireo bellii pusillus; a Federally- and State-listed as Endangered species [FE/SE]) and coastal cactus wren (Campylorhynchus brunneicapillus sandiegensis; a California Species of Special Concern [SSC]), with presence/absence surveys for coastal California gnatcatcher (Polioptila californica californica; a Federally-listed as Threatened species [FT] and SSC) being conducted by Harmsworth Associates, Inc. In addition, this report includes an analysis of the potential for the various on-site biological resources to support other special-status plant and animal species and special-status vegetation communities that are subject to provisions of the Federal Endangered Species Act of 1973 (FESA), Migratory Bird Treaty Act (MBTA), California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), California Fish and Game Code (CFGC), California Native Plant Protection Act (NPPA), Bald and Golden Eagle Protection Act (BGEPA), and other local policies and ordinances protecting biological resources. Further, this report summarizes the results of a formal jurisdictional delineation of the survey area (Michael Baker 2016) that identifies jurisdictional aquatic features pursuant to the Federal Clean Water Act (CWA), CFGC, and the California Porter-Cologne Water Quality Control Act (Porter-Cologne).

Additionally, this report provides an in-depth assessment of the suitability of the habitats on-site to support the three "Target Species" of the County of Orange Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (County NCCP/HCP), which include coastal California gnatcatcher, coastal cactus wren, and orange-throated whiptail (*Aspidoscelis hyperythra*; SSC).

Ultimately, the findings and conclusions report is intended for use by OC Parks as a baseline study of existing biological resources within PECA and the potential to support various special-status biological resources as guidance for the RMP in consideration of future management decisions at the park.

Section 2 Methodology

2.1 LITERATURE REVIEW AND DATABASE SEARCHES

Prior to conducting the field work, Michael Baker reviewed literature relevant to PECA, including documentation of previous special-status species surveys and other relevant studies, and environmental setting information. Further, based on the position of PECA on the Orange, California quadrangle (southeast corner), Michael Baker conducted a 4-quadrangle (Orange, Black Star Canyon, Tustin, and El Toro) search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) RareFind 5 (CDFW, Biogeographic Data Branch 2016) and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2016), and generated a Species and Resources List gueried from the USFWS Information for Planning and Conservation (IPaC) online system (USFWS 2016a), to identify special-status plant and wildlife species, vegetation communities, and other biological resources that have been previously documented within, near, and/or have the potential to occur within the survey area. The Special Animals List (CDFW 2016a) and the Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2016b) were reviewed for the current status of rare and endangered plant and wildlife species. Other resources reviewed include the CNPS California Rare Plant Ranking System (CRPR); recent aerial photography (Google Earth Pro 2016); the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey for Orange County and Western Part of Riverside County, California (USDA, NRCS 1978); the National Hydric Soils List (USDA, NRCS 2015); and the National Wetland Inventory (NWI; USFWS 2016b).

2.2 GENERAL BIOLOGICAL RESOURCES SURVEYS

Following the literature review and database searches, on March 25, 2016, Michael Baker biologists Richard Beck, Dan Rosie, and Stephen Anderson conducted an initial site reconnaissance to familiarize with the survey area and surroundings, identify access points, and strategize field work.

On March 29, 30, and 31, 2016, Mr. Rosie and Mr. Anderson conducted a general biological resources survey of the entire survey area to document existing site conditions and biological resources, and to evaluate habitat with the potential to support various special-status plant and wildlife resources, including suitable habitat for least Bell's vireo and coastal cactus wren, and jurisdictional aquatic features. Representative photographs of PECA are provided at the end of this report in Appendix A, *Site Photographs*.

2.2.1 Vegetation/Land Use Mapping and Plant Species Inventory

Classification of the on-site vegetation communities and other land uses is based on the descriptions of terrestrial vegetation classification systems described in *Preliminary Descriptions* of the Terrestrial Natural Communities of California (Holland 1986), with modifications to better represent existing conditions in the field using the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008), an expanded vegetation classification system based on Holland (1986). Plant species nomenclature and taxonomy follow *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012). All plant species encountered were noted and identified at minimum to the lowest possible taxonomic level necessary to determine rarity. For a complete list of plant species observed on-site, refer to Appendix B of this report.

2.2.2 General Wildlife Observations

Wildlife identification and nomenclature followed standard reference texts, including The American Ornithologists' Union Checklist of North and Middle American Birds (The American Ornithologists' Union 2016), the Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, With Comments Regarding Confidence In Our Understanding (Crother 2012), and Mammals of North America, Second Edition (Kays and Wilson 2009). All wildlife observed and/or otherwise detected through sign (e.g., tracks, scat) were recorded. Other wildlife may occupy the site, but are not easily detectable during the day (i.e., nocturnal) and without extraordinary survey efforts during the appropriate season, in addition to several species being transient and potentially occupying the site other times of the year. For a complete list of wildlife species observed or otherwise detected on-site, see Appendix B.

2.3 JURISDICTIONAL DELINEATION

On April 5, 2016, Mr. Rosie, and Michael Baker Biologist Linda Nguyen conducted a site reconnaissance to identify all jurisdictional resources within the survey area, including all ephemeral tributaries that convey storm flows from off-site (via culverts), in need of a formal jurisdictional delineation to determine the limits subject to each regulatory agency.

On April 5, 14, 20, 26, 27, and 28, 2016, Michael Baker biologists Mr. Rosie, Mr. Anderson, Ms. Nguyen, Mr. Beck, Lauren Mack, and/or Anisha Malik conducted a formal jurisdictional delineation following the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Regional Supplement; Corps 2008a) to identify the limits of wetland waters of the U.S. (WoUS), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008b) to identify the limits of non-wetland WoUS, and the most recent CDFW guidelines to identify the limits of streambed/banks and associated riparian vegetation subject to regulatory jurisdiction.

For details regarding survey methodology of the jurisdictional delineation, refer to the stand-alone document (Michael Baker 2016a).

2.4 FOCUSED AVIAN SURVEYS

2.4.1 Focused Least Bell's Vireo Survey

Michael Baker biologists Mr. Rosie, Mr. Anderson, Ms. Nguyen, and/or Ryan Winkleman conducted a focused survey for least Bell's vireo, beginning on April 12, with the last survey completed on May 24, 2016. The survey was conducted following the USFWS *Least Bell's Vireo Survey Guidelines* (USFWS 2001), modified with a USFWS-approved reduction in total visits based on an adequate understanding of site use by least Bell's vireo, no impacts proposed, and the results being limited to baseline information only (per e-mail correspondence with Stacey Love [USFWS] on March 24, 2016). The survey was conducted in all habitats within the survey area suitable to support least Bell's vireo. All focused surveys will be appended to this report once the survey windows close and the reports are complete.

2.4.2 Focused Coastal Cactus Wren Survey

Michael Baker biologists Mr. Rosie, Mr. Anderson, and/or Ms. Nguyen conducted a focused survey for coastal cactus wren on April 13 and May 9 and 25, 2016. The focused presence/ absence survey for coastal cactus wren was conducted in all habitats within the survey area suitable to support coastal cactus wren following a modified version of the general survey guidelines described by Mitrovich and Hamilton (2007).

2.4.3 Focused Coastal California Gnatcatcher Survey

An ongoing focused coastal California gnatcatcher survey following the USFWS Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Guidelines conducted by Paul Gavin of Harmsworth Associates, Inc. began in May 2016. The survey, following the three-part Natural Community Conservation Plan (NCCP) protocol, is being conducted in all habitats within the survey area suitable to support coastal California gnatcatcher.

For details regarding survey methodology of the focused avian surveys, refer to the forthcoming stand-alone documents (Michael Baker 2016b, Michael Baker 2016c, and Harmsworth 2016, respectively).

Section 3 Existing Conditions

The following is a summarization of the results of the literature and database reviews and general and focused biological resources surveys. Discussions regarding the general environmental setting, vegetation communities and other land uses present, and plant and animal species observed are presented below. Representative photographs of the survey area are provided in Appendix A, and a complete list of all the plant and animal species observed on-site during the field surveys is presented as Appendix B.

3.1 ENVIRONMENTAL SETTING

PECA is located within the Southwestern California region, near the border of the South Coast and Peninsular Ranges subregions (i.e., foothills of the Santa Ana Mountains), of the California Floristic Province. Specifically, PECA consists of UPCR (a man-made reservoir; currently dry) located at the northern end, which is immediately surrounded by associated wetland and riparian scrub and forest, including basins to the northeast and northwest, and inlets throughout subject to reservoir-influenced hydrology. For the purposes of this report, UPCR was broken into three portions: the western basin, the eastern basin, and the inner reservoir. The two basins are distinguished from the inner reservoir via the southern cottonwood-willow riparian forest, freshwater marsh, and mule fat scrub vegetation classifications on the eastern and western portions of the reservoir.

Several ephemeral tributaries to UPCR originate from culverts that convey nuisance flows from surrounding developments to the north and west, and from off-site natural drainage features to the east. Upland areas surrounding UPCR include moderate to steep slopes dominated coastal sage scrub vegetation (some intact and relatively undisturbed, with other areas ranging from low-to high-quality restoration) or non-native grasslands and other disturbed areas. Limited development occurs scattered throughout this portion of the park, which includes an unpaved parking lot and restroom facility at the north end; a vehicle access road (Peters Canyon Trail); the reservoir pump station and associated facilities along the eastern side; and recreational trails meandering throughout.

Downstream of the dam, Peters Canyon Wash (PCW) consists of a lengthy wetland/riparian corridor that conveys flows along the western side of the canyon (adjacent to residences), with relatively steep upland slopes to the east primarily dominated by coastal sage scrub (north) and eucalyptus woodland/coastal sage scrub (south). Further, additional ephemeral tributaries throughout the canyon convey flows from arroyos originating from the eastern slopes. At the southwest end, disturbed areas and non-native grasslands dominate the uplands, with two riparian tributaries that convey off-site flows and merge prior to converging with PCW. At the southern end, the wash conveys these flows into an off-site detention basin (not a part of the

survey area), which retains most storm waters, but only inundates when subjected to frequent and/or significant storm events. The lower basin outfall consists of a spill way that discharges extraordinary flows into a box culvert and the local storm drain system.

3.1.1 Climate

PECA, located in the foothills of the Santa Ana Mountains, has a climate characterized as Mediterranean, with cool, mild winter rains and hot, dry summers. Average annual temperatures typically range from 50 to 75 degrees Fahrenheit (°F), with highs in the summer averaging 85 °F and lows in the winter averaging 40 °F. Average annual precipitation for the Tustin, California, area is approximately 14 inches (U.S. Climate Data 2016).

3.1.2 Watershed

PECA is located within the Santa Ana River Hydrologic Unit (HU 801.0), Lower Santa Ana River Hydrologic Area (HA 801.10), and East Coastal Plain Subarea (HSA 801.11) of the Santa Ana Hydrologic Basin Planning Area. The Santa Ana River HU is a roughly rectangular-shaped area of about 150 square miles, extending from the Santiago Canyon foothills on the east to the Pacific Ocean on the west, and from the City of Orange on the north to the City of Lake Forest on the south. The unit includes the Cities of Irvine, Tustin, Orange, Newport Beach, Santa Ana, Costa Mesa, and Lake Forest. Waters from PECA are ultimately conveyed to Upper Newport Bay and the Pacific Ocean.

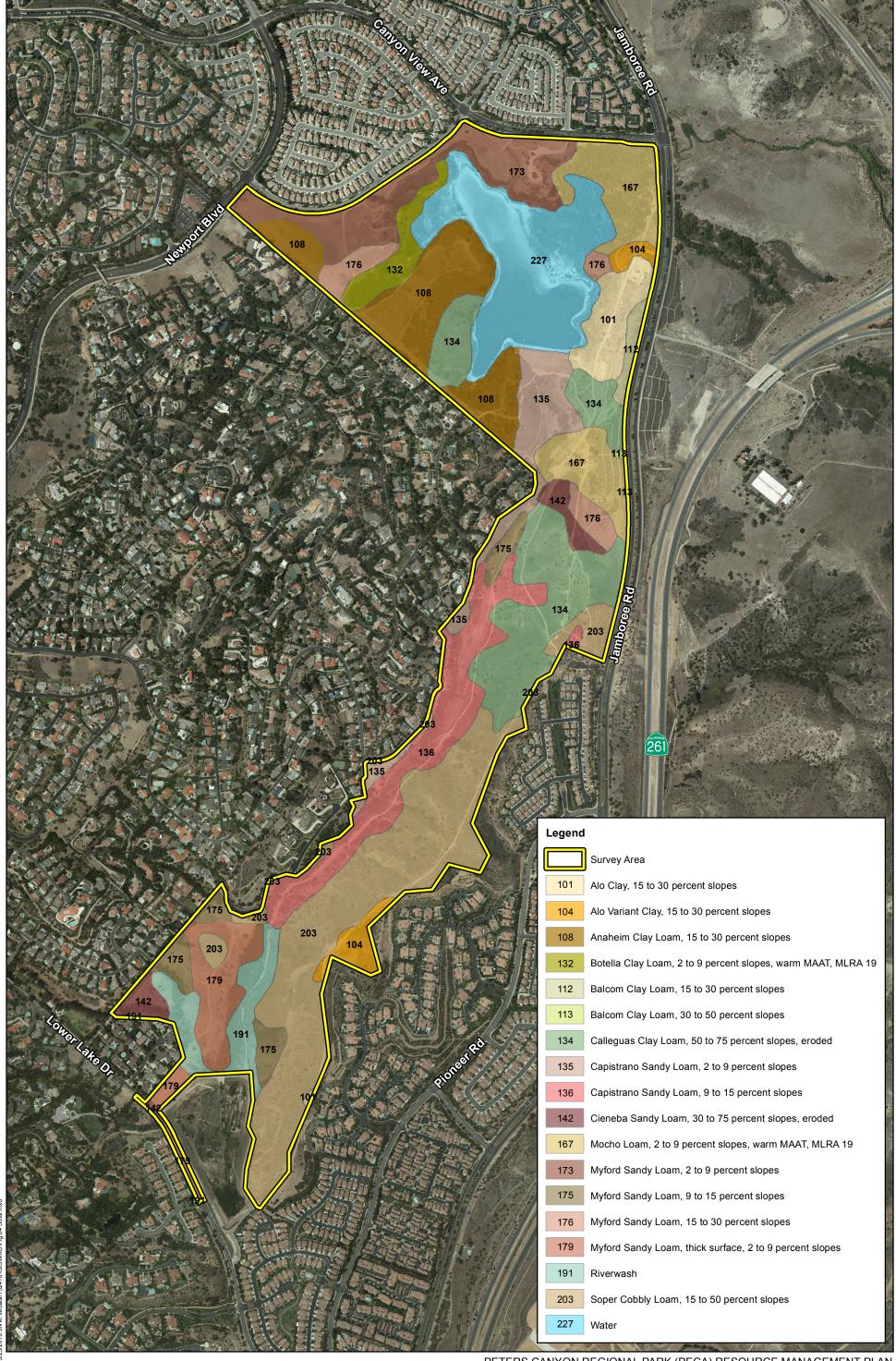
Michael Baker searched the Federal Emergency Management Agency (FEMA) – 100 Year Flood Zones for flood data within the survey area (ArcGIS 2016). Based on the FEMA – 100 Year Flood Zones map, portions of the survey area are within the 100-year flood zone.

3.2 TOPOGRAPHY AND SOILS

The general area that PECA is situated in is characterized by rolling hills and valleys dominated by coastal sage scrub and disturbed areas/non-native grasslands in the uplands, with riparian-scrub and -forested corridors lining valley bottoms and surrounding other water bodies. Elevations on-site range from approximately 320 to 700 feet above mean sea level (amsl).

On-site and adjoining soils were reviewed prior to the field visits using the USDA, NRCS *Soil Survey for Orange County and Western Part of Riverside County, California* (USDA, NRCS 1978). The following soil types have been mapped within the survey area (see Figure 4, *USDA Soils*):

- Alo clay, 15 to 30 percent slopes (101)
- Alo variant clay, 15 to 30 percent slopes (104)
- Anaheim clay loam, 15 to 30 percent slopes (108)
- Balcom clay loam, 15 to 50 percent slopes (112)
- Botella clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19 (132)



- Calleguas clay loam, 50 to 75 percent slopes, eroded (134)
- Capistrano sandy loam, 2 to 9 percent slopes (135)
- Capistrano sandy loam, 9 to 15 percent slopes (136)
- Cieneba sandy loam, 30 to 75 percent slopes, eroded (142)
- Mocho loam, 2 to 9 percent slopes, warm MAAT, MLRA 19 (167)
- Myford sandy loam, 2 to 9 percent slopes (173)
- Myford sandy loam, 9-15 percent slopes (175)
- Myford sandy loam, 15 to 30 percent slopes (176)
- Myford sandy loam, thick surface, 2 to 9 percent slopes (179)
- Riverwash (191)
- Soper cobbly loam, 15 to 50 percent slopes (203)
- Water (227)

Michael Baker then reviewed the National Hydric Soils List (NRCS, December 2015) to identify soils mapped within the survey area that are considered to be hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for on-site investigations. According to the soils list, the following hydric soils mapped on-site include the following:

- Alo clay, 15 to 30 percent slopes (101)
- Myford sandy loam, 2 to 9 percent slopes (173)
- Myford sandy loam, thick surface, 2 to 9 percent slopes (179)
- Riverwash (191)

Soil textures identified on-site were generally consistent with those mapped by the Soil Survey; however, hydric soils were confirmed only by examination of test pits to identify jurisdictional wetlands. Refer to the Jurisdictional Delineation Report (Michael Baker 2016c) for wetlands mapped on-site.

3.3 VEGETATION COMMUNITIES AND OTHER LAND USES

Several terrestrial vegetation communities were identified on-site during the field surveys. Vegetation classification was based on Holland (1986), and modifications were made based on Oberbauer (2008). A complete list of plant species observed during the surveys is provided in Appendix B. A map that illustrates the extent of the terrestrial vegetation communities and other land uses observed within PECA, including the locations of special-status plants and wildlife observed on-site (discussed in Section 4 below), is presented as Figure 5, *Vegetation Communities, Land Uses, and Special-Status Species.* Table 1, below, provides the acreages of each vegetation community/land use on-site, with each discussed in detail below.





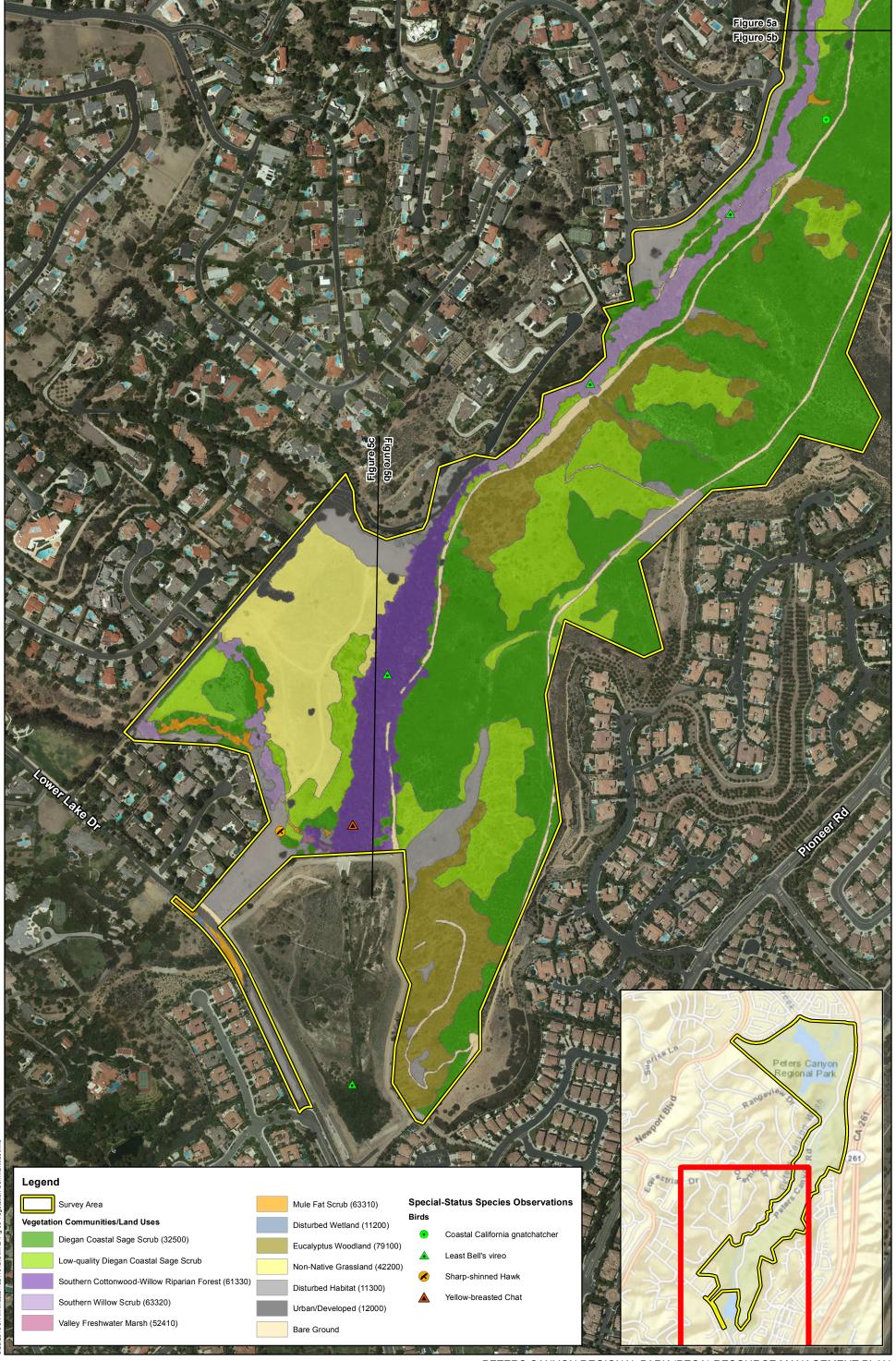


Table 1. Vegetation Communities/Land Uses within the Survey Area

Vegetation Community/Land Use	Acreage
Diegan Coastal Sage Scrub (32500)	127.88
Low-quality Diegan Coastal Sage Scrub	40.32
Southern Cottonwood-Willow Riparian Forest (61330)	31.30
Southern Willow Scrub (63320)	15.82
Valley Freshwater Marsh (52410)	4.94
Mule Fat Scrub (63310)	10.31
Disturbed Wetland (11200)	3.99
Tamarisk Scrub (63810)	5.16
Eucalyptus Woodland (79100)	13.50
Non-Native Grassland (42200)	24.23
Disturbed Habitat (11300)	27.24
Urban/Developed (12000)	9.44
Bare Ground	26.01
TOTAL*	340.15

^{*} Total may not equal to sum due to rounding.

Diegan Coastal Sage Scrub (Holland Code: 32500)

Coastal sage scrub occurs throughout the survey area in various forms and stages. Most of the coastal sage scrub on-site has been left relatively intact (i.e., mature with limited disturbance or non-native, invasive species encroachment; mapped as coastal sage scrub). Several areas surrounding the parking lot, reservoir trail system, and in various areas along the access road within the canyon have undergone limited restoration efforts. These areas primarily consist of widely-spaced container plant installations; however, they appear relatively unmaintained. The installations are small and appear to be struggling, while all areas in between are densely vegetated with non-native, invasive grasses and forbs. In addition, some areas near the southern end of the park consist of relatively intact coastal sage scrub vegetation, but include scattered individuals and remnant snags of red gum (*Eucalyptus camaldulensis*) that provide unfair perching for raptors and corvids and thereby preclude various wildlife species such as the coastal California gnatcatcher. These areas have been mapped as low-quality coastal sage scrub.

Other coastal sage scrub restoration areas, including those surrounding the upper reaches of PCW, are mature, healthy, and nearly devoid of non-native vegetation (thereby, they are mapped as coastal sage scrub). Areas that consist of a mosaic of scattered, intact coastal sage scrub shrubs with interstitial spacing dominated by non-native grasses and forbs were mapped as low-quality coastal sage scrub as these areas appear to be recovering from previous disturbances.

The intact coastal sage scrub on-site varies considerably in composition. Dominant shrubs relatively consistent throughout primarily include California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California encelia (*Encelia californica*), purple needle grass (*Stipa*

pulchra), California buckwheat (*Eriogonum fasciculatum*), deerweed (*Acmispon glaber*), wild cucumber (*Marah macrocarpa*), and foothill needle grass (*Stipa lepida*). Other dominants present throughout include laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), lemonade berry (*Rhus integrifolia*), white sage (*Salvia apiana*), bush monkeyflower (*Mimulus aurantiacus*), California matchweed (*Gutierrezia californica*), and/or common sandaster (*Corethrogyne filaginifolia*). Depending upon substrate and/or slope aspect, some coastal sage scrub areas include various combinations of the above-mentioned shrubs, but with a greater component of coast prickly pear (*Opuntia littoralis*) and coastal cholla (*Cylindropuntia prolifera*) on east- and south-facing slopes; poison oak (*Toxicodendron diversilobum*), chaparral mallow (*Malacothamnus fasciculatus*), and giant wild rye (*Elymus condensatus*) on west- and north-facing slopes; and patches of Palmer's rabbitbrush (*Ericameria palmeri* var. *pachylepis*), coastal goldenbush (*Isocoma menziesii*), or coyote brush (*Baccharis pilularis*) in specific locations.

Southern Cottonwood-Willow Riparian Forest (61330)

The UPCR basins and inlets that are subject to reservoir-influenced hydrology primarily consist of mature southern cottonwood-willow riparian forest vegetation dominated by Goodding's black willow (Salix gooddingii), Fremont cottonwood (Populus fremontii), western sycamore (Platanus racemosa), red willow (Salix laevigata), and sandbar willow (Salix exigua), with mule fat (Baccharis salicifolia) primarily located along the fringes. The understory is relatively absent in the western inlets, whereas California blackberry (Rubus ursinus), poison oak, California wild grape (Vitis californica), California wild rose (Rosa californica), and stinging nettle (Urtica dioica) dominate the understory in the eastern basin of UPCR. Various portions of the eastern basin are highly disturbed with the presence of Mexican fan palm (Washingtonia robusta), common fig (Ficus carica), tamarisk (Tamarix ramosissima), and Canary Island date palm (Phoenix canariensis), with poison hemlock (Conium maculatum), smilo grass (Stipa miliacea var. miliacea), and milk thistle (Silybum marianum). Alkali mallow (Malvella leprosa) occurs in some locations on the outer fringes of mule fat.

PCW primarily consists of mature southern cottonwood-willow riparian forest vegetation dominated by Goodding's black willow, Fremont cottonwood, western sycamore, red willow, and isolated patches of sandbar willow. Within the upper reaches of the wash, the stream banks are dominated by black cottonwood (*Populus trichocarpa*), with California mugwort (*Artemisia douglasiana*) along the fringes closer to the UPCR dam. The lower reaches of PCW include an understory dominated by yerba mansa (*Anemopsis californica*), California bulrush (*Schoenoplectus californicus*), and Spanish false fleabane (*Pulicaria paludosa*), with non-natives such as Mexican fan palm, shamel ash (*Fraxinus uhdei*), and Chinese elm (*Ulmus parvifolia*) scattered throughout. Southern California black walnut (*Juglans californica*; CRPR 4.2) occurs in a few locations within the middle reaches, with an understory consisting of Baltic rush (*Juncus balticus*) pockets and California blackberry.

Southern Willow Scrub (63320)

Vegetation surrounding UPCR (adjacent to upland habitat), including swaths and patches of vegetation within the reservoir basin/inlets and throughout PCW, consist of southern willow scrub vegetation dominated by red willow, and are relatively absent of black willow, sycamore, and cottonwood that typically comprise a woodland or forest.

Valley Freshwater Marsh (52410)

Pockets of native freshwater marsh vegetation are present throughout the survey area. Specifically, swaths of California bulrush line the reservoir margins, with stands of California bulrush dominating portions of the basin and inlets of the reservoir and along portions of Peter Canyon Wash. Few areas within the basin and along PCW also include stands of broadleaf cattail (*Typha latifolia*). Further, isolated pockets of Mexican rush (*Juncus mexicanus*) occur within the reservoir inlets, with pockets of Baltic rush, American bulrush, and California bulrush dominating small portions of PCW.

Mule Fat Scrub (63310)

Mule fat scrub occurs in dense, essentially monotypic thickets of mule fat (*Baccharis salicifolia*) along the reservoir margins between the riparian woodland and upland surroundings, in patches within the basin and inlets associated with the reservoir, within the middle of the dry reservoir (extensive growth since the reservoir dried), and along the canyon primarily on the fringes of the riparian corridor.

Disturbed Wetland (11200)

Within several of the areas described as mule fat scrub above, tamarisk is equally prevalent, thereby displacing the native riparian vegetation, mule fat. These areas are transitional between the intact mule fat scrub and tamarisk scrub described below.

Tamarisk Scrub (63810)

Based on a review of a recent timeline of aerial photographs on Google Earth Pro (2016), what appears to have established within the inner rims of the reservoir (including portions within the inlets) are extensive stands of tamarisk that were not present when the reservoir was inundated, nor up until the reservoir no longer supported standing water. Tamarisk is prolific and continuing to expand in areas within the park, particularly within and surrounding the reservoir, which poses extensive management difficulties in maintaining quality riparian habitat.

Eucalyptus Woodland (79100)

Along the southernmost end of the survey, a historic eucalyptus woodland dominated by red gum covers the eastern slopes, with an understory either absent or dominated by non-native grasses such as common ripgut grass (*Bromus diandrus*) and foxtail chess (*B. rubens*). A few portions, particularly increasing to the north, where scattered red gum trees are dead or struggling include

relatively intact coastal sage scrub vegetation in the understory, are mapped as low-quality coastal sage scrub. Several ornamental blue gum (*Eucalyptus globulus*) are scattered along or line the western side of PCW, adjacent to residences, but do not constitute a woodland.

Non-Native Grassland (42200)

Non-native grassland vegetation was mapped within the northwest corner of the survey area, west of UPCR, and within the southwest portion of the survey area. These areas have undergone substantial disturbance, but are now dominated by various non-native grasses, primarily common ripgut grass, foxtail chess, wild oat (*Avena fatua*), and rattail fescue (*Festuca myuros*).

Disturbed Habitat (11300)

Disturbed habitat on-site consists of areas that have undergone substantial disturbance, and either are frequently and repeatedly disturbed through grading or compaction or are dominated by non-native, annual, opportunistic, weed species that preclude the reestablishment of native vegetation communities.

Urban/Developed (12000)

Developed portions of the survey area include buildings and other structures, the reservoir side of the dam, and various ornamental trees, shrub, and ground cover associated with developed properties.

Bare Ground

Bare ground mapped on-site includes unpaved access roads (and parking lot) and trails that are maintained to be devoid of vegetation.

3.4 GENERAL WILDLIFE OBSERVATIONS

The park contains multiple vegetation communities described above that are suitable to support a variety of wildlife species. Species common to each habitat type or land use described above were observed during the general and focused surveys. Species observed and typically occurring within coastal sage scrub include special-status species including red-diamond rattlesnake (*Crotalus ruber*), coastal California gnatcatcher, and coastal cactus wren, and other common species such as wrentit (*Chamaea fasciata*), California quail (*Callipepla californica*), greater roadrunner (*Geococcyx californianus*), California towhee (*Melozone crissalis*), Bewick's wren (*Thryomanes bewickii*), western scrub-jay (*Aphelocoma californica*), and desert cottontail (*Sylvilagus audubonii*). Species observed that are typical of riparian scrub and woodland vegetation include common yellowthroat (*Geothlypis trichas*), black-headed grosbeak (*Pheucticus melanocephalus*), and orange-crowned warbler (*Vermivora celata*), in addition to special-status species, Cooper's hawk (*Accipiter cooperii*; a Watch List [WL] species) and least Bell's vireo (FE/SE). Other wildlife species common throughout the survey area include western fence lizard (*Sceloporus occidentalis*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo*

jamaicensis), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), and California ground squirrel (*Otospermophilus beecheyi*). For a complete list of wildlife species observed during the general and focused avian surveys are provided in Appendix B.

Section 4 Special-Status Biological Resources

The following discusses the observed presence of and the potential for special-status plant and wildlife species and special-status vegetation communities to occur within the survey area. 'Potential to occur' is based on the presence or absence of suitable habitat for each special-status species evaluated, as well as the general ecological requirements for each species and known occurrences on and/or within the vicinity of the survey area. All CNDDB occurrences documentation of special-status species and vegetation communities and USFWS-designated critical habitats within a 5-mile radius of the survey area are shown in Figure 6, *Special-Status Biological Resources Documented Within a 5-mile Radius*. An evaluation of the potential for each species identified in the database records search to occur on-site is presented in Appendix C.

4.1 SPECIAL-STATUS SPECIES

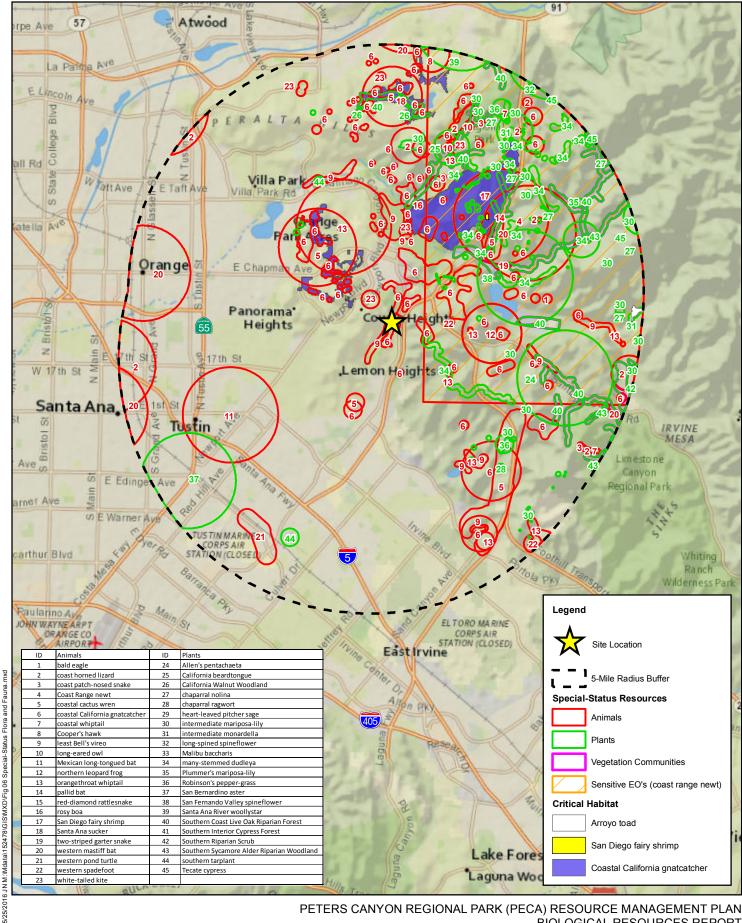
The results of the 4-quadrangle database record searches revealed documented occurrences for a total of thirty-one (31) special-status plants species and a total of forty-six (46) special-status wildlife species. Many of the special-status species with documented occurrences were evaluated by Michael Baker as having a "Low" or "Not Expected" potential for occurrence and are therefore not discussed further. Species determined to have a "Moderate" or "High" potential for occurring, and those observed on-site during the surveys (includes a few species not previously documented in the area by CNDDB or CNPS), warrant a discussion.

Four (4) special-status plant species and twelve (12) special-status wildlife species were identified on-site during the surveys. In addition, based on the literature review and database searches and on-site habitat suitability assessment, Michael Baker determined that the survey area also contains suitable habitat for eight (8) other special-status plant species and eleven (11) other special-status wildlife species. These species are discussed below.

4.1.1 Special-Status Plant Species

Special-status plants species observed on-site include the following:

- <u>Catalina mariposa lily</u> (Calochortus catalinae; CRPR 4.2) Dozens of individuals were observed near the north end of the eucalyptus woodland surrounding Scout Trail that connects the East Ridge View Trail with Peters Canyon Trail.
- <u>Southern California black walnut</u> (*Juglans californica*; CRPR 4.2) A few mature individuals of were observed within the middle to upper reaches of PCW. No other special-status plant species were observed within the survey area during the surveys.
- <u>Coulter's matilija poppy</u> (*Romneya coulteri*; CRPR 4.2) Several individuals were observed at the main park entrance north of UPCR, adjacent to (east of) the parking lot;



PETERS CANYON REGIONAL PARK (PECA) RESOURCE MANAGEMENT PLAN **BIOLOGICAL RESOURCES REPORT**





Special-Status Biological Resources Documented within a 5-Mile Radius

but, these individuals appear to have been installed as part of native (ornamental) restoration efforts.

 San Diego County needle grass (Stipa diegoensis; CRPR 4.2) - Several individuals were observed along the Lake View Trail where it connects to a Scenic Overlook spur trail southwest of UPCR.

No other special-status plant species were observed during the surveys. However, Michael Baker determined that the following special-status plant species have a moderate or high potential for occurring within the survey area: Plummer's mariposa-lily (*Calochortus plummerae*; CRPR 4.2), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*; CRPR 1B.2), Lewis' evening-primrose (*Camissoniopsis lewisii*; CRPR 3), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*; CRPR 4.3), Allen's pentachaeta (*Pentachaeta aurea* ssp. *allenii*; CRPR 1B.1), white rabbit-tobacco (*Pseudognaphalium leucocephalum*; CRPR 2B.2), chaparral ragwort (*Senecio aphanactis*; CRPR 2B.2), and San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2).

Plummer's mariposa-lily, intermediate mariposa-lily, Lewis' evening-primrose, Lewis' evening-primrose, Allen's pentachaeta, and chaparral ragwort are typically found in openings and/or dry, sandy soils in coastal sage scrub and grasslands that are present on-site. White rabbit-tobacco and San Bernardino aster are also found in coastal sage scrub in addition to riparian areas similar to those areas throughout the survey area.

4.1.2 Special-Status Wildlife Species

Special-status plants species observed on-site include the following:

- Least Bell's vireo (FE/SE) Approximately 13 territories of least Bell's vireos have been detected throughout the southern willow scrub and southern cottonwood-willow riparian forest from the lower detention basin, up through the majority of PCW, and throughout the basin and inlets surrounding UPCR. A focused survey conducted by Michael Baker began in April 2016 and was completed on May 24, 2016. Details regarding locations and distribution within and surrounding PECA will be included in the stand-alone report (Michael Baker 2016c).
- <u>Coastal cactus wren</u> (SSC) Two coastal cactus wren territories have been detected within the survey area, one south of Gnatcatcher Trail and west of the East Ridge View Trail and the other west of the reservoir and south of the southern portion of Cactus Point Trail, both pairs nesting in coastal cholla (*Cylindropuntia prolifera*). A focused survey conducted by Michael Baker began in April 2016 and was completed on May 25, 2016. Details regarding locations and distribution within PECA will be included in the stand-alone report (Michael Baker 2016b).
- <u>Coastal California gnatcatcher</u> (FT/SSC) Several coastal California gnatcatchers have been detected (incidentally) throughout the intact coastal sage scrub from the midway

point of the survey area to the coastal sage scrub surrounding the lower half of reservoir, particularly where consistently low-growing shrubs dominate and taller shrubs, tree, and snags are essentially absent. A protocol-level survey being conducted by Harmsworth Associates, Inc. began in May 2016 and is ongoing. A total number of on-site breeding pairs and individuals will be determined following the focused survey.

- <u>Little willow flycatcher</u> (*Empidonax traillii* cf. *brewsteri*; SE) An individual was detected in mule fat scrub southwest of the main parking lot north of UPCR.
- <u>Cooper's hawk</u> (WL) An individual was observed flying within and around the southern willow scrub near the northern reaches of PCW.
- <u>Sharp-shinned hawk</u> (Accipiter striatus; WL) An individual was observed attempting to forage on trapped brown-headed cowbird (Molothrus ater) individuals at the southern end of the survey area west of PCW.
- Northern harrier (Circus cyaneus; SSC) An individual was observed flying over near the basin east of the reservoir.
- Yellow-breasted chat (Icteria virens; SSC) A few individuals were observed within the southern cottonwood-willow riparian forest east of the reservoir (basin) and near the southern end of PCW.
- <u>Yellow warbler</u> (Setophaga petechia; SSC) An individual was observed within the southern cottonwood-willow riparian forest east of the reservoir (basin).
- <u>Orangethroat whiptail</u> (*Aspidoscelis hyperythra*; SSC) A few mature and juvenile individuals were observed within disturbed areas recovering and areas being restored to coastal sage scrub along the eastern terraces of the upper-mid reaches of PCW.
- Red-diamond rattlesnake (*Crotalus ruber*, SSC) An individual was observed near the upper reaches of PCW where Gnatcatcher Trail and Peters Canyon Trail meet.
- Western pond turtle (Emys marmorata; SSC) A few mature individuals were observed in the culvert outlet of the UPCR dam; carapaces only (deceased) were observed in the western portion of the dried reservoir and upper reach of PCW.

No other special-status wildlife species were observed during the surveys. However, Michael Baker determined that the following special-status wildlife species have a moderate or high potential for occurring within the survey area: Crotch bumble bee (*Bombus crotchii*¹), coastal whiptail (*Aspidoscelis tigris stejneger*), coast horned lizard (*Phrynosoma blainvillii*; SSC), coast patch-nosed snake (*Salvadora hexalepis virgultea*; SSC), great blue heron (*Ardea herodias*),

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¹ Note: Special-status wildlife species not showing a designated status following the scientific name do not have USFWS or CDFW rating, rather only Global and State Ranks as per as per NatureServe and CDFW's CNDDB RareFind5.

long-eared owl (*Asio otus*; SSC), white-tailed kite (*Elanus leucurus*; FP), pallid bat (*Antrozous pallidus*; SSC), Mexican long-tongued bat (*Choeronycteris mexicana*; SSC), western mastiff bat (*Eumops perotis californicus*; SSC), and Yuma myotis (*Myotis yumanensis*).

Crotch bumble bee is known to occur within the vicinity of the survey area and food plants are abundant on-site. Coastal whiptail, coast horned lizard, and coast patch-nosed snake are typically found in coastal sage scrub, grassland, and/or riparian woodland similar to those areas mapped as such throughout the survey area. Great blue heron, long-eared owl, and white-tailed kite are known to occur in marshes and riparian areas, along the margins, and in adjacent grasslands found throughout the survey area. Foraging habitat such as grasslands, shrublands, and/or riparian woodlands and forests suitable to support pallid bat, Mexican long-tongued bat, western mastiff bat, and Yuma myotis are present throughout the survey area; however, suitable rooting habitat (e.g., rocky cliffs and caves), with the exception of trees suitable to support roosting western mastiff bat, is not present on-site.

4.2 SPECIAL-STATUS VEGETATION COMMUNITIES

The CNDDB records search revealed a total of ten (10) special-status habitats/vegetation communities. Present throughout the survey area in PCW and surrounding UPCR are mapped as southern cottonwood-willow riparian forest (G3/S3.2), southern riparian scrub (i.e., mule fat scrub; G3/S3.2), and southern willow scrub (G3/S2.1). Although southern California black walnut was observed within PCW, these scattered individuals do not constitute the California Walnut Woodland classification.

Although not listed in the CNDDB as a special-status habitat/vegetation community, coastal sage scrub is considered a "rare and worthy of consideration" plant community by CDFW due to loss and fragmentation along the foothills in southern California. Additionally, the County NCCP/HCP primarily focuses on the protection of coastal sage scrub and the organisms that depend on it for continued survival. Coastal sage scrub is found throughout the survey area in various forms and stages.

No other special-status habitats/vegetation communities were observed within the survey area.

4.3 JURISDICTIONAL AQUATIC FEATURES

On-site, jurisdictional features include a man-made reservoir (UPCR; currently dry) at the northern end, which is surrounded by associated wetland and riparian vegetation, including two basins and a few inlets, and fed by Santiago Canyon, urban runoff, and direct rainfall. Downstream of the dam, flows enter PCW, an intermittent stream, via groundwater from UPCR and by direct rainfall. PCW consists of a wetland/riparian corridor that conveys flows along the western side of the canyon (adjacent to residences), with relatively steep upland slopes to the east. At the southern end, the wash conveys flows into a detention basin, which detains most waters and inundates

depending on the frequency of storm events, but remains dry for the majority of each year. The lower basin consists of a flood spill way that discharges extraordinary flows into a box culvert and the local storm drain system. Further, there are eight (8) ephemeral drainage features and eight (8) culverts throughout PECA that convey flows primarily from off-site sources and are tributary to UPCR and PCW.

For details regarding the results of the jurisdictional delineation and total areas on-site subject to jurisdiction of each regulatory agency, refer to the stand-alone document (Michael Baker 2016a).

4.4 NESTING BIRDS AND WILDIFE MOVEMENT

The survey area provides a wide variety of habitats suitable to support nesting opportunities for numerous bird species. Avian species are capable of using the survey area for nesting, but also migration and dispersal as undeveloped lands are located directly to the north and east. Conversely, ground-moving wildlife can utilize the majority of the 340-acre survey area to forage and breed, but are limited in dispersal and establishing new residents as the site is entirely surrounded by housing developments and/or roadways that are likely to cause significant mortalities. Non-avian wildlife movement within the survey area is therefore restricted by development and infrastructure, allowing limited access within, but no movement through as PCW terminates at the southern end of the survey area, which then enters the local, underground storm drain system eventually discharging into Upper Newport Bay. Large mammals that typically use riparian corridor for regional movement and migration have not been observed, nor are expected for the reasons mentioned above.

4.5 CRITICAL HABITAT

Currently, no USFWS-designated critical habitats (proposed or final) have been mapped within the survey area. The nearest critical habitat is located approximately 1/3-mile to the northwest and over a mile to the north-northeast, both final for coastal California gnatcatcher.

4.6 LOCAL POLICIES AND ORDINANCES

The County of Orange Central and Coastal Subregional NCCP and Habitat Conservation Plan (County NCCP/HCP) is a comprehensive, multi-jurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in Orange County. The NCCP/HCP focuses on protection of coastal sage scrub habitat and three designated "Target Species:" the coastal California gnatcatcher, coastal cactus wren, and orangethroat whiptail. A reserve area was created to meet the ecological requirements of these three (3) species and thirty-six (36) other "Identified Species," with the understanding that the three target species would serve as "surrogates" for the broader suite of organisms that depend upon coastal sage scrub for their continued survival in the County NCCP/HCP planning area (Appendix E, NCCP/HCP Target and Identified Species). The Implementation Agreement (IA) satisfies the State and Federal mitigation

requirements for designated development and adequately provides for the conservation and protection of 39 species and their habitats identified in the County NCCP/HCP.

Specifically, PECA is located within the Central Subarea of the County NCCP/HCP and is subject to the requirements and provisions set forth in the County NCCP/HCP. The NCCP/HCP specifies that the populations of the target species shall be subject to long-term monitoring and that these taxa shall be treated as if they were listed under CESA/FESA. Refer to Appendix C for species known to or have the potential to occur within the survey area and surrounding vicinity that are covered by the NCCP/HCP.

There are no other local policies or ordinances within the Cities of Orange and Tustin known to be applicable to PECA.

Section 5 Recommendations

The following discusses the possible adverse impacts to biological resources that may occur from implementation of any proposed activities and suggests appropriate mitigation measures that would reduce those impacts to less than significant levels.

5.1 SPECIAL-STATUS SPECIES

Michael Baker biologists identified fifteen (15) special-status species on-site during the surveys, four (4) plant species and eleven (11) wildlife species. In addition, Michael Baker determined that the survey area contains suitable habitat for nineteen (19) special-status species, eight (8) plant species and eleven (11) wildlife species. Therefore, a total of thirty-four (34) special-status species were either observed or have a moderate to high potential to occur on-site.

5.1.1 Special-Status Plant Species

Due to the abundance of suitable habitat throughout the survey area, a focused rare plant survey during the appropriate blooming periods would be necessary to determine presence or absence of the eight (8) special-status plant species with a moderate or high potential to occur throughout the survey area, and any additional sightings of those already observed; however, focused surveys could be limited to areas proposed for disturbance. Proposed impacts to Federally- and/or State-listed plant species would be subject to "take" under FESA/CESA, respectively, if not a species covered for take when in compliance with the County NCCP/HCP. Proposed impacts to special-status species with a CRPR 1 or 2 would require CEQA disclosure; and although they warrant no legal protection, a lead agency may require mitigation in the form of off-site preservation or translocation, for example, if not covered by the County NCCP/HCP. Impacts to CRPR 3 and 4 species are not considered significant under CEQA and warrant no legal protection, but may simply require CEQA disclosure.

5.1.2 Special-Status Wildlife Species

There is habitat with moderate or high potential to support the eleven (11) special-status wildlife species throughout the survey area. Focused surveys for reptiles, nesting birds, and roosting bats may be required by CDFW for any proposed impacts that may affect suitable habitat. If the target species are detected within areas that could result in take, mitigation measures including avoidance and/or minimization may be required, such as allowing wildlife to move out of harm's way and establishing avoidance areas around active bird nests and roosting bats.

5.2 SPECIAL-STATUS VEGETATION COMMUNITIES

Present throughout the survey area in PCW and surrounding the UPCR are mapped as southern cottonwood-willow riparian forest (G3/S3.2), southern riparian scrub (i.e., mule fat scrub;

G3/S3.2), and southern willow scrub (G3/S2.1). Although southern California black walnut was observed within PCW, these scattered individuals do not constitute the California Walnut Woodland classification. Impacts to these aquatic vegetation communities is discussed below in Section 5.3.

In addition, coastal sage scrub occurs throughout the survey. Special-status vegetation communities should be avoided to the extent practical. Impacts to coastal sage scrub vegetation communities are discussed in Section 5.6 below.

5.3 JURISDICTIONAL AQUATIC FEATURES

The streambed/banks and associated southern cottonwood-willow riparian forest, southern willow scrub, valley freshwater marsh, mule fat scrub, disturbed wetland, and tamarisk scrub vegetation communities on-site are subject to jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFGC). Portions of these vegetation communities that meet the three-parameter wetland criteria (wetland WoUS) and other non-riparian areas simply displaying an OHWM (non-wetland WoUS) are subject to jurisdiction of U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Federal Clean Water Act (CWA) and Regional Water Quality Control Board (Regional Board) pursuant to Section 401 of the CWA. There are no aquatic features on-site classified as State waters subject to Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne).

Proposed impacts (i.e., alteration and/or the discharge of dredge/fill material) to jurisdictional resources would require notification to and subsequent permitting/ authorization from CDFW for streambed alteration, Regional Board for water quality certification, and Corps for dredge or fill activities in wetland and non-wetland WoUS. A formal jurisdictional delineation specific to those areas proposed for impacts may be necessary to refine jurisdictional limits at that scale once a standalone project is proposed.

5.4 NESTING BIRDS AND WILDIFE MOVEMENT

Proposed project activities should avoid the general bird breeding season (typically January through July for raptors and February through August for other avian species), if feasible. If breeding season avoidance is not feasible, a qualified biologist should conduct a pre-construction nesting bird survey to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the site should be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by MBTA and the CFGC, nesting bird surveys shall be performed twice per week during the three weeks prior to the scheduled vegetation clearance. In the event that active nests are discovered, a suitable buffer (distance to be determined by the biologist or overriding

agencies) should be established around such active nests and no construction within the buffer allowed until the biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). No ground disturbing activities shall occur within this buffer until the biologist has confirmed that breeding/nesting is completed and the young have fledged the nest. Nesting bird surveys are not required for construction activities occurring September through December.

5.5 CRITICAL HABITAT

Currently, no USFWS-designated critical habitat have been mapped within the survey area; therefore no recommendations are provided at this time.

5.6 LOCAL POLICIES AND ORDINANCES

PECA is located within the boundaries of the Central Subregion of the County NCCP/HCP, within the designated Reserve System. Any activities with the PECA must be consistent with the management requirements for the Reserve System.

The park is considered to be a permitted use within the Reserve System according to Section 5.3 of the NCCP/HCP. According to Section 5.3, recreation and public access is permitted within the Reserve as long as it is consistent with the policies contained in the NCCP/HCP's adaptive management program. The adaptive management program is intended to allow management actions within the Reserve to adapt to changing conditions over time through long-term monitoring. As summarized in Section 5.2 of the NCCP/HCP, the major elements of the adaptive management program include the following:

- Monitoring and associated adaptive management of the biological resources located within the Reserve System;
- Restoration and enhancement actions (other than the creation of new CSS habitat) such as eradication of invasive, non-native plant species; predator control; grazing management plans; and construction of additional western spadefoot toad (*Spea hammondii*; SSC) breeding sites;
- Adaptive management carried out by means of short-term and long-term fire management programs within the Reserve System;
- Adaptive management of public access and recreational uses within the Reserve System;
- Adaptive management measures to minimize the impacts of ongoing operations/ maintenance of uses within the Reserve System that existed prior to approval of the Subregional NCCP/HCP;
- Assurance that permitted infrastructure uses proceed in a manner provided for in the NCCP/HCP in order to minimize impacts of new uses allowed within the Reserve System;

- Interim management of privately-owned lands for all of the above adaptive management elements prior to transfer of legal title to permanent public or non-profit ownership within the Reserve System; and
- Restoration and enhancement through: (a) the acquisition of existing coastal sage scrub
 habitat or (b) the creation of new coastal sage scrub habitat to offset potential loss of net
 long-term habitat value due to development of coastal sage scrub habitat outside the
 Reserve System on the part of "non-participating landowners."

Under the NCCP/HCP, permitted recreation and public access actions include the following:

- Passive recreation activities such as hiking, nature interpretation, and picnicking;
- Mountain biking and equestrian activities on designated trails;
- Camping in designated locations;
- Continued operation of pre-existing park facilities, including active recreation facilities
 within disturbed areas, provided that existing active facility expansions, or conversion of
 passive use facilities to active use must be consistent with the NCCP/HCP;
- Within the Coal Canyon Ecological Reserve, public access and hunting as determined appropriate by CDFW;
- · Park and Reserve administrative and interpretive facilities; and
- Construction, operation, and maintenance of new facilities necessary to support permitted recreation uses, including concessions that support permitted uses/activities within the Reserve.

An analysis of permitted public access and recreation policies is provided in Section 5.8 of the NCCP/HCP, specifically in Section 5.8.3. The policies in this section are intended to define recreational uses within the Reserve in a manner that would be consistent with the protection and management of coastal sage scrub and other habitats.

As described in Section 7.2 of the County NCCP/HCP and Section 9.2 of the IA, participating and non-participating landowners are authorized to take a certain amount of coastal sage scrub under the County NCCP/HCP. According to Table 7-1 in the NCCP/HCP, a total of 512 acres of coastal sage scrub habitats are authorized for Incidental Take within the Reserve by participating landowners. Impacts to this habitat and incidental take of associated coastal California gnatcatchers within the Reserve is authorized "based on the mitigation provided by the creation of the permanent habitat Reserve System and implementation of the 'adaptive management' program within the Reserve System." Before removing coastal sage scrub habitat, the project proponent would be required to calculate the acreage of coastal sage scrub that would be removed and subsequently verify that the amount of coastal sage scrub take remaining from the

portions of 512 acres authorized by the County NCCP/HCP remain available and can be used by this project.

Section 6 Survey Limitations

This Biological Resources Report has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Biological surveys for the presence or absence of certain taxa have been conducted as part of this assessment, but were not necessarily performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided.

The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5 and CNPS Online Inventory, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Michael Baker believes the data sources are reasonably reliable, Michael Baker cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A: Site Photographs



Photo 1 – Looking over a non-native grassland in the northeast portion of Peters Canyon Regional Park



Photo 2 - Looking north into UPCR from the Lake View Trail



Photo 3 – Looking southeast into PCW from the Lake View Trail vista point



Photo 4 – Looking south from the reservoir dam into Peters Canyon Wash



Photo 5 – Looking northwest from the reservoir dam into the dry reservoir



Photo 6 – Coastal sage scrub habitat along PCW, with eucalyptus woodlands in the background



Photo 7 – Looking southwest into the historic eucalyptus woodland from the East Ridge View Trail



Photo 8 - Southern cottonwood-willow riparian forest edge within PCW

Appendix B: Plant and Wildlife Species Observed List

Appendix B: Plants and Wildlife Species Observed List

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Plants		
Acacia sp.	acacia	
Acer saccharum*	sugar maple	
Acmispon glaber	deerweed	
Acourtia microcephala	sacapellote	
Agave americana*	blue agave	
Agrostis pallens	leafy bent grass	
Ailanthus altissima*	tree of heaven	Moderate
Amaranthus albus*	pigweed amaranth	
Ambrosia psilostachya	western ragweed	
Amorpha fruticosa	desert indigobush	
Amsinckia menziesii	small flowered fiddleneck	
Anemopsis californica	yerba mansa	
Apium graveolens*	wild celery	
Aptenia cordifolia*	baby sun rose	
Artemisia californica	California sagebrush	
Artemisia douglasiana	California mugwort	
Artemisia dracunculus	wild tarragon	
Arundo donax*	giant reed	High
Asclepias fascicularis	narrow leaf milkweed	
Atriplex lentiformis	big saltbush	
Atriplex semibaccata*	Australian saltbush	Moderate
Atriplex sp.*	saltbush	
Avena barbata*	slender wild oat	Moderate
Avena fatua*	wild oat	Moderate
Baccharis pilularis	coyote brush	
Baccharis salicifolia	mule fat	
Bloomeria crocea	common goldenstar	
Brachypodium distachyon*	purple false brome	Moderate
Brassica nigra*	black mustard	Moderate
Brickellia californica	California brickellbush	
Bromus catharticus*	rescue grass	
Bromus carinatus	California brome grass	
Bromus diandrus*	common ripgut grass	Moderate
Bromus hordeaceus*	soft chess	Limited
Bromus sp.	brome	

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Bromus rubens*	foxtail chess	High
Calandrinia menziesii	red maids	
Calochortus catalinae	Catalina mariposa lily	CRPR 4.2
Calochortus splendens	splendid mariposa lily	
Calystegia macrostegia	island morning glory	
Camissoniopsis bistorta	California sun cup	
Capsella bursa-pastoris*	Shepherd's purse	
Cardionema ramosissimum	sand mat	
Carduus pycnocephalus*	Italian thistle	Moderate
Carpobrotus edulis*	Hottentot fig	High
Castilleja exserta	purple owl's clover	
Centaurea melitensis*	tocalote	Moderate
Chenopodium album*	lamb's quarters	
Chenopodium californicum	California goosefoot	
Chenopodium murale*	nettle leaf goosefoot	
Cirsium occidentale	cobweb thistle	
Cirsium vulgare*	bull thistle	Moderate
Clematis ligusticifolia	western virgin's bower	
Conium maculatum*	poison hemlock	Moderate
Convolvulus arvensis*	bindweed	
Corethrogyne filaginifolia	common sandaster	
Cortaderia selloana*	pampas grass	High
Crassula connata	sand pygmyweed	
Crassula ovata*	jade plant	
Croton setiger	dove weed	
Cryptantha intermedia	common cryptantha	
Cucurbita foetidissima	coyote gourd	
Cupaniopsis anacardioides*	carrotwood	
Cuscuta californica	California dodder	
Cylindropuntia prolifera	coastal cholla	
Cynara cardunculus*	artichoke thistle	Moderate
Cynodon dactylon*	Bermuda grass	Moderate
Cyperus eragrostis	tall flatsedge	
Cyperus involucratus*	umbrella sedge	
Datura wrightii	jimsonweed	
Deinandra fasciculata	fascicled tarweed	
Dichelostemma capitatum	blue dicks	
Distichlis spicata	saltgrass	
Dudleya lanceolata	lanceleaf liveforever	
Dudleya pulverulenta	chalk liveforever	

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Echium candicans*	pride of Madeira	Limited
Ehrharta erecta*	panic veldtgrass	Moderate
Elymus condensatus	giant wild rye	
Elymus triticoides	beardless wild rye	
Encelia californica	California encelia	
Ericameria palmeri var. pachylepis	Palmer's rabbitbrush	
Erigeron canadensis	Canada horseweed	
Eriogonum fasciculatum	California buckwheat	
Eriophyllum confertiflorum	golden yarrow	
Erodium botrys*	longbeak filaree	
Erodium cicutarium*	redstem filaree	Limited
Erodium moschatum*	whitestem filaree	
Eschscholzia californica	California poppy	
Eucalyptus camaldulensis*	red gum	Limited
Eucalyptus globulus*	blue gum	Moderate
Eucrypta chrysanthemifolia	spotted hideseed	
Eulobus californicus	California primrose	
Euphorbia albomarginata	rattlesnake sandmat	
Euphorbia lathyris*	compass plant	
Euphorbia maculata*	spotted surge	
Euphorbia peplus*	petty spurge	
Festuca myuros*	rattail fescue	Moderate
Festuca perennis*	Italian rye grass	Moderate
Ficus carica*	common fig	Moderate
Foeniculum vulgare*	sweet fennel	High
Fraxinus sp.	ash	
Fraxinus uhdei*	shamel ash	
Funastrum cynanchoides	climbing milkweed	
Galium angustifolium	narrowleaf bedstraw	
Geranium carolinianum	Carolina geranium	
Gilia angelensis	chaparral gilia	
Glebionis coronaria*	crown daisy	Moderate
Grevillea robusta*	silkoak	
Grindelia camporum	common gumplant	
Gutierrezia californica	California matchweed	
Hazardia squarrosa	sawtooth goldenbush	
Hedera helix*	English ivy	High
Helianthus annuus	common sunflower	
Heliotropium curassavicum	salt heliotrope	
Helminthotheca echioides*	bristly ox-tongue	Limited

Hesperoyucca whipplei chaparral yucca Heteromeles arbutifolia toyon telegraph weed Hirschfeldia incana* short pod mustard Moderate Hordeum murinum* foxtail barley Moderate Iris pseudacorus* water iris Limited Isocoma menziesii coastal goldenbush Juncus balticus Baltic rush Juncus mexicanus Mexican rush Juglans californica southern California black walnut Lactuca serriola* prickly lettuce goldentop grass Lepidium didymum* lesser swine cress Lepidium didymum* lesser swine cress Lepidium nitidum shining pepper grass Lupinus succulentus arroyo lupine Lupinus truncatus truncate leaf lupine Lysimachia arvensis* scarlet pimpernel Malacothamnus fasciculatus chaparral mallow Malacothrix saxatilis cliff aster Malva parviflora* cheeseweed Malvella leprosa alkali mallow Marah macrocarpa wild cumber Medica imperfecta Medicago polymorpha* bur clover Meliotus indicus* white sweetclover Meliotus indicus* yellow sweetclover	Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
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Medicago polymorpha* bur clover Limited Melica imperfecta coast range melic Melilotus albus* white sweetclover Melilotus indicus* yellow sweetclover	Marrubium vulgare*	horehound	Limited
Melica imperfecta coast range melic Melilotus albus* white sweetclover Melilotus indicus* yellow sweetclover	Matricaria discoidea	pineapple weed	
Melilotus albus* white sweetclover Melilotus indicus* yellow sweetclover	Medicago polymorpha*	bur clover	Limited
Melilotus albus* white sweetclover Melilotus indicus* yellow sweetclover	Melica imperfecta	coast range melic	
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	Melilotus indicus*	yellow sweetclover	
Mesembryanthemum crystallinum* crystalline ice plant Moderate	Mesembryanthemum crystallinum*	crystalline ice plant	Moderate
Mimulus aurantiacus bush monkeyflower	Mimulus aurantiacus	bush monkeyflower	
Mirabilis laevis var. crassifolia wishbone bush	Mirabilis laevis var. crassifolia		
Muhlenbergia rigens deergrass	Muhlenbergia rigens	deergrass	
Myoporum laetum* Iollypop tree Moderate			Moderate
Nerium oleander* oleander			
Nicotiana glauca* tree tobacco Moderate	Nicotiana glauca*	tree tobacco	Moderate

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Nicotiana quadrivalvis	Indian tobacco	•
Olea europaea*	olive	Limited
Opuntia ficus-indica*	Indian fig	
Opuntia littoralis	coast prickly pear	
Oxalis pes-caprae*	Bermuda buttercup	Moderate
Parkinsonia aculeata*	Mexican palo verde	
Pennisetum setaceum*	fountaingrass	Moderate
Persicaria lapathifolia	common knotweed	
Phacelia cicutaria	caterpillar phacelia	
Phacelia parryi	Parry's phacelia	
Phacelia ramosissima	branching phacelia	
Phoenix canariensis*	Canary Island date palm	Limited
Pinus sp.*	pine tree	
Plagiobothrys sp.	popcornflower	
Plantago major*	common plantain	
Platanus racemosa	western sycamore	
Pluchea odorata	salt marsh fleabane	
Plumbago auriculata*	Cape leadwort	
Poa pratensis*	Kentucky blue grass	Limited
Poa secunda	one sided blue grass	
Polygonum aviculare*	prostrate knotweed	
Polypogon interruptus*	ditch beard grass	
Polypogon monspeliensis*	annual beard grass	Limited
Populus fremontii	Fremont cottonwood	
Populus trichocarpa	black cottonwood	
Prunus ilicifolia	holly leaf cherry	
Pseudognaphalium biolettii	two-color rabbit-tobacco	
Pseudognaphalium californicum	ladies' tobacco	
Pseudognaphalium canescens	Wright's cudweed	
Pseudognaphalium luteoalbum*	Jersey cudweed	
Pulicaria paludosa*	Spanish false fleabane	
Quercus agrifolia	coast live oak	
Raphanus sativus*	wild radish	Limited
Rhamnus ilicifolia	hollyleaf redberry	
Rhus integrifolia	lemonade berry	
Ricinus communis*	castor bean	Limited
Romneya coulteri	Coulter's matilija poppy	CRPR 4.2
Rosa californica	California wild rose	
Rubus ursinus	California blackberry	
Rumex crispus*	curly dock	Limited

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Rumex salicifolius	willow dock	
Salix exigua	sandbar willow	
Salix gooddingii	Goodding's black willow	
Salix laevigata	red willow	
Salsola tragus*	Russian thistle	Limited
Salvia apiana	white sage	
Salvia columbariae	chia sage	
Salvia mellifera	black sage	
Sambucus nigra ssp. caerulea	blue elderberry	
Schinus molle*	Peruvian pepper tree	Limited
Schinus terebinthifolius*	Brazilian pepper tree	Limited
Schismus barbatus*	common Mediterranean grass	Limited
Schoenoplectus americanus	American bulrush	
Schoenoplectus californicus	California bulrush	
Selaginella bigelovii	Bigelow's spike moss	
Senecio vulgaris*	common groundsel	
Silene gallica*	common catchfly	
Silybum marianum*	milk thistle	Limited
Sisymbrium altissimum*	tumble mustard	
Sisymbrium irio*	London rocket	Moderate
Sisyrinchium bellum	blue-eyed grass	
Solanum americanum	white nightshade	
Sonchus oleraceus*	common sow thistle	
Sonchus asper ssp. asper*	prickly sow thistle	
Stellaria media*	chickweed	
Stephanomeria virgata	wreath plant	
Stipa lepida	foothill needle grass	
Stipa miliacea var. miliacea*	smilo grass	Limited
Stipa pulchra	purple needle grass	
Stipa diegoensis	San Diego needle grass	CRPR 4.2
Tamarix ramosissima*	tamarisk	High
Toxicodendron diversilobum	poison oak	
Tribulus terrestris*	puncture vine	
Tropaeolum majus*	garden nasturtium	
Typha latifolia	broadleaf cattail	
Ulmus parvifolia*	Chinese elm	
Urtica dioica	stinging nettle	
Urtica urens*	dwarf nettle	
Verbena lasiostachys	common verbena	

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Veronica anagallis-aquatica*	water speedwell	
Vicia villosa*	hairy vetch	
Vinca major*	bigleaf periwinkle	Moderate
Vitis californica	California wild grape	
Washingtonia robusta*	Mexican fan palm	Moderate - ALERT
Xanthium strumarium	cockleburr	
Invertebrates		
Adelpha californica	California sister	
Agraulis vanillae	gulf fritillary	
Anthocharis sara	Sara orangetip	
Apodemia virgulti	Behr's metalmark	
Brephidium exilis	western pygmy blue	
Erynnis funeralis	funereal duskywing	
Junonia coenia	common buckeye	
Nymphalis antiopa	mourning cloak	
Papilio zelicaon	anise swallowtail	
Plebejus acmon	acmon blue	
Pontia protodice	checkered (common) white	
Zerene eurydice	California dogface	
Amphibians		
Pseudacris regilla	Pacific tree frog	
Reptiles		
Aspidoscelis hyperythra	orangethroat whiptail	SSC
Crotalus oreganus helleri	southern Pacific rattlesnake	
Crotalus ruber	red-diamond rattlesnake	SSC
Diadophis punctatus pulchellus	coral-bellied ring-necked snake	
Emys marmorata	western pond turtle	SSC
Sceloporus occidentalis	western fence lizard	
Uta stansburiana	common side-blotched lizard	
Birds		
Accipiter cooperii	Cooper's hawk	WL (nesting)
Accipiter striatus	sharp-shinned hawk	WL (nesting)
Agelaius phoeniceus	red-winged blackbird	
Amazona viridigenalis*	red-crowned parrot	Endangered in native northeast Mexico
Anas platyrhynchos	mallard	
Aphelocoma californica	western scrub-jay	
Ardea alba	greater egret	

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Bombycilla cedrorum	cedar waxwing	
Bubo virginianus	great horned owl	
Buteo jamaicensis	red-tailed hawk	
Buteo lineatus	red-shouldered hawk	
Callipepla californica	California quail	
Calypte anna	Anna's hummingbird	
Calypte costae	Costa's hummingbird	
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC
Cardellina pusilla	Wilson's warbler	
Cathartes aura	turkey vulture	
Catharus guttatus	hermit thrush	
Chamaea fasciata	wrentit	
Charadrius vociferus	killdeer	
Circus cyaneus	northern harrier	SSC (nesting)
Corvus brachyrhynchos	American crow	
Corvus corax	common raven	
Egretta thula	snowy egret	
Empidonax difficilis	Pacific-slope flycatcher	
Empidonax traillii cf. brewsteri	little willow flycatcher	SE (nesting)
Geococcyx californianus	greater roadrunner	
Geothlypis tolmiei	MacGillivray's warbler	
Geothlypis trichas	common yellowthroat	
Haemorhous mexicanus	house finch	
Hirundo rustica	barn swallow	
Icteria virens	yellow-breasted chat	SSC (nesting)
Icterus bullockii	Bullock's oriole	
Icterus cucullatus	hooded oriole	
Lonchura punctulata	scaly-breasted munia	
Melanerpes formicivorus	acorn woodpecker	
Melospiza melodia	song sparrow	
Melozone crissalis	California towhee	
Mimus polyglottos	northern mockingbird	
Molothrus ater	brown-headed cowbird	
Pandion haliaetus	osprey	
Passer domesticus	house sparrow	
Passerina amoena	Lazuli bunting	
Passerina caerulea	blue grosbeak	

Scientific Name*	Common Name	Cal-IPC Rating** or Special-Status***
Petrochelidon pyrrhonota	cliff swallow	
Pheucticus melanocephalus	black-headed grosbeak	
Picoides nuttallii	Nuttall's woodpecker	
Picoides pubescens	downy woodpecker	
Pipilo maculatus	spotted towhee	
Piranga ludoviciana	western tanager	
Polioptila caerulea	blue-gray gnatcatcher	
Polioptila californica californica	coastal California gnatcatcher	FT/SSC
Psaltriparus minimus	bushtit	
Sayornis nigricans	black phoebe	
Sayornis saya	Say's phoebe	
Selasphorus sasin	Allen's hummingbird	
Setophaga coronata	yellow-rumped warbler	
Setophaga nigrescens	black-throated gray warbler	
Setophaga petechia	yellow warbler	SSC (nesting)
Setophaga townsendi	Townsend's warbler	
Spinus lawrencei	Lawrence's goldfinch	
Spinus psaltria	lesser goldfinch	
Spinus tristis	American goldfinch	
Sturnus vulgaris	European starling	
Tachycineta bicolor	tree swallow	
Tachycineta thalassina	violet-green swallow	
Taeniopygia guttata	zebra finch	
Thryomanes bewickii	Bewick's wren	
Toxostoma redivivum	California thrasher	
Troglodytes aedon	house wren	
Tyrannus verticalis	western kingbird	
Tyrannus vociferans	Cassin's kingbird	
Vermivora celata	orange-crowned warbler	
Vireo bellii pusillus	least Bell's vireo	FT/ST (nesting)
Vireo gilvus	warbling vireo	
Zenaida macroura	mourning dove	
Zonotrichia leucophrys	white-crowned sparrow	
Mammals		
Canis latrans	coyote	
Microtus californicus	California vole	
Otospermophilus beecheyi	California ground squirrel	
Sylvilagus audubonii	desert cottontail	

Non-native plant species

** California Invasive Plant Council (Cal-IPC) Ratings

High These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

*** California Rare Plant Rank (CRPR)

- 1A Plants presumed extirpated in California and either rare or extinct elsewhere
- 1B Plants rare, threatened, or endangered in California and elsewhere
- 2A Plants presumed extirpated in California, but common elsewhere
- 2B Plants rare, threatened, or endangered in California, but more common elsewhere
- 3 Plants about which more information is needed a Review List
- 4 Plants of limited distribution a Watch List

Threat Ranks

- .1 Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- .3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

FESA Classifications

FE Federally Endangered
FT Federally Threatened
FC Federal Candidate
FD Federally Delisted

CESA Classifications

SE State Endangered ST State Threatened

SSC California Species of Special Concern

FP Fully Protected WL Watch List

Appendix C: Special-Status Species Table

Appendix C: Special-Status Species Table

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
PLANTS			
Abronia villosa var. aurita chaparral sand verbena	/ 1B.1 N	Annual herb. Blooms January through September. Grows in sandy soils within chaparral, coastal scrub, and desert dune habitats. Found at elevations ranging from 245 to 5,250 feet amsl.	Low. Suitable substrate (sandy soils) is present in limited areas. This species was not observed during the surveys.
Astragalus brauntonii Braunton's milk- vetch	FE / 1B.1 N	Perennial herb. Blooms January through August. Occurs in chaparral and Tecate cypress woodland. The seeds germinate following fire or physical disturbance. Known elevations ranging from 655 to 2,135 feet amsl.	Not Expected. Suitable habitat (chaparral or Tecate cypress woodland) are not present within the survey area, and this species was not observed during the surveys.
Atriplex coulteri Coulter's saltbush	/ 1B.2 N	Perennial herb. Blooms March through October. Generally associated with alkaline or clay soils that occur in grasslands and coastal bluff habitats. Known elevations range from 30 to 1,440 feet amsl.	Low. Suitable habitat (grasslands with clay or moderately alkaline soils) is marginally present within the survey area. This species was not observed during the surveys.
Atriplex pacifica south coast saltscale	/ 1B.2 N	Annual herb. Blooms March through October. Occurs on alkali soils in coastal scrub, coastal bluff, and playas. Known elevations range from 3 to 1,640 feet amsl.	Low. Suitable habitat (coastal scrub with moderately alkaline soils) is marginally present within the survey area. This species was not observed during the surveys.
Atriplex serenana var. davidsoni Davidson's saltscale	/ 1B.2 N	Annual herb. Blooms April through October. Occurs in coastal bluff scrub and coastal scrub on alkaline soils. Known elevations range from 30 to 660 feet amsl.	Low. Suitable habitat (coastal scrub with moderately alkaline soils) is marginally present within the survey area. This species was not observed during the surveys.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Baccharis malibuensis Malibu baccharis	/ 1B.1 N	Shrub. Blooms in August. Found in coastal sage scrub, chaparral, and cismontane woodland. Generally occurs in the Santa Monica Mountains and Simi Hills. Known elevations range from 490 to 855 feet amsl.	Low. Suitable habitat (coastal sage scrub) is present within the survey area; however, this perennial shrub species was not observed during the surveys.
Brodiaea filifolia thread-leaved brodiaea	FT / SE 1B.1 N	Perennial herb (bulb). Blooms March through June. Typically occurs on clay-silt soils in vernal pools, coastal scrub, and valley and foothills grasslands. Known elevations range from 80 to 3,675 feet amsl.	Low. Suitable habitat (coastal scrub and grasslands with clay soils) is marginally present within the survey area. This species was not observed during the surveys.
Calochortus catalinae Catalina mariposa- lily	/ 4.2 Y	Perennial herb (bulb). Blooms March through June. Typically occurs in heavy soils, open slopes, and openings in brush within valley and foothill grassland, chaparral, coastal scrub, and cismontane woodland habitats. Known elevations range from 15 to 2,300 feet amsl.	Present. Several individuals of this species were observed near the north end of the eucalyptus woodland within open areas of coastal sage scrub and grasslands.
Calochortus plummerae Plummer's mariposa-lily	/ 4.2 N	Perennial herb (bulb). Blooms May through July. Prefers openings in chaparral, foothill woodland, coastal sage scrub, valley and foothill grasslands, cismontane woodland, lower montane coniferous forest, and yellow pine forest. Found on dry, rocky slopes and soils, and brushy areas. Can be very common after fire. Known elevations range from 325 to 5,580 feet amsl.	Moderate. Suitable habitat (openings in coastal sage scrub and grasslands) is present within the survey area. This species was not observed during the surveys.
Calochortus weedii var. intermedius intermediate mariposa-lily	/ 1B.2 Y	Perennial herb (bulb). Blooms May through July. Found in chaparral, coastal sage scrub, and valley and foothill grasslands, as well as rocky outcrops. Known elevations range from 340 to 2,805 feet amsl.	Moderate. Suitable habitat (coastal sage scrub and grasslands) is present within the survey area. This species was not observed during the surveys.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Camissoniopsis lewisii Lewis' evening- primrose	/ 3 N	Annual herb. Blooms March through June. Occurs on sandy or clay soils in valley and foothill grassland, coastal bluff scrub, cismontane woodland, coastal dunes, and coastal scrub. Known elevations range from 0 to 1,740 feet amsl.	Moderate. Suitable habitat (sandy and clay soils in coastal scrub and grasslands) is present within the survey area. This species was not observed during the surveys.
Centromadia parryi ssp. australis southern tarplant	/ 1B.1 N	Annual herb. Blooms May through November. Occurs in disturbed areas near coastal salt marshes, grasslands, vernal pools, and coastal sage scrub habitats. Prefers seasonally moist (saline) grasslands near the coast. Known elevations range from 0 to 1,395 feet amsl.	Low. Suitable habitat (in coastal sage scrub and seasonally moist grasslands) is marginally present within the survey area. This species was not observed during the surveys.
Chorizanthe parryi var. fernandina San Fernando Valley spineflower	FC / SE 1B.1 N	Annual herb. Blooms April through July. Found in dry, sandy places from the San Fernando Valley to Orange and San Diego Counties. Known elevations range from 490 to 4,005 feet amsl.	Low. Suitable habitat (dry, sandy places) is marginally present within the survey area. This species was not observed during the surveys.
Chorizanthe polygonoides var. longispina long-spined spineflower	/ 1B.2 N	Annual herb. Blooms April through July. Typically found on clay lenses that are largely devoid of shrubs. Can be found on the periphery of vernal pool habitat and even on the periphery of montane meadows near vernal seeps. Known elevations range from 95 to 5,020 feet amsl.	Low. Suitable habitat (clay lenses largely devoid of vegetation) is marginally present within the survey area. This species was not observed during the surveys.
Dodecahema leptoceras slender-horned spineflower	FE / SE 1B.1 N	Annual herb. Blooms April through June. Found on sandy soils and flood deposited terraces and washes in chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). Associates include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. Known elevations range from 655 to 2,690 feet amsl.	Low. Suitable habitat (sandy soils in coastal scrub) is marginally present within the survey area. This species was not observed during the surveys.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Dudleya multicaulis many-stemmed dudleya	/ 1B.2 N	Perennial herb. Blooms April through July. Occurs on heavy, often clayey soils or grassy slopes in chaparral, coastal scrub, and valley and foothill grassland habitats. Known elevations range from 45 to 3,280 feet amsl.	Low. Suitable habitat (heavy, clayey soils in coastal scrub and grasslands) is marginally present within the survey area. This species was not observed during the surveys.
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	FE / SE 1B.1 N	Perennial herb. Blooms May through September. Found only within open washes and early successional alluvial fan scrub; on open slopes above main watercourses on fluvial deposits where flooding and scouring occur at a frequency that allows the persistence of open shrublands; substrate comprised of patchy distribution of gravelly soils, sandy soils, rock mounds, and boulder fields. Known elevations range from 295 to 2,005 feet amsl.	Not Expected. Suitable habitat (open washes and fluvial deposits) is not present within the survey area, and this species was not observed during the surveys.
Helianthus nuttallii ssp. parishii Los Angeles sunflower	/ 1A N	Perennial herb (rhizomatous). Blooms August through October. Occurs in marshes, swamps, and on damp river banks. Know elevations range from 15 to 5,495 feet amsl.	Not Expected. Suitable habitat (marshes and damp river banks) is present within the survey area. However, this species is presumed extinct, and was not observed during the surveys.
Hesperocyparis forbesii Tecate cypress	/ 1B.1 Y	Coniferous tree. Grows in chaparral and woodland habitats. In Orange County stands are located in Coal, Fremont, and Gypsum Canyons of the northern Santa Ana Mountains. Known elevations range from 260 to 4,925 feet amsl.	Not Expected. Suitable habitat (chaparral and woodlands) is not present within the survey area, and this species was not observed during the surveys.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Hordeum intercedens vernal barley	/ 3.2 N	Annual grass. Blooms March through June. Occurs on dry, saline streambeds and alkaline flats in valley and foothill grassland, vernal pools, coastal dunes, and coastal scrub. Known elevations range from 15 to 3,280 feet amsl.	Not Expected. Suitable habitat (dry, saline streambeds and alkaline flats) is not present within the survey area, and this species was not observed during the surveys.
Horkelia cuneata var. puberula mesa horkelia	/ 1B.1 N	Perennial herb. Blooms February through July. Found in sandy or gravelly sites in chaparral, cismontane woodland, and coastal scrub habitats. Known elevations range from 45 to 5,400 feet amsl.	Low. Suitable habitat (sandy or gravelly sites in coastal scrub) is marginally present within the survey area. This species was not observed during the surveys.
Juglans californica southern California black walnut	/ 4.2 N	Tree. Blooms March through June. Found in slopes, canyons, and alluvial habitats of chaparral, coastal scrub, and cismontane woodland. Known elevations range from 15 to 5,875 feet amsl.	Present. Individuals of this species were observed within the middle to upper reaches of Peters Canyon Wash.
Lasthenia glabrata ssp. coulteri Coulter's goldfields	/ 1B.1 N	Annual herb. Blooms February through June. Usually found in alkaline soils in marshes, playas, vernal pools, and valley and foothill grasslands. Known elevations range from 3 to 4,595 feet amsl.	Low. Suitable habitat (alkaline soils in marshes and grasslands) is marginally present within the survey area. This species was not observed during the surveys.
Lepechinia cardiophylla heart-leaved pitcher sage	/ 1B.2 Y	Shrub. Blooms April through July. Occurs in closed-cone coniferous forest, chaparral, and cismontane woodland. Known elevations range from 1,800 to 4,495 feet amsl.	Not Expected. The survey area is outside of its known elevation range. Further, this perennial shrub species was not observed during the surveys.
Lepidium virginicum var. robinsonii Robinson's pepper- grass	/ 4.3 N	Annual herb. Blooms January through July. Found on dry soils in chaparral and coastal sage scrub. Known elevations range from 3 to 2,905 feet amsl.	High. Suitable habitat (dry soils in coastal sage scrub) is present within the survey area. This annual species was not observed during the surveys.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Monardella hypoleuca ssp. intermedia intermediate monardella	/ 1B.3 N	Perennial herb. Blooms June through August. Often found on steep, brushy areas in lower montane coniferous forest, cismontane woodland, and chaparral. Known elevations range from 980 to 4,100 feet amsl.	Low. Suitable habitat (steep, brushy areas) is marginally present within the survey area. This species was not observed during the surveys.
Nama stenocarpa mud nama	/ 2B.2 N	Annual herb. Blooms March through May. Grows on the muddy embankments of ponds and lakes. Also reported to utilize river embankments. Known elevations range from 15 to 1,640 feet amsl.	Low. Suitable habitat (muddy embankments) is marginally present within the survey area. This species was not observed during the surveys.
Nolina cismontana chaparral nolina	/ 1B.2 N	Shrub. Blooms May through July. Generally associated with sandstone or gabbro soils in chaparral and coastal scrub. Known elevations range from 455 to 4,185 feet amsl.	Not Expected. Suitable habitat (sandstone or gabbro soils) is not present within the survey area, and this perennial shrub species was not observed during the surveys.
Penstemon californicus California beardtongue	/ 1B.2 N	Perennial herb. Blooms May through June. Occurs on granitic and sandy soils and stony slopes in chaparral, coniferous forest, and pinyon-juniper woodlands. Known elevations range from 3,805 to 7,550 feet amsl.	Low. Suitable habitat (granitic and sandy soils) is marginally present within the survey area. This species was not observed during the surveys.
Pentachaeta aurea ssp. allenii Allen's pentachaeta	/ 1B.1 N	Annual herb. Blooms March through June. Occurs in coastal scrub openings and valley and foothill grasslands. Known elevations range from 225 to 1,560 feet amsl.	Moderate. Suitable habitat (openings in coastal scrub and grasslands) is present within the survey area. This species was not observed during the surveys.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Pseudognaphalium leucocephalum white rabbit-tobacco	/ 2B.2 N	Perennial herb. Blooms August through November. Found in sandy, gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodlands. Known elevations range from 3 to 6,890 feet amsl.	Moderate. Suitable habitat (sandy, gravelly soils in coastal scrub and riparian woodlands) is present within the survey area. This species was not observed during the surveys.
Romneya coulteri Coulter's matilija poppy	/ 4.2 Y	Perennial herb (rhizomatous). Blooms March through July. Occurs in washes and on slopes (also after burns) in coastal scrub and chaparral. Known elevations range from 65 to 3,940 feet amsl.	Present. Several individuals were observed at the main entrance adjacent to (east of) the parking lot, but appear installed as part of restoration efforts.
Senecio aphanactis chaparral ragwort	/ 2B.2 N	Annual herb. Blooms January through April. Occurs in coastal sage scrub, cismontane woodland, and alkaline flats. Known elevations range from 45 to 2,625 feet amsl.	Moderate. Suitable habitat (coastal scrub) is present within the survey area. This species was not observed during the surveys.
Stipa diegoensis San Diego County needle grass	/ 4.2 N	Perennial grass. Blooms February through June. Occurs on rocky slopes, sea cliffs, and stream banks (often in mesic sites) in chaparral and coastal scrub. Known elevations range from 30 to 3,380 feet amsl.	Present. Several individuals were observed along the Lake View Trail southwest of the reservoir.
Symphyotrichum defoliatum San Bernardino aster	/ 1B.2 N	Perennial herb (rhizomatous). Blooms July through November. Grows in grasslands and disturbed areas in the San Gabriel and San Bernardino Mountains and Peninsular Range. Occurs in vernally wet sites including ditches, streams, and springs in many plant communities. Know elevations range from 5 to 6,695 feet in elevation amsl.	Moderate. Suitable habitat (grasslands, disturbed areas, and streams) is present within the survey area. This species was not observed during the surveys.

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Scientific Name	Status* Federal / State CRPR or	Habitat Preferences and Distribution Affinities	Potential for
Common Name	G-Rank / S-Rank NCCP/HCP	DISTIBUTION ATTINITIES	Occurrence
INVERTEBRATES			
Bombus crotchii Crotch bumble bee	/ G3G4 / S1S2 N	Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	High. Suitable habitat (food plants) is present within the survey area.
Branchinecta sandiegonensis San Diego fairy shrimp	FE / G2 / S2 Y	Occupies vernal pools in chaparral and coastal scrub habitats, a wetland endemic to San Diego and Orange County coastal mesas and cismontane valleys.	Not Expected. Suitable habitat (vernal pools) is not present within the survey area.
Streptocephalus woottoni Riverside fairy shrimp	FE / G1G2 / S1S2 Y	Endemic to western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins and vernal pools in grassland and coastal sage scrub habitats. Inhabits seasonally astatic pools filled by winter/spring rains. Hatches in warm water later in the season.	Not Expected. Suitable habitat (slump basins or vernal pools) is not present within the survey area.
Tryonia imitator mimic tryonia (=California brackishwater snail)	/ G2 / S2 N	Inhabits coastal lagoons, estuaries, salt marshes, and where creek mouths that join tidal marshes from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	Not Expected. Suitable habitat (mouths to tidal marshes) is not present within the survey area.
FISH			
Catostomus santaanae Santa Ana sucker	FT / G1 / S1 N	Endemic to the south coastal flowing streams of the Los Angeles Basin. Habitat generalists, but prefer sand-rubble-boulder bottoms; cool, clear water; and algae.	Not Expected. Suitable habitat (coastal flowing streams) is not present within the survey area.
Rhinichthys osculus ssp. 3 Santa Ana speckled dace	/ SSC G5T1 / S1 N	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers, usually in areas with shallow cobble and gravel riffles. Requires permanent water flow with summer water temperatures between 17 and 20 degrees Celsius, and clear, well oxygenated water with movement due to current or waves.	Not Expected. Suitable habitat (areas with shallow cobble and gravel riffles) is not present within the survey area.

	Status*		
Scientific Name	Federal / State	Habitat Preferences and	Potential for
Common Name	CRPR or G-Rank / S-Rank NCCP/HCP	Distribution Affinities	Occurrence
AMPHIBIANS			
Anaxyrus californicus arroyo toad	FE / SSC G2G3 / S2S3 Y	Inhabits washes, arroyos, sandy riverbanks, and riparian areas with willows, sycamores, oaks, and cottonwoods. Has extremely specialized habitat needs, which include exposed sandy streamsides with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding.	Not Expected. Suitable habitat (exposed sandy streamsides with stable terraces) is not present within the survey area.
Lithobates pipiens (Native populations only) northern leopard frog	/ SSC G5 / S2 N	Native range is east of Sierra Nevada-Cascade Crest. Near permanent or semi-permanent water in a variety of habitats. Highly aquatic species. Shoreline cover, submerged, and emergent aquatic vegetation are important habitat characteristics.	Not Expected. Survey area is outside of the species native range. Occurrence is from 1957 identified as a transplant.
Spea hammondii western spadefoot	/ SSC G3 / S3 Y	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washed, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Not Expected. Suitable breeding habitat (rain pools) is not present within the survey area.
Taricha torosa (Monterey Co. and south only) Coast Range newt	/ SSC G4 / S4 N	Found in coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 kilometer to breed in ponds, reservoirs, and slow moving streams. In southern California, it is found in drier chaparral, oak woodland, and grasslands.	Low. Suitable habitat (coastal drainages, grasslands) is marginally present within the survey area, particularly when the reservoir is inundated.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
REPTILES			
Aspidoscelis hyperythra orangethroat whiptail	/ SSC G5 / S2 Y	Inhabits low-elevation coastal scrub, chaparral, and cismontane woodlands. Prefers washes and other sandy areas with patches of brush and rocks. Often found on the edge of intact vegetation and disturbed areas. Perennial plants necessary for its primary food, termites.	Present. Several individuals were observed within disturbed areas recovering and areas being restored to coastal sage scrub along the mid-upper reaches of Peters Canyon Wash.
Aspidoscelis tigris stejneger coastal whiptail	/ G5T3T4 / S2S3 Y	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	High. Suitable habitat (areas with sparse vegetation and open areas, riparian areas) is present within the survey area.
Charina trivirgata rosy boa	/ G4G5 / S3S4 Y	Often inhabits rocky areas in coastal sage scrub, chaparral, and desert scrub environments from the coast to the Mojave and Colorado deserts. Prefers moderate to dense vegetation and rocky cover.	Low. Suitable habitat (rocky areas in coastal sage scrub) is marginally present within the survey area.
Crotalus ruber red-diamond rattlesnake	/ SSC G4 / S3 Y	Found in chaparral, woodland, grassland, and desert scrub habitats from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, and cracks in rocks or surface cover objects.	Present. One individual was observed near the upper reaches of Peters Canyon Wash.
Emys marmorata western pond turtle	/ SSC G3G4 / S3 N	A thoroughly aquatic turtle of ponds, lakes, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 feet amsl. Needs basking sites (logs, rocks, cattail mats, and exposed banks) and suitable upland habitat (sandy banks or grassy open fields) up to 0.5 kilometer from water for egg-laying.	Present. A few individuals were observed in the culvert outlet of the reservoir dam. Carapaces only were observed in the western portion of the dried reservoir and upper reach of Peters Canyon Wash.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Common Name	NCCP/HCP		
Phrynosoma blainvillii coast horned lizard	/ SSC G3G4 / S3S4 Y	Frequents a wide variety of habitats, including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest, along sandy washes with scattered low bushes. Prefers open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants and other insects.	Moderate. Suitable habitat (coastal sage scrub, grassland, and riparian woodland) is present within the survey area.
Salvadora hexalepis virgultea coast patch-nosed snake	/ SSC G5T4 / S2S3 N	Found in brush or shrubby vegetation (coastal sage scrub) throughout coastal southern California, using small mammal burrows for refuge and overwintering sites.	Moderate. Suitable habitat (coastal sage scrub) is present within the survey area.
Thamnophis hammondii two-striped garter snake	/ SSC G4 / S3S4 N	Highly aquatic, found in or near permanent fresh water of marshes, swamps, and riparian scrub and woodlands, often along streams with rocky beds and riparian growth, up to 7,000 feet amsl.	Low. Suitable habitat (permanent fresh water of marshes and riparian scrub, and woodlands with rocky beds) is marginally present within the survey area.
BIRDS			
Accipiter cooperii (Nesting) Cooper's hawk	/ WL G5 / S4 N	Generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests, but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	Present. This species was observed within and around the riparian scrub near the northern reaches of Peters Canyon Wash.
Accipiter striatus (Nesting) sharp-shinned hawk	/ WL G5 / S4 Y	Occurs in pine, fir, and aspen forests. They can be found hunting in forest interior and edges from sea level to near alpine areas. Can also be found in rural, suburban and agricultural areas, where they often hunt at bird feeders. Typically found in southern California in the winter months.	Present. This species was observed attempting to forage on trapped brown-headed cowbird (<i>Molothrus ater</i>) individuals at the southern end of the survey area.
Aimophila ruficeps canescens southern California rufous-crowned sparrow	/ WL G5 / S4 Y	Frequents relatively steep, often rocky hillsides with grass and forb patches in coastal sage scrub and sparse mixed chaparral habitats.	Low. Suitable habitat (coastal sage scrub on rocky, steep slopes) is marginally present within the survey area.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Ardea herodias (Nesting colony) great blue heron	/ G5 / S4 N	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, riparian forests, lake margins, tidal flats in estuaries, rivers and streams, and wet meadows.	Moderate. Suitable habitat (marshes, riparian forests, lake margins, and streams) is present within the survey area, particularly when the reservoir is inundated.
Asio otus (Nesting) long-eared owl	/ SSC G5 / S3? N	Occurs in riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak (<i>Quercus agrifolia</i>) paralleling stream courses. Requires adjacent open grasslands productive of mice for night hunting and the presence of old nests of crows, hawks, or magpies for breeding.	Moderate. Suitable habitat (riparian woodlands and adjacent open grasslands) is present within the survey area.
Athene cunicularia (Burrow sites and some wintering sites) burrowing owl	/ SSC G4 / S3 N	Primarily found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, but it persists and even thrives in some landscapes highly altered by human activity, such as earthen canals, berms, rock piles, and pipes. Subterranean nester, most often dependent upon burrowing mammals, most notably, the California ground squirrel (Otospermophilus beecheyi).	Low. Suitable habitat (open grasslands and scrublands) is marginally present within the survey area.
Buteo regalis (Wintering) ferruginous hawk	/ WL G4 / S3S4 N	Primarily found in open grasslands, sagebrush flats, desert scrub, and low foothills and fringes of pinyon and juniper habitats, and agricultural and open fields. Feeds primarily on lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Low. Suitable habitat (open grasslands and scrublands) is marginally present within the survey area.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only) coastal cactus wren	/ SSC G5T3Q / S3 Y	From southern Ventura County and southwestern San Bernardino County to northwestern Baja California, occupies coastal sage scrub largely consisting of tall stands of coastal prickly pear (Opuntia littoralis) or cholla (Cylindropuntia spp.) cacti for nesting and roosting.	Present. Two nesting pairs were observed, one near the northern end of the canyon on the eastern side and one west of the reservoir.

Scientific Name	Status* Federal / State	Habitat Preferences and	Potential for
Common Name	CRPR or G-Rank / S-Rank NCCP/HCP	Distribution Affinities	Occurrence
Circus cyaneus (Nesting) northern harrier	/SSC G5/S3 Y	Found in coastal salt and freshwater marsh. Nests on ground in shrubby vegetation, usually at marsh edges, and forages in grasslands, from salt grass in desert sinks to mountain cienagas. Nests consist of a large mound of sticks in wet areas.	Present. An individual was observed near the basin east of the reservoir.
Coccyzus americanus occidentalis (Nesting) western yellow- billed cuckoo	FT / SE G5T2T3 / S1 N	Obligate willow-cottonwood riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods (<i>Populus</i> spp.), with the lower story dominated by blackberry, nettles (<i>Urtica</i> spp.), and/or wild grape (Vitis sp.).	Not Expected. Suitable habitat (broad, lower flood- bottoms of larger river systems) is not present within the survey area.
Elanus leucurus (Nesting) white-tailed kite	/ FP G5 / S3S4 N	Often found in rolling foothills and valley margins with scattered oaks, riparian bottomlands, or marshes next to deciduous woodland. Prefers isolated, dense-topped trees for nesting and perching near open valley and foothill grasslands, meadows, or marshes for foraging.	Moderate. Suitable habitat (riparian woodlands and marshes, and adjacent open grasslands) is present within the survey area.
Empidonax traillii extimus (Nesting) southwestern willow flycatcher	FE / SE G5T2 / S1 Y	Occurs in broad riparian woodlands in southern California. Typically requires large areas of willow thickets in broad valleys and canyon bottoms, or around ponds and lakes. These areas typically have standing or running water, or are at least moist.	Low. Suitable habitat (broad riparian woodlands with standing or running water) is marginally present within the survey area, particularly when the reservoir is inundated.
Haliaeetus leucocephalus (Nesting and wintering) bald eagle	FD / SE, FP G5 / S2 N	Found along the ocean shores, lake margins, and on rivers, where it both nests and winters, typically within one mile of water. Nests in large, old-growth, or dominant live trees with open branches, favoring ponderosa pines. Roosts communally in winter.	Low. Suitable habitat (lake margins, dominant live trees with open branches) is marginally present within the survey area, particularly when the reservoir is inundated.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Icteria virens (Nesting) yellow-breasted chat	/ SSC G5 / S3 N	Summer resident that inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, and wild grape. Breeding habitat must be dense to provide shade and concealment. Forages and nests within 10 feet of ground.	Present. A few individuals were observed within the riparian woodland east of the reservoir and near the southern end of Peters Canyon Wash.
Laterallus jamaicensis coturniculus California black rail	/ ST, FP G3G4T1 / S1 N	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of approximately 1 inch that do not fluctuate during the year, and dense upland buffer and marsh vegetation for nesting habitat.	Not Expected. Suitable habitat (freshwater marshes, with shallow, non- fluctuating standing waters) is not present within the survey area.
Passerculus sandwichensis beldingi Belding's savannah sparrow	/ SE G5T3 / S3 N	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in pickleweed (Salicornia spp.) on and around margins of tidal flats.	Not Expected. Suitable habitat (coastal salt marshes) is not present within the survey area.
Polioptila californica californica coastal California gnatcatcher	FT / SSC G4G5T2Q / S2 Y	Obligate, permanent resident of coastal sage scrub below 2,500 feet amsl in Southern California. Occurs in low, coastal sage scrub in arid washes, and on mesas, bowls, and slopes lacking tall perching vegetation. Not all areas classified as coastal sage scrub are occupied.	Present. Several individuals, some paired, were observed throughout coastal sage scrub habitat.
Rallus longirostris levipes light-footed clapper rail	FE / SE, FP G5T1T2 / S1 N	Found in salt marshes traversed by tidal sloughs, where dense growths of cordgrass (<i>Spartina foliosa</i>) and pickleweed dominate for nesting. Requires shallow water and mudflats for foraging on mollusks and crustaceans, with adjacent higher vegetation for cover during high water.	Not Expected. Suitable habitat (coastal salt marshes) is not present within the survey area.

Status*				
Scientific Name	Federal / State CRPR or	Habitat Preferences and	Potential for	
Common Name	G-Rank / S-Rank NCCP/HCP	Distribution Affinities	Occurrence	
Setophaga petechia yellow warbler	/ SSC G5 / S3S4 N	Nests in riparian scrub, woodland, and forest in close proximity to water. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants, including cottonwoods, sycamores (<i>Platanus</i> spp.), ash (<i>Fraxinus</i> spp.), and alders (<i>Alnus</i> spp.). May use oaks (<i>Quercus</i> spp.), conifers, and urban areas near streams courses. Also nests in mature chaparral and in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	Present. An individual was observed in the riparian basin east of the reservoir.	
Sternula antillarum browni (Nesting colony) California least tern	FE / SE, FP G4T2T3Q / S2 N	Colonial breeder on bare or sparsely vegetated, flat substrates, including sand beaches, alkali flats, landfills, or paved areas. Prefers broad, level expanses of open sandy or gravelly beach, dredge spoil, and other open shoreline areas, and broad river valley sandbars. Nests along the coast from San Francisco Bay south to northern Baja California.	Not Expected. Suitable habitat (open sandy or gravelly beach or sandbar) is not present within the survey area.	
Vireo bellii pusillus (Nesting) least Bell's vireo	FE / SE G5T2 / S2 Y	Summer resident of Southern California. Occurs below 2000 feet amsl in riparian scrub, woodland, and forest habitats, preferably with a developed, wetland understory, often in the vicinity of water. Nests are stitched onto horizontal twig branches, typically of willow, mule fat, and tamarisk a few feet above ground.	Present. Approximately 13 territories were observed throughout the riparian woodlands surrounding the reservoir, within Peters Canyon Wash, and within the lower detention basin.	
MAMMALS				
Antrozous pallidus pallid bat	/ SSC G5 / S3 N	Occupies deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate. Suitable foraging habitat (grasslands, shrublands, woodlands, and forests) is present within the survey area; however, suitable roosting habitat (rocky areas) is not.	

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Choeronycteris mexicana Mexican long- tongued bat	/ SSC G4 / S1 N	Occasionally found in San Diego County, which is on the periphery of their range, in pinyon and juniper woodlands, riparian scrub, and Sonoran thorn woodland. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well- lit caves, and in and around buildings.	Moderate. Suitable foraging habitat (riparian scrub) is present within the survey area; however, suitable roosting habitat (well-lit caves) is not.
Eumops perotis californicus western mastiff bat	/ SSC G5T4 / S3S4 N	Primarily a cliff-dwelling species, occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts on cliff faces, high buildings, trees, and tunnels.	High. Suitable foraging habitat (woodlands, coastal scrub, and grasslands) and roosting habitat (trees) are present within the survey area.
Myotis yumanensis Yuma myotis	/ G5 / S4 N	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies occupy caves, mines, buildings, or crevices in montane coniferous forest and riparian forest and woodland habitats.	Moderate. Suitable foraging habitat (forests and woodlands with sources of water) is present within the survey area; however, suitable roosting habitat (caves, mines, buildings, or crevices) is not.
Neotoma lepida intermedia San Diego desert woodrat	/ SSC G5T3T4 / S3S4 Y	From San Diego County to San Luis Obispo County, prefers moderate to dense canopies of coastal scrub, and in areas particularly abundant in rock outcrops, and rocky cliffs and slopes.	Low. Suitable habitat (coastal scrub, with rocky outcrops) is marginally present within the survey area.
Perognathus longimembris pacificus Pacific pocket mouse	FE / SSC G5T1 / S1 Y	Inhabits the narrow coastal mesas from the Mexican border north to El Segundo, Los Angeles County. Seems to prefer soils of fine alluvial sands and sandy slopes of coastal scrub near the ocean, but much remains to be learned.	Not Expected. Suitable habitat (sandy slopes of coastal scrub) is marginally present within the survey area; however, current distribution is limited to a few known localities.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank NCCP/HCP	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Sorex ornatus salicornicus southern California saltmarsh shrew	/ SSC G5T1? / S1 N	Inhabits coastal salt marshes of Los Angeles, Orange, and Ventura Counties. Requires dense vegetation and woody debris for cover.	Not Expected. Suitable habitat (coastal salt marshes) is not present within the survey area.

* California Rare Plant Rank (CRPR)

- 1A Plants presumed extirpated in California and either rare or extinct elsewhere
- 1B Plants rare, threatened, or endangered in California and elsewhere
- 2A Plants presumed extirpated in California, but common elsewhere
- 2B Plants rare, threatened, or endangered in California, but more common elsewhere
- 3 Plants about which more information is needed a Review List
- 4 Plants of limited distribution a Watch List

Threat Ranks

- .1 Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- .3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

FESA Classifications

CESA Classifications

FE	Federally Endangered	SE	State Endangered
FT	Federally Threatened	ST	State Threatened
FC	Federal Candidate	SSC	California Species of Special Concern
FD	Federally Delisted	FP	Fully Protected
		WL	Watch List

County of Orange Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP)

Y/N Species "take" covered when in compliance with the NCCP/HCP?

G-Rank / S-Rank

Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind5, ranging from critically imperiled (G1/S1) to demonstrably secure (G5/S5)

PETERS CANYON REGIONAL PARK (PECA) RESOURCE MANAGEMENT PLAN

Orange County, California

DRAFT JURISDICTIONAL DELINEATION REPORT

Prepared For:

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May 2016 JN 152478 (153422)



PETERS CANYON REGIONAL PARK (PECA) RESOURCE MANAGEMENT PLAN

CITIES OF ORANGE AND TUSTIN, CALIFORNIA

DRAFT Jurisdictional Delineation Report

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of jurisdictional wetland and non-wetland "waters of the U.S.," "waters of the State," and streambed/banks and associated riparian vegetation delineation for the above-referenced project.

Dan Rosie Biologist

Natural Resources/Regulatory Permitting

Richard Beck, PWS, CEP, CPESC

Vice President

Natural Resources/Regulatory Permitting

Executive Summary

On behalf of OC Parks, Michael Baker International (Michael Baker) has prepared this Jurisdictional Delineation Report for the Peters Canyon Regional Park (PECA; survey area) Resource Management Plan (RMP), located in the Cities of Orange, Tustin, and Irvine, Orange County, California.

This delineation documents the field work conducted by Michael Baker on April 5, 14, 20, 26, 27, 28, 2016, to identify aquatic features within the survey area that are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Federal Clean Water Act (CWA), Regional Water Quality Control Board (Regional Board) pursuant to Section 401 of the CWA and/or Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne), and California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code. Delineation methods followed the most recent, acceptable guidelines for conducting a jurisdictional delineation in this region¹.

Table 1 provides a breakdown of total acreages of jurisdictional features as they relate to each regulatory agency. As noted, this report presents Michael Baker's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdiction.

Jurisdictional Limits Corps/Regional Board Corps/Regional Board Feature **CDFW** (non-wetland) (wetland) **Acres** Acres Acres Reservoir 13.81 23.80 66.10 Canyon 0.37 9.16 19.67 Total 14.18 32.96 85.77

Table 1. Jurisdictional Limits within the Survey Area

OC Parks is required to obtain the following regulatory approvals prior to commencement of any construction activities (i.e., placement of fill material and/or feature alteration) within the identified jurisdictional areas: Corps CWA Section 404 permit for impacts associated with dredge and fill material to waters of the United States (WoUS); Regional Board CWA Section 401 Water Quality Certification (WQC) for impacts associated with dredge and fill material;

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The project area was surveyed pursuant to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008); the Practices for Documenting Jurisdiction under Section 404 of the CWA Regional Guidance Letter (Corps 2007); and Minimum Standards for Acceptance of Preliminary Wetland Delineations (Corps 2001).

and/or a CDFW Section 1602 Streambed Alteration Agreement for impacts/alteration to streambed/banks and associated riparian vegetation².

The CDFW can issue other approvals in-lieu of a formal Agreement such as an Operation-by-Law letter or Letter of Non-Substantial Impact. A formal notification must first be submitted to the CDFW prior to approval.

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LIST OF ACRONYMS

CDFW California Department of Fish and Wildlife

CEQA California Environmental Quality Act

CWA Clean Water Act

EPA Environmental Protection Agency

GPS Global Positioning System

MSL Mean Sea Level NWP Nationwide Permit

OHWM Ordinary High Water Mark
Michael Baker Michael Baker International
RPW Relatively Permanent Water
SAA Streambed Alteration Agreement
SBBM San Bernardino Base and Meridian

SWANCC Solid Waste Agency of Northern Cook County

TNW Traditionally Navigable Water

USDA United States Department of Agriculture USFWS United States Fish and Wildlife Service

USGS United States Geological Survey
WoUS Waters of the United States

Section 1 Introduction

On behalf of OC Parks, Michael Baker International (Michael Baker) has prepared this Jurisdictional Delineation Report for the Peters Canyon Regional Park (PECA; survey area) Resource Management Plan (RMP). This report describes the regulatory setting, methodologies, and results of the jurisdictional delineation, including recommendations for any future proposed impacts to potentially jurisdictional resources. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

1.1 SITE LOCATION

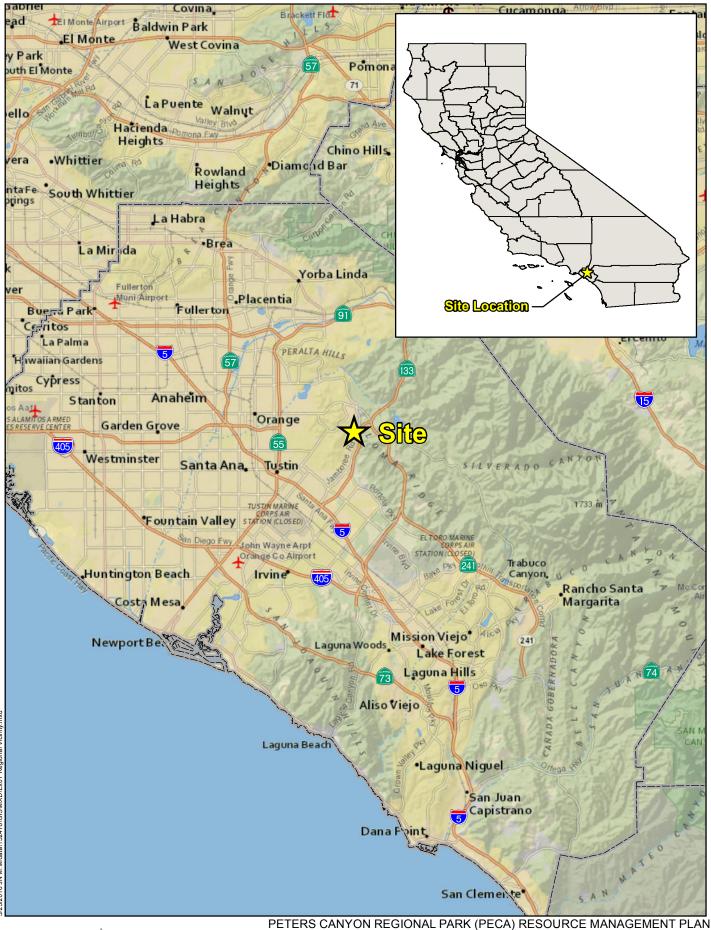
PECA, a regional park within the OC Parks System, is located within the Cities of Orange and Tustin, Orange County, California (Figure 1, *Regional Vicinity*). Specifically, the park is located within Section 36 of Township 4 South, Range 9 West; Section 31 of Township 4 South, Range 8 West; Section 6 of Township 5 South, Range 8 West; and Section 1 of Township 5 South, Range 9 West, of the U.S. Geological Survey (USGS) *Orange, California* 7.5-minute topographic quadrangle map (Figure 2, *Site Vicinity*).

PECA (Figure 3, *Peters Canyon Regional Park*) is bounded by Skylark Place and Canyon View Avenue to the north (City of Orange); Cowan Heights residential development to the west (City of Tustin); a residential development, Jamboree Road, and State Route 261 to the east (City of Tustin); and Peters Canyon Road and a residential development to the south (City of Tustin).

1.2 BACKGROUND

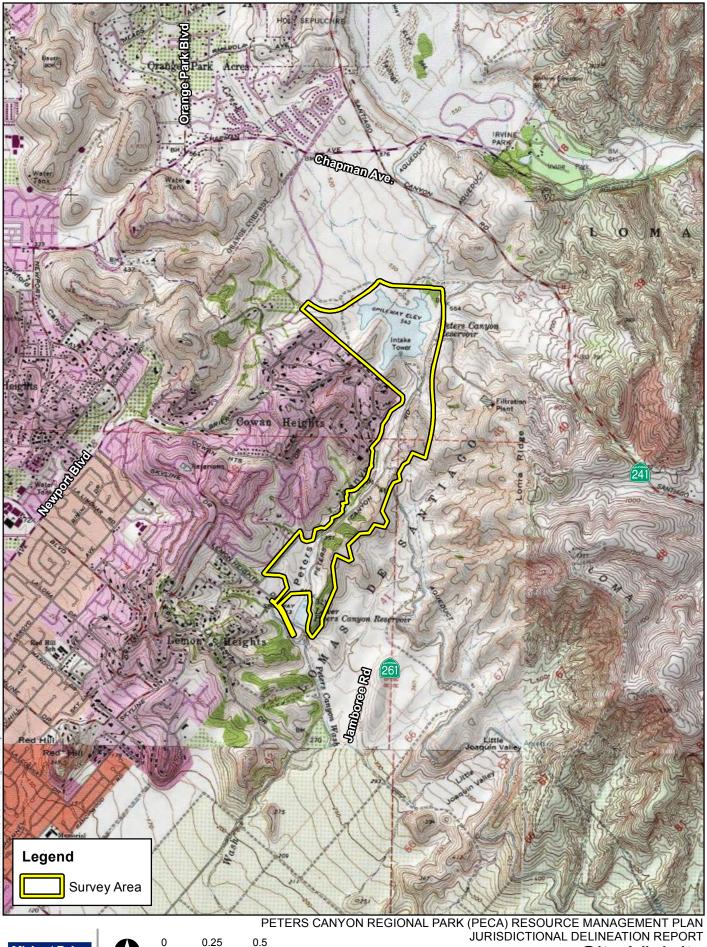
OC Parks includes regional, wilderness, and historical facilities, in addition to coastal areas throughout the County of Orange in California. OC Parks has approximately 60,000 acres of parkland, open space, and shoreline, with facilities that offer plenty of opportunities for the public to enjoy nature and learn about the history of Orange County.

PECA was originally part of the Spanish land grant, Rancho Lomas de Santiago. In 1897, the ranch was purchased by James Irvine, who then leased the canyon out to several farmers. James Peters, whom the canyon is named for, dry-farmed beans and barley in the upper canyon and is also responsible for planting the historical eucalyptus grove located near the off-site Lower Peters Canyon Retarding Basin (detention basin). To supply the increasing water



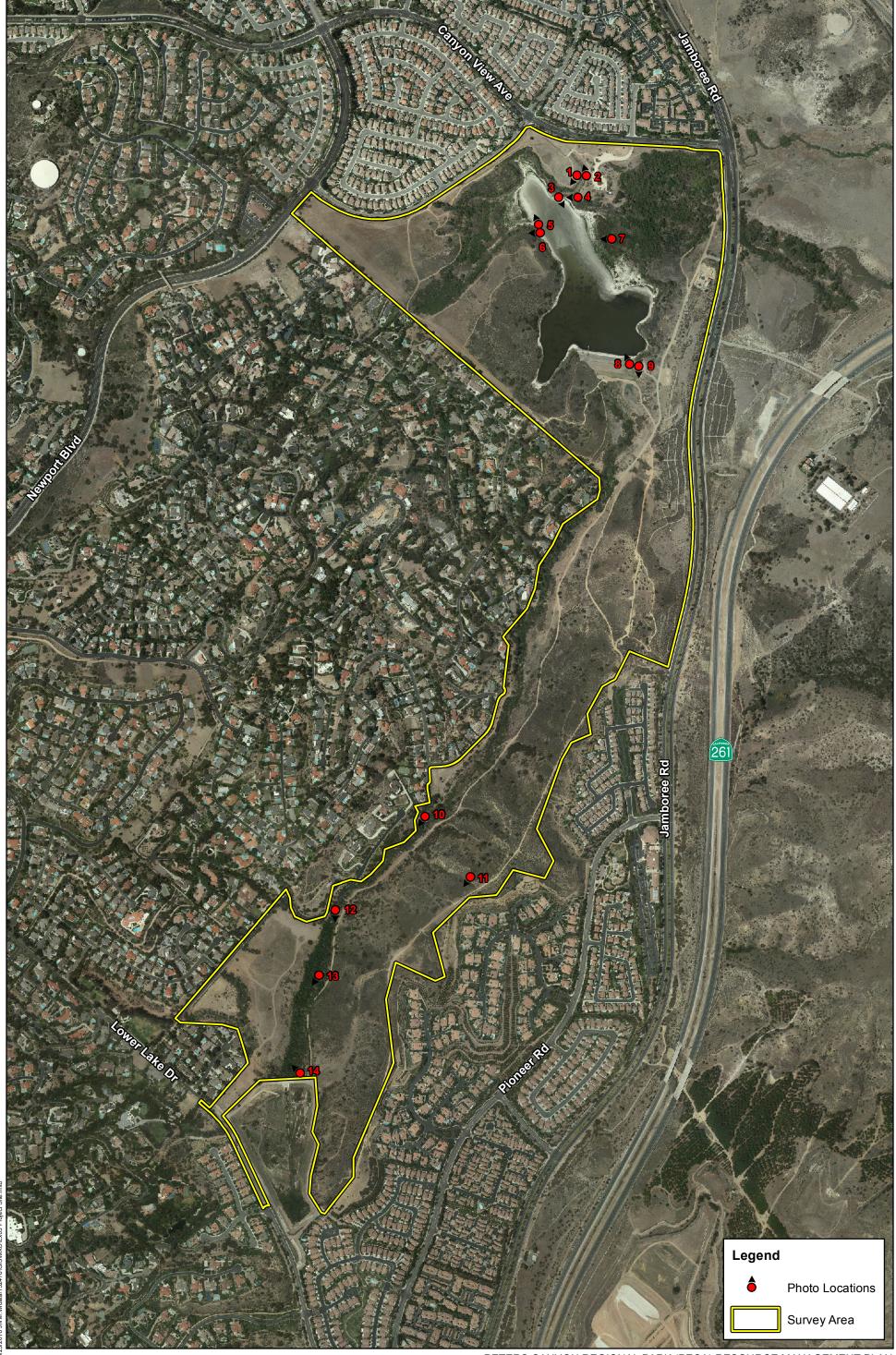
JURISDICTIONAL DELINEATION REPORT

Regional Vicinity





RISDICTIONAL DELINEATION REPORT
Site Vicinity



needs for Irvine Ranch's growing agricultural industry, two reservoirs were constructed. The Upper Peters Canyon Reservoir was completed in 1931, followed by the off-site lower reservoir in 1940. Both reservoirs were used to regulate the Irvine Company's draft from Santiago Reservoir, in addition to conservation of run-off from Peters Canyon watershed. Today, the lower reservoir serves as a flood control basin operated by OC Public Works. On March 3, 1992, the Irvine Company donated 340 acres of Peters Canyon to the County of Orange to be preserved as open space.

1.3 ENVIRONMENTAL SETTING

PECA consists of primarily undeveloped open space, with a network of trails for public access throughout. Peters Canyon Wash conveys flows primarily through the western portion of the site and is dammed near the northern end of the site, thereby supporting a man-made reservoir. Surrounding areas consist mainly of residential housing, roadways, and expansive open space to the east.

1.3.1 Climate

PECA, located in the foothills of the Santa Ana Mountains, has a climate characterized as Mediterranean, with cool, mild winter rains and hot, dry summers. Average annual temperatures typically range from 50 to 75 degrees Fahrenheit (°F), with highs in the summer averaging 85 °F and lows in the winter averaging 40 °F. Average annual precipitation for the Tustin, California, area is approximately 14 inches (U.S. Climate Data 2016).

1.3.2 Vegetation

Michael Baker reviewed the U.S. Fish and Wildlife Service (USFWS) NWI maps online. Four wetlands features have been mapped within the survey area as follows: Freshwater Forested/Shrub Wetland, Freshwater Emergent Wetland, Riverine, and Lake. These mapped areas were used as reference while documenting all potentially jurisdictional features as observed on-site during the JD.

The jurisdictional vegetation types found within PECA are southern cottonwood-willow riparian forest, southern willow scrub, valley freshwater marsh, mule fat scrub, tamarisk scrub, and non-native grassland.

1.3.3 Hydrology

The survey area is located within the Santa Ana River Hydrologic Unit (HU 801.0), Lower Santa Ana River Hydrologic Area (HA 801.10), and East Coastal Plain Subarea (HSA 801.11) of the Santa Ana Hydrologic Basin Planning Area. The Santa Ana River HU is a roughly rectangular-shaped area of about 150 square miles, extending from the Santiago Canyon foothills on the east to the Pacific Ocean on the west, and from the city of Orange on the north to the city of Lake Forest on the south. The unit includes the Cities of Irvine, Tustin, Orange, Newport Beach,

Santa Ana, Costa Mesa, and Lake Forest. Waters from PECA are ultimately conveyed to Upper Newport Bay and the Pacific Ocean.

Michael Baker searched the Federal Emergency Management Agency (FEMA) – 100 Year Flood Zones for flood data within the survey area (ArcGIS 2016). Based on the FEMA – 100 Year Flood Zones map, portions of the survey area are within the 100-year flood zone. These portions include upper Peters Canyon reservoir and the entire length of Peters Canyon wash.

1.3.4 Topography and Soils

The general area that PECA is situated in is characterized by rolling hills and valleys dominated by coastal sage scrub and disturbed areas/non-native grasslands in the uplands, with riparian-scrub and forested corridors lining valley bottoms and surrounding other water bodies. Elevations on-site range from approximately 320 to 700 feet above mean sea level (amsl).

On-site and adjoining soils were reviewed prior to the field visits using the USDA, NRCS *Soil Survey for Orange County and Western Part of Riverside County, California* (USDA, NRCS 1978). The following soil types have been mapped within the survey area (see Figure 4, *USDA Soils*):

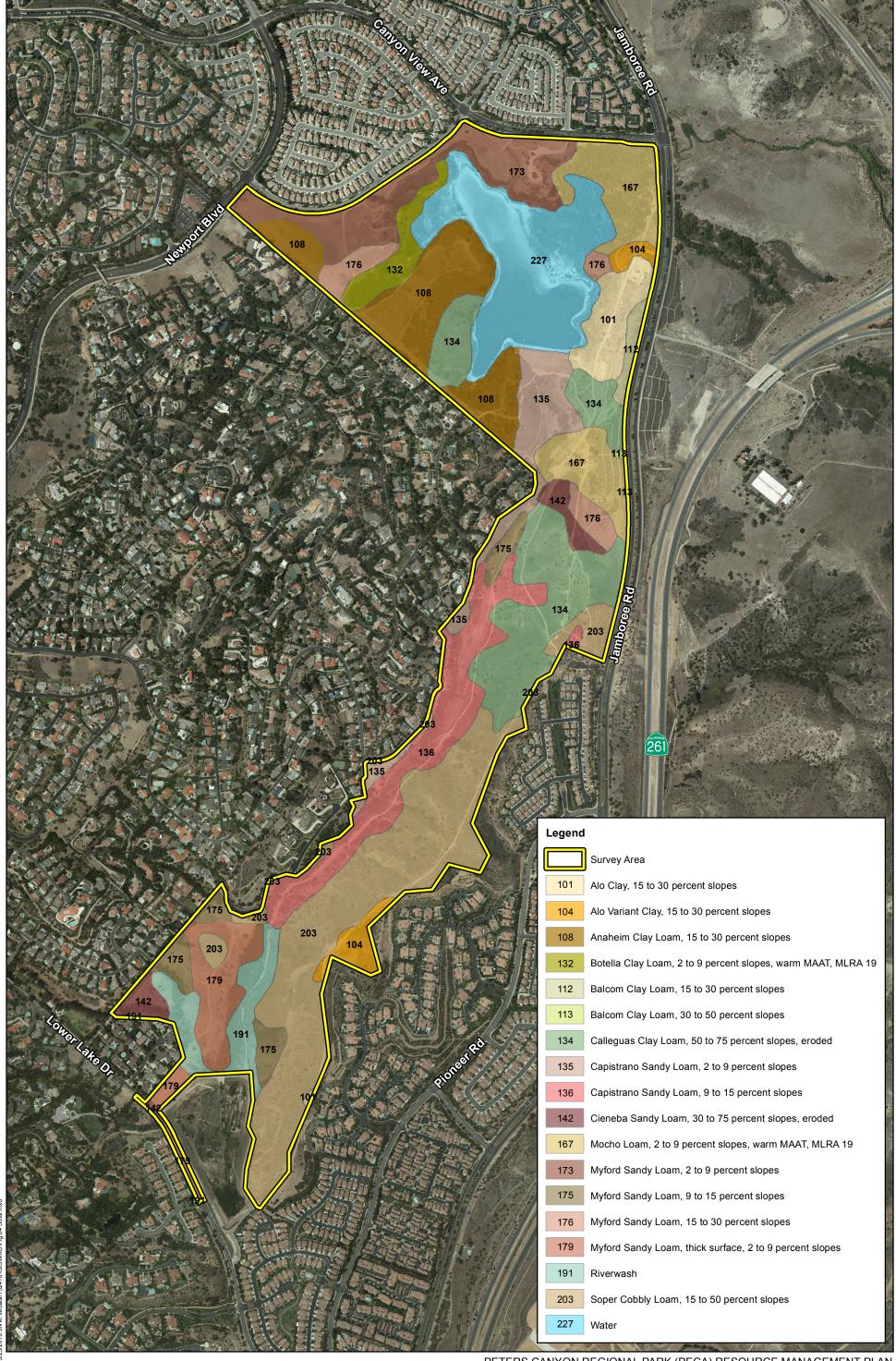
- Alo clay, 15 to 30 percent slopes (101)
- Alo variant clay, 15 to 30 percent slopes (104)
- Anaheim clay loam, 15 to 30 percent slopes (108)
- Balcom clay loam, 15 to 50 percent slopes (112)
- Botella clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19 (132)
- Calleguas clay loam, 50 to 75 percent slopes, eroded (134)
- Capistrano sandy loam, 2 to 9 percent slopes (135)
- Capistrano sandy loam, 9 to 15 percent slopes (136)
- Cieneba sandy loam, 30 to 75 percent slopes, eroded (142)
- Mocho loam, 2 to 9 percent slopes, warm MAAT, MLRA 19 (167)
- Myford sandy loam, 2 to 9 percent slopes (173)
- Myford sandy loam, 9-15 percent slopes (175)
- Myford sandy loam, 15 to 30 percent slopes (176)
- Myford sandy loam, thick surface, 2 to 9 percent slopes (179)
- Riverwash (191)
- Soper cobbly loam, 15 to 50 percent slopes (203)
- Water (227)

Michael Baker reviewed the National Hydric Soils List (NRCS, December 2015) to identify soils mapped within the survey area that are considered to be hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland

determinations, but they are not a substitute for on-site investigations. According to the soils list, the following hydric soils mapped on-site include the following:

- Alo clay, 15 to 30 percent slopes (101)
- Myford sandy loam, 2 to 9 percent slopes (173)
- Myford sandy loam, thick surface, 2 to 9 percent slopes (179)
- Riverwash (191)

Soils observed on-site were generally consistent with those mapped by the Soil Survey. A total of 27 Soil Pits (SP) were dug on-site. Ten (10) of these (SP 8, 12, 15, 17, 18, 19, 22, 24, 25, and 26) were within a wetland, and the other 17 (SP 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 13, 14, 16, 20, 21, 23, and 27) were not within a wetland.



Section 2 Summary of Regulations

There are three agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the CWA. Of the State agencies, the CDFW regulates activities under the California Fish and Game Code Sections 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and/or Section 13263 of Porter-Cologne.

2.1 U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) jointly regulate discharges of dredged or fill material into "waters of the U.S." (WoUS), including wetland and non-wetland aquatic features, pursuant to Section 404 of the CWA. Section 404 is founded on the findings of a significant nexus (or connection) between the aquatic feature in question and interstate commerce via Relatively Permanent Waters (RPW), and ultimately Traditional Navigable Waters (TNW). The term WoUS is defined under 33 Code of Federal Regulations (CFR) Section 328.3(a). The Corps typically regulates as WoUS any aguatic feature displaying and ordinary high water mark (OHWM), or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area." Wetlands, a subset of jurisdictional waters, jointly defined by the Corps and EPA, are defined as "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Applicants for a federal license or permit for activities which may discharge to WoUS must seek Water Quality Certification from the state or Indian tribe with jurisdiction. ³ Such Certification is based on a finding that the discharge will meet water quality standards and other applicable requirements. In California, there are nine Regional Boards that issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which are defined as numeric and narrative objectives in each Regional Board's Basin Plan. Where applicable, the State Water Resources Control Board has this responsibility for projects affecting waters within multiple Regional Boards. The Regional Board's jurisdiction extends to all waters of the State and to all WoUS, including wetlands.

Title 33, United States Code, Section 1341; Clean Water Act Section.

Additionally, the California Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool post *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers*⁴ (SWANCC) and *Rapanos v. United States*⁵ (Rapanos) court cases regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

California Fish and Game Code Sections 1600-1616 establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

- (1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
- (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)

⁵ Rapanos v. United States, 547 U.S. 715 (2006)

Section 3 Methodology

Review of relevant literature and materials often aids in preliminarily identification of areas that potentially fall under an agency's jurisdiction. Topographic, National Wetlands Inventory (NWI; USFWS 2016), and U.S. Department of Agriculture (USDA) Soils maps were used as reference. In addition, a timeline of aerial photography (Google Earth Pro 2013) was reviewed to identify changing conditions within the recent drought (refer to Section 6.0 for a complete list of references used during the course of this delineation).

The analysis presented in this document is supported by field surveys and verification of current conditions within the survey area conducted by Michael Baker biologists Dan Rosie, Stephen Anderson, Linda Nguyen, Lauren Mack, Anisha Malik, and/or Richard Beck on April 5, 14, 20, 26, 27, 28, 2016. Data were collected using the ESRI ArcGIS Collector application on an Apple iPad connected via Bluetooth to an iSX Blue II+ GNSS Global Positioning System (GPS) unit with sub-meter accuracy for recording and identifying soil pits, picture locations, and the jurisdictional limits of aquatic features. A Garmin GPS Map62 unit was also used to record and identify soil pits and drainage features. These data were then transferred as shapefiles, added to the jurisdictional map, and measurements calculated using Geographic Information System (GIS) software.

Classification of the on-site vegetation communities and other land uses is based on the descriptions of terrestrial vegetation classification systems described in *Preliminary Descriptions* of the Terrestrial Natural Communities of California (Holland 1986), with modifications to better represent existing conditions in the field using the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008), an expanded vegetation classification system based on Holland (1986). Plant species nomenclature and taxonomy follow *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012).

Drought conditions have developed over the past four years in California. Evaluation of temporal shifts in vegetation and periodic lack of hydrology indicators during periods of below-normal rainfall, drought conditions, and unusually low-winter snowpack is considered during the field review. To the extent possible, the hydrophytic vegetation decision is based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year. The evaluation of hydrology considers the timing of the site visit in relation to normal seasonal and annual hydrologic variability, and whether the amount of rainfall prior to the site visit has been normal. In drought conditions, direct observation of plants and hydrology indicators may be misleading or problematic, so other methods of making wetland decisions may be appropriate. 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 professional experience and knowledge of the ecology of wetlands in the region. Wetland determinations are based on a preponderance of all available information, including in many

cases remote sensing and longer term data, not just the field data collected under drought conditions.⁶

3.1 WATERS OF THE U.S.

3.1.1 Non-wetland Waters of the U.S.

In the absence of wetlands (i.e., non-wetland WoUS), the limits of Corps and Regional Board jurisdiction in non-tidal waters extend to the OHWM. Indicators of an OHWM are defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008a). An OHWM can be determined by, but not limited to, the observation of benches, breaks in bank slope, particle size distribution, sediment deposits, drift, litter, and/or changes in plant communities.

3.1.2 Wetland Waters of the U.S.

Corps jurisdictional wetland WoUS are delineated following the methods outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Regional Supplement; Corps 2008b). The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region, one of a series of Regional Supplements to the 1987 Corps Wetland Delineation Manual (1987 Manual; Environmental Laboratory 1987). According to the 1987 Manual, identification of wetlands is based on a three-parameter approach involving the predominance or prevalence of hydrophytic vegetation, and indicators of hydric soil and wetland hydrology. Hydrophytic vegetation (plants that are found occurring at least 50 percent in wetlands) is based on designations provided in the National Wetland Plant List: 2014 update of wetland ratings (Lichvar et al. 2014). Hydric soils are those permanently or seasonally saturated by water resulting in anaerobic conditions. Hydric soils mapped by the USDA, Natural Resources Conservation Service (NRCS) are listed on the National Hydric Soils List 2015 (2015), which were used for reference. Hydric soils on-site, identified examining soil profile characteristics using Munsell Soil Color Charts (Munsell Color 2009), are those that meet hydric soil indicators as defined in the Regional Supplement. Wetland hydrology is present upon identifying at least one primary or two secondary indicators, as provided in the Regional Supplement. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three parameters.

Where wetlands were suspect (i.e., areas where wetland vegetation and hydrology were evident), soil samples were examined by excavating a soil pit. If wetlands were determined present, areas with similar consistency were extrapolated. Where there were changes in vegetation consistency, additional pits were examined to identify the boundaries between

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Corps Sacramento District, Public Notice SPK-2014-00005, Guidance on Delineations in Drought Conditions, February 2014.

wetland and upland. Vegetation, soils, and hydrology data were then documented on the Corps *Wetland Determination Data Form – Arid West Region*.

3.2 WATERS OF THE STATE

Aquatic features lacking a nexus to (i.e., isolated from) adjacent or downstream waters are potentially considered waters of the State. Currently for this region (Santa Ana Regional Board), Regional Board jurisdiction coincides with Corps jurisdiction by defining an OHWM and utilizing the three-parameter approach for wetlands.

3.3 STREAMBED/BANKS AND RIPARIAN VEGETATION

CDFW jurisdiction applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State of California. CDFW regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils or saturated soil conditions. Generally, CDFW jurisdiction is mapped to the top of the active bank of the stream or to the outer drip line of the associated riparian vegetation, whichever is greater. For SAA notification purposes, vegetated and non-vegetated streambed were distinguished.

Section 4 Results

The following is a discussion of the existing on-site aquatic resources based on the literature review and the results of the formal JD conducted within the survey area.

4.1 AQUATIC FEATURES

PECA consists of a man-made dam and associated reservoir at the northern end, surrounded by associated wetland and riparian vegetation, including two basins and approximately 5-7 inlets, which convey flows from Santiago Canyon, urban runoff, and direct rainfall. For the purposes of this report, the upper reservoir was broken into three portions: the western basin, the eastern basin, and the inner reservoir. The two basins are distinguished from the inner reservoir via the southern cottonwood-willow riparian forest, freshwater marsh, and mule fat scrub vegetation classifications on the eastern and western portions of the reservoir. Currently the reservoir has no above ground water present; however, soils are still saturated in various locations of the reservoir. Downstream of the dam, flows enter Peters Canyon Wash via groundwater from the reservoir, the outlet from the dam, and by direct rainfall and flow via its tributaries. Peters Canyon Wash consists of a wetland/riparian corridor that conveys flows along the western side of the canyon (adjacent to residences), with relatively steep upland slopes to the east. At the southern end, the wash conveys flows into an off-site detention basin (Lower Peters Canyon Reservoir. Further, there are eight (8) ephemeral drainage features and eight (8) culverts throughout PECA that convey flows primarily from off-site sources and are tributary to Upper Peters Canyon Reservoir and Peters Canyon Wash. Upland vegetation surrounding these features is primarily dominated by non-native grassland (NNG), coastal sage scrub (CSS), eucalyptus woodland (EUC), and disturbed habitat (DIST). The following are brief descriptions of the aquatic features identified on-site:

4.1.1 Upper Peters Canyon Reservoir

The northern portion of PECA consists of a large reservoir containing a mosaic of vegetation communities. Due to current drought conditions, the reservoir (and associated inlets and culvert contributions) is completely dry with native and non-native vegetation aggressively encroaching into the empty reservoir. The southern portion of reservoir nearest to the dam is bare ground (at the time of this report). The middle portion is recently dominated by dense mule fat (*Baccharis salicifolia*) and widely scattered (but rapidly increasing in cover) Goodding's black willow (*Salix gooddingii*). The northern portion of the reservoir has been quickly invaded by an herbaceous layer of disturbed habitat dominated by common sow thistle (*Sonchus oleraceus*), prickly sow thistle (*Sonchus asper*), bristly ox-tongue (*Helminthotheca echioides*), and Russian thistle (*Salsola tragus*). Since drying, the entire inner rim of the reservoir has been heavily invaded by a broad swath of tamarisk scrub dominated by Mediterranean tamarisk (*Tamarix ramosissima*), including within portions of mule fat scrub in the basins/inlets. Beyond the tamarisk, the entire

reservoir is lined with valley freshwater marsh vegetation dominated by California bulrush (*Schoenoplectus californicus*), and to a lesser extent, broadleaf cattail (*Typha latifolia*). Goodding's black willow and red willow (*Salix laevigata*), then mule fat, dominate the outer edge of the reservoir.

There are two basins associated with the reservoir. The western basin consists of a mosaic of southern cottonwood-willow riparian forest dominated by Goodding's black willow and red willow, mule fat scrub dominated by mule fat, and valley freshwater marsh dominated by California bulrush. The understory is relatively devoid of vegetation. The eastern basin is dominated by southern cottonwood-willow riparian forest dominated by Goodding's black willow and red willow, with a few areas heavily invaded by non-native Mexican fan palm (*Washingtonia robusta*) and common fig (*Ficus carica*). The dense understory consists of mule fat, poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), sandbar willow (*Salix exigua*), California wild rose (*Rosa californica*), and stinging nettle (*Urtica dioica*), with native species displacement from encroaching poison hemlock (*Conium maculatum*), smilo grass (*Stipa miliacea*), and milk thistle (*Silybum marianum*).

Two culverts convey off-site storm flows into the western basin: one from the residential neighborhood to the north under Skylark Place into Upper Peters Canyon Reservoir Drainage 2, and the other from the residential neighborhood to the west under Lake View Trail directly into the western basin. In addition, an on-site feature (Upper Peters Canyon Reservoir Drainage 1), contributes to the western basin. An additional culvert conveys flows into Upper Peters Canyon Reservoir Drainage 3 from under Canyon View Avenue, directly into the reservoir. There are five other culverts that convey off-site nuisance flows into the eastern basin; two from storm drains associated with Jamboree Road, and three from the residential neighborhood to the north under Canyon View Avenue. These five inlets briefly create a 3 foot Corps jurisdictional ordinary high water mark, but quickly dissipate into sheet flow into the reservoir.

Soil pits were dug within and around the reservoir to determine the limits of potentially jurisdictional wetlands. SP 8, 12, 24, and 25, 26, showed evidence of hydric soils by meeting the indicator criterion for Redox Dark Surface (F6) or Sandy Redox (S5). Wetland hydrology indicators were present via Sediment Deposits (B2), Surface Soil Cracks (B6), Aquatic Invertebrates (B13), and Oxidized Rhizospheres along Living Roots (C3). The western basin and a rim around the reservoir that includes portions of valley freshwater marsh and tamarisk scrub vegetation qualify as wetland WoUS.

4.1.2 Upper Peters Canyon Reservoir Drainage 1

Upper Peters Canyon Reservoir Drainage 1, an unnamed tributary, is an ephemeral drainage that is entirely contained within PECA, receiving sheet flows from the surrounding non-native grassland. This drainage feature is a tributary to the western basin of Upper Peters Canyon Reservoir. It is characterized by non-native grassland in the upper reach, and southern

cottonwood-willow riparian forest in the lower reach. Surface water was not present in this feature during the site visit, and evidence of an OHWM was observed via surface water scouring. Due to lack of hydrophytic vegetation, a soil pit was not dug within this feature. The Corps OHWM is approximately 6 foot in width, surrounded by CDFW associated riparian vegetation.

4.1.3 Upper Peters Canyon Reservoir Drainage 2

Upper Peters Canyon Reservoir Drainage 2, an unnamed tributary, is an ephemeral drainage that appears to receive nuisance flows from the surrounding development. This drainage feature is a tributary to the western basin of Upper Peters Canyon Reservoir. The upper portion of this feature consists of ornamental trees, while the majority is characterized by southern cottonwood-willow riparian forest. Surface water was not present in this feature during the site visit, and evidence of an OHWM was observed via surface water scouring. Two soil pits were dug within the riparian vegetation of this feature to determine if wetlands were present. All three wetland parameters were not met within this feature. The Corps OHWM is approximately 6 feet in width, surrounded by CDFW associated riparian vegetation.

4.1.4 Upper Peters Canyon Reservoir Drainage 3

Upper Peters Canyon Reservoir Drainage 3, an unnamed tributary, is an ephemeral drainage that appears to receive nuisance flows from the surrounding development. The drainage feature is a tributary to Upper Peters Canyon Reservoir. It is dominated by mule fat with an herbaceous layer dominated by foxtail chess (*Bromus rubens*). Surface water was not present in the drainage during the site visit, and evidence of an OHWM was not observed. It is not within Corps jurisdiction, but is considered CDFW associated riparian vegetation. A soil pit was dug to determine if any portion of this drainage is considered wetland. All three wetland parameters were not met within this drainage.

4.1.5 Peters Canyon Wash

The southern portion of PECA consists of a main riparian corridor, Peters Canyon Wash, with five ephemeral drainage features that convey flows into the main channel. The northern half of Peters Canyon Wash primarily consists of southern cottonwood-willow riparian forest dominated by Goodding's black willow, red willow, and mule fat, with some portions dominated by black cottonwood (*Populus trichocarpa*), or with a few scattered individuals of southern California black walnut (*Juglans californica*). The understory in the northern half of Peters Canyon Wash is relatively absent, but includes California mugwort (*Artemisia douglasiana*) and various wetland plants scattered throughout. The southern half of Peters Canyon Wash primarily consists of southern cottonwood-willow riparian forest vegetation dominated by large, mature Goodding's black willow, red willow, Fremont cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemosa*), with a few areas heavily invaded by non-native Chinese elm (*Ulmus parvifolia*), shamel ash (*Fraxinus uhdei*), Canary Island date palm (*Phoenix canariensis*), and

Mexican fan palm. The understory within the southern half of Peters Canyon Wash consists of, or various combinations of, yerba mansa (*Anemopsis californica*), American bulrush (*Schoenoplectus americanus*), California mugwort, California bulrush (*Schoenoplectus californicus*), common ripgut grass (*Bromus diandrus*), foxtail chess, coastal goldenbush (*Isocoma menziesii*), sandbar willow, and/or bare ground.

Peters Canyon Wash is an intermittent drainage (i.e., without storm flows, includes surface waters via an elevated water table in several locations) that receives flows from direct rainfall, from its tributaries on-site, and off-site nuisance flows from the surrounding development. Evidence of an OHWM was observed via surface water scouring. The Corps OHWM is approximately 8 feet in width, surrounded by CDFW associated riparian vegetation.

Soil pits were dug within Peters Canyon Wash to determine if wetlands were present. SP 15, 17, 18, 19, and 22 had evidence of hydric soils via Depleted Matrix (F3), Redox Dark Surface (F6), and/or Sandy Redox (S5). Wetland hydrology indicators were present via Water-Stained Leaves (B9), Drainage Patterns (B10), and Water Marks (B1). The entire length of the Peters Canyon Wash riparian corridor within areas showing wetland hydrology qualify as wetland WoUS.

4.1.6 Peters Canyon Wash Drainage 1

Peters Canyon Wash Drainage 1, an unnamed tributary, is an ephemeral drainage that enters PECA via a culvert and appears to receive nuisance flows from the surrounding development. This drainage feature is a tributary to Peters Canyon Wash. It is dominated by coyote brush (*Baccharis pilularis*), black mustard (*Brassica nigra*), Russian thistle, and mule fat. Surface water was not present in this feature during the site visit, and evidence of an OHWM was observed via surface water scouring. Due to the lack of hydrophytic vegetation, a soil pit was not dug within this feature. The Corps OHWM is approximately 3 feet in width, and the CDFW streambed is approximately 5 feet in width.

4.1.7 Peters Canyon Wash Drainage 2

Peters Canyon Wash Drainage 2, an unnamed tributary, is an ephemeral drainage that is completely contained within PECA and does not receive nuisance flows from the surrounding development. This drainage feature is a tributary to Peters Canyon Wash. It is dominated by mule fat, California sagebrush (*Artemisia californica*), and nonnative grasses. Surface water was not present in the feature during the site visit, and evidence of an OHWM was observed via surface water scouring. Due to lack of hydrophytic vegetation, a soil pit was not dug within this feature. The Corps OHWM is approximately 3 feet in width, and the CDFW streambed is approximately 5 feet in width.

4.1.8 Peters Canyon Wash Drainage 3

Peters Canyon Wash Drainage 3, an unnamed tributary, is an ephemeral drainage that is completely contained within PECA and does not receive nuisance flows from the surrounding development. This drainage feature is a tributary to Peters Canyon Wash. It is surrounded by lemonade berry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and non-native grasses. The area surrounding this feature is dominated by coastal sage scrub and non-native grasses. Surface water was not present in this feature during the site visit, and evidence of an OHWM was observed via surface water scouring. Due to lack of hydrophytic vegetation, a soil pit was not dug within this feature. The Corps OHWM is approximately 3 feet in width, and the CDFW streambed is approximately 5 feet in width.

4.1.9 Peters Canyon Wash Drainage 4

Peters Canyon Wash Drainage 4, an unnamed tributary, is an ephemeral drainage that appears to receive nuisance flows from the surrounding development. This drainage feature is a tributary to Peters Canyon Wash. It is dominated by black willow, blue elderberry (*Sambucus nigra* ssp. *caerulea*), and a mix of exotic species. Surface water was not present in this feature during the site visit, and evidence of an OHWM was observed via surface water scouring. A soil pit was dug to determine if any portion of this feature is considered wetland. All three wetland parameters were not met within this feature. It is not within Corps jurisdiction, but is considered CDFW associated riparian vegetation.

4.1.10 Peters Canyon Wash Drainage 5

Peters Canyon Wash Drainage 5, an unnamed tributary, is an ephemeral drainage that appears to receive nuisance flows from the surrounding development. This drainage feature is a tributary to Peters Canyon Wash. It is composed of two drainages that merge into one and convey flow into Peters Canyon Wash. It is dominated by black willow, blue elderberry (*Sambucus nigra* ssp. *caerulea*), and a mix of exotic species. Surface water was not present in this feature during the site visit, and evidence of an OHWM was observed via surface water scouring. A soil pit was dug to determine if any portion of this feature is considered wetland. All three wetland parameters were not met within this feature. The Corps OHWM is approximately 3 feet in width, surrounded by CDFW associated riparian vegetation.

4.2 JURISDICTIONAL FEATURES

This delineation has been prepared for OC Parks in order to delineate the Corps, Regional Board, and CDFW jurisdictional authority within the project site. This report presents Michael Baker International's best effort at determining the jurisdictional boundaries using the most upto-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries within a project site/property. Jurisdictional limits within the survey area are outlined in Table 1, below:

Jurisdictional Limits Corps/Regional Board Corps/Regional Board **Feature CDFW** (non-wetland) (wetland) Acres Acres Acres Reservoir 13.81 23.80 66.10 Canyon 0.37 9.16 19.67 Total 14.18 32.96 85.77

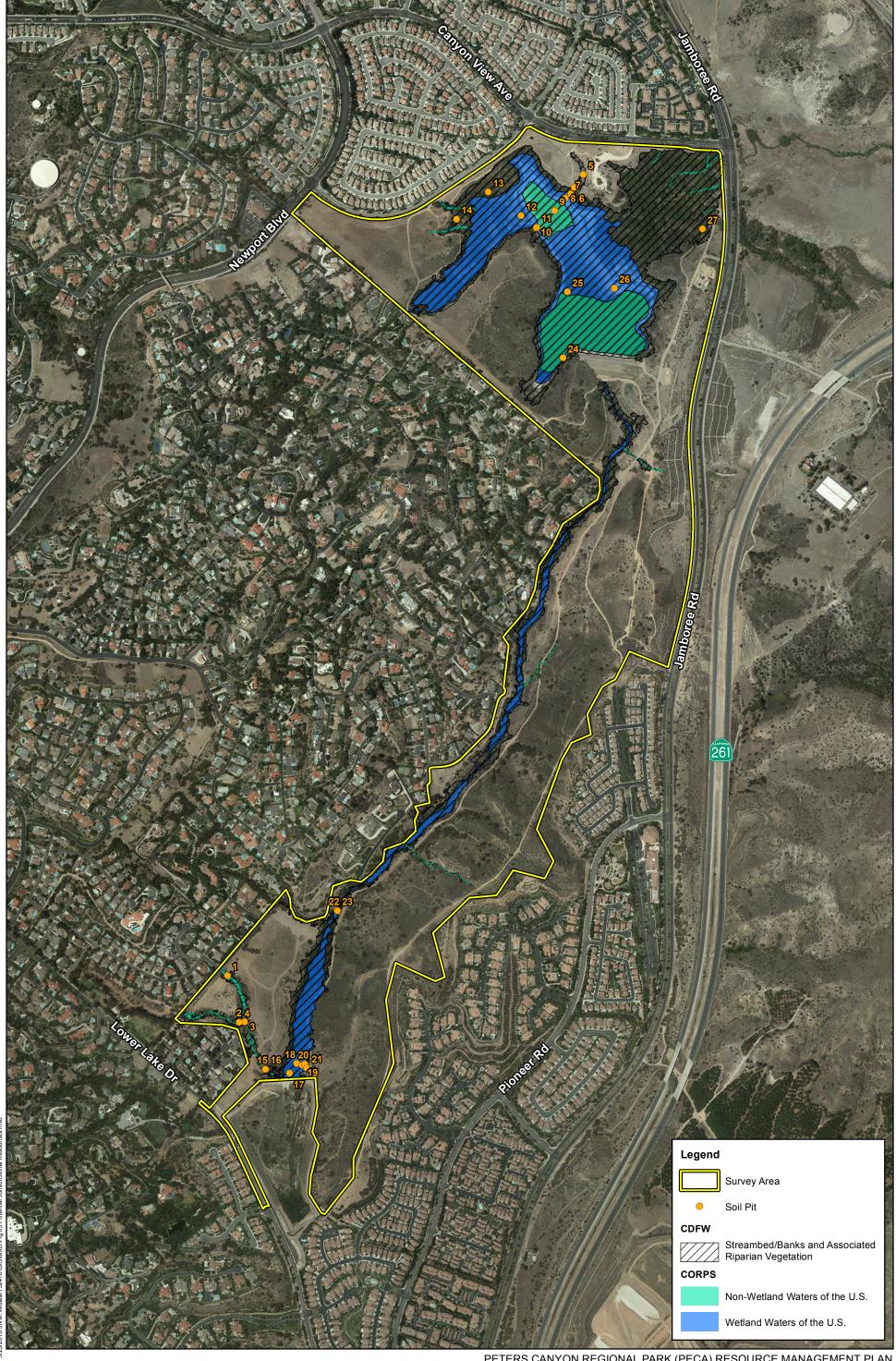
Table 2. Jurisdictional Limits within the Survey Area

4.2.1 U.S. Army Corps of Engineers/Regional Water Qulaity Control Board

The entire length of Peters Canyon Wash, a portion of Peters Canyon Wash Drainage 5, the western basin located at the reservoir, the mule fat scrub within the reservoir, and the rim around the reservoir are within the limits of ordinary hydrology and thus qualify as wetland WoUS, totaling approximately 32.96 acres within PECA. Peters Canyon Wash Drainages 1, 2, 3, and 4, a portion of Peters Canyon Wash Drainage 5, along with Upper Peters Canyon Reservoir Drainages 1, 2, and 3 had evidence of an OHWM, and would thus qualify as non-wetland WoUS, totaling approximately 14.18 acre within PECA (refer to Exhibit 5).

4.2.2 California Department of Fish and Wildlife

The entire length of Peters Canyon Wash and Peters Canyon Wash Drainages 1, 2, 3, 4, and 5 exhibited a bed and bank, and are considered CDFW jurisdictional streambed. The western and eastern basins within Upper Peters Canyon Reservoir, along with portions surrounding the reservoir, is considered CDFW associated vegetation. It is determined that approximately 85.77-acre of CDFW jurisdictional streambed and associated riparian vegetation is located within PECA (refer to Exhibit 5).



Section 5 Conclusions and Recommendations

The following is a summary of the total area of potential jurisdiction for each regulatory agency and the various permits, agreements, and certifications required before any temporary or permanent impacts to jurisdictional areas may occur.

5.1 U.S. ARMY CORPS OF ENGINEERS

A total of 32.96 acres of potential wetland WoUS and 14.18 acres of potential non-wetland WoUS have been mapped within the survey area. The Corps regulates discharges of dredged or fill materials into WoUS pursuant to Section 404 of the CWA. Permit authorization will be required from the Corps prior to commencement of any construction activities (i.e., dredge or fill) within the Corps delineated jurisdictional areas.

5.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters with a nexus to a TNW under the Federal CWA, and the California Porter-Cologne Water Quality Control Act for those that do not. Because all features on-site have a significant nexus to downstream WoUS, the totals acres jurisdictional under the Regional Board mirrors that of the Corps (32.96 acres of wetland WoUS and 14.18 acres of non-wetland WoUS). For a Corps 404 permit to be authorized, a 401 Water Quality Certification from the Regional Board will be required. The Regional Board also requires that CEQA compliance be obtained prior to obtaining the 401 Certification. A Regional Board application fee is required with the application package, and is calculated based on the acreage and linear feet of jurisdictional impacts.

5.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

A total of 85.77 acres of potential streambed/banks and associated riparian vegetation have been mapped within the survey area. The CDFW regulates alteration to streambeds and associated vegetation under Sections 1600 et seq. of the CFGC. The CDFW must be notified prior to activities that alter jurisdictional areas. A SAA from the CDFW would be required prior to commencement of any construction activities within the CDFW delineated jurisdictional areas. A CDFW application fee is required with the application package, and is calculated based on project costs.

Section 6 References

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Appendix A Site Photographs



Photo 1 – UPCR Drainage 3 looking south downstream



Photo 2 - Soil pit within non-wetland conditions



Photo 3 – Inside the dry reservoir looking southeast



Photo 4 – Inside the dry reservoir looking west



Photo 5 –Inside the dry reservoir looking north toward tamarisk swathe



Photo 6 - Soil pit within transitional area between non-wetland and wetland



Photo 7 – Looking west into the dry reservoir



Photo 8 – Looking northwest from dam into dry reservoir



Photo 9 – Looking south from dam into Peters Canyon Wash



Photo 10 – Looking south inside of Peters Canyon Wash



Photo 11 – Looking southwest into the historic eucalyptus woodlands from the East Ridge View Trail



Photo 12 - Looking southeast down Peters Canyon Wash



Photo 13 - Southern cottonwood-willow riparian edge within PCW



Photo 14 - Soil pit within wetland

Appendix B Wetland Determination Data Forms

Project/Site: Peters Cangon		City/County:	Canal Sampling Data: A	114
Applicativowner: My COUNTY OF OTANA	3		State: CA Complian D	01
Investigator(s): D. Rosie, L. Nguyen		Section Township	Range: Tuc (291.)	21
Landform (hillslope, terrace, etc.): Accuse		Local relief (concav	Comment of the control of the contro	
Landform (hillslope, terrace, etc.):Arrayo	Lati	Local relief (concav	e, convex, none): Slope (%):
	Lai		Long: Datum:	
Soil Map Unit Name:		-/	NWI classification:	
Are climatic / hydrologic conditions on the site typical for	this time of ye			
Are Vegetation, Soil, or Hydrology	_ significantly	disturbed? Ar	e "Normal Circumstances" present? Yes N	<u></u> ۱٥
Are Vegetation, Soil, or Hydrology			needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site ma	p showing	sampling point	locations, transects, important feature)S 6
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes Yes Yes Yes	No	Is the Sample		
/EGETATION – Use scientific names of pla	ints.	-		
Troo Stratum (Blatain)	Absolute	Dominant Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 20	% Cover	Species? Status	Number of Dominant Species	
1. Salix gooddingil 2. Sambucus nigrasp.cerulea	<u>80 /6</u>		Th-4 A OD! TAGUE	(A)
3.		N	Total Number of Dominant	
3			Species Across All Strata:	(B)
Sapling/Shrub Stratum (Plot size:)	=	Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B
1			Prevalence Index worksheet:	
			Total % Cover of: Multiply by:	
·			OBL species x 1 =	
			FACW species x 2 =	
			FAC species x 3 =	
erb Stratum (Plot size:)	=	Total Cover	FACU species x 4 =	
Stipa milacea	5	N	UPL species x 5 =	
Picines Communis	2	N	Column Totals: (A)	(B)
Erigeron Canadúnsis	3	N	Prevalence Index = B/A =	
<u> </u>			Hydrophytic Vegetation Indicators:	
			Dominance Test is >50%	
			Prevalence Index is ≤3.0¹	
			Morphological Adaptations ¹ (Provide supportin data in Remarks or on a separate sheet)	g
oody Vine Stratum (Plot size:)		Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)	
			¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.	st
95	=7	otal Cover	Hydrophytic Vegetation Present? Yes No	
marks:			NO	

C	0	ı	1
J	v	ı	_

Sampling	Doint:	
Sambillio	POINT.	

Color (moist)	Depth Matrix	th needed to document the indicator or c			rks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Coation: PL=Pore Lining, M=Matrix, typric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils?: Indicators for Muck (A) (LRR B) Red Daven Matrix (F2) Red Daven Matrix (F2) Red Parent Material (TF2) Pepleted Matrix (F3) Depleted Matrix (F3) Depleted Bolar Surface (A12) Red Sox Depressions (F8) Vernal Pools (F9) **Indicators of hydropytic vegetation and wetland hydrology must be present, unless disturbed or problematic. **Primary Indicators (minimum of one required; check all that apply) YPROLOGY **Wetland Hydrology Indicators: **Wetland Hydrology Indicators: **Primary Indicators (B1) **Wetland Hydrology Indicators: **Primary Indicators (B1) **Yetland H	inches) Color (moist) %		CI		
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yge: Contentiation, Despetation, Despetation	1-10 10 YR 3/3 100				
Sandy Mickey Matrix (S4) sandy Gleyed Matrix (S4) peth (inches): emarks: Hydric Soil Present? Yes	ydric Soil Indicators: (Applicable to all 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)	LRRs, unless otherwise noted.) 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)	Indicat 1 c 2 c Re Ott 3Indicat	ors for Problematic Hy m Muck (A9) (LRR C) m Muck (A10) (LRR B) duced Vertic (F18) d Parent Material (TF2) her (Explain in Remarks)	dric Soils ³ :
Secondary Indicators (2 or more required)	Restrictive Layer (if present):		unle		\/
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Sediment Deposits (all that apply) Sediment Deposits (Servine) Water Marks (B1) (Riverine) Sediment Deposits (B3) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B1) Drift Depos	Depth (inches):		Hydric :	Soil Present? Yes	No
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Drift Deposits (B3) (Nonriverine)	Depth (inches): Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	S	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (B Drift Deposits (B3) (R	r more required) verine) 32) (Riverine) tiverine)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Water Present?	Depth (inches):	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	ying Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta	r more required) verine) 32) (Riverine) tiverine) 10) able (C2)
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Water-Stained Leaves (B9) Other (Explain in Remarks) 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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inches):	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4)	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (B Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on	r more required) verine) 32) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS
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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inches):	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv. Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (B Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Shallow Aquitard (D3	r more required) verine) 32) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS
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(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Primary Indicators (Maintenance) 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 (Education (B2)) Water-Stained Leaves (B9) Field Observations: Surface Water Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (B Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Shallow Aquitard (D3	r more required) verine) 32) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS
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Remarks:	Primary Indicators (minimum of one require 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 (E) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sar) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (E Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Shallow Aquitard (D3 FAC-Neutral Test (D8 cology Present? Yes	r more required) verine) 82) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS) 5)
and the second discountry of the second seco	Primary Indicators (minimum of one require 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 (E) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sar) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (E Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Shallow Aquitard (D3 FAC-Neutral Test (D8 cology Present? Yes	r more required) verine) 82) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS) 5)
	Primary Indicators (minimum of one require 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 (E) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, m	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sar) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (E Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Shallow Aquitard (D3 FAC-Neutral Test (D8 cology Present? Yes	r more required) verine) 82) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS) 5)
	Primary Indicators (minimum of one require 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 (E) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, m	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sar) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	ving Roots (C3)	econdary Indicators (2 o Water Marks (B1) (Ri Sediment Deposits (E Drift Deposits (B3) (R Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Shallow Aquitard (D3 FAC-Neutral Test (D8 cology Present? Yes	r more required) verine) 82) (Riverine) tiverine) 10) able (C2) 8) Aerial Imagery (CS) 5)

WETLAND DETERMINATION DATA FORM - Arid West Region 44. City/County: Ty Stin Applicant/Owner: __ Sampling Point: Investigator(s): Ngnyen Section, Township, Range: TYS, 19W Landform (hillslope, terraçe, etc.): __QVr0y0 Local relief (concave, convex, none): ______ Slope (%): Subregion (LRR): And West ____ Lat: ______ Long: _____ Soil Map Unit Name: ____ NWI classification: ___ Are climatic / hydrologic conditions on the site typical for this time of year? Yes __X No ____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ 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? × No is the Sampled Area Hydric Soil Present? _ No × within a Wetland? Wetland Hydrology Present? No Remarks: VEGETATION – Use scientific names of plants. Absolute Dominant Indicator **Dominance Test worksheet:** 20 rad) Tree Stratum (Plot size: % Cover Species? Status Number of Dominant Species Dalix Shoddingi FACW That Are OBL, FACW, or FAC: Total Number of Dominant 3. Quercus agrifolia Species Across All Strata: Fraxinus Percent of Dominant Species = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: 20 rad.) 1. Baccharis salicifolia Prevalence Index worksheet: 2. Baccharis Dilularis Total % Cover of: Multiply by: 3. Cortadena OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ FACU species _____ x 4 = ____ _____ = Total Cover Herb Stratum (Plot size: 5 UPL species 1. Ricinus Communis x 5 = Column Totals: _ 2. Oxalis pes-caprae ___ (A) ____ (B) Prevalence Index = B/A = ___ Hydrophytic Vegetation Indicators: X Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) = Total Cover Woody Vine Stratum (Plot size: ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. = Total Cover Hydrophytic Vegetation % Bare Ground in Herb Stratum % Cover of Biotic Crust _____ Present? Remarks:

	100 4 4 7 - L - 18 - 17 - 1			
SOIL			Sampling Point:	
Profile Description: (Describe to the depth	needed to document the indicator or confirm	n the absence of i	ndicators.)	
Depth Matrix —	Redox Features			
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²		Remarks	
0-10 10YR 3/15 50		clay/oam_		
0-10 1745/4 50		loam		
0 10 10 10 10 10 10 10 10 10 10 10 10 10				
¥				
17 may C=Consentration D=Depletion RM=R	educed Matrix, CS=Covered or Coated Sand G	rains. ² Location	on: PL=Pore Lining, M=N	//atrix.
Hydric Soil Indicators: (Applicable to all LI	RRs, unless otherwise noted.)	indicators for	Problematic Hydric So	ils':
Histosol (A1)	Sandy Redox (S5)		k (A9) (LRR C)	
Histic Epipedon (A2)	Stripped Matrix (S6)		k (A10) (LŘR B)	
Black Histic (A3)	Loamy Mucky Mineral (F1)		Vertic (F18) nt Material (TF2)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		plain in Remarks)	
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)	Other (L.x	plain in remarks)	
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F0) Depleted Dark Surface (F7)			
Depleted Below Dark Surface (A11)Thick Dark Surface (A12)	Redox Depressions (F8)	3Indicators of	hydrophytic vegetation ar	nd
Sandy Mucky Mineral (S1)	Vernal Pools (F9)		drology must be present,	
Sandy Gleyed Matrix (S4)		unless distu	irbed or problematic.	
Restrictive Layer (if present):				
Type:			· · · · · · · · · · · · · · · · · · ·	N. V
Depth (inches): NA	_	Hydric Soil Pr	esent? Yes	No X
Remarks:				
IVEROLOGY				
HYDROLOGY				
Wetland Hydrology Indicators:	als ask all that apply)	Seconda	ary Indicators (2 or more i	required)
Primary Indicators (minimum of one required:	cneck all that apply)		er Marks (B1) (Riverine)	
Surface Water (A1)	Salt Crust (B11)	Sed	iment Deposits (B2) (Riv	erine)
High Water Table (A2)	Biotic Crust (B12)Aquatic Invertebrates (B13)		Deposits (B3) (Riverine	
Saturation (A3)	Aduatic invertebrates (B13) Hydrogen Sulfide Odor (C1)		inage Patterns (B10)	
Water Marks (B1) (Nonriverine)	Oxidized Rhizospheres along Living Re		Season Water Table (C2	2)
Sediment Deposits (B2) (Nonriverine)	Presence of Reduced Iron (C4)		yfish Burrows (C8)	
Drift Deposits (B3) (Nonriverine)	Recent Iron Reduction in Tilled Soils (0	The second secon	uration Visible on Aerial l	magery (C9
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	The second secon	Sha	llow Aquitard (D3)	
Water-Stained Leaves (B9)	Other (Explain in Remarks)	FAC	C-Neutral Test (D5)	
Field Observations:				
	lo X Depth (inches):			
	In V Donth (inches):			
	No Depth (inches): We	tland Hydrology	Present? Yes X	No
(includes conillant frings)				
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previous inspections	i), if available:		

Remarks:

Total Number of Dominant Species Across All Strata: Sapling/Shrub Stratum (Plot size: 10	Project/Site: Veters Canyon		_ City/County: (Wange Sampling Date: 4
Landform (fillislope, terrace, etc.): (2002) Local relief (concave, convex, none): (2010) Subregion (LRR): Arch Wood Local relief (concave, convex, none): (2010) Subregion (LRR): Arch Wood Local relief (concave, convex, none): (2010) Local relief (concave, convex, none): (2010) Subregion (LRR): Arch Wood Local relief (concave, convex, none): (2010) NW classification: NW c	Abuse Mich. Cooling of Olding	14		State: (A Sampling Point: SD 3
Local relief (concave, convex, none): CONCAVE. Slope (Stope (in Rep. And West) Lat: Long: Datum: NWi classification: NWi cla	0 11 10 11	F	_ Section, Lownship	o, Range: 195 (291)
Datum: Doubling Unit Name: Not climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Not climatic / hydrologic conditions on the site typical for this time of year? Yes No (If needed, explain any answers in Remarks.) Not every depetation Soil or Hydrology naturally problematic? Not every explain any answers in Remarks.) Is the Sampled Area within a Wetland? Yes No Not explain any answers in Remarks. Not explain any answers in Remarks.) Is the Sampled Area within a Wetland? Yes No Not explain any answers in Remarks.) Not explain any answers in Remarks.) Is the Sampled Area within a Wetland? Yes No Not explain any answers in Remarks.) Not explain any answers in Remarks.) Is the Sampled Area within a Wetland? Yes No No Not explain any answers in Remarks.) Not every explaint in Remarks. Not explaint in Remarks. Not explaint in Remarks. Not explaint in Remarks. N	Landiorm (nilisiope, terrace, etc.): (RIO)		Local relief (cone	010 000101 0001
New Collimatic / hydrologic conditions on the site typical for this time of year? Yes	Subregion (LRR): Arid West	Lat:		Long:
re Vegetation Soil or rhydrology significantly disturbed? Are "Normal Circumstances" present? Yes or hydrology significantly disturbed? Are "Normal Circumstances" present? Yes or hydrology naturally problematic? (if needed, explain any answers in Remarks.) ### Attach site map showing sampling point locations, transects, important feature	Soil Map Unit Name:			Datum;
Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes revegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) Sometime	Are climatic / hydrologic conditions on the site typical for	or this time of v	ear? Yes N	Vic (If no explain in Demoks)
re Vegetation — Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) #### Provided Company	re Vegetation, Soil, or Hydrology	significantly		
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important feature Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No Wetland? Jominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Cover Prevalence Index us the Multiply by	re Vegetation, Soil, or Hydrology	naturally or		
Is the Sampled Area Within a Wetland? Yes No Within				of locations transacts important factures
Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland? Yes No Wetla				
Remarks: Comparison Compar	Hydric Soil Present? Yes			
EGETATION – Use scientific names of plants. Tree Stratum (Plot size: 10	Wetland Hydrology Present? Yes		within a We	tland? Yes No
Absolute % Cover Species? Status Dominant Indicator Species? Status Dominant Species Status Number of Dominant Species Status Number of Dominant Species Status Species	temarks:			
Absolute % Cover Species? Status Dominant Indicator Species? Status Dominant Species Species? Status Species? Status Species? Status Species Across All Strata: Species Across All	EGETATION – Use scientific names of n	lante	· · · · · · · · · · · · · · · · · · ·	я
Salix goods (Nair Gold Nair Gold Natural Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata:		Absolute		or Dominance Test worksheet:
That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species That Are OBL, FACW, or FAC: Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x1 = FACW species x2 = FACW species x3 = FACW species x3 = FACW species x4 = UPL species x5 = Column Totals: (A) Oxalis Pes-caprae 20 N Oxalis Pes-caprae 20 N Oxalis Pes-caprae 20 N Oxalis Pes-caprae 30 N Oxalis Pes-caprae 40 N Oxalis Pes-cap	Salix Oracle inc	% Cover	Species? Status	Number of Dominant Species
Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC:				That Are OBL, FACW, or FAC:
Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet:				Total Number of Dominant
### Prevalence Index = B/A = ### Prevalence Index is \$\frac{10}{2} \text{Dominant Species} \text{Total Cover} \text{Total Cover} \text{Prevalence Index worksheet:} \text{Total % Cover of:} \text{Multiply by:} \text{Multiply by:} \text{Dominant Species} \text{X 1 = FACW, or FAC:} \text{Total % Cover of:} \text{Multiply by:} \text{Dominant Species} \text{X 1 = FACW, or FAC:} \text{Dominant Species} \text{X 2 = FACW, or FAC:} \text{Dominant Species} \text{X 1 = FACW, or FAC:} \text{Dominant Species} \text{X 2 = FACW, or FAC:} \text{Dominant Species} X 2 = FA				Species Across All Strata:
Prevalence Index worksheet: Total % Cover of: Multiply by:				Percent of Dominant Species
Total % Cover of: Multiply by: DBL species	Apriling/Shrub Stratum (Plot size:)			The state of the s
OBL species	Baccaris Dilularis	- 15		
FACW species x2 = FAC species x3 = FACU species x4 = UPL species x5 = Column Totals: (A) Fromus dianding 5 N Oxalis - PES-caprae 2 N Oxeleo Spermum Policionis 5 N Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide support data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain indicators of hydric soil and wetland hydrology materials disturbed or problematic.) FACW species x3 = FACU species x4 = UPL species x4 = UPL species x4 = UPL species x5 = Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide support data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain indicators of hydric soil and wetland hydrology materials disturbed or problematic.) Total Cover Hydrophytic Vegetation Present? Yes No.	Pleas	- 5	N	Total % Cover of:Multiply by:
FAC species x3 = FAC species x4 = FACU species x4 = FACUspecies x4 =				OBL species x 1 =
## Stratum (Plot size: Phaceua (amagissima 20				
## Proposition Plot size:				
Column Totals:	rb Stratum (Plot size:)			
Prevalence Index = B/A = Hydrophytic Vegetation Indicators: Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Dody Vine Stratum (Plot size:	Praceda jamosissima	_ 20		Column T 1 1
Hydrophytic Vegetation Indicators: Dominance Test is >50%	Or alie - Ples-carral	-5-	N_	-
Dominance Test is >50% — Prevalence Index is ≤3.0¹ — Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain 1 Indicators of hydric soil and wetland hydrology make present, unless disturbed or problematic. — = Total Cover Indicators of hydric soil and wetland hydrology make present, unless disturbed or problematic. Hydrophytic Vegetation Veget		- \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	- N	
— Prevalence Index is ≤3.0¹ — Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain sheet) — Problematic Hydrophytic Vegetation¹ (Explain sheet) — Indicators of hydric soil and wetland hydrology make present, unless disturbed or problematic. — Total Cover — Total Cover — Total Cover — Total Cover — Prevalence Index is ≤3.0¹ — Provide supporting the provide supporting to the problematic of the provide supporting to the provide			-N_	
Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) = Total Cover				
data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain 1 Indicators of hydric soil and wetland hydrology material be present, unless disturbed or problematic. — Total Cover — Problematic Hydrophytic Vegetation¹ (Explain 1 Indicators of hydric soil and wetland hydrology material be present, unless disturbed or problematic. — Hydrophytic Vegetation Present? Yes No.				201
= Total Cover = Total Cover Problematic Hydrophytic Vegetation¹ (Explain Problematic Hydrophytic Vegetation¹ (Explain Problematic Hydrophytic Vegetation¹ (Explain Problematic Hydrophytic vegetation				data in Remarks or on a separate sheet)
Indicators of hydric soil and wetland hydrology me be present, unless disturbed or problematic. — = Total Cover are Ground in Herb Stratum **Cover of Biotic Crust** **Total Cover Vegetation** **Present?** **Total Cover Vegetation** **Total Cover Vegetation** **Total Cover Vegetation** **Total Cover Vegetation** **Present?** **Total Cover Vegetation**			Total Cover	
be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No.				
= Total Cover Hydrophytic Vegetation Present? Yes No.				¹ Indicators of hydric soil and wetland hydrology must
are Ground in Herb Stratum % Cover of Biotic Crust Vegetation Present? Yes No.				
% Cover of Biotic Crust Present? Yes No.				
narks:	AND	r of Biotic Crust	t	D
	arks:			

1	14			
-	5			
	5			

Profile Description: (Describe to the d	lepth needed to document the indicator or	confirm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹	Loc ² Texture Remarks
U-10 104R 2/2 40)	
0-10 104R4/3 60		SCL
Type: C=Concentration D=Depletion.	RM=Reduced Matrix, CS=Covered or Coated	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	indicators for Problematic Hydric cons .
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18) Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remains)
1 cm Muck (A9) (LRR D)	— Redox Dark Surface (F6) Depleted Dark Surface (F7)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (17) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Vernal Pools (F9)	wetland hydrology must be present,
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)		unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes No
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one reg	uired; check all that apply)	
Surface Water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)Drift Deposits (B3) (Riverine)
Saturation (A3)	Aquatic Invertebrates (B13)	
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriver)		Living Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled	
Inundation Visible on Aerial Imager	y (B7) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:		
	No X Depth (inches):	
Water Table Present? Yes	No Depth (inches):	Wetland Hydrology Present? Yes No
	No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge	e, monitoring well, aerial photos, previous insp	pections), if available:
Remarks:		
nemans.		and the second second
	work as a series of the series	

Project/Site: Peters (anyon	Citv/C	County: 016	000	C "	4/11
Project/Site: <u>Peters</u> (anyon Applicant/Owner: <u>County of Or</u> Investigator(s): <u>D. Rosil</u> , I. Nauge	ange		State: C A	Sampling Date:	Call
Investigator(s): D. Rosie, L. Nguye	h Section	n Township Bon	TUS Pay	Sampling Point:	754
Landform (hillslope terrace etc.): Account	Occilio	ni, rownship, Kani	ge. 195, 1294		
Landform (hillslope, terrace, etc.): Acrogo Subregion (LRR): Acrogo Wood	Local	relief (concave, co	onvex, none):	sie	ope (%):
Subregion (LRR): A () West	Lat		Long:	Datu	um:
With Maria Control of the Control of			NIV/I class	critication:	
Are climatic / hydrologic conditions on the site typical fo	or this time of year? Ye				
Are Vegetation, Soil, or Hydrology	significantly disturb		ormal Circumstance	es" present? Yes	No
Are Vegetation, Soil, or Hydrology			ded, explain any ans	swers in Remarks.)	
SUMMARY OF FINDINGS - Attach site m	1	pling point loc	ations, transed	cts, important fe	atures, et
	No	ls the Sampled A	rea		
Wetland Hydrology Present? Yes	NO 1/	within a Wetland?		No_V	
Remarks:					
EGETATION – Use scientific names of pl					
Tree Stratum (Plot size: 10 St) 1. Black Willow Salix Goodingii	Absolute Domin	ant Indicator D	ominance Test wo	rksheet:	
Black Willow Salix Goodingii	% Cover Specie	s? Status N	umber of Dominant	Species	
·			hat Are OBL, FACK	/, or FAC:	(A)
		1 10	otal Number of Dom	inant	
-			pecies Across All St		(B)
	- T. ()	Cover Pe	ercent of Dominant		
apling/Shrub Stratum (Plot size:			nat Are OBL, FACW		(A/B)
Baccaris palalaris	- TO - NI		evalence Index wo		
		0.5	Total % Cover of:	Multiply t	oy:
			CM species	x 1 =	
			C species	x 2 = x 3 =	
erb Stratum (Plot size: 5 (+)	= Total C		CU species	x 3 = x 4 =	
Cyperus erggrostis	5 N'	UP	L species	x 5 =	
Phacella ramosisima	- 5 N	Col	umn Totals:	(A)	(B)
Stipa Ma milacea	$-\frac{\langle 2 \rangle}{\langle 1 \rangle} \frac{N}{N}$				
Artemesia douglasiana	- 12 N	Uve	Prevalence Index	c = B/A =	
Erigeron canadyneis	Z 3 N		rophytic Vegetation Dominance Test is		
V			Prevalence Index is		
				s ≤3.0 ptations¹ (Provide sup	nostin -
			data in Remarks	s or on a separate she	eet)
	= Total Co	over	Problematic Hydrop	phytic Vegetation ¹ (Ex	plain)
ody Vine Stratum (Plot size:)					
		I 'Indi	cators of hydric soil resent, unless distu	l and wetland hydrolog irbed or problematic.	gy must
	= Total Co		rophytic	problematic.	
are Ground in Herb Stratum 50 % Cover		Voge	etation	1/	
narks:	of Biotic Crust	Pres	ent? Yes	No	_
iains.					
iains.					

-	

	7	
Sampling Point:	-	

	pth needed to document the indicator or co		
Depth Matrix inches) Color (moist) %	Color (moist) % Type¹ Lo	c ² Texture	Remarks
inches) Gotor (meles)		SCL	
-10 104R 3/2,5 100			
		_	
		214	on: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, CS=Covered or Coated S	and Grains. Locali	r Problematic Hydric Soils ³ :
ydric Soil Indicators: (Applicable to a	all LRRs, unless otherwise noted.)	maicators to	
Histosol (A1)	Sandy Redox (S5)		ck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muc	ck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced	Venic (F16)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Pare	ent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Ex	kplain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	31	hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Depressions (F8)		drology must be present,
Sandy Mucky Mineral (S1)	Vernal Pools (F9)		urbed or problematic.
Sandy Gleyed Matrix (S4)		uniess dist	urbed of problematio.
Restrictive Layer (if present):			
Type:			·
			N1. /
• • • • • • • • • • • • • • • • • • • •		Hydric Soil P	resent? Yes No _X
Depth (inches):Remarks:		Hydric Soil P	resent? Yes No^_
Depth (inches):		Hydric Soil P	resent? Yes No^_
Depth (inches):Remarks:		Hydric Soil P	resent? Yes No _^
Depth (inches):Remarks: YDROLOGY Wetland Hydrology Indicators:			
Depth (inches):Remarks: YDROLOGY Wetland Hydrology Indicators:		Second	ary Indicators (2 or more required)
Depth (inches):		Second	ary Indicators (2 or more required) tter Marks (B1) (Riverine)
Depth (inches):	uired; check all that apply)	SecondWa	ary Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine)
Depth (inches): Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requesting Surface Water (A1) High Water Table (A2)	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12)	SecondWaSei	ary Indicators (2 or more required) uter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine)
Depth (inches):	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Second Wa Second Dri Dri	ary Indicators (2 or more required) Iter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) Ift Deposits (B3) (Riverine) Idinage Patterns (B10)
Depth (inches):	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Second Wa Second Dri Dri Dra	ary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2)
Depth (inches):	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) ne) Oxidized Rhizospheres along Liv	Second Wa Second Dri Dri Dra Pring Roots (C3) Cri	ary Indicators (2 or more required) Inter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) Ift Deposits (B3) (Riverine) Idinage Patterns (B10) Injection of the second
Primary Indicators (minimum of one requestions (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) ne) Oxidized Rhizospheres along Live Presence of Reduced Iron (C4)	Second Wa Second Dri Dri Dri Dri Cring Roots (C3) Cri	ary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2)
Depth (inches): Primary Indicators (minimum of one requestions): 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)	sired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Second Wa Second Dri Dri Dri Dri Cri Soils (C6) Second	ary Indicators (2 or more required) Inter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) Ift Deposits (B3) (Riverine) Idinage Patterns (B10) Injection of the second
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Depth (inches): Remarks: NYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestive 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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled States (B7) Other (Explain in Remarks) No Depth (inches):	Second Wa Sei Dri Dri Dra Soils (C6) Sa FA	lary Indicators (2 or more required) Inter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) If Deposits (B3) (Riverine) Idinage Patterns (B10) Injection Water Table (C2) Injection Water Table (C2) Injection Visible on Aerial Imagery (C9) Idliow Aquitard (D3)
Primary Indicators (minimum of one requested Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	sired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Strict (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): Depth (inches):	Second Wa Second Dri Dri Dra Cra Soils (C6) Sa Sh FA	lary Indicators (2 or more required) Inter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) Idiment Deposits (B3) (Riverine) Idimage Patterns (B10) Idimage Patterns (B10) Idimage Patterns (C2) Idimage Patterns (C8) Idimagery (C8) Idimagery (C9) Idimagery
Popenth (inches): Primary Indicators (minimum of one requested in State of Saturation (A3) Water Marks (B1) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes Water Table Present? Yes	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled States (B7) Other (Explain in Remarks) No Depth (inches):	Second Wa Sei Dri Dri Dra Soils (C6) Sa FA	lary Indicators (2 or more required) Inter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) Idiment Deposits (B3) (Riverine) Idimage Patterns (B10) Idimage Patterns (B10) Idimage Patterns (C2) Idimage Patterns (C8) Idimagery (C8) Idimagery (C9) Idimagery
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Primary Indicators (minimum of one requestions) 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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge	uired; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Stream (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	Second Wa Second Dri Dri Dra Cring Roots (C3) Dn Cring Roots (C6) Sa Soils (C6) Sa FA Wetland Hydrology	lary Indicators (2 or more required) Inter Marks (B1) (Riverine) Idiment Deposits (B2) (Riverine) Idiment Deposits (B3) (Riverine) Idimage Patterns (B10) Idimage Patterns (B10) Idimage Patterns (C2) Idimage Patterns (C8) Idimagery (C8) Idimagery (C9) Idimagery
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Project/Site: PECA	0	ity/County:	Morre Con ander	Sampling Date: 4	20/1
Applicant/Owner: VI VAIRS			~ ~ A		
Investigator(s):	(50V) e	oction Township	State: Tuc 1	Sampling Point:	545
Landform (hillslope, terrace, etc.): Swork	5	ection, rownship,	Range:	<u>qw</u>	
Subregion (LRR): And Wast	L(ocai relief (conca	ve, convex, none):	Slope (%	6): <u> </u>
Subregion (LRR): And Wast	Lat:		Long:	Datum:	
			NWI class	ification:	
Are climatic / hydrologic conditions on the site typical	for this time of year?	? Yes No	o <u> </u>	Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly dis	sturbed? A	re "Normal Circumstances	" present? Yes	No_>
Are Vegetation, Soil, or Hydrology		ematic? (If	needed, explain any ansv	wers in Remarks.)	
SUMMARY OF FINDINGS – Attach site i	nap showing ຣຄ	ampling poin	t locations, transec	ts. important feature	es of
Hydrophytic Vegetation Present? Yes				, important routare	
Hydric Soil Present? Yes		Is the Sampl	ed Area	/	
Wetland Hydrology Present? Yes		within a Wet	land? Yes	No <u> </u>	
Remarks:					
located in single below	* 1 · · · · · · · · · · · · · · · · · ·	1	~ 11		
located in smale below i	Luvert,	draight	Coloryane		
EGETATION – Use scientific names of p	olants.				-
	Absolute Do	ominant Indicator	Dominance Test wor	kshoot:	
Tree Stratum (Plot size:)	_% Cover Sp	ecies? Status	Number of Dominant S		
			That Are ORL EACING	or FAC:	(A)
3.			Total Hallibel of Dolling	nant o	
s			Species Across All Stra	nant 3	(B)
	= To	otal Cover	Percent of Dominant S	pecies a 7	
Sapling/Shrub Stratum (Plot size:			That Are OBL, FACW,	or FAC: 33	(A/B)
Bacchavis Salinifolia	_ 60 _	1 FAC	Prevalence Index wor	ksheet:	
. 4		- 1 P	Total % Cover of:	Multiply by:	
			OBL species	x 1 =	_
				x 2 =	
				x 3 =	
erb Stratum (Plot size:)		tal Cover		x 4 =	
Melibus indices	_ 45 y	L IR	UPL species	x 5 =	
Branus madilensis ssp. ruens	_ 34 .	URL	Column rotals.	(A)	(B)
Isaroma menziesii]	Prevalence Index	= B/A =	
			Hydrophytic Vegetation		
			Dominance Test is >		
			Prevalence Index is		
			Morphological Adapt	tations ¹ (Provide supportin or on a separate sheet)	ıg
			Problematic Hydroph	hytic Vegetation ¹ (Explain)	
pody Vine Stratum (Plot size:)		al Cover		The regulation (Explain)	
			¹ Indicators of hydric soil a	and wetland hydrology mus	st
			be present, unless disturb	ped or problematic.	.
. —	= Tota	l Cover	Hydrophytic	,	
Bare Ground in Herb Stratum % Cov	er of Biotic Crust		Vegetation Present? Yes	No	
marks:			ies_	NO _V	
	6				

SOIL	
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		- 1	
Sampling	Point:	1	

Profile Description: (Describe to the depth needed to document the indicator of Redox Features	
Deptil Matrix 0/ Onlar (maint) 0/ Type 1	Loc ² Texture Remarks
Hories)	sand
0-12 104R514 100	
B. Barletian BM-Reduced Matrix CS=Covered or Coated	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated	Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	1 cm Muck (A9) (LRR C)
Histosol (A1) Sandy Redox (S5)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2) Stripped Matrix (S6)	Reduced Vertic (F18)
Black Histic (A3) Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Nomano)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12) Redox Depressions (F8)	wetland hydrology must be present,
Sandy Mucky Mineral (S1) Vernal Pools (F9)	unless disturbed or problematic.
Sandy Gleyed Matrix (S4)	unless disturbed of problematic.
Restrictive Layer (if present):	/
Type: Mark Compacted Soils	
Depth (inches): 12 11	Hydric Soil Present? Yes No
Remarks:	
IYDROLOGY	
	, and the state of
Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tille	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tille Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tille Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Outher (Explain in Remarks) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous instance in the property of the proper	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
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Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tille Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Depth (inches): Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous instructions in the property of the	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tille Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Depth (inches): Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Cincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous instructions in the property of the	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) d Soils (C6) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

Investigator(s): Stepren Andrean & Lauren M Landform (hillslope, terrace, etc.): Swall Subregion (LRR): And west Soil Map Unit Name: Are climatic / hydrologic conditions on the site typical for the Are Vegetation , or Hydrology	Lat: 3 nis time of your significantly process of the second of the seco	Section Local 3° 47 ear? You disturb oblema g sam Doming	on, Township, It relief (concave 13.44 N es No ped? Are tic? (If pling point Is the Sample within a Wetland Are tic? Status	Range:
Investigator(s): Stephen Andrean blauren M Landform (hillslope, terrace, etc.): Swale Subregion (LRR): Arch (west) Soil Map Unit Name: Are climatic / hydrologic conditions on the site typical for the Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS — Attach site map Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks: N Remarks: N VEGETATION — Use scientific names of plant	Lat: 3 nis time of your significantly prosper showing the showing	Section Local 3	esNo ped? Are tic? (If pling point Is the Sample within a Wetla	Range: The Range Slope (%): o e, convex, none): Concer Slope (%): o Long: 17045/46.07 W Datum: NWI classification: (If no, explain in Remarks.) e "Normal Circumstances" present? Yes No needed, explain any answers in Remarks.) I locations, transects, important features, et and? Yes No Dominance Test worksheet: Number of Dominant Species
Subregion (LRR): Arch (Lock) Soil Map Unit Name: Are climatic / hydrologic conditions on the site typical for the Are Vegetation, Soil, or Hydrology in the Are Vegetation Present? Yes Negroup Yes	Lat: 3 nis time of your significantly processing the showing the showing the showing the showing the should be showing the sho	ear? You disturb oblema	es No ped? Are tic? (If pling point is the Sample within a Wetland is the Sample within	e, convex, none):
Subregion (LRR): Are Climatic / hydrologic conditions on the site typical for the Are Vegetation , Soil , or Hydrology Are Vegetation , Soil , or Hydrology SUMMARY OF FINDINGS - Attach site map Hydrophytic Vegetation Present? Yes Now the site typical for the site	Lat: 3 nis time of your significantly naturally pro- showing No	ear? Yeur disturbed by sam	esNo ped? Are tic? (If pling point Is the Sample within a Wetla	Long: \\ \frac{1}{2} \(\frac{1}{4} \) \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Are climatic / hydrologic conditions on the site typical for the Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS — Attach site map Hydrophytic Vegetation Present? Yes Now the soil Present? Yes Yes Now the soil Present? Yes Yes Now the soil Present? Y	significantly prospering showing showing labeled to the labeled to	ear? Your disturb oblema	es No ped? Are tic? (If pling point Is the Sample within a Wetla Annual Indicator es? Status	NWI classification: (If no, explain in Remarks.) e "Normal Circumstances" present? Yes No needed, explain any answers in Remarks.) I locations, transects, important features, et ed Area and? Yes No Dominance Test worksheet: Number of Dominant Species
Are climatic / hydrologic conditions on the site typical for the Are Vegetation, Soil, or Hydrology Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS - Attach site map Hydrophytic Vegetation Present? Yes Now the soil Present? Yes	significantly prospering showing No Showing	pear? You disturb oblema grammagramm	esNo ped? Are tic? (If pling point Is the Sample within a Wetla	(If no, explain in Remarks.) e "Normal Circumstances" present? Yes No needed, explain any answers in Remarks.) clocations, transects, important features, et ed Area and? Yes No Dominance Test worksheet: Number of Dominant Species
Are Vegetation, Soil, or Hydrology in Are Vegetation, soil, or Hydrology, so il, soil, or Hydrology, so il, soil, soil	significantly prosperition of the state of t	oblema g sam VCV Domir Specie	ped? Are tic? (If pling point Is the Sample within a Wetla	e "Normal Circumstances" present? Yes No needed, explain any answers in Remarks.) I locations, transects, important features, et ed Area and? Yes No Dominance Test worksheet: Number of Dominant Species
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS - Attach site map Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks:	showing No	Domir Specie	pling point Is the Sample within a Wetla Annual Indicator es? Status	Dominance Test worksheet: Number of Dominant Species
Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: A DOUGH COND HAM SWALL VEGETATION – Use scientific names of plant	showing No /	Domin Specia	pling point Is the Sample within a Wetla Annual Indicator es? Status	Dominance Test worksheet: Number of Dominant Species
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks: A DOUGH CONDITIONS PRESCUE WALLE DELOW	ts. Absolute % Cover	Domin Specia	pling point Is the Sample within a Wetla and Indicator es? Status	Dominance Test worksheet:
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks: A DOUGH CONDITIONS PRESCUE WALLE DELOW	ts. Absolute % Cover	Domin Specia	Is the Sample within a Wetla	Dominance Test worksheet: Number of Dominant Species
Hydric Soil Present? Wetland Hydrology Present? Remarks: A MOVED A CONDITIONS PARENCE DELOW VEGETATION – Use scientific names of plant	ts. Absolute % Cover	Domir	mant Indicator	Dominance Test worksheet: Number of Dominant Species
Wetland Hydrology Present? Yes N Remarks: CANOVON' CONDITIONS PLESCO WEGETATION – Use scientific names of plant	ts. Absolute % Cover	Domir Specie	nant Indicator	Dominance Test worksheet: Number of Dominant Species
Remarks: drovont conditions prescondations prescondations prescondens wated within Swale below VEGETATION - Use scientific names of plant	ts. Absolute % Cover	Domir Speci	nant Indicator es? Status	Number of Dominant Species
	Absolute % Cover	Speci	es? Status	Number of Dominant Species
Tree Stratum (Plot size:	% Cover	Speci	es? Status	Number of Dominant Species
Tree Stratum (Plot Size:				
1				
1				(A)
2				Total Number of Dominant
3 4				Species Across All Strata: (B)
			l Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
12.				Prevalence Index worksheet:
3.				
4				FACW species x 2 =
5				FAC species x 2 = 5
		= Total		FACU species x 4 =
Herb Stratum (Plot size:)			Ø (1)	UPL species 57 x5 = 785
Prassica nigra	3	N	100	Column Totals: (A) 303 (B)
Lea (om o Menziess)	5	7	EAC	
- CHILD IN CHILD	50	7	- 1	Prevalence Index = B/A = 4, 66
	-	N	1001	Hydrophytic Vegetation Indicators:
bomis magners se. wars	4	10	11/1	Dominance Test is >50%
				Prevalence Index is ≤3.0¹
				Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
	100 -	Total C	Cours	Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size:)		Total	Jovei	
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		Total C	Cover	Hydrophytic
Bare Ground in Herb Stratum 35 % Cover of				Vegetation Present? Yes No
emarks:				
dead/cut Schoeropiectus	with	Som	ue re-s	spronting

rofile Description: (Describe to the d	epth needed to docum	ent the indicator	or confir	m the absence of i	idicators.)
Depth Matrix		Features	1.002	Texture	Remarks
nches) Color (moist) %	Color (moist)	% Type ¹	Loc²		Remarks
0-12 10 48 614 91	1548416	3 0	KAI	loany sand	A STATE OF THE STA
12-16 1048414 95	7.54R416	5 (m_{\perp}	Sandy loan	^
Type: C=Concentration, D=Depletion, F	M-Daduard Matrix CS	-Covered or Coat	ed Sand G	Grains ² Locatio	n: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to	all I RRs unless other	wise noted.)	eu oanu e	Indicators for	Problematic Hydric Soils ³ :
	Sandy Redo			1 cm Muck	(A9) (LRR C)
_ Histosol (A1) _ Histic Epipedon (A2)	Stripped Mar		32		(A10) (LRR B)
Black Histic (A3)		xy Mineral (F1)		Reduced \	/ertic (F18)
_ Hydrogen Sulfide (A4)	Loamy Gley				t Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Ma	atrix (F3)		Other (Exp	olain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark				
_ Depleted Below Dark Surface (A11)		rk Surface (F7)		31 - diameters of h	ydrophytic vegetation and
_ Thick Dark Surface (A12)	Redox Depr				rology must be present,
_ Sandy Mucky Mineral (S1)	Vernal Pools	s (F9)			rbed or problematic.
Sandy Gleyed Matrix (S4)				1	
rype: Mark Compact Sol	15				,
1, 1/1	IJ.			Hydric Soil Pre	esent? Yes No
Depth (inches):				ya.io co	
demarks:					
/DROLOGY					
Vetland Hydrology Indicators:	uired; check all that apply)		Seconda	y Indicators (2 or more required
Vetland Hydrology Indicators: rimary Indicators (minimum of one requ					ry Indicators (2 or more required er Marks (Β1) (Riverine)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requ Surface Water (A1)	Salt Crust	(B11)		Wate	
Vetland Hydrology Indicators: rimary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2)	Salt Crust Biotic Crus	(B11) et (B12)		Wate	er Marks (B1) (Riverine)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestions Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust Biotic Crus Aquatic Inv	(B11) it (B12) vertebrates (B13)		Wate Sedii Drift	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestions Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Salt Crust Biotic Crus Aquatic Inv Hydrogen	(B11) it (B12) vertebrates (B13) Sulfide Odor (C1)	g Living R	Wate Sedii Drift Drair	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestriance Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R	(B11) It (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres alon		Wate Sedii Drift Drain Drain Dry-:	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestriance Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (G	C4)	Wate Sedii Drift Drain oots (C3) Dry-3	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestriance Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence	(B11) It (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres alon	C4)	Wate Sedi Drift Drain oots (C3) Dry-3 Cray Satu	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestriance 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	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Thin Muck	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Ithizospheres alon of Reduced Iron (In Reduction in Til	C4)	Wate Sedii Drift Drain oots (C3) Dry-: Cray C6) Satu Shal	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery
Vetland Hydrology Indicators: Irimary Indicators (minimum of one requestriance 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 Water-Stained Leaves (B9)	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Thin Muck	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Ithizospheres alon of Reduced Iron (In Reduction in Till Surface (C7)	C4)	Wate Sedii Drift Drain oots (C3) Dry-: Cray C6) Satu Shal	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery low Aquitard (D3)
Vetland Hydrology Indicators: Vrimary Indicators (minimum of one requestriance 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 Water-Stained Leaves (B9) Field Observations:	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Thin Muck Other (Exp	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (In Reduction in Till Surface (C7) Islain in Remarks)	c4) ed Soils (0	Wate Sedii Drift Drain oots (C3) Dry-: Cray C6) Satu Shal	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery low Aquitard (D3)
Vetland Hydrology Indicators: rimary Indicators (minimum of one requestriance 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 Imageny Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Thin Muck Other (Exp	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Shizospheres alon of Reduced Iron (In Reduction in Till Surface (C7) Islain in Remarks) Ches):	C4) ed Soils (C	Wate Sedii Drift Drain oots (C3) Dry-: Cray C6) Satu Shal	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery low Aquitard (D3)
Vetland Hydrology Indicators: Vrimary Indicators (minimum of one requestriance 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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Ves Water Table Present?	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence Recent Iro Thin Muck Other (Exp	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Rhizospheres alon of Reduced Iron (In Reduction in Till Surface (C7) Iolain in Remarks) Ches):	C4) ed Soils (C	Wate Sedi Drift Drain oots (C3) Cray C6) Satu Shal FAC	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery low Aquitard (D3) -Neutral Test (D5)
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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Ves Water Table Present?	Salt Crust Biotic Crust Aquatic Inv Hydrogen Oxidized R Presence of Recent Iro Thin Muck Other (Exp No Depth (inc	(B11) It (B12) Vertebrates (B13) Sulfide Odor (C1) Shizospheres alon of Reduced Iron (In Reduction in Till Surface (C7) Islain in Remarks) Inches):	C4) ed Soils (0	Wate Sedii Drift Drain oots (C3) Cray C6) Satu Shal FAC	er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery low Aquitard (D3) -Neutral Test (D5)

Project/Site: PECA	City/County: To	stin/ Orange Sampling Date: 4/20/16
Applicant/Owner: OC Polks		State: (A Sampling Point: SP7
Investigator(s): L. Mack, S. Andurson	Section, Townsh	ip, Range: THS, R9W
Landform (hillslope, terrace, etc.): top of book	Local relief (con-	cave convey none): VID
Subregion (LRR): And way	Lat: 33°47 2.19"	N Long: 17045/4703W Datum:
		NWI classification:
Are climatic / hydrologic conditions on the site typical for		
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" present? Yes No X
Are Vegetation, Soil, or Hydrology	_ naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site ma	ap showing sampling po	int locations, transects, important features, etc
1	No Is the San	, , , , , , , , , , , , , , , , , , , ,
Hydric Soil Present? Yes	No V	npled Area
Wetland Hydrology Present? Yes	No within a W	Vetland? Yes No
Remarks: Olyought conditions		
PH located at base of swa	ue & top of slo	pe of loasin
VEGETATION – Use scientific names of plants		
	Absolute Dominant Indica	
Tree Stratum (Plot size:)	% Cover Species? Statu	
1 2.		That Are OBL, FACW, or FAC: (A)
3		Total Number of Dominant Species Across All Strata:(B)
4		
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:
1		Prevalence Index worksheet:
2.		
3		OBL species x 1 =
4		
5		FAC species x 3 =
Herb Stratum (Plot size:)	= Total Cover	FACU species x 4 =
1. Schoenes dectors californius	10 Y OBL	UPL species x 5 = Column Totals: (A) (B)
2.		(A)(B)
3		Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators: Dominance Test is >50%
56		Prevalence Index is ≤3.01
7		Morphological Adaptations ¹ (Provide supporting
8		data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size:)	\O = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
1		¹ Indicators of hydric soil and wetland hydrology must
2		be present, unless disturbed or problematic.
	= Total Cover	Hydrophytic
% Bare Ground in Herb Stratum % Cove	er of Biotic Crust	Vegetation Present? Yes No
Remarks:		
dug in area of dead Sch	remoplosting un	the some nocommition
way in will by whole sen	0019 40103 01	3/100/119

SOIL Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) Color (moist) (inches) ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils3: Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Histic Epipedon (A2) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Black Histic (A3) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Matrix (F3) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) 3Indicators of hydrophytic vegetation and Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Sandy Gleved Matrix (S4) Restrictive Layer (if present): Type: **Hydric Soil Present?** Depth (inches): _ Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Secondary Indicators (2 or more required) Primary Indicators (minimum of one required; check all that apply) ___ Water Marks (B1) (Riverine) Surface Water (A1) Salt Crust (B11) Sediment Deposits (B2) (Riverine) High Water Table (A2) Biotic Crust (B12) _ Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) __ Drainage Patterns (B10) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) ___ Dry-Season Water Table (C2) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Crayfish Burrows (C8) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Surface Soil Cracks (B6) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Field Observations: Depth (inches): Surface Water Present? Water Table Present? Depth (inches): Wetland Hydrology Present? Saturation Present? No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site: PECA	City/County: Tus	Lin Orange s	ampling Date: 420//6
Applicant/Owner: OC Packs		State: CA S	ampling Point: SDS
Investigator(s): L. Mack, S. Anderson	Section, Township	Range: Tus, Raw	
Landform (hillslope, terrace, etc.): Land slope	Local relief (conca	ve. convex. none): VOVR	Slone (%):
Subregion (LRR): And west	Lat: 33°47 1.70°N	Long: 117045/4766	"(L) Datum:
Soil Map Unit Name:			
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes N	(If no explain in Rem	arke \
Are Vegetation, Soil, or Hydrology signature.		re "Normal Circumstances" pres	/
Are Vegetation, Soil, or Hydrology na		f needed, explain any answers in	
SUMMARY OF FINDINGS – Attach site map s	200.00 A		
Hydric Soil Present? Yes No	ls the Samp within a We		No
located as base of slope of	bosin da	ant (arditions	
VEGETATION – Use scientific names of plants		3	
	Absolute Dominant Indicate % Cover Species? Status	Number of Dominant Specie	es (
2		Total Number of Dominant	
4		Species Across All Strata:	(B)
	= Total Cover	Percent of Dominant Specie That Are OBL, FACW, or FA	
1		Prevalence Index workshe	et:
2		Total % Cover of:	
3		OBL species	
4		_ FACW species	
5		FAC species	
Herb Stratum (Plot size:)	= Total Cover	FACU species	
1. Schoennolortus californius	15 Y CPL	UPL species	
2		- Column Totals:	(A)(B)
3		Prevalence Index = B/	A =
4		Hydrophytic Vegetation Inc	dicators:
5		Dominance Test is >50%	
5		Prevalence Index is ≤3.0	to the second se
7		Morphological Adaptatio data in Remarks or o	
3		Problematic Hydrophytic	
Noody Vine Stratum (Plot size:)	= Total Cover		(2.45.0.1)
		¹ Indicators of hydric soil and be present, unless disturbed	wetland hydrology must or problematic.
	= Total Cover	Hydrophytic Vegetation Present? Yes	No
Remarks:			

SOIL			Sampling Point:
Profile Des	scription: (Describe to th	e depth needed to document the indicator or confirm the abse	ence of indicators.)
Depth	Matrix	Redox Features	

Remarks
ation: PL=Pore Lining, M=Matrix.
for Problematic Hydric Soils ³ :
uck (A9) (LRR C)
uck (A10) (LRR B)
d Vertic (F18)
rent Material (TF2)
Explain in Remarks)
f hydrophytic vegetation and
ydrology must be present,
sturbed or problematic.

/
Present? Yes No
dary Indicators (2 or more required)
ater Marks (B1) (Riverine)
diment Deposits (B2) (Riverine)
ft Deposits (B3) (Riverine)
ainage Patterns (B10)
/-Season Water Table (C2)
ayfish Burrows (C8)
turation Visible on Aerial Imagery (C9)
allow Aquitard (D3)
C-Neutral Test (D5)
Present? Yes / No
riesent: res <u>y</u> No

Project/Site: PECA		City/	County: Tus	to Olarie	Sampling Date: 4/20//
Applicant/Owner: OC Parks		on,	- 103	State: CA	Sampling Date: 7/20//
Investigator(s): Mark, Av	devson	Sect	ion. Townshin	Range: T41 00	_ Sampling Point:
Landform (hillslope, terrace, etc.): _	dry basin	Loca	al relief (concav	e convex none): None	Slone (9())
Subregion (LRR): And West	J	Lat: 33 047/	10.73" N	Long: 1170 45'40	Slope (%):
Soil Map Unit Name:				NWI classifi	cation:
Are climatic / hydrologic conditions of	on the site typical fo	or this time of year?	Yes No	× (If no explain in F	Remarks)
Are Vegetation, Soil	, or Hydrology	significantly distu			present? Yes No >
Are Vegetation, Soil	, or Hydrology	naturally problem		needed, explain any answe	S
SUMMARY OF FINDINGS -					
Hydrophytic Vegetation Present?	Yes				,,
Hydric Soil Present?	Yes	No V	Is the Sample		X
Wetland Hydrology Present?		No	within a Wetla	and? Yes	No
Remarks: dwydd cw	detens				
located in ba	sin				
/EGETATION – Use scienti	fic names of pl	lants.			
Tree Stratum (Plot size:	``		inant Indicator	Dominance Test works	sheet:
1		% Cover Spec	iles? Status	Number of Dominant Sp	
2				That Are OBL, FACW, o	, ,
3				Total Number of Domina Species Across All Strat	
4					(0)
Sapling/Shrub Stratum (Plot size: _)	= Tota	al Cover	Percent of Dominant Spe That Are OBL, FACW, o	r FAC: 25 (A/B)
. Tamariy ramos		5 4	UPL	Prevalence Index work	sheet:
	CIFAUS.		1 AC	Total % Cover of:	
			, V	OBL species	x 1 =
				FACW species	x 2 =
			Cover		x3= <u>30</u>
erb Stratum (Plot size:		= Tota	Cover	FACU species 7	$\begin{array}{c} \times 4 = \underline{} \times 5 = \phantom$
Salsola fragus	. ,	10 1	- Ul	Column Totals: 55	
Charopalum myals	us	$-\frac{10}{2}$	- M		
Melijahis indius	712	- 1 N	- FACO		B/A = 4.51
Lactura Serriola			CM11	Hydrophytic Vegetation	
		- 5 //	_ 1x(W	Dominance Test is >:	
				Prevalence Index is a	ations ¹ (Provide supporting
				data in Remarks o	or on a separate sheet)
		40 = Total	Cover	Problematic Hydrophy	ytic Vegetation ¹ (Explain)
oody Vine Stratum (Plot size:					
				Indicators of hydric soil as be present, unless disturb	nd wetland hydrology must ed or problematic.
		= Total	Cover	Hydrophytic	
Bare Ground in Herb Stratum	() % Cove		1	Vegetation	No
emarks:	. 1		,		
drought condition	MS havo	reduced	MAtri	in basin	and
drought condition	threeto	COMOCIA	www.v	0 7001.	Ser
Dellong to House	-14-3-10	Cont of	or stone		
	1 100				

Tome pescription. (pescribe to the debth i	needed to document the indicator	or confirm the abse	ence of indicators.)
Depth Matrix	Redox Features	Toutus	Pomarks
(inches) Color (moist) %	Color (moist) % Type ¹	Loc ² Textur	re Remarks
1-10 10 YR 412 99 19	298910 1	10 0	
10-18 Gley 125/N 97 10	4R414 3 C	m C	
D-1 107F6/2 100			
10 1 10 1 100			
Type: C=Concentration, D=Depletion, RM=Re	Iduard Matrix CS=Covered or Coat	ed Sand Grains	² Location: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, RM=Reflydric Soil Indicators: (Applicable to all LR	Rs. unless otherwise noted.)	Indica	itors for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)		cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)		educed Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	R	ed Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	_ 0	ther (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	•	
Thick Dark Surface (A12)	Redox Depressions (F8)		ators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)		land hydrology must be present,
Sandy Gleyed Matrix (S4)		unle	ess disturbed or problematic.
	_		
Restrictive Layer (if present): Type: Depth (inches):		Hydric	Soil Present? Yes No
Туре:	_	Hydric	Soil Present? Yes No
Type:		Hydric	Soil Present? Yes No
Type:	-	Hydric	Soil Present? Yes No
Type: Depth (inches): Remarks: YDROLOGY		Hydric	Soil Present? Yes No
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:			
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; c	heck all that apply)		Secondary Indicators (2 or more required)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; co Surface Water (A1)	heck all that apply) Salt Crust (B11)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; compared): Surface Water (A1) High Water Table (A2)	heck all that apply) Salt Crust (B11) Biotic Crust (B12)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one required; company in the company i	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	<u></u>	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	Living Roots (C3)	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)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	g Living Roots (C3)	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)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	g Living Roots (C3)	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 (
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C) Recent Iron Reduction in Tille Thin Muck Surface (C7)	g Living Roots (C3)	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 (Shallow Aquitard (D3)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	g Living Roots (C3)	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 (
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7) Other (Explain in Remarks)	g Living Roots (C3)	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 (Shallow Aquitard (D3)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Till Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	g Living Roots (C3)	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 (Shallow Aquitard (D3)
Type:	heck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	g Living Roots (C3)	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 (Shallow Aquitard (D3)

Project/Site: Y407	City/County: Tus	Sampling Date: 4/201
Applicant/Owner: OC Parks		State: (Sampling Point: (0)
Investigator(s): Mach Andur Sun	Section, Township.	Range: Tys, Agw
Landform (hillslope, terrace, etc.): bank slove	Local relief (concav	Ve. convex none): have
Subregion (LRR): ACIA LOG L	Lat: 33046/58.51"	N Long: \\7°45'5\6\"\\ \\ Datum:
Soil Map Unit Name:		NWI classification:
Are climatic / hydrologic conditions on the site typical for	r this time of year? Yes No	(If no explain in Pomerka)
Are Vegetation, Soil, or Hydrology		re "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology		needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	96 to 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Hydrophytic Vegetation Present? Yes	No	tioodions, transects, important reatures,
Hydric Soil Present? Yes	No No Is the Sampi	
Wetland Hydrology Present? Yes	No within a Wet	land? Yes No
Remarks: CINUGINT CONDUITIONS		
located at base of ba	isin slove	
/EGETATION – Use scientific names of pla		
Tree Stratum (Plot size:)	Absolute Dominant Indicator	
1	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:
2		Total Number of Dominant
3.		Species Across All Strata:
4	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size: 0)	40 Y FAL	
Janny lamos, sima	10 1 10	Prevalence Index worksheet:
		FACW species x 2 =
		FAC species x 3 =
loth Stratum (Diet size)	50 = Total Cover	FACU species x 4 =
SCHOOLEGE CALLOMICS	10 1 00	UPL species x 5 =
		Column Totals: (A) (E
		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
		Dominance Test is >50%
		Prevalence Index is ≤3.0¹
		Morphological Adaptations ¹ (Provide supporting
		data in Remarks or on a separate sheet)
oody Vine Stratum (Plot size:)	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
	**	Indicators of hydric ==!! === d === !!
		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	= Total Cover	Hydrophytic
Bare Ground in Herb Stratum 90 % Cover	r of Biotic Crust	Vegetation Present? Yes No
emarks:		163 V NO
1 ed Copposition		
dead schoenplactus		

Arid West - Version 2.0

-	-	
c		

Sampling Point: _	5
Camping . cit.	

Profile Des	cription: (Describe	to the dept	h needed to docu	ment the	indicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redo	x Feature	S			Remarks
(inches)	Color (moist)	<u>%</u>	Color (moist)		Type	Loc ²	Texture	Remarks
0-18	104275	918	54R 516			PV		
1	2.02							
						10.5		
					•:0			
					. ——		(1	
¹ Type: C=C	Concentration, D=Dep	letion, RM=	Reduced Matrix, C	S=Covere	d or Coate	d Sand Gr		ation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless othe	rwise not	ed.)			for Problematic Hydric Soils ³ :
Histoso	l (A1)		Sandy Red	and the second				luck (A9) (LRR C)
Histic E	pipedon (A2)		Stripped M					luck (A10) (LRR B)
	listic (A3)		Loamy Mud				The state of the s	ed Vertic (F18)
	en Sulfide (A4)		Loamy Gle		(F2)			arent Material (TF2)
	ed Layers (A5) (LRR	C)	Depleted M		(FO)		Other (Explain in Remarks)
The state of the s	uck (A9) (LRR D)	- (0.44)	Redox Dar Depleted D		18 77			
	ed Below Dark Surfac	e (A11)	Redox Dep				3Indicators	of hydrophytic vegetation and
	Dark Surface (A12)		Vernal Poo		1 0)			hydrology must be present,
	Mucky Mineral (S1) Gleyed Matrix (S4)		vernari oo	13 (1 0)				isturbed or problematic.
	Layer (if present):							
Type:	20 0 0 0							/
	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1						Hydric Soil	Present? Yes No
	nches):						1.7	
Remarks:							-	
HYDROLO	OGY							
Wetland Hy	gdrology Indicators:	:						
Primary Ind	icators (minimum of	one required	i; check all that app	ly)			Secor	ndary Indicators (2 or more required)
	e Water (A1)		Salt Crus				V	/ater Marks (B1) (Riverine)
	/ater Table (A2)		Biotic Cru				s	ediment Deposits (B2) (Riverine)
	tion (A3)		Aquatic Ir	1000	es (B13)			rift Deposits (B3) (Riverine)
	Marks (B1) (Nonrive	rino)	Hydrogen				D	rainage Patterns (B10)
	ent Deposits (B2) (No					Livina Ro		ry-Season Water Table (C2)
			Presence					rayfish Burrows (C8)
	eposits (B3) (Nonrive	iiiie)	Recent Ir					aturation Visible on Aerial Imagery (C9)
	e Soil Cracks (B6)	Imaganı /P				u 00113 (01		hallow Aquitard (D3)
1000000	tion Visible on Aerial	imagery (b		plain in R				AC-Neutral Test (D5)
Designation of the second seco	Stained Leaves (B9)		Other (EX	piairi iri ix	emarks)			7.10 11041441 1001 (2.0)
Field Obse		,						
		res						
Water Table		res						
Saturation I		Yes	No 🗸 Depth (ir	nches):		Wet	land Hydrolog	y Present? Yes No
(includes ca	apillary fringe) ecorded Data (strean	n dalide m	nitoring well aerial	photos n	revious in	spections)	, if available:	
Describe R	ecolucu Dala (sileali	n gauge, me	and the state of t	F P	. 31.1200 111		•	
Remarks:								
	A 40 (*)					~ ~		

WETLAND DETERMINATION DATA FORM - Arid West Region Project/Site: PGCA City/County: Tustin/Olunge Sampling Date: 4/20/16 Applicant/Owner: OC Parks State: ____ Sampling Point: ____ Investigator(s): Made, Andurgon Section, Township, Range: Tus Rgw Landform (hillslope, terrace, etc.): bose of slope Local relief (concave, convex, none): None Slope (%): Subregion (LRR): And Wast Lat: 33°46'58,58" Long: 117°45'50,91" Datum: Soil Map Unit Name: ____ NWI classification: ___ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ___ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: dought and times located at base of basin slope VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: _____) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species ____ = Total Cover Sapling/Shrub Stratum (Plot size: _ / [) That Are OBL, FACW, or FAC: (A/B) 1. Baccharis Salicifolic Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species FAC species 15 x3= 45 55 = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: UPL species <u>85</u> x 5 = 47.5 1. Sulsola tragus Column Totals: 100 (A) (B) Prevalence Index = B/A = 4.70Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum (Plot size: ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

due to drought conditions have increased presence of

__ % Cover of Biotic Crust _

_____ = Total Cover

Hydrophytic Vegetation

Present?

Remarks:

% Bare Ground in Herb Stratum 55

3011	ш

Sampling Point:

Depth Matrix inches) Color (moist) %	Color (moist) % T	ype ¹ Loc ²		Remarks
3-1 104R0/2 100			<u>S</u>	
-18 10 4R3/1 95	54R5/8 5	C PL	<u>SC</u> .	
			F	
				9
		- Cooted Sand Gr	raine ² l oca	ation: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, RM=ydric Soil Indicators: (Applicable to all	Reduced Matrix, US=Covered or)	Indicators f	or Problematic Hydric Soils ³ :
	Sandy Redox (S5)	,	1 cm M	uck (A9) (LRR C)
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)			uck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F			d Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F:	2)		rent Material (TF2) Explain in Remarks)
_ Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)	3)	Other (-Apian in Contains)
1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11)	Depleted Dark Surface (
Thick Dark Surface (A12)	Redox Depressions (F8)			of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)			ydrology must be present,
Sandy Gleyed Matrix (S4)			unless di	sturbed or problematic.
Restrictive Layer (if present):				
Type:				
			Hydric Soil	Present? Yes ∨ No
Depth (inches):Remarks:			Hydric Soil	Present? Yes <u> </u>
Depth (inches):Remarks:			Hydric Soil	Present? Yes No
Depth (inches):Remarks: YDROLOGY			Hydric Soil	Present? Yes No
Depth (inches):Remarks: YDROLOGY Wetland Hydrology Indicators:				
Depth (inches):	d; check all that apply)		Secon	dary Indicators (2 or more required)
Depth (inches):	d; check all that apply) Salt Crust (B11)		<u>Secon</u> W S	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine)
Depth (inches):	d; check all that apply)	(B13)	Secon W S D	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine)
Depth (inches):	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo	or (C1)	Secon W S: D D	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10)
Depth (inches):	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere:	r (C1) s along Living Ro	Secon W Si D D oots (C3) D	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2)
Depth (inches):	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced	or (C1) es along Living Ro Iron (C4)	Secon W Si D D D D Cots (C3) D	dary Indicators (2 or more required) fater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8)
Depth (inches): Primary Indicators (minimum of one require 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)	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction	or (C1) es along Living Ro Iron (C4) n in Tilled Soils (C	Secon W Si D D cots (C3) D C6) S	dary Indicators (2 or more required) Vater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)
Depth (inches): Primary Indicators (minimum of one require 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 (B	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (C	or (C1) Is along Living Ro Iron (C4) Iron in Tilled Soils (C 7)	Secon W Si D D tots (C3) D C6) S	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3)
Depth (inches): Primary Indicators (minimum of one require 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 (B Water-Stained Leaves (B9)	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction	or (C1) Is along Living Ro Iron (C4) Iron in Tilled Soils (C 7)	Secon W Si D D tots (C3) D C6) S	dary Indicators (2 or more required) Vater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)
Depth (inches): Primary Indicators (minimum of one require 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 (B Water-Stained Leaves (B9) Field Observations:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Ci	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks)	Secon W Si D D tots (C3) D C6) S	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3)
Depth (inches): Primary Indicators (minimum of one require 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 (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Control of Control o	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks)	Secon W Si D D tots (C3) D C6) S	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Company) Other (Explain in Rem	or (C1) as along Living Ro Iron (C4) a in Tilled Soils (C 7) arks)	Secon W Solots (C3) D C6) S F	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3)
Depth (inches): Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Seturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Seturation Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Company) Other (Explain in Rem	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks) We	Secon	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3) AC-Neutral Test (D5)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Company) Other (Explain in Rem	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks) We	Secon	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3) AC-Neutral Test (D5)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, m	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Company) Other (Explain in Rem	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks) We	Secon	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Seturation Present? Yes Saturation Present?	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Company) Other (Explain in Rem	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks) We	Secon	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3) AC-Neutral Test (D5)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, m	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Presence of Reduced Recent Iron Reduction Thin Muck Surface (Company) Other (Explain in Rem	or (C1) s along Living Ro Iron (C4) n in Tilled Soils (C 7) narks) We	Secon	dary Indicators (2 or more required) /ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3) AC-Neutral Test (D5)

Applicant/Owner: OC Pa/NS Investigator(s): Stephen Anderson > La	City	County	The Diange	Sampling Date: ///
Investigation (2) (a) . A 1			Charles CA	Sampling Point:SP
investigator(s): 27 Power Anderson >	wea Mark son	tion Toumship	State: CA	Sampling Point:
Landform (hillslope, terrace, etc.): bosin floor	Jerra	al relief (cense	, Range: 195, Rau)
Subregion (LRR): And West	12: 3304	CIEG (SIL	ive, convex, none): Nove	Slope (%):
Soil Map Unit Name:	Lal	b 57,60 IV	Long: 11 10 45 51	Datum:
Soil Map Unit Name:	I for this time of a		NWI classi	fication:
Are climatic / hydrologic conditions on the site typica Are Vegetation, Soil, or Hydrology	for this time of year?			
Are Vegetation, Soil, or Hydrology	significantly disti			present? Yes No
SUMMARY OF FINDINGS – Attach site			f needed, explain any answ	vers in Remarks.)
Hydrophytic Vegetation Present? Yes _X				s, important features
Hydric Soil Present? Yes <u>★</u>	No	Is the Samp within a Wet		
Wetland Hydrology Present? Yes	No	within a wei	uand? Yes	No
Draight conditions				
EGETATION – Use scientific names of	plants.			
Tree Stratum (Plot size: 30)	Absolute Don	ninant Indicato	r Dominance Test work	sheet:
1. Solv laevigata	% Cover Spe	cies? Status	Number of Dominant S	pecies
2		1 4 1800	That Are OBL, FACW,	or FAC: (A
3			Total Number of Domin	ant
1			Species Across All Stra	
Sapling/Shrub Stratum (Plot size:	25 = Tot	al Cover	Percent of Dominant Sp	
Description (Plot size:)	AE V	-11	That Are OBL, FACW,	or FAC:
Tamery compsissing	- 50	100	Prevalence Index work	
· · · · · · · · · · · · · · · · · · ·	EO Y	M	Total % Cover of:	Multiply by:
				x 1 =
				x 2 =
<u></u>	45 = Tota	al Cover		x 3 = x 4 =
erb Stratum (Plot size: 5			UPL species	x 4 = x 5 =
Micotiona glavia	_ 3 4	FAL	Column Totals:	(A) (E
			1	
				= B/A =
			Hydrophytic Vegetation	
			Dominance Test is >	
			Prevalence Index is	
			data in Remarks	ations ¹ (Provide supporting or on a separate sheet)
	= Total	Cover	Problematic Hydroph	
oody Vine Stratum (Plot size:)				(— — —
			Indicators of hydric soil a	nd wetland hydrology must
			be present, unless disturb	ed or problematic.
6	= Total	Cover	Hydrophytic	
Bare Ground in Herb Stratum 47 % Co	ver of Biotic Crust		Vegetation Present? Yes	No
marks:			ies_	NO

S	OI	L
J	•	_

Sampling Point: _	7	_
itors.)		
Remarks		-
		-

	cription: (Describe	to the dep	otn needed				or com	in the d		,
Depth	Matrix Color (moist)	%	Color ((moist)	x Feature %	Type ¹	Loc ²	Te	xture	Remarks
(inches)	10486/2	11.	00101	moioty			-			
1 . 6	10 7/2 0/2	100	- FUI	25/6	10		ma		0	
1-18	10 112015	40	7,54	25/8	10		111		<u></u>	
	-					-				
	-									
							-			
	-									
						300 - 212				
				Name of the Co	C-Cauara	d or Coat	od Sand	d Grains	21.0	ocation: PL=Pore Lining, M=Matrix.
Type: C=0	Concentration, D=Dep	pletion, RIV	I PPs un	loss othe	rwise not	ted.)	eu oane	In	dicators	for Problematic Hydric Soils ³ :
= -		capie to ai				,				Muck (A9) (LRR C)
Histoso				Sandy Red Stripped M				_		Muck (A10) (LRR B)
- Charles and Charles	Epipedon (A2)			oamy Mu		al (E1)		-		ced Vertic (F18)
	Histic (A3)			.oamy iviud .oamy Gle				7		Parent Material (TF2)
	gen Sulfide (A4)	a \		Depleted M				_		(Explain in Remarks)
	ed Layers (A5) (LRR	C)		Redox Dar				-		
	fluck (A9) (LRR D) ed Below Dark Surfac	co (A11)		Depleted D		All the second				
-	ed Below Dark Surface Dark Surface (A12)	CE (ATT)		Redox Dep				3lr		s of hydrophytic vegetation and
	Mucky Mineral (S1)			/ernal Poo						hydrology must be present,
	Gleyed Matrix (S4)								unless	disturbed or problematic.
	E Layer (if present):									
										,
2000 000 10								Hv	dric So	il Present? Yes No
Depth (inches):									
HYDROL	Name of the Control o									
	lydrology Indicators								Soci	ondary Indicators (2 or more required)
Primary In	dicators (minimum of	one requir								Water Marks (B1) (Riverine)
Surfac	ce Water (A1)			Salt Crus						Sediment Deposits (B2) (Riverine)
High V	Nater Table (A2)		_	Biotic Cru						
Satura	ation (A3)		_		nvertebrat					Drift Deposits (B3) (Riverine)
Water	Marks (B1) (Nonrive	erine)		Hydroger	n Sulfide (Odor (C1)				Drainage Patterns (B10)
✓ Sedim	nent Deposits (B2) (N	onriverine	e)		Rhizosph			Roots (C		Dry-Season Water Table (C2)
	Deposits (B3) (Nonriv		_		e of Reduc			On House was the second		Crayfish Burrows (C8)
√ Surfac	ce Soil Cracks (B6)			Recent In	ron Reduc	tion in Til	led Soils	s (C6)		Saturation Visible on Aerial Imagery (C9)
Inund	ation Visible on Aeria	I Imagery ((B7)	Thin Muc	k Surface	e (C7)				Shallow Aquitard (D3)
	r-Stained Leaves (B9)			Other (E:	xplain in F	Remarks)				FAC-Neutral Test (D5)
A CONTRACTOR OF THE PARTY OF TH	ervations:	720 78	/							
Surface W	later Present?	Yes	_ No <u>-</u>	_ Depth (i	nches): _					
		Yes	No V.	Depth (i	inches): _					/
		Yes	/		inches): _			Wetland	Hydrolo	ogy Present? Yes _/ No
(includes	espillany frings)	Manager Company	A Charles Manager and Charles							
Describe I	Recorded Data (strea	m gauge, i	monitoring	well, aeria	l photos,	previous i	nspectio	ons), if av	ailable:	
									192-193	
Remarks:		- 15								
								- ,		

Project/Site: PSCA	Citv/County:	typy Orange Sampling Date: 4/20/16
Application owner. OC Parks		States (A a " - COLO
Investigator(s): Mack, Anderson	Section To	State: A Sampling Point: 5P13
Landform (hillslope, terrace, etc.): Top of Lank	A basis Local rolling	(concave, convex, none): None Slope (%):
Subregion (LRR): And West	Lat. 33 DHD 110	Slope (%): 0 Slop
Soil Map Unit Name:	Lat. 33 11 1/00	
Are climatic / hydrologic conditions on the site typical for	and the least of t	NWI classification:
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes	
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology		(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site m	ap showing sampling	point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	_ No lo the	
Hydric Soil Present? Yes	No.	Sampled Area
Wetland Hydrology Present? Yes	No within	a Wetland? Yes No
Remarks: grought Condition	-	
located at top of basen	idono	
PO 4/1	gee	
VEGETATION - Use scientific names of pl	ants.	2
Tree Stratum (Plot size:	Absolute Dominant Inc	dicator Dominance Test worksheet:
1. Salix aevigata	% Cover Species? S	Status Number of Dominant Species
2.	$-\frac{33}{1}$	That Are OBL, FACW, or FAC: (A)
3		Total Number of Dominant
4		Species Across All Strata: (B)
Sanling/Shaub Steeture (DL)	35 = Total Cover	Percent of Dominant Species
1. Bachows Salicifilia	05 1 -	That Are OBL, FACW, or FAC: (A/B)
2 TONNEX CAMOSISING	- 6 - 1 - 1	Prevalence Index worksheet:
3		Total % Cover of: Multiply by:
4		OBL species x 1 =
5		FAC species x 2 =
Hart Ot 1	35 = Total Cover	FAC species x 3 = FACU species x 4 =
Herb Stratum (Plot size:) 1		LIDI species
2. Brassica Rigra	-65 Y W	Column Totals: (A) (B)
3. Shoenoplectus carifornius	- 2 N	
1	$ \frac{1}{N}$ $\frac{1}{N}$	Prevalence Index = B/A =
5		Hydrophytic Vegetation Indicators:
6		Dominance Test is >50% Prevalence Index is ≤3.0¹
7.		Morphological Adaptations¹ (Provide supporting)
B		data in Remarks or on a separate sheet)
	58 = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Noody Vine Stratum (Plot size:)		
l		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	= Total Cover	
6 Bare Ground in Herb Stratum 37 % Cover		Hydrophytic Vegetation /
demarks:	of Biotic Crust	Present? Yes No No
		I I

rofile Description: (Describe to the	depth needed to document the indicator or confir	m the absence of indicators.)		
Depth Matrix	Redox Features			
inches) Color (moist) %	Color (moist) % Type Loc²	Texture Remarks		
D-14 10/R 3/3 9	1 542 0 18 3 C MI			
Type: C=Concentration, D=Depletion,	, RM=Reduced Matrix, CS=Covered or Coated Sand	Grains. ² Location: PL=Pore Lining, M=Matrix.		
lydric Soil Indicators: (Applicable to	o all LRRs, unless otherwise noted.)	indicators for troblematic try are		
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)		
_ Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B) Reduced Vertic (F18)		
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18) Red Parent Material (TF2)		
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)		
_ Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)			
1 cm Muck (A9) (LRR D)Depleted Below Dark Surface (A11				
_ Depleted Below Dark Surface (A11) _ Thick Dark Surface (A12)	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and		
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present,		
Sandy Gleyed Matrix (S4)	_	unless disturbed or problematic.		
Restrictive Layer (if present): Type: Nava Compacted	506	Hydric Soil Present? Yes No		
Depth (inches):				
		,		
Vetland Hydrology Indicators:	guired; check all that apply)	Secondary Indicators (2 or more required)		
Vetland Hydrology Indicators: Primary Indicators (minimum of one re		Water Marks (B1) (Riverine)		
Vetland Hydrology Indicators: Primary Indicators (minimum of one recommend of the Surface Water (A1)	equired; check all that apply) Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)		
Vetland Hydrology Indicators: Primary Indicators (minimum of one reconstruction Surface Water (A1) High Water Table (A2)	Salt Crust (B11)	Water Marks (B1) (Riverine)Sediment Deposits (B2) (Riverine)Drift Deposits (B3) (Riverine)		
Vetland Hydrology Indicators: Primary Indicators (minimum of one release) Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (B11) Biotic Crust (B12)	 Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) 		
Vetland Hydrology Indicators: Primary Indicators (minimum of one red Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2)		
Vetland Hydrology Indicators: Primary Indicators (minimum of one recommendation) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Crayfish Burrows (C8)		
Vetland Hydrology Indicators: Primary Indicators (minimum of one recommendation) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) (C6) Saturation Visible on Aerial Imagery		
Vetland Hydrology Indicators: Primary Indicators (minimum of one recommendation) 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)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils ery (B7) Thin Muck Surface (C7)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Shallow Aquitard (D3)		
Primary Indicators (minimum of one recommany Indicators (minimum of one recommany Indicators (Minimum of one recommany Indicators (Mater Marks (Mater Mater Mat	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) (C6) Saturation Visible on Aerial Imagery		
Metland Hydrology Indicators: Primary Indicators (minimum of one reconstruction of the primary Indicators (minimum of one reconstruction of the primary Indicators (Material of Indicators of the primary Indicators (Material of Indicators of Indicators (Material of India	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils ery (B7) Thin Muck Surface (C7)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Shallow Aquitard (D3)		
Primary Indicators (minimum of one remains Indicators (Manager Indicators (Manager Indicators (Manager Indicators (Minimum) (Minimu	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Shallow Aquitard (D3)		
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 Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): Depth (inches):	Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) (C6) Saturation Visible on Aerial Imagery (Shallow Aquitard (D3) FAC-Neutral Test (D5)		
Wetland Hydrology Indicators: Primary Indicators (minimum of one reconstruction of the primary Indicators) 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 Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils ery (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Shallow Aquitard (D3)		

Remarks:

Project/Site: PECA	City/County: Tust-	in/Olange Sampling Date: 41701
Applicant/Owner: O Parks		State: CA Sampling Point: SPI4
Investigator(s): Mack, Anderson	Section, Township,	Range: T45, R9W
Landform (hillslope, terrace, etc.):	Local relief (concav	re, convex, none): Slope (%): O
Subregion (LRR): And West	Lat: 33046'59.19" N	Long: 117 0 45 '59, 53" L) Datum:
Soil Map Unit Name:		NWI classification:
Are climatic / hydrologic conditions on the site typical fo	r this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology		e "Normal Circumstances" present? Yes No _<
Are Vegetation, Soil, or Hydrology		needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site ma	ap showing sampling point	locations, transects, important features, etc
Hydrophytic Vegetation Present?	No Is the Sample	
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No within a Wetl	, /
Remarks:	NO	
Draght (ording		
VECETATION Has a significant for a second of the	(a)	
VEGETATION – Use scientific names of pl		
Tree Stratum (Plot size: 30)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	
1. Sally (nevidate	40 / FAW	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4	= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		That Are OBL, FACW, or FAC: (A/B)
1. Pacchans Salucifolia		Prevalence Index worksheet:
2.	-	Total % Cover of: Multiply by:
3		OBL species x 1 =
4		FACW species x 2 =
5	= Total Cover	FACILIZATION X 3 =
Herb Stratum (Plot size:)	= Total Cover	FACU species x 4 = UPL species x 5 =
1		Column Totals: (A) (B)
2		
3.		Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5		Dominance Test is >50% Prevalence Index is ≤3.0¹
6		Morphological Adaptations¹ (Provide supporting
8		data in Remarks or on a separate sheet)
	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)		
1		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2		
Twi .	= Total Cover	Hydrophytic Vegetation
	er of Biotic Crust	Present? Yes No
Remarks:		
		4
		,

0	-	ı	
0	U	ı	ᆫ

Sampling Point:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Features %	Type ¹	Loc ²	Texture	Remarks
(218	10403/3	99	7.5 YR 5/8	1	0	m	15	
016	10 1		10 10 10					
	Concentration, D=Depl					d Sand Gr		n: PL=Pore Lining, M=Matrix.
Hydric Soi	Indicators: (Applica	able to all	LRRs, unless other	wise note	ed.)		Indicators for	Problematic Hydric Soils ³ :
Histoso	ol (A1)		Sandy Redo	x (S5)			1 cm Muck	(A9) (LRR C)
	pipedon (A2)		Stripped Mat					(A10) (LRR B)
	Histic (A3)		Loamy Muck	The second secon	All Committee of the Co			/ertic (F18)
T 100	en Sulfide (A4)		Loamy Gleye		(F2)			t Material (TF2)
	ed Layers (A5) (LRR C luck (A9) (LRR D))	Depleted Ma Redox Dark		F6)		Other (Exp	olain in Remarks)
The second second	ed Below Dark Surface	(Δ11)	Depleted Da					
	Park Surface (A12)	(((1))	Redox Depre				3Indicators of h	ydrophytic vegetation and
	Mucky Mineral (S1)		Vernal Pools		/			rology must be present,
	Gleyed Matrix (S4)						and the second second second second	bed or problematic.
Restrictive	Layer (if present):							
Type:								/
Depth (in	nches):						Hydric Soil Pre	sent? Yes No
Remarks:					-		1	
							,	
YDROLO)GV							
	/drology Indicators:							
	icators (minimum of or	ne required	l: check all that anniv	\			Secondan	y Indicators (2 or more required)
		ie required		A CONTRACTOR OF				Marks (B1) (Riverine)
	e Water (A1)		Salt Crust (Company of the contract of the	nent Deposits (B2) (Riverine)
	ater Table (A2)		Biotic Crust	- Mariana and American	(D12)		N	Deposits (B3) (Riverine)
	ion (A3)	70)	Aquatic mv				11	age Patterns (B10)
	Marks (B1) (Nonriveri					Living Poo		eason Water Table (C2)
The second second second	ent Deposits (B2) (None eposits (B3) (Nonriver		Oxidized Ri			50		ish Burrows (C8)
	e Soil Cracks (B6)	ille)	Recent Iron		in complete	District to the second		ation Visible on Aerial Imagery (C9
	tion Visible on Aerial Ir	nagery (R7				3000 (00	A A A A A A A A A A A A A A A A A A A	ow Aquitard (D3)
A PARTICIPATION OF THE PARTY OF	Stained Leaves (B9)	nagery (D7	Other (Expl					Neutral Test (D5)
			Other (Expi	all ill ixel	ilaiks)		1 A0-1	vediai rest (D5)
Field Obse			January Const	h = a\.				
		s t				200		1
Water Table	NAME OF THE PARTY	es N						/
Saturation F		s 1	No Depth (incl	nes):		_ Wetla	and Hydrology Pr	esent? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
		3 - 3 - 7 - 1.10	, , , , , , , , , , , , , , , , , , ,			//		
Remarks:			10-1-1-1	- 25				
Nemarks.								
24		¥ 13	30 PF 3 PF 3 PF 3			• •	- 3	

				M – Arid West Regio	,
Project/Site:ECA		City/Cou	inty: TUS	tin/orange	Sampling Date: 4/26/
Applicant/Owner: DC Parks		-		State:	Sampling Point: SP 15
Investigator(s): D. Roste L. Nan	yeh	Section.	Township.	Range: Tys, Raw	_ camping rom
Landform (hillslope, terrace, etc.):	,	Localre	elief (concav	e convey none): 10h c	Edve star 100 /
Subregion (LRR): And Like	Lat·		mer (concav	Long:	Slope (%):
Soil Map Unit Name:				Long	Datum:
Are climatic / hydrologic conditions on the site typical for	this time of v	ear? Yes	V No	//f no eventein in F	cation:
Are Vegetation, Soil, or Hydrology	ejanificanth	dieturbo			present? Yes × No
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site ma			•	needed, explain any answer locations, transects	
Hydrophytic Vegetation Present? Yes	No		200000		, , , , , , , , , , , , , , , , , , , ,
Hydric Soil Present? Yes	No	13	the Sample		/
Wetland Hydrology Present? Yes	No	W	ithin a Wetl	and? Yes	No
Remarks: Cattail and/or willow (always)	ithin -	the	OHWI	u is wetlan	al,
VEGETATION – Use scientific names of pla	ınts.			39	·
Tree Stratum (Plot size: 20 r	Absolute		nt Indicator	Dominance Test works	sheet:
1. Salix gooddingli	2-0	Species	? Status FACW	Number of Dominant Sp	<u> </u>
2. Salix laevigata	5	No		/	(* /
3				Total Number of Domina Species Across All Strat	
4				250	(-)
Sapling/Shrub Stratum (Plot size: 20)		= Total C	over	Percent of Dominant Sports Are OBL, FACW, o	
	50	YES	081	Prevalence Index work	
2. Bactharis Salicifolia	<5	No	FAC		Sneet:Multiply by:
3.			1110		x 1 =
4				FACW species	
5				FAC species	
		= Total Co		FACU species	
Herb Stratum (Plot size:) 1	75	VEC	tacial	UPL species	x 5 =
2. Pulicaria raludosa	- 45	NO	FACW	Column Totals:	(A) (B)
3. Washinactoria robusta	15	NO	FACW	Prevalence Index =	= B/A =
4. Helmenother echioides	25	No	FACU	Hydrophytic Vegetation	
5				X Dominance Test is >	
6				Prevalence Index is s	
7				Morphological Adapta	ations ¹ (Provide supporting
8					or on a separate sheet)
Woody Vine Stratum (Plot size:)		= Total Co	ver	Problematic Hydroph	ytic vegetation' (Explain)
1				Indicators of hydric soil a	nd wetland hydrology must
2.				be present, unless disturb	ed or problematic.
			ver	Hydrophytic	
% Bare Ground in Herb Stratum < 5 % Cover	the second of the second of the second		15 10 K	Vegetation	✓
Remarks:	or blotte Cru	ot		Present? Yes _	No
·					
					٥
					1

OIL			Sampling Point:		
Profile Description: (Describe to the de	epth needed to document the indicator or	confirm the abs	ence of indicators.)		
Depth Matrix	Redox Features		Damarka		
(inches) Color (moist) %	-1	Loc ² Textu	Manganue 7		
0-8 10YR 312 30	10 YR 2/1 20 C	MI SI			
D-8 104R 3.5/3 45	54R 5/8 5 ()	M SCI	ron		
0 //	<u> </u>				
			2		
Type: C=Concentration, D=Depletion, RN	M=Reduced Matrix, CS=Covered or Coated	Sand Grains.	² Location: PL=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :		
lydric Soil Indicators: (Applicable to a					
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)		I cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)		
Histic Epipedon (A2) Black Histic (A3)	Loamy Mucky Mineral (F1)		Reduced Vertic (F18)		
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	F	Red Parent Material (TF2)		
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	_ 0	Other (Explain in Remarks)		
1 cm Muck (A9) (LRR D)	★ Redox Dark Surface (F6) Redox Dark Surface (F7)				
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7) Redox Depressions (F8)	3India	cators of hydrophytic vegetation and		
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Vernal Pools (F9)		wetland hydrology must be present,		
Sandy Macky Ministra (61) Sandy Gleyed Matrix (S4)			less disturbed or problematic.		
lestrictive Layer (if present):					
Type:					
Depth (inches):		Hydri	c Soil Present? Yes V No		
YDROLOGY					
Vetland Hydrology Indicators:					
Primary Indicators (minimum of one requir	red; check all that apply)		Secondary Indicators (2 or more required)		
✓ Surface Water (A1)	Salt Crust (B11)		✓ Water Marks (B1) (Riverine)		
✓ High Water Table (A2)	Biotic Crust (B12)		Sediment Deposits (B2) (Riverine)		
✓ Saturation (A3)	Aquatic Invertebrates (B13)		X Drift Deposits (B3) (Riverine)		
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)		∠ Drainage Patterns (B10)		
Sediment Deposits (B2) (Nonriverine		ving Roots (C3)	Dry-Season Water Table (C2)		
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	(00)	Crayfish Burrows (C8)		
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled S	Soils (C6)	 Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) 		
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Other (Explain in Remarks)		FAC-Neutral Test (D5)		
Water-Stained Leaves (B9)	Other (Explain in Remarks)		TAO Neutral rest (20)		
· ·	No Depth (inches):				
10 10 10 10 10 10 10 10 10 10 10 10 10 1	No Depth (inches):				
	No Depth (inches):	Wetland Hvd	rology Present? Yes No		
includes capillary fringe)					
Describe Recorded Data (stream gauge, r	monitoring well, aerial photos, previous inspe	ections), if availat	ble:		
Remarks:					
	the second secon				



WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Peters Canyon Applicant/Owner: OC Parks		City/County:O	KANGE	Sampling Date:	4/2
Investigator(s): Novelan D Page	0		State: /	Sampling Point:	361
Investigator(s): L. Nguyen, D. Ron	4	_ Section, Township,	Range: 195, 1290		
Landform (hillslope, terrace, etc.): Channe	1	_ Local relief (concav	/e, convex, none):	onvex si	ope (%): _
Subregion (LRR): And West	Lat:		Long:	Dati	um:
Son Map Offic Name:			NWI class	sification:	
Are climatic / hydrologic conditions on the site typical	I for this time of y	ear? Yes No	(If no, explain i	n Remarks.)	9
Are Vegetation, Soil, or Hydrology			re "Normal Circumstance	s" present? Yes	_ No _
Are Vegetation, Soil, or Hydrology			needed, explain any ans		
SUMMARY OF FINDINGS – Attach site	map showing	g sampling poin	t locations, transec	ts, important fe	atures,
	No	Is the Sampl	ad Avaa		
Hydric Soil Present? Yes	No		land? Yes	No. 1/	
Wetland Hydrology Present? Yes	No	1		NO	-
Remarks: Willows outside of	OHWM	are not	wetland.		
			() ()		
EGETATION – Use scientific names of	plants.	,	2		
Tree Stratum (Plot size:)	Absolute			rksheet:	
1 Salix I aquice to	do	Species? Status	Number of Dominant	Species	
2			That Are OBL, FACW	/, or FAC:	(/
3.			Total Number of Dom	inant	
			. Species Across All St	rata:	(E
			Percent of Dominant S That Are OBL, FACW	Species	075
Sapling/Shrub Stratum (Plot size:)			1		(A
			Prevalence Index wo		
•			Total % Cover of:		
			OBL species		
			FACW species		
		= Total Cover	FACU species		
erb Stratum (Plot size:)		- Total Cover	FACU species	X 4 =	
Pulicaria paludosa		N	Column Totals:	X 5 =	
Melilotus indica	15_	2	Joseph Folding	(^)	(E
Melylohy alba		N		c = B/A =	
Pisonus communis	45	N	Hydrophytic Vegetati		
Helmonothera echoidos		<u>N</u>	Dominance Test is		
	_ 35	N	Prevalence Index i		
			Morphological Ada data in Remark:	iptations' (Provide su s or on a separate sh	pporting
		Total Cover	Problematic Hydro		
oody Vine Stratum (Plot size:)		· Total Cover		, , , , , , , , , , , , , , , , , , , ,	,
			¹ Indicators of hydric soi	I and wetland hydrolo	gy must
			be present, unless distu	irbed or problematic.	
0.5	=	Total Cover	Hydrophytic	/	
Bare Ground in Herb Stratum % Co	ver of Biotic Crus	st	Vegetation Present? Yes	s No	
Bare Ground in Herb Stratum 60 % Co	Hull	0.70	Tes	, NO	
VICTORIAL CONTROL OF C	1100701 (TIE NOT IN	retland		
of island of		, ,	100		
01/15/04 07					

Arid West - Version 2.0

OIL								Sampling Point:
Profile Descri	ption: (Describe t	to the depth	needed to docu	ment the ind	licator o	r confirm	the absence of	f indicators.)
Depth _	Matrix			ox Features		. 2	T.,	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-18	1048 414	100					SL.	
8-10	10 YR 4/4	100						
	ncentration, D=Dep	Intian DM-D	adused Matrix C	S=Covered o	r Coate	d Sand Gr	rains ² l oca	ation: PL=Pore Lining, M=Matrix.
Type: C=Cor	dicators: (Application)	able to all LF	RRs, unless othe	rwise noted	.)	u Gariu Gi	Indicators f	or Problematic Hydric Soils ³ :
Histosol (Sandy Red				1 cm M	uck (A9) (LRR C)
	pedon (A2)	7	Stripped M					uck (A10) (LRR B)
Black His	tic (A3)		Loamy Mu					d Vertic (F18)
	Sulfide (A4)			yed Matrix (F	-2)		The state of the s	rent Material (TF2)
	Layers (A5) (LRR C	S)	Depleted N		- `		Other (Explain in Remarks)
	k (A9) (LRR D)			k Surface (F6				
The second secon	Below Dark Surface	e (A11)		ark Surface			3Indicators	of hydrophytic vegetation and
	k Surface (A12)			oressions (F8)			ydrology must be present,
Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4)						unless disturbed or problematic.		
	ayer (if present):						T	
Type:	., o. (p , .							
	nes):						Hydric Soil	Present? Yes No
Remarks:	100).							
Kelliaiks.								
				-				
YDROLOG								
	rology Indicators: ators (minimum of o		check all that app	olv)			Secon	dary Indicators (2 or more required)
1865 VA 1889		no roquirou,	Salt Crus					ater Marks (B1) (Riverine)
	Vater (A1)		Biotic Cru					ediment Deposits (B2) (Riverine)
	er Table (A2)			nvertebrates	(B13)			ift Deposits (B3) (Riverine)
Saturation	rks (B1) (Nonriver	ino)		Sulfide Odo				ainage Patterns (B10)
				Rhizosphere		Living Roo		y-Season Water Table (C2)
	Deposits (B2) (Nonciversits (B3) (Nonciversits (B3)		15	of Reduced				ayfish Burrows (C8)
-	, , ,	ine)		on Reduction				aturation Visible on Aerial Imagery (
	Soil Cracks (B6) n Visible on Aerial I	mageny (B7)	The second secon	k Surface (C		3 00110 (01		nallow Aquitard (D3)
		magery (D1)		plain in Rem	No. of the last		7/ 	AC-Neutral Test (D5)
	ained Leaves (B9)		Other (E)	CPIGITITI TOTAL	idi ito)			
Field Observ	auons.	es No	Donth #	nches):				
Field Observ	- D		, / Deniii (II	ILLIESI.				
Surface Wate			V					
Field Observ Surface Wate Water Table F Saturation Pre	Present? Y	es No 'es No 'es No	Depth (in	nches):		_		Present? Yes No _>

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region anyth city/County: Tastin/Orange Sampling Date: 4/27/ State: CA Sampling Point: SP Applicant/Owner: Investigator(s): D. Rosie, S. Anderson Section, Township, Range: Tys RAW Landform (hillslope, terrace, etc.): Onyon bottom Local relief (concave, convex, none): _______ Slope (%): <1 ______ Lat: _______ Long: ______ Datum: _____ Subregion (LRR): Arth Work Soil Map Unit Name: ___ NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ____ Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Yes No Is the Sampled Area within a Wetland? Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? No _____ Remarks: is wetland VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: _ % Cover Species? Status 1. Salix gooddingil 35 YES Number of Dominant Species FACW That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species 8 0 = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: 1. Bachan Spalicifolia <5 YES FAC Prevalence Index worksheet: Total % Cover of: Multiply by: 2. _____ OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ 3 = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: ___ UPL species _____ x 5 = ___ 1. Anemopsis Californica Column Totals: _____ (A) _____ (B) 2. Schoenoplectus americanus CS NO OBL 3. Pulicaria paludosa e5 Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** ∠ Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 9D_ = Total Cover Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum (Plot size: ____) 1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. _____ = Total Cover Hydrophytic Vegetation % Bare Ground in Herb Stratum <u>< 5</u> % Cover of Biotic Crust ____ Present? Remarks:

C	0	ı	1
J	v	ı	_

	/
Sampling Point	- 1

Depth	Matrix		Redox	(Features				222
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Remarks
0-6	10 YR 3/2	100					<u> </u>	
6-10	10 YR 5/2	97	10 YR 5/8	3	C	PL,M	LS	
10 10	1- VO H/2	ad	10485/4	2		100	SC	
10-12	1078 4/2	118	10765/8			- IV)		
								· · ·
				-				
							2, ,	Di D. M. Makin
¹ Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, CS	S=Covered	or Coat	ed Sand Gra		n: PL=Pore Lining, M=Matrix. Problematic Hydric Soils ³ :
AND 100 100	Indicators: (Applic	able to all			∌a.)			
Histosol			Sandy Redo				National Control of the Control of t	(A9) (LRR C)
	pipedon (A2)		Stripped Ma		I /E1\		Reduced V	(A10) (LRR B)
	listic (A3)		Loamy Muc Loamy Gley				The state of the latest and the state of the	Material (TF2)
	en Sulfide (A4) d Layers (A5) (LRR (2)	Depleted M		(1 2)			ain in Remarks)
	uck (A9) (LRR D)	J)	Redox Dark		(F6)			
	d Below Dark Surfac	e (A11)	Depleted D					
	ark Surface (A12)		Redox Dep					drophytic vegetation and
Sandy N	Mucky Mineral (S1)		Vernal Pool	s (F9)			1.5	ology must be present,
Sandy (Gleyed Matrix (S4)						unless distur	bed or problematic.
Restrictive	Layer (if present):							
Type:			3					~
Depth (in	nches):						Hydric Soil Pres	sent? Yes _X No
Remarks:				-				
								v v v
	1900							
							100	
HYDROLO	OGY							, vja 111
The state of the s	ydrology Indicators:							
Primary Ind	icators (minimum of o	one require	d; check all that app	(y)			The second of th	/ Indicators (2 or more required)
Surface	e Water (A1)		Salt Crust				1	Marks (B1) (Riverine)
High W	later Table (A2)		Biotic Cru				N-	nent Deposits (B2) (Riverine)
Saturat	tion (A3)		Aquatic In				A	Deposits (B3) (Riverine)
Water !	Marks (B1) (Nonrive	rine)	Hydrogen				A	age Patterns (B10)
Sedime	ent Deposits (B2) (No	nriverine)						eason Water Table (C2)
Drift De	eposits (B3) (Nonrive	erine)	Presence					ish Burrows (C8)
The state of the s	e Soil Cracks (B6)					led Soils (C6		ation Visible on Aerial Imagery (C9)
	tion Visible on Aerial	Imagery (B			S 1 15			ow Aquitard (D3)
	Stained Leaves (B9)		Other (Ex	plain in Re	emarks)		FAC-	Neutral Test (D5)
Field Obse			1					
Surface Wa			No X Depth (ir					
Water Table	e Present?	Yes	No <u>></u> Depth (ir	nches):				~/
4 1988 SS 9301 S		1	No X Depth (ir	nches):		Wetl	land Hydrology Pr	esent? Yes <u> </u>
Saturation I	Present?	res						
(includes ca	Present?		onitoring well serial	photos n	revious i	nspections)	if available:	
(includes ca	Present?		onitoring well, aerial	photos, p	revious i	nspections),	if available:	
(includes ca Describe R	Present?		onitoring well, aerial	photos, p	revious i	nspections),	if available:	
(includes ca	Present?		onitoring well, aerial	photos, p	revious i	nspections),	if available:	
(includes ca Describe R	Present?		onitoring well, aerial	photos, p	revious i	nspections),	if available:	
(includes ca Describe R	Present?		onitoring well, aerial	photos, p	revious i	nspections),	if available:	
(includes ca Describe R	Present?		onitoring well, aerial	photos, p	revious i	nspections),	if available:	

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

WETLAND DETERMINATION DATA FORM - Arid West Region City/County: Tustin / Orange Sampling Date: 4/27/16 Project/Site: 17F Applicant/Owner: OC Pavk PA__ Sampling Point: ___ Investigator(s): D. Rosil S. Anderson Section, Township, Range: T45, RAW Landform (hillslope, terrace, etc.): arrayo botton Local relief (concave, convex, none): Conrace Slope (%): Subregion (LRR): And Isast Lat: _____ Long: _____ ___ Datum: ____ Soil Map Unit Name: _____ NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes _____ No ____ Yes ____ No ____ Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: outrish w black willow is wetlood VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: 70 + 6) % Cover Species? Status Number of Dominant Species 1. Salix appldingi That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species 50 = Total Cover Sapling/Shrub Stratum (Plot size: That Are OBL, FACW, or FAC: Prevalence Index worksheet: 2. Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ _____ = Total Cover FACU species _____ x 4 = ____ Herb Stratum (Plot size: UPL species ___ ____ x 5 = ___ 1. Schoennoloctic amoranus 80 Column Totals: _____ (A) ____ (B) 2. Pulicaria Daladoca 40 Prevalence Index = B/A = Hydrophytic Vegetation Indicators: ✓ Dominance Test is >50% Prevalence Index is ≤3.01 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 170 = Total Cover Woody Vine Stratum (Plot size: ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic _____ = Total Cover Vegetation % Bare Ground in Herb Stratum _____ % Cover of Biotic Crust ____ Present? Remarks:

	ription: (Describe	to the depth	needed to docu	ment the i	ndicator	r confir	n the absence	of indicators.)
Depth	Matrix			x Feature	S			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc2	Texture	Remarks
>10	WR 3/2	90	54R 5/8	10	<u>C</u>	M	Siltyday	
							J - J	
				_			-	
Type: C=C	oncentration, D=De	pletion, RM=R	Reduced Matrix, C	S=Covere	d or Coate	d Sand G		cation: PL=Pore Lining, M=Matrix.
lydric Soil	Indicators: (Appli	cable to all Li	RRs, unless other	erwise no	ed.)		Indicators	for Problematic Hydric Soils ³ :
Histosol			Sandy Red					Muck (A9) (LRR C)
	pipedon (A2)		Stripped N					Muck (A10) (LRR B)
77.5	istic (A3)		Loamy Mu	•	13			ced Vertic (F18) Parent Material (TF2)
	en Sulfide (A4)	0)	Loamy Gle Depleted I					(Explain in Remarks)
	d Layers (A5) (LRR	(C)	Redox Da				001101	(Explain in Normanie)
	uck (A9) (LRR D) d Below Dark Surfa	ce (A11)	Depleted I		and the same of th			
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)					³ Indicators of hydrophytic vegetation and			
	Mucky Mineral (S1)		Vernal Po	ols (F9)				I hydrology must be present,
	Gleyed Matrix (S4)						unless	disturbed or problematic.
Restrictive	Layer (if present):							
Туре:			_					No.
Donath /in							Hydric So	il Present? Yes <u>× </u>
Depth (ir	nches):						1 2 7 TO SOLUTION	
Remarks:	nches):							
	nches):							
Remarks:	nches):			J.O			_	
Remarks:	nches):			J. ₀			-	in ca kin ini
Remarks:	t o de la			o.o		* 100 * 10 10	_	
Remarks:	OGY			о. _Б				
Remarks:	OGY	s:	chock all that an	only)			_	ondary Indicators (2 or more required)
IYDROLO Wetland Hy	OGY ydrology Indicators icators (minimum of	s:					Seco	ondary Indicators (2 or more required) Water Marks (B1) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface	OGY vdrology Indicators icators (minimum of	s:	Salt Cru	st (B11)			Seco	Water Marks (B1) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface High W	OGY ydrology Indicators icators (minimum of e Water (A1) //ater Table (A2)	s:	Salt Cru Biotic Cr	st (B11) rust (B12)	res (B13)		Seco	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface High W Saturat	ogy ydrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3)	s:	Salt Cru Biotic Ci Aquatic	st (B11) rust (B12) Invertebra			Sec.	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I	or of the control of	s: f one required;	Salt Cru Biotic Ci Aquatic Hydroge	st (B11) rust (B12) Invertebra en Sulfide (Odor (C1)	ı Living R	Secondary Second	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime	ogy /drology Indicators icators (minimum of water (A1) /ater Table (A2) ition (A3) Marks (B1) (Nonrive ent Deposits (B2) (Nonrive	s: f one required; erine)	Salt Cru Biotic Ci Aquatic Hydroge Oxidized	st (B11) rust (B12) Invertebra en Sulfide (d Rhizosph	Odor (C1) eres alon		Secondary Second	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	order (A1) Vater Table (A2) Vition (A3) Marks (B1) (Nonrivent Deposits (B2) (Nonrivent Deposits (B3) (Nonrivent Deposits	s: f one required; erine)	Salt Cru Biotic Cri Aquatic Hydroge Oxidized Presence	st (B11) rust (B12) Invertebra en Sulfide (Odor (C1) eres alon ced Iron (C	(4)	Secondary Second	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface	order (A1) Vater Table (A2) Vation (A3) Marks (B1) (Nonrivent Deposits (B2) (Nonrivent Soil Cracks (B6)	s: f one required; erine) lonriverine) yerine)	Salt Cru Biotic Ci Aquatic Hydroge Oxidized Presenc	st (B11) rust (B12) Invertebra en Sulfide (d Rhizosph ee of Redu	Odor (C1) teres along ced Iron (C ction in Till	(4)	Secu-	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 (C8) Shallow Aquitard (D3)
IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface	or various (Marks (B1) (Nonrivers (B3) (Nonriv	s: fone required; erine) lonriverine) verine)	Salt Cru Biotic Cri Aquatic Hydroge Oxidizer Presence Recent) Thin Mu	st (B11) rust (B12) Invertebra en Sulfide (d Rhizosph ee of Redu Iron Redu	Odor (C1) teres along ced Iron (C ction in Till te (C7)	(4)	Secu-	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 (C
Nemarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda Water- Water- Water- Water I Sedime	or property of the property of	s: fone required; erine) lonriverine) verine)	Salt Cru Biotic Cri Aquatic Hydroge Oxidizer Presence Recent) Thin Mu	st (B11) rust (B12) Invertebra en Sulfide (d Rhizosph ee of Reduction Reduction Reduction	Odor (C1) teres along ced Iron (C ction in Till te (C7)	(4)	Secu-	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 (C8) Shallow Aquitard (D3)
Nemarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda Water- Field Obse	or property of the property of	s: fone required; erine) lonriverine) verine)	Salt Cru Biotic Cri Aquatic Hydroge Oxidizer Presence Recent) Thin Mu	st (B11) rust (B12) Invertebra en Sulfide (d Rhizosph ee of Reduction Reduc	Odor (C1) heres along ced Iron (C stion in Till c (C7) Remarks)	(4) ed Soils (Secu-	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 (C8) Shallow Aquitard (D3)
Nemarks: IYDROLO Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Surface Inunda Water- Field Obse	order Visible on Aeria Stained Leaves (B9)	s: f one required; erine) lonriverine) verine) al Imagery (B7	Salt Cru Biotic Cri Aquatic Hydroge Oxidized Presend Recent Recent Thin Mu Other (E	st (B11) rust (B12) Invertebra en Sulfide (d Rhizosphe of Reduction Reducti	Odor (C1) heres along ced Iron (C ction in Till e (C7) Remarks)	:4) ed Soils (Second Se	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 (C8) Shallow Aquitard (D3)

Remarks:

WEILAND DEI	EKIVIINAI	ION D	A I A FORM	- Arid West Regio	n
Project/Site: PEA		City/Co	ounty: TUS	tin / Orange	Sampling Date: 4/27/
Applicant/Owner: UC Parks				State: PA	Sampling Point: SPIG
Investigator(s): D. Rosie S. Anhers	on	Section	n, Township, R	ange: T45, 19W	_ camping rount
					avc Slope (%): 4
Subregion (LRR): 6-Mediterranean And Wes	1 Lat:	-	(Long:	Datum:
Soil Map Unit Name:				NIM classifi	cation:
Are climatic / hydrologic conditions on the site typical for	this time of ve	ear? Ye	s No	✓ (If no explain in F	Remarks)
Are Vegetation, Soil, or Hydrology					present? Yes No
Are Vegetation, Soil, or Hydrology				eeded, explain any answe	3. 1.224 Particular
				888 E	5 6
SUMMARY OF FINDINGS – Attach site ma	p snowing	samp	oling point	locations, transects	s, important features, et
Hydrophytic Vegetation Present? Yes	No		s the Sample	d Aroa	/
Hydric Soil Present? Yes	No	Ĭ	within a Wetla	X	No
Wetland Hydrology Present? Yes	No				
	+1 1			11	1 t h
Significant drought conditions present.	Tlcaba	ne	with wi	llow is Wet	land.
		-0.			
VEGETATION – Use scientific names of pla	ints.				
Tree Stratum (Plot size: 20')	Absolute % Cover		nant Indicator	Dominance Test work	sheet:
			S FACW	Number of Dominant S That Are OBL, FACW,	
2. Populas fremonti	10		FAC+?	, MALAIE OBL, FACVV,	or FAC:(A)
3				Total Number of Domin Species Across All Stra	9
4					
Sopling/Charle Charles (District	50	= Total	Cover	Percent of Dominant Sp That Are OBL, FACW, of	pecies or FAC:(A/B)
Sapling/Shrub Stratum (Plot size:) 1. Socoma Menziesi)	< 5	VIE	CAC CAC		
				Prevalence Index work	
3					Multiply by: x 1 =
4				I	x 2 =
5					x 3 =
	45	= Total	Cover		x 4 =
Herb Stratum (Plot size:) 1. Tylicaria paludosa	50	1	1-	UPL species	
2. Souchers deraceus		YES	THE CONTRACT OF THE PARTY OF TH	Column Totals:	(A) (B)
3. Stipa milacea	<2	NO		Prevalence Index	- D/A -
4. Browns diandrus	2	NO		Hydrophytic Vegetatio	
5. Rumex crispuc	41	N6		Dominance Test is	
6. Helmeretheca editades	4	NO	FACU	Prevalence Index is	
7. Lactuca serriola	<)	NO	UPL	Morphological Adap	stations ¹ (Provide supporting
8					or on a separate sheet)
Woody Vine Stratum (Plot size:)	57	= Total (Cover	Problematic Hydrop	hytic Vegetation ¹ (Explain)
1				¹ Indicators of hydric soil	and wetland hydrology must
2				be present, unless distur	bed or problematic.
		= Total (Cover	Hydrophytic	
% Bare Ground in Herb Stratum % Cove	er of Biotic Cru		40.000.00100000	Vegetation	X
Remarks:	or blotte oft			Present? Yes	No

	2	
Sampling Point: _)	

Double Matrix	Redox Features		
Depth Matrix (inches) Color (moist), %	Color (moist) % Type ¹ L	.oc ² Texture	Remarks
0-10 104R3/2 9D	7,5YR 4/6 10 C	n LS	
0-(0 1011111-10	1.7/1		
To a Completion D. Depletion DA	M=Reduced Matrix, CS=Covered or Coated S	Sand Grains	² Location: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators: (Applicable to al	I I RRs unless otherwise noted.)	Indica	tors for Problematic Hydric Soils ³ :
	Sandy Redox (S5)		em Muck (A9) (LRR C)
Histosol (A1)	Stripped Matrix (S6)		cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Surpped Matrix (66) Loamy Mucky Mineral (F1)		educed Vertic (F18)
Black Histic (A3)	Loamy Gleyed Matrix (F2)		ed Parent Material (TF2)
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)		her (Explain in Remarks)
1 cm Muck (A9) (LRR D)	X Redox Dark Surface (F6)		670 67
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		
Thick Dark Surface (A12)	Redox Depressions (F8)		tors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)		and hydrology must be present,
Sandy Gleyed Matrix (S4)		unle	ess disturbed or problematic.
Restrictive Layer (if present):			
Type:			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Depth (inches):		Hydric	Soil Present? Yes No
Remarks:			
HYDROLOGY			
Wetland Hydrology Indicators:	red; check all that apply)	<u>S</u>	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi			
Wetland Hydrology Indicators: Primary Indicators (minimum of one requirements) Surface Water (A1)	Salt Crust (B11)		Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	Salt Crust (B11)Biotic Crust (B12)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second in the seco	Salt Crust (B11)Biotic Crust (B12)Aquatic Invertebrates (B13)	-	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Salt Crust (B11)Biotic Crust (B12)Aquatic Invertebrates (B13)Hydrogen Sulfide Odor (C1)	-	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) ✓ Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li	ving Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) ✓ Drainage Patterns (B10) Dry-Season Water Table (C2)
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WETLAND DETERMINATION DATA FORM - Arid West Region Project/Site: _____ City/County: Tustin Orange Sampling Date: 4/27 Applicant/Owner: OC Parks State: CA Sampling Point: D. Rosie, S. Anderson Section, Township, Range: T45, Rgh Investigator(s): Subregion (LRR): And west Lat: Long: ______ Datum: _____ Soil Map Unit Name: _____ _____ NWI classification: ___ Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: VEGETATION – Use scientific names of plants. Absolute Dominant Indicator **Dominance Test worksheet:** % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species ____ = Total Cover Sapling/Shrub Stratum (Plot size: _____) That Are OBL, FACW, or FAC: 1. SOCOMA MENZIES; 90 YES FAC Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ FACU species _____ x 4 = ____ Herb Stratum (Plot size: _____) UPL species _____ x 5 = ____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: __ Dominance Test is >50% Prevalence Index is ≤3.01 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) _____ = Total Cover Woody Vine Stratum (Plot size: ____) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. = Total Cover Hydrophytic Vegetation % Bare Ground in Herb Stratum % Cover of Biotic Crust ____ Present? Remarks:

	cription: (Describe	to the depth	needed to docur			or confirm	the absence	of indicators.)
Depth	Matrix			x Feature		Loc²	Texture_	Remarks
inches)	Color (moist)	<u>%</u> _	Color (moist)		Type'	M	/ C	T.G.T.G.T.G.
0-16	104R 3/2	98	754R 5/8					
7)				-				
								ation: PL=Pore Lining, M=Matrix.
Type: C=C	oncentration, D=Dep Indicators: (Applic	oletion, RM=F	Reduced Matrix, C.	s=Covere	ted.)	eu Sanu G	Indicators	for Problematic Hydric Soils ³ :
		able to all L			.cu.,			fluck (A9) (LRR C)
Histoso			Sandy Red Stripped M					fuck (A10) (LRR B)
	pipedon (A2)		Loamy Mu					ed Vertic (F18)
	listic (A3) en Sulfide (A4)		Loamy Gle					arent Material (TF2)
	d Layers (A5) (LRR	C)	X Depleted N				Other	(Explain in Remarks)
	uck (A9) (LRR D)	-,	Redox Dar					
	ed Below Dark Surface	e (A11)	Depleted D	ark Surfa	ice (F7)			
	ark Surface (A12)		Redox Dep		(F8)			of hydrophytic vegetation and
Sandy I	Mucky Mineral (S1)		Vernal Poo	ols (F9)				hydrology must be present,
Sandy	Gleyed Matrix (S4)						unless d	isturbed or problematic.
Restrictive	Layer (if present):	CHRISTANIA MINISTRA						
Type:								
Depth (ir Remarks:	nches):						Hydric Soil	Present? Yes No
	nches):						Hydric Soil	Present? Yes No
							Hydric Soil	Present? Yes No
Remarks: IYDROLO Wetland Hy		:		oly)			Seco	ndary Indicators (2 or more required)
Remarks: IYDROLO Wetland Hy Primary Ind	OGY ydrology Indicators icators (minimum of	:					SeconV	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface	OGY ydrology Indicators icators (minimum of e Water (A1)	:	; check all that app	t (B11)			Secon	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
IYDROLO Wetland Hy Primary Ind Surface High W	OGY ydrology Indicators icators (minimum of	:	; check all that app Salt Crus Biotic Cru Aquatic l	t (B11) ust (B12) nvertebrat			Secol V S	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine)
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YDROLO Wetland Hy Primary Ind Surface High W Saturat Water	OGY yerology Indicators icators (minimum of e water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonrive	: one required rine)	; check all that app Salt Crus Biotic Cru Aquatic Ii Hydrogei	t (B11) ust (B12) nvertebrat n Sulfide (Odor (C1)	ı Living Ro	Secol V S E Dots (C3) E	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2)
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WETLAND DETERMINATION DATA FORM - Arid West Region Applicant/Owner: __ State: CA Sampling Point: Rosie, S. Alderson Section, Township, Range: T45, RAW Landform (hillslope, terrace, etc.): _______ Local relief (concave, convex, none): ______ Slope (%): Subregion (LRR): And Wast _____ Lat: _____ Long: _____ Soil Map Unit Name: NWI classification: _ Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) Are Vegetation ______, Soil ______, or Hydrology ______ significantly disturbed? Are "Normal Circumstances" present? Yes _ 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? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: goldenbush is not wetla VEGETATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: _____) % Cover Species? Status Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species _____ = Total Cover Sapling/Shrub Stratum (Plot size: That Are OBL, FACW, or FAC: 1. Socoma Menziessi Prevalence Index worksheet: 2. Baccharis pilularis Total % Cover of: OBL species _____ x 1 = FACW species FAC species = Total Cover FACU species Herb Stratum (Plot size: _ UPL species 1. Stipa milacea Column Totals: 2. Bromus Tubens LAPI Bronnes hordacens WPL Prevalence Index = B/A = UPL Hydrophytic Vegetation Indicators: 5. Melilotus indica No UPL __ Dominance Test is >50% NO Prevalence Index is ≤3.01 NO Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 60 = Total Cover Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum (Plot size: 1.____ ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. = Total Cover Hydrophytic % Bare Ground in Herb Stratum_ Vegetation % Cover of Biotic Crust _____ Present? Remarks:

Sampling Point: _______

ofile Description: (Describe		Redo	x Features				
epth Matrix ches) Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
1 1 1 1 1 1 1	50	54R 5/8	50	C	M	1-5	
1-10 104R 3/2	-90	3712 7 0	50				
							i Di Dese Lining M-Matrix
ype: C=Concentration, D=De	pletion, RM=I	Reduced Matrix, C	S=Covered	or Coat	ed Sand	Grains.	Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Appli	able to all L	RRs, unless other	erwise note	ed.)			ors for Problematic Hydric Soils ³ :
		Sandy Red	dox (S5)			1 c	m Muck (A9) (LRR C)
_ Histosol (A1)		Stripped N				2 c	m Muck (A10) (LRR B)
_ Histic Epipedon (A2)			icky Minera	I (F1)		Re	duced Vertic (F18)
Black Histic (A3)						Re	d Parent Material (TF2)
_ Hydrogen Sulfide (A4)			eyed Matrix	(1 2)			ner (Explain in Remarks)
Stratified Layers (A5) (LRR	C)	Depleted I	Matrix (F3)	(FC)			
1 cm Muck (A9) (LRR D)		X Redox Da	rk Surface	(10)			
Depleted Below Dark Surfa	ce (A11)	> Depleted				3Indica	tors of hydrophytic vegetation and
Thick Dark Surface (A12)			pressions (F8)		woth	and hydrology must be present,
Sandy Mucky Mineral (S1)		Vernal Po	ols (F9)			well	ss disturbed or problematic.
Sandy Gleyed Matrix (S4)						unie	ss disturbed of problematio.
Restrictive Layer (if present):							
(each locate mail at the Land							
Torres							V
Type:						Hydric	Soil Present? Yes No
Type: Depth (inches): Remarks:						Hydric	Soil Present? Yes No
Depth (inches):						Hydric	Soil Present? Yes No
Depth (inches): Remarks: YDROLOGY							
Depth (inches): Remarks: YDROLOGY Wetland Hydrology Indicator	, with	d shock all that a	nohi)				
Depth (inches): Remarks: YDROLOGY	rs:						Secondary Indicators (2 or more required)
Depth (inches): Remarks: YDROLOGY Wetland Hydrology Indicator	rs:	Salt Cru	ust (B11)				Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
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Primary Indicators (minimum of Surface Water Table (A2) Saturation (A3) Water Marks (B1) (Nonring Surface Soil Cracks (B6) Inundation Visible on Aer Water-Stained Leaves (BField Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (street	verine) Nonriverine) viverine) viverine) vial Imagery (I 9) Yes Yes Yes	Salt Cru Biotic Co Aquatic Hydrog Oxidize Presen Recent Recent Thin M Other (No Depth No Depth No Depth	ust (B11) Crust (B12) c Invertebra den Sulfide (ded Rhizosph dece of Reduct fron Reduct fron Reduct fuck Surface (Explain in f d (inches): _ d (inches): _ d (inches): _	Odor (C1 neres alo ced Iron ction in T e (C7) Remarks) ng Living (C4) iilled Soils)	Roots (C3)	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 (CS) Shallow Aquitard (D3) FAC-Neutral Test (D5)

WETLAND DETERMINATION DATA FORM - Arid West Region Project/Site: PECA Project/Site: CA
Applicant/Owner: OC Parks State: CA Sampling Point: Investigator(s): D. Rosie 1 S. Anderson Section, Township, Range: This, Raw Landform (hillslope, terrace, etc.): 2 rroyo Local relief (concave, convex, none): Concave Slope (%): Subregion (LRR): Arid (Jet ______ Lat: _______ Long: ______ Datum: _____ Soil Map Unit Name: NWI classification: Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ 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? Is the Sampled Area Hydric Soil Present? within a Wetland? Wetland Hydrology Present? Remarks: VEGETATION – Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: % Cover Species? Status 1. Galix Jaevigata 80 YES FACW Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species _____ = Total Cover That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size:) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species _____ x 2 = ____ FAC species _____ x 3 = ____ FACU species _____ x 4 = ____ _____ = Total Cover Herb Stratum (Plot size: UPL species _____ x 5 = ____ 1. Pulicaria paludosa Column Totals: _____ (A) _____ (B) ∠ Dominance Test is >50% Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) _ < 5 = Total Cover Woody Vine Stratum (Plot size: _____) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation % Cover of Biotic Crust Present? Remarks:

-			
	rı		

Sampling Point: _____

ofile Description: (Describe t	o the dopart	Pados	x Features				
epth Matrix ches) Color (moist)	% Co	olor (moist)	<u>%</u> _	Type ¹ _	Loc ²	Texture	Remarks
iches) Color (moist)	100					SICL	
10 10 7/0	90 5	VO 5/0	ID		M	Sal	
-10 10 4R 5/L	10 5	14 3/0	10		1.	300	
					Cond C	rains	Location: PL=Pore Lining, M=Matrix.
ype: C=Concentration, D=Dep	letion, RM=Red	uced Matrix, C	S=Covered	or Coated	Sand G	Indicat	ors for Problematic Hydric Soils ³ :
ydric Soil Indicators: (Applic	able to all LKK	s, unless oule	MAISE HOLE	ed.)			m Muck (A9) (LRR C)
Histosol (A1)		X Sandy Red	lox (S5)				m Muck (A10) (LRR B)
Histic Epipedon (A2)		Stripped M					educed Vertic (F18)
Black Histic (A3)			cky Mineral				ed Parent Material (TF2)
Hydrogen Sulfide (A4)			yed Matrix	(F2)			her (Explain in Remarks)
Stratified Layers (A5) (LRR	C)	∠ Depleted N		TC)		_ 0	THE (EXPLAINT IT TO THE THE TO
1 cm Muck (A9) (LRR D)			rk Surface (
Depleted Below Dark Surface	ce (A11)		Dark Surfac			3Indica	tors of hydrophytic vegetation and
Thick Dark Surface (A12)			pressions (F	ro)		wetl	and hydrology must be present,
Sandy Mucky Mineral (S1)		Vernal Po	ois (F9)			unle	ess disturbed or problematic.
Sandy Gleyed Matrix (S4)							
Restrictive Layer (if present):							
Type:							\/
· J P		_				Undele	Soil Present? Yes X No
Depth (inches):Remarks:		_	, and			Hydric	Soil Present? Yes No
Depth (inches):Remarks:	>	-				Hydric	Soil Present? Yes No
Depth (inches):Remarks:	~	-				Hydric	Soil Present? Yes No
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator	5:						
Depth (inches):Remarks:	s: f one required; c	theck all that ap	oply)				Secondary Indicators (2 or more required)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator	s: f one required; c	Salt Cru	ıst (B11)				Secondary Indicators (2 or more required) Vater Marks (B1) (Riverine)
Depth (inches):	s: f one required; C	Salt Cru Biotic C	rust (B11) rust (B12)				Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)	s: f one required; C	Salt Cru Biotic C Aquatic	ist (B11) rust (B12) Invertebrat	es (B13)			Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	f one required; o	Salt Cru Biotic C Aquatic	ist (B11) rust (B12) Invertebrat	Odor (C1)			Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Trainage Patterns (B10)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriv	fone required; o	Salt Cru Biotic C Aquatic Hydrogo Oxidize	ust (B11) rust (B12) Invertebrati en Sulfide C d Rhizosph	Odor (C1) eres along) Living F		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)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriv Sediment Deposits (B2) (Nonriv Sed	fone required; o rerine) Nonriverine)	Salt Cru Biotic C Aquatic Hydrogo Oxidize Presen	ast (B11) rust (B12) Invertebrate en Sulfide C d Rhizosph ce of Reduc	Odor (C1) eres along ced Iron (C	(4)	Roots (C3)	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)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the content o	fone required; o rerine) Nonriverine)	Salt Cru Biotic C Aquatic Hydrogo Oxidize Present Recent	ust (B11) rust (B12) Invertebrate en Sulfide Cod Rhizosph ce of Reduct Iron Reduct	Odor (C1) eres along ced Iron (C ction in Tille	(4)	Roots (C3)	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 (C5)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the content o	f one required; c verine) Nonriverine) verine)	Salt Cru Biotic C Aquatic Hydrogo Oxidize Presenomer Recent Thin Mo	ust (B11) rust (B12) Invertebrate en Sulfide Cod Rhizosph ce of Reduct Iron Reduct uck Surface	Odor (C1) teres along ted Iron (C tion in Tille (C7)	(4)	Roots (C3)	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)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of the continum	f one required; control of one required; contr	Salt Cru Biotic C Aquatic Hydrogo Oxidize Presenomer Recent Thin Mo	ust (B11) rust (B12) Invertebrate en Sulfide Cod Rhizosph ce of Reduct Iron Reduct	Odor (C1) teres along ted Iron (C tion in Tille (C7)	(4)	Roots (C3)	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 (C5)
Depth (inches): Remarks: Sufface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriv Sediment Deposits (B2) (Nonriv Surface Soil Cracks (B6) Inundation Visible on Aeric Water-Stained Leaves (B8)	f one required; control of one required; contr	Salt Cru Biotic C Aquatic Hydrogo Oxidize Presenomer Recent Thin Mo	ust (B11) rust (B12) Invertebrate en Sulfide Cod Rhizosph ce of Reduct Iron Reduct uck Surface	Odor (C1) teres along ted Iron (C tion in Tille (C7)	(4)	Roots (C3)	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)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriv Sediment Deposits (B2) (Nonriv Surface Soil Cracks (B6) Inundation Visible on Aeric Water-Stained Leaves (B5) Field Observations:	f one required; of one	Salt Cru Biotic C Aquatic Hydrog Oxidize Present Recent Thin Mi	ust (B11) Irust (B12) Invertebrate Invertebr	Odor (C1) peres along ced Iron (C stion in Tille c (C7) Remarks)	ed Soils	Roots (C3)	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)
Depth (inches): Remarks: NYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the content o	rerine) Nonriverine) verine) al Imagery (B7) 9)	Salt Cru Biotic C Aquatic Hydrog Oxidize Present Recent Thin Mi Other (ust (B11) rust (B12) Invertebrate en Sulfide C d Rhizosph ce of Reduct Iron Reduct uck Surface Explain in F	Odor (C1) eres along ced Iron (C stion in Tille (C7) Remarks)	(4) ed Soils	Roots (C3)	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)
Depth (inches): Remarks: NYDROLOGY Wetland Hydrology Indicator Primary Indicators (minimum of the content o	rerine) Nonriverine) verine) al Imagery (B7) Yes No	Salt Cru Biotic C Aquatic Hydrog Oxidize Present Thin Mi Other (ust (B11) rust (B12) Invertebrate en Sulfide Cod Rhizosph ce of Reduct Iron Reduct uck Surface Explain in R (inches):	Odor (C1) eres along ced Iron (C ction in Tille c (C7) Remarks)	(4) ed Soils	Roots (C3)	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)
Depth (inches): Remarks: Primary Indicators (minimum of the second of	rerine) Nonriverine) verine) al Imagery (B7) 9) Yes No Yes No	Salt Cru Biotic C Aquatic Hydrogo Oxidize Present Recent Thin Mi Other (Depth Depth Depth	ust (B11) urust (B12) Invertebrate en Sulfide C d Rhizosph ce of Reduct Iron Reduct uck Surface Explain in F (inches): (inches): (inches):	Odor (C1) heres along ced Iron (C stion in Tille (C7) Remarks)	ed Soils	Roots (C3) (C6)	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)
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Depth (inches): Remarks: Primary Indicators (minimum of the second of	rerine) Nonriverine) verine) al Imagery (B7) 9) Yes No Yes No	Salt Cru Biotic C Aquatic Hydrogo Oxidize Present Recent Thin Mi Other (Depth Depth Depth	ust (B11) urust (B12) Invertebrate en Sulfide C d Rhizosph ce of Reduct Iron Reduct uck Surface Explain in F (inches): (inches): (inches):	Odor (C1) heres along ced Iron (C stion in Tille (C7) Remarks)	ed Soils	Roots (C3) (C6)	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)
Depth (inches): Remarks: Remarks: Wetland Hydrology Indicator Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriv Sediment Deposits (B2) (Nonriv Surface Soil Cracks (B6) Inundation Visible on Aeri Water-Stained Leaves (B5) Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (streen	rerine) Nonriverine) verine) al Imagery (B7) 9) Yes No Yes No	Salt Cru Biotic C Aquatic Hydrogo Oxidize Present Recent Thin Mi Other (Depth Depth Depth	ust (B11) urust (B12) Invertebrate en Sulfide C d Rhizosph ce of Reduct Iron Reduct uck Surface Explain in F (inches): (inches): (inches):	Odor (C1) heres along ced Iron (C stion in Tille (C7) Remarks)	ed Soils	Roots (C3) (C6)	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)

PLIN		-	RM - Arid West Region	
Applicant/Owner: OC Parks	Ci	ty/County:/U	istin/Orange	Sampling Date:4 /
pplicallo Owilel.			/ // /	
andform (hillslope torrace etc.). Accept	derson se	ction Township	Panga: TYS Ray	1
distribution (missippe, terrace, etc.):	Lo	cal relief (conca	ive, convex, none); (onc	ave Slope (%)
Subregion (LRR): AND WOST	Lat:	, and a great state of	Long:	Stope (%)
on map offic rearrie.				
re climatic / hydrologic conditions on the site typ	ical for this time of year?	Yes × N	In (If no explain in D	ation.
re Vegetation, Soil, or Hydrology	significantly dis	turbed? A	Vice "Normal Circumstant III R	ernarks.)
re Vegetation, Soil, or Hydrology	naturally proble		Are "Normal Circumstances" p	
UMMARY OF FINDINGS – Attach sit			f needed, explain any answe	rs in Remarks.)
WT 14 - 17 12 12 12 12 12 12 12 12 12 12 12 12 12	No ×	Thing poin	it locations, transects	, important feature
	> No X	Is the Samp	led Area	
Vetland Hydrology Present? Yes	× No ×	within a Wet	tland? Yes	NoX
Remarks:				/ -
ree Stratum (Plot size:	Absolute Do		- Number of Dominant Ca	ecies o
- Sair youagingii	15	IES PACU	7	
			Total Number of Dominal Species Across All Strata	nt
apling/Shrub Stratum (Plot size:	75 = TO		Percent of Dominant Spe That Are OBL, FACW, or	cies FAC: 50%
			Prevalence Index works	
		1/	Total % Cover of:	
			OBL species	x 1 =
			FACW species	x 2 =
		tal Cover	FACIL species	x3=
rb Stratum (Plot size:)		ar cover	FACU species	X4=
Bromus diandrus	<u> 5 YE</u>	SUPL	Column Totals:	X5=
Ambrosia psilostachya	<5 Y1	S FACU	Prevalence Index =	
			Hydrophytic Vegetation I	
			Dominance Test is >5	
			Prevalence Index is ≤3	
			Morphological Adaptat	
		I Cours	Problematic Hydrophyt	
dy Vine Stratum (Plot size:)		ii Cover	, = -,	-guon (Expiairi)
			¹ Indicators of hydric soil and be present, unless disturbed	d wetland hydrology must
	= Tota	I Cover	Hydrophytic	p
	i0ta	· COVE	Vegetation	\ /
	Cover of Pinting			\ /
are Ground in Herb Stratum	Cover of Biotic Crust		Present? Yes	No
are Ground in Herb Stratum	Cover of Biotic Crust			No

-	-		

Sampling Point:

pth	ription: (Describe to			Redox		- 1		Texture	Remarks
ches)	Color (moist)	%	Color (mo	oist)	%	Type'	Loc2	LSa	T.O. I.O.
-6	10 YR 32	100						L30	
10	10/1	98	5YR S	5/8	7.	C	M	Sal	
-10	107K 3/2	10	5/1	10					
	-					-			
	oncentration, D=Dep	letion PM:	-Reduced M	Matrix. CS	=Covere	d or Coat	ed Sand	Grains. 2	Location: PL=Pore Lining, M=Matrix.
pe: C=C	Indicators: (Application)	able to all	I RRs. unle	ess other	wise no	ted.)			ors for Problematic Hydric Soils ³ :
		able to an	Sa.	ndy Redo	x (S5)			1 cr	m Muck (A9) (LRR C)
Histosol				ripped Ma					m Muck (A10) (LRR B)
	pipedon (A2)		00	amy Muc	ky Miner	al (F1)		Rec	duced Vertic (F18)
	listic (A3)			amy Gley				Re	d Parent Material (TF2)
_ Hydroge	en Sulfide (A4)	C \		epleted M				Oth	ner (Explain in Remarks)
_ Stratifie	ed Layers (A5) (LRR	()		edox Dark					
_ 1 cm M	luck (A9) (LRR D)	· (Λ11)	De	epleted Da	ark Surfa	ace (F7)			
_ Deplete	ed Below Dark Surface	e (ATT)		edox Dep				3Indicat	tors of hydrophytic vegetation and
_ Thick L	Dark Surface (A12)			ernal Pool				wetla	and hydrology must be present,
	Mucky Mineral (S1) Gleyed Matrix (S4)							unle	ss disturbed or problematic.
Sandy	Layer (if present):								
estrictive	Layer (in bieseint).								1
								Hydric	Soil Present? Yes No
Type: Depth (i	inches):	•		*				Hydric	Soil Present? Yes No No
Type: Depth (i	.pic community	•		•-•				Hydric	Sui Presenti
Type: Depth (internarks:	OGY	, 0, 1170		•••					on resemble
Type:	OGY	5011170							Secondary Indicators (2 or more required)
Type:	OGY Hydrology Indicators dicators (minimum of	5011170	red; check a	all that app	ply)				Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Type:	OGY Hydrology Indicators dicators (minimum of	5011170	red; check a	all that app	oly) st (B11)				Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Type: Depth (if temarks: Solid Primary In Surface High \)	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2)	5011170	red; check a	Salt Crus	oly) st (B11) ust (B12))		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Type: Depth (if temarks: Solid Primary In Surface High \) Satura	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3)	s:	red; check a	all that app Salt Crus Biotic Cru Aquatic I	oly) st (B11) ust (B12) ates (B13	11	<u> </u>	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Type: Depth (if temarks: Solid Primary In Surface High \) Satura Water	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv	s: fone requir	red; check a	all that app Salt Crus Biotic Cru Aquatic I	oly) st (B11) ust (B12) ates (B13	11	<u> </u>	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)
Type: Depth (iffermarks: Solution of the content of the cont	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (N	s: one require	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized	oly) st (B11) ust (B12 Invertebr in Sulfide I Rhizos) rates (B13 e Odor (C	l) ong Living	<u> </u>	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)
Type: Depth (i temarks: Solution Primary In Surface High Satura Water Sedin Drift I	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (No	s: one require	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized	oly) st (B11) ust (B12 Invertebr in Sulfide il Rhizosj e of Red) rates (B13 e Odor (Copheres alcoursed from	I) ong Living (C4)	Roots (C3)	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)
Type: Depth (i temarks: Solution Primary In Surface High Satura Water Sedin Drift I Surface Surfa	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (Nonriv ce Soil Cracks (B6)	s: fone require erine) lonriverine	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presenc Recent I	oly) st (B11) ust (B12) Invertebr in Sulfide il Rhizosi e of Red Iron Red) rates (B13 e Odor (Copheres alcuced Iron uction in 1	I) ong Living (C4)	Roots (C3)	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)
Type: Depth (i temarks: Solidary In Surface Sedin Drift I Surface In und	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (Nonriv ce Soil Cracks (B6) dation Visible on Aeria	s: fone require erine) lonriverine verine)	red; check a	salt that app Salt Crus Biotic Cn Aquatic I Hydroge Oxidized Presenc Recent I Thin Mu	oly) st (B11) ust (B12) invertebr in Sulfide if Rhizosj e of Red iron Red ick Surfa	ates (B13 c Odor (C opheres alcuced Iron uction in 1 ce (C7)	i) ong Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (i temarks: Perimary In Satura Water Sedin Drift [Surfa Inund Water Surfa	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (No Deposits (B3) (Nonriv ce Soil Cracks (B6) dation Visible on Aeria	s: fone require erine) lonriverine verine)	red; check a	salt that app Salt Crus Biotic Cn Aquatic I Hydroge Oxidized Presenc Recent I Thin Mu	oly) st (B11) ust (B12) invertebr in Sulfide if Rhizosj e of Red iron Red ick Surfa) rates (B13 e Odor (Copheres alcuced Iron uction in 1	i) ong Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (i temarks: Perimary In Satura Water Sedin Drift [Surfa Inund Water Surfa	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (Nonriv ce Soil Cracks (B6) dation Visible on Aeria	erine) Honriverine verine) al Imagery	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presenc Recent I Thin Mu Other (E	oly) st (B11) ust (B12) Invertebr in Sulfide if Rhizosi e of Red iron Red ick Surfa) ates (B13 c Odor (C' pheres alc luced Iron uction in 7 ce (C7) n Remarks	ng Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (if temarks: April 1997) YDROL Wetland F Primary In Surface	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (No Deposits (B3) (Nonriv ce Soil Cracks (B6) dation Visible on Aeria	s: fone require erine) Honriverine verine) al Imagery)) Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presenc Recent I Thin Mu Other (E	oly) st (B11) ust (B12) Invertebr in Sulfide I Rhizosi e of Red Iron Red ick Surfa explain ir) ates (B13 e Odor (C- pheres alc luced Iron uction in 1 ce (C7) n Remarks	ng Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (if temarks:	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (N Deposits (B3) (Nonriv mes Soil Cracks (B6) dation Visible on Aeria cr-Stained Leaves (B5) servations: Water Present?	erine) Honriverine verine) al Imagery	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presenc Recent I Thin Mu Other (E	oly) st (B11) ust (B12) Invertebr in Sulfide I Rhizosi e of Red iron Red ck Surfa explain ir (inches):) ates (B13 e Odor (C- pheres alc luced Iron uction in 1 ce (C7) n Remarks	ng Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (ifternarks: YDROL	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (Nonriv ment Deposits (B3) (Nonriv ment Deposits (B6) dation Visible on Aeric cer-Stained Leaves (B5) servations: Water Present?	s: fone require erine) Honriverine verine) al Imagery)) Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presenc Recent I Thin Mu Other (E	oly) st (B11) ust (B12) Invertebr in Sulfide I Rhizosi e of Red iron Red ck Surfa explain ir (inches):) ates (B13 e Odor (C- pheres alc luced Iron uction in 1 ce (C7) n Remarks	ng Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (ifternarks: Percentage	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (Nonriv nec Soil Cracks (B6) dation Visible on Aeria r-Stained Leaves (B5 servations: Water Present? ible Present?	erine) Honriverine verine) al Imagery Yes Yes Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presence Recent I Thin Mu Other (E	poly) st (B11) ust (B12) Invertebra in Sulfide if Rhizos if e of Red iron Red ick Surfa explain in (inches): (inches):) ates (B13 c Odor (C' pheres alc luced Iron uction in 7 ce (C7) n Remarks	I) ong Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (ifternarks: Percentage	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B2) (Nonriv ment Deposits (B3) (Nonriv ment Deposits (B6) dation Visible on Aeric cer-Stained Leaves (B5) servations: Water Present?	erine) Honriverine verine) al Imagery Yes Yes Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presence Recent I Thin Mu Other (E	poly) st (B11) ust (B12) Invertebra in Sulfide if Rhizos if e of Red iron Red ick Surfa explain in (inches): (inches):) ates (B13 c Odor (C' pheres alc luced Iron uction in 7 ce (C7) n Remarks	I) ong Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (i temarks: Percent	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B3) (Nonriv met Deposits (B3) (Nonriv met Deposits (B6) dation Visible on Aeria cr-Stained Leaves (B5 servations: Nater Present? the Present? capillary fringe) Recorded Data (stre	erine) Honriverine verine) al Imagery Yes Yes Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presence Recent I Thin Mu Other (E	poly) st (B11) ust (B12) Invertebra in Sulfide if Rhizos if e of Red iron Red ick Surfa explain in (inches): (inches):) ates (B13 c Odor (C' pheres alc luced Iron uction in 7 ce (C7) n Remarks	I) ong Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (ifternarks: Percentage	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B3) (Nonriv met Deposits (B3) (Nonriv met Deposits (B6) dation Visible on Aeria cr-Stained Leaves (B5 servations: Nater Present? the Present? capillary fringe) Recorded Data (stre	erine) Honriverine verine) al Imagery Yes Yes Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presence Recent I Thin Mu Other (E	poly) st (B11) ust (B12) Invertebra in Sulfide if Rhizos if e of Red iron Red ick Surfa explain in (inches): (inches):) ates (B13 c Odor (C' pheres alc luced Iron uction in 7 ce (C7) n Remarks	I) ong Living (C4) Filled Soils	Roots (C3)	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)
Type: Depth (i temarks: Percent	OGY Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv ment Deposits (B3) (Nonriv met Deposits (B3) (Nonriv met Deposits (B6) dation Visible on Aeria cr-Stained Leaves (B5 servations: Nater Present? the Present? capillary fringe) Recorded Data (stre	erine) Honriverine verine) al Imagery Yes Yes Yes	red; check a	Salt Crus Biotic Cru Aquatic I Hydroge Oxidized Presence Recent I Thin Mu Other (E	poly) st (B11) ust (B12) Invertebra in Sulfide if Rhizos if e of Red iron Red ick Surfa explain in (inches): (inches):) ates (B13 c Odor (C' pheres alc luced Iron uction in 7 ce (C7) n Remarks	I) ong Living (C4) Filled Soils	Roots (C3)	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)

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: PECA	OHIO- I AV	ande mila
Applicant/Owner: Oc Palks	City/County:	Sampling Date: 04/2
Investigator(s): KICVAra Beck, An	islam Malik	State: CA Sampling Point: 57
l andform (hillslope torress etc.) S DDP	1. 30 10 NOL 1 Section, Township,	Range: 195,1200
Subsection (Introduction of Control of Contr	Local relief (concav	ve, convex, none): CONVEX Slope (%):
Subregion (LRR):	Lat:	/e, convex, none): Slope (%): Long: Datum:
con map ont ivaine.		NWI classification:
Are climatic / hydrologic conditions on the site typica	I for this time of year? Yes X	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology _	significantly disturbed?	re "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	N I	needed, explain any answers in Remarks.)
		t locations, transects, important features, e
V		t tooutions, transects, important features, e
Hydric Soil Present? Yes Yes Yes	No Is the Sample	ed Area
Wetland Hydrology Present? Yes	No within a Weti	land? Yes No
Remarks:		/ -
EGETATION – Use scientific names of	plants.	
Tree Stratum (Plot size: Y = 20')	Absolute Dominant Indicator	Dominance Test worksheet:
1. NONE	% Cover Species? Status	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: (A)
3		Total Number of Dominant
4		Species Across All Strata: (B)
1	= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:		That Are OBL, FACW, or FAC: (A/B
· Schoenopleche Californius		Prevalence Index worksheet:
tamarisk tamosissma	_ 40 / FAC	Total % Cover of:Multiply by:
3.		OBL species x 1 =
		FACW species x 2 =
`	0.0	FAC species x 3 =
lerb Stratum (Plot size: 155)	80 = Total Cover	FACU species x 4 =
A I O IV (F		UPL species x 5 =
		Column Totals: (A) (B)
		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
		★ Dominance Test is >50%
		Prevalence Index is ≤3.01
		Morphological Adaptations¹ (Provide supporting
		data in Remarks or on a separate sheet)
oody Vine Stratum (Plot size:)	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
NONE	1 1 1 1 1	¹ Indicators of hydric soil and wetland hydrology must
		be present, unless disturbed or problematic.
	= Total Cover	Hydrophytic
Bare Ground in Herb Stratum % Co		Vegetation
emarks:	over of Biotic Crust	Present? Yes No
marks.		
marks.		

Sampling Point: SP1

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Application Applicat	
Indicators for Indicators	Remarks AHN POVE linings
ype: C=Concentration, D=Depletion, Nim=receded with Carlos of the Carlos	
Histosol (A1) Histosol (A1) Histosol (A2) Sandy Redox (S5) Sandy Redox (S5) Straitfied Layers (A5) (LRR C) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F2) Loamy Mucky Mineral (F2) Red Dark Surface (A12) Red Dark Surface (F3) Loamy Mucky Mineral (F2) Red Dark Surface (F6) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Redox Depressions (F8) Wetland Hydrology Indicators on wetland hunless dis Restrictive Layer (if present): Type: Depth (inches): Remarks: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Surface Water (A1) Surface Water (A1) Salt Crust (B12) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Sediment Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Thin Muck Surface (C7) Saturation Present? Yes No Depth (inches): Wetland Hydrology Indicators: Wetland Hydrology Indicators (C7) Saturation Present? Yes No Depth (inches): Wetland Hydrology (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	tion: PL=Pore Lining, M=Matrix.
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Straified Layers (A5) (LRR C) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Loamy Mucky Mineral (F1) Reducer Red Par Other (E8) Straified Layers (A5) (LRR C) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F3) Reducer Red Par Other (E8) Depleted Batrix (F3) Thick Dark Surface (A11) Depleted Bark Surface (F6) Depleted Bark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Wetnal Pools (F9) Type: Depth (inches): Remarks: Hydric Soil I Remarks: Hydric Soil I Biotic Crust (B12) 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 Table Present? Yes No Depth (inches): Wetland Hydrology Institution in Tilled Soils (C6) Saturace Water Present? Yes No Depth (inches): Wetland Hydrology Depth (inches): Depth (inches): Wetland Hydrology Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	or Problematic Hydric Soils ³ :
Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Red Par Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Other (E I cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Perpeted Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Dark Surface (F8) Wetland Fools (F9) Hydric Soil I Remarks: Hydric Soil I Remarks: Hydric Soil I Hydric Soil I Hydric Soil I Hydric Soil I Sandy Mucky Mineral (S1) Pepted Matrix (F2) Pepted Matrix (F2) Pepted Matrix (F3) Pepted Dark Surface (F6) Pepted Dark Surface (F7) Pedox Depressions (F8) Permary Indicators (F8) Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Pedox Darks (B2) (Nonriverine) Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Surface Water (A1) Sait Crust (B11) Water Marks (B1) (Nonriverine) Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check all that apply) Second Primary Indicators (Minimum of one required; check al	ick (A9) (LRR C) ick (A10) (LRR B)
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Sandy Gleyed Matrix (F3) Sandy Gleyed Matrix (F4) Redox Depressions (F8) Wernal Pools (F9) Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Second Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:	d Vertic (F18)
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) Restrictive Layer (if present): Type: Depth (inches): Remarks: Primary Indicators (minimum of one required; check all that apply) Satration (A3) Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Water (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Water (B3) Water Stained Leaves (B9) Field Observations: Surface Water Present? Wetland Hydrology (B7) Water Table Present? Water Table Present? Yes No Depth (inches): Depleted Matrix (F3) Depleted Matrix (F3) Redox Dark Surface (F6) Redox Dark Surface (F6) Wetland Fyorica (F8) Wetland Fyorica (F8) Wetland Hydrology (F8) Wetland Pydrology (F8) Wetland Hydrology (F8) Diff Deposits (B3) (Nonriverine) Drift D	ent Material (TF2)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Remarks: Wetland Hydrology Indicators: Primary Indicators (Minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water Table Present? Water Table Present? Water Table Present? Water Table Present? Water Marks (B9) Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	explain in Remarks)
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil I Hydrogen Sulfide Odor (C1) Soil Soil Carcks (B6) Soil Cracks (B6) Presence of Reduced Iron (C4) Soil Gracks (B6)	f hydrophytic vegetation and
Sandy Mucky Mineral (S4) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type:	ydrology must be present,
Restrictive Layer (if present): Type: Depth (inches):	sturbed or problematic.
Type:	
Remarks: Note	V
Note	Present? Yes No
Primary Indicators (minimum of one required; check all that apply) Secon 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) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Wetland Hydrolog Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	93 1/11
Surface Water (A1) Salt Crust (B11) Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Divided Rhizospheres along Living Roots (C3) Divided Rhizospheres (C4)	dary Indicators (2 or more required)
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) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Water Advance (C7) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	/ater Marks (B1) (Riverine)
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) Field Observations: Surface Water Present? Water Table Present? Saturation Present? Yes No Depth (inches): Wetland Hydrolog (Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	ediment Deposits (B2) (Riverine)
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) Field Observations: Surface Water Present? Water Table Present? Ves No Depth (inches): Surface Water Present? Water Table Present? Ves No Depth (inches): Water-Stained Leaves (Posent) Water Table Present? Surface Water Present? Water Table Present? Water Table Present? Set No Depth (inches): Wetland Hydrolog Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	rift Deposits (B3) (Riverine)
Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Depth (inches): Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	rainage Patterns (B10)
Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Thin Muck Surface (C7) Other (Explain in Remarks) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	ry-Season Water Table (C2)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Solution In Interest Soil Cracks (B9) Thin Muck Surface (C7) Solution In Remarks Soil Crack (C6) Solution In Tilled Soils (C6) Solution In Tilled So	rayfish Burrows (C8)
Mater-Stained Leaves (B9) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	aturation Visible on Aerial Imagery (C9 hallow Aquitard (D3)
Field Observations: Surface Water Present? Yes No Depth (inches): No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	AC-Neutral Test (D5)
Surface Water Present? Yes No Depth (inches): No Depth (inches): Depth (inches): Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	AC-Neutral Test (50)
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Saturation Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	y Present? Yes No
Remarks:	

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: PECA	City	//County:	Orange Sampling Date: 04/28
Applicant/Owner: C Parks			State CA Samuel Six CD75
Investigator(s): Pichard Beck, Ani	sha Mali Ksec	ction, Township,	Range: Tus, Raw
Landform (hillslope, terrace, etc.):	510/ Loc	cal relief (concav	re, convex, none):
Subregion (LRR): C-Ant Uest	Lat:		Long: Datum:
Soil Map Unit Name:			NWI classification:
Are climatic / hydrologic conditions on the site typical	al for this time of year?	Yes X No	(If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology _	significantly distu	/	re "Normal Circumstances" present? Yes NoX
Are Vegetation N, Soil N, or Hydrology	naturally problem		needed, explain any answers in Remarks.)
		1000	t locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ⊀	,		, mportant routares, etc.
Hydric Soil Present? Yes	No	Is the Sample	ed Area
Wetland Hydrology Present? Yes	No	within a Wetl	land? Yes No No
Remarks:			
VEGETATION – Use scientific names of	nlante		
OSC SCIENTIFIC Harries Of			
Tree Stratum (Plot size: V= 20)	% Cover Spe	minant Indicator cies? Status	- The state of the
1. NONE			Number of Dominant Species That Are OBL, FACW, or FAC:
2.			, ,
3.			Total Number of Dominant Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: V = 101)	= Tot	tal Cover	That Are OBL, FACW, or FAC: (A/B)
1. tamarix canxissima	40	FAC	Prevalence Index worksheet:
2. Bacchans salicifolia	20	FAL	Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5	1.0		FAC species x 3 =
Herb Stratum (Plot size: Y = 5'	= Tota	al Cover	FACU species x 4 =
\ \(\lambda \) \(\sigma \) \(\sigma \)			UPL species x 5 =
2.			Column Totals: (A) (B)
3.			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			∠ Dominance Test is >50%
			Prevalence Index is ≤3.01
-			Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		I Cover	Problematic Hydrophytic Vegetation¹ (Explain)
Voody Vine Stratum (Plot size:)	10ta	ii oovei	
			Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Para Cround in Heat Out	= Total		Hydrophytic Vegetation
Bare Ground in Herb Stratum % C	over of Biotic Crust		Present? Yes X No
emarks: 20% bare growna			
The Street of the			
			1

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c	n	п	
J	v		_

Sampling Point: SP2

	Redox Features	Demodes
epth Matrix nches) Color (moist) %	Color (moist) % Type¹ L	oc ² Texture Remarks
-18 574/1 60		
0		
NU		
		2
Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, CS=Covered or Coated S	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to a	all LRRs, unless otherwise noted.)	indicators for Problematic Try and Com-
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	3Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		unless disturbed or problematic.
Restrictive Layer (if present):		
Type:		Hydric Soil Present? Yes No
Depth (inches):		njune con recent
	- ones	
	- aner	
IYDROLOGY	- nor	
IYDROLOGY Wetland Hydrology Indicators:	in the shoot all that apply)	Secondary Indicators (2 or more required)
IYDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicators:	Salt Crust (B11)	Water Marks (B1) (Riverine)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requ	Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine)Sediment Deposits (B2) (Riverine)
IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requirement) Surface Water (A1)	Salt Crust (B11)Biotic Crust (B12)Aquatic Invertebrates (B13)	 Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestrated Water (A1) High Water Table (A2) Saturation (A3)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) 	 Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriveri	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requirement) 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)	— Salt Crust (B11) — Biotic Crust (B12) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Imager	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled y (B7) Thin Muck Surface (C7)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) iving Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Imager Water-Stained Leaves (B9)	— Salt Crust (B11) — Biotic Crust (B12) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) iving Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Imagenty Water-Stained Leaves (B9) Field Observations:	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Imager Water-Stained Leaves (B9) Field Observations: Surface Water Present?	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled y (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Imagenty Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present?	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled y (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches):	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present?	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled y (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches):	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled y (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches): No Depth (inches):	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 (CS Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
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 Imagen Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Li Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled y (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches):	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 (CS Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
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WETLAND DETERMINATION DATA FORM - Arid West Region

Laction filistope, terrace, etc.)	Sale: CPT Sampling Point: SPT Sampling Point:
Later milistope, terrace, etc. Levil Coc. Local relief (concave, convex, none): Col Notice (Subregion (LRR)): Local relief (concave, convex, none): Col Notice (Subregion (LRR)): Local relief (concave, convex, none): Col Notice (Subregion (LRR)): Long: Notice (Subregion (LRR)): Notice (Subregion (LR	Solid Soli
Local relief (concave, convex, none):	Slope (%): Dottom: Dottom: Slope (%): Dottom: Datum:
Solid May Unit Name: Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation N Soil N or Hydrology Significantly disturbed? Are Vegetation N Soil N or Hydrology N significantly disturbed? Are Vegetation N Soil N or Hydrology N significantly disturbed? Are Vegetation N Soil N or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important feature Hydrology Resent? Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Wetland Hydrology Present? Wetland Hydrology Present? Absolute Species Status Total Number of Dominant Species That Are OBL. FACW, or FAC: Total Number of Dominant Species That Are OBL. FACW,	Datum:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Note Classification: Note Note Classification: Note
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Absolute % Cover Status Dominant Indicator Species? Status	Absolute % Cover Status Dominant Indicator Species? Status Status Number of Dominant Species That Are OBL, FACW, or FAC: Z (A
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	Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) ——————————————————————————————————
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% Cover of Biotic Crust Present? Yes No	= Total Cover Hydrophytic
	Yegetation Vegetation
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J	10/10 pare ground
	J

Sampling Point: SP 3

ofile Description: (Describe to the dep	Redo	x Features			
epth Matrix nches) Color (moist) %	Color (moist)	% Type	Loc ²	Texture	Remarks
O Collinson	10 YR V/4	50 C	M	5	
10 - 19/-	10 11 11				
ND					
Type: C=Concentration, D=Depletion, RM	M=Reduced Matrix, C	S=Covered or Coa	ted Sand C	Grains. Locati	on: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (Applicable to a	II LRRs, unless other	rwise noted.)		maicators is	r Problematic Hydric Soils ³ :
	X Sandy Red	lox (S5)			ck (A9) (LRR C)
Histosol (A1) Histic Epipedon (A2)	Stripped M				k (A10) (LRR B)
		cky Mineral (F1)			Vertic (F18)
Black Histic (A3)		yed Matrix (F2)		Red Pare	ent Material (TF2)
Hydrogen Sulfide (A4)	Depleted N			Other (E)	rplain in Remarks)
Stratified Layers (A5) (LRR C)		rk Surface (F6)		11	
1 cm Muck (A9) (LRR D)		Dark Surface (F7)			
Depleted Below Dark Surface (A11)		pressions (F8)			hydrophytic vegetation and
Thick Dark Surface (A12)	Vernal Po				drology must be present,
Sandy Mucky Mineral (S1)		(, -,		unless dist	urbed or problematic.
Sandy Gleyed Matrix (S4)					
Restrictive Layer (if present):					
To the second					
Type:				Hudric Soil P	resent? Yes X No
Depth (inches):Remarks:	Ma i Sommer datel i di		jiyamo	Hydric Soil P	
Depth (inches):Remarks:	Ma i Sommer and it is		liyumo		
Depth (inches):Remarks:			jiyumo		
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Depth (inches):	ired; check all that ap	nply)	liyumo	Second William Se	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion of the content of the cont	ired; check all that ap Salt Cru Biotic Cr	pply) sst (B11) rust (B12)		Second With See Dr	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ift Deposits (B3) (Riverine)
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Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestion Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge	iply) ist (B11) rust (B12) Invertebrates (B13	(3)	Second With See Dr. Dr. Dr. Dr.	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ift Deposits (B3) (Riverine) ainage Patterns (B10)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the control of the contro	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidize	pply) st (B11) rust (B12) Invertebrates (B13 en Sulfide Odor (C d Rhizospheres ald	s) 1) 2) 2) 3)	Second Will Will Se Dr Dr Cots (C3) Dr Dr	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	ired; check all that ap Salt Cru Biotic Co Aquatic Hydroge Oxidized Presend	pply) st (B11) rust (B12) Invertebrates (B13 en Sulfide Odor (C d Rhizospheres ald the of Reduced Iron	s) 1) ong Living ((C4)	Second Wild Wild Second Dr Dr Roots (C3) Dr Cr	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Present Recent	pply) st (B11) rust (B12) Invertebrates (B13 en Sulfide Odor (C d Rhizospheres alo ce of Reduced Iron Iron Reduction in	s) 1) ong Living ((C4)	Second With Second Dr Dr Roots (C3) Cr (C6) Second	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) iff Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required by the second of the second o	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu	inply) Ist (B11) Invertebrates (B13 Invertebrates (s) 1) ong Living ((C4) Filled Soils	Second With Second Dr Cr Cr (C6) Significant Second Cr Second Cr Second Second Cr Second Sec	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) diff Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu	pply) st (B11) rust (B12) Invertebrates (B13 en Sulfide Odor (C d Rhizospheres alo ce of Reduced Iron Iron Reduction in	s) 1) ong Living ((C4) Filled Soils	Second With Second Dr Cr Cr (C6) Significant Second Cr Second Cr Second Second Cr Second Sec	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) iff Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS)
Depth (inches): Remarks:	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presend Recent (B7) Thin Mu Other (I	poly) Invertebrates (B13) In	s) 1) ong Living ((C4) Filled Soils	Second With Second Dr Cr Cr (C6) Significant Second Cr Second Cr Second Second Cr Second Sec	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) diff Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Water-Stained Leaves (B9) Field Observations:	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presend Recent (B7) Thin Mu Other (I	inply) Ist (B11) Invertebrates (B13 Invertebrates (s) 1) ong Living ((C4) Filled Soils	Second With Second Dr Cr Cr (C6) Significant Second Cr Second Cr Second Second Cr Second Sec	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) diff Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidize Presend Recent (B7) Thin Mu Other (I	poly) Invertebrates (B13)	(C4) Filled Soils	Second With See Dr Dr Cr Cr (C6) Si St Fr	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one requestions) 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 Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present?	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Present Recent (B7) Thin Mo Other (I	inches):	(C4) Filled Soils	Second With Second Dr Cr Cr (C6) Significant Second Cr Second Cr Second Second Cr Second Sec	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Remarks: Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required inches) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu Other (I	aply) st (B11) rust (B12) Invertebrates (B13) en Sulfide Odor (C d Rhizospheres ald ee of Reduced Iron Iron Reduction in uck Surface (C7) Explain in Remarks (inches):	(C4) Filled Soils (S)	Second With	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Remarks: Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required inches) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu Other (I	aply) st (B11) rust (B12) Invertebrates (B13) en Sulfide Odor (C d Rhizospheres ald ee of Reduced Iron Iron Reduction in uck Surface (C7) Explain in Remarks (inches):	(C4) Filled Soils (S)	Second With	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required in the second i	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu Other (I	aply) st (B11) rust (B12) Invertebrates (B13) en Sulfide Odor (C d Rhizospheres ald ee of Reduced Iron Iron Reduction in uck Surface (C7) Explain in Remarks (inches):	(C4) Filled Soils (S)	Second With	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Remarks: Remarks: Primary Indicators (minimum of one requestions): Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu Other (I	aply) st (B11) rust (B12) Invertebrates (B13) en Sulfide Odor (C d Rhizospheres ald ee of Reduced Iron Iron Reduction in uck Surface (C7) Explain in Remarks (inches):	(C4) Filled Soils (S)	Second With	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
Depth (inches): Remarks: Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required inches) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes	ired; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidizer Presence Recent (B7) Thin Mu Other (I	aply) st (B11) rust (B12) Invertebrates (B13) en Sulfide Odor (C d Rhizospheres ald ee of Reduced Iron Iron Reduction in uck Surface (C7) Explain in Remarks (inches):	(C4) Filled Soils (S)	Second With	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (CS) hallow Aquitard (D3) AC-Neutral Test (D5)
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WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: PCA	City/County:	
nvestigator(s): RICHARD BECK, AV	isha malik	State: Sampling Point: SFD
andform (hillslope terrace etc.):	TO Princection, Towns	ncave, convex, none): Slope (%):
Subregion (LRR):	Local relief (co	ncave, convex, none): Slope (%):
	Lat:	Long: Datum:
re climatic / budgetesis and this		NWI classification:
re climatic / hydrologic conditions on the site typica	for this time of year? Yes	
re Vegetation, Soil, or Hydrology _		
re Vegetation, Soil, or Hydrology		. , , , , , , , , , , , , , , , , , , ,
UMMARY OF FINDINGS – Attach site	map showing sampling p	oint locations, transects, important features, e
Hydrophytic Vegetation Present? Yes	~	
	No X	Impled Area
Netland Hydrology Present? Yes		Wetland? Yes No No
Remarks:		
EGETATION – Use scientific names of		
ree Stratum (Plot size: Y = 20'	Absolute Dominant Indic % Cover Species? Sta	tue de la constitución de la con
arrolo milon	50 Y F	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
	•	Total Number of Dominant Species Across All Strata: (B)
-		Percent of Dominant Species
apling/Shrub Stratum (Plot size:(= [0])	= Total Cover	That Are OBL, FACW, or FAC:
muletat.	10 Y KA	Prevalence Index worksheet:
coyotébush	30 Y VP	TO THE MENT WORKSHEEL.
<u> </u>		OBL species x 1 =
		FACW species 50 x 2 = 100
	- 1/2	FAC species 10 $x3 = 30$
erb Stratum (Plot size: Y = 51	= Total Cover	FACU species 10 x 4 = 40
MUAGWORF	10 4 40	UPL species $40 \times 5 = 100$
Western ragweld	10 7 FA	CO Column Totals: NO (A) 370 (B)
J		Prevalence Index = B/A = 3.36
		Hydrophytic Vegetation Indicators:
		Dominance Test is >50%
		Prevalence Index is ≤3.01
		Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
ody Vine Stratum (Plot size:)	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	= Total Cover	Hydrophytic
Bare Ground in Herb Stratum % Co	over of Biotic Crust	Vegetation Present? Yes No
70 00		
narks:		

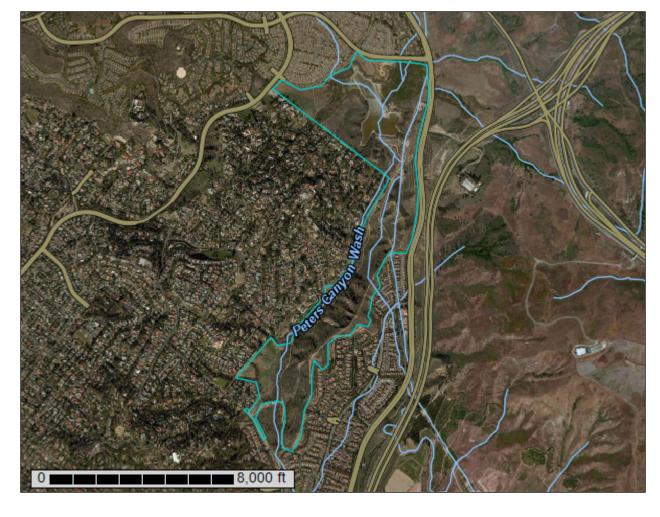
Sampling Point: 94

rofile Description: (Describe to the depth no	Redox Features		
pepth Matrix nches) Color (moist) % C	Color (moist) % Type ¹	Loc ² Texture	e Remarks
Tiches		LS	
J-18 10 /R 4/3 100 -			
NI)			
Type: C=Concentration, D=Depletion, RM=Re	duced Matrix, CS=Covered or Coated	Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to all LRI	Rs, unless otherwise noted.)	Indica	ators for Problematic Hydric Soils ³ :
	Sandy Redox (S5)	1	cm Muck (A9) (LRR C)
Histosol (A1)	Stripped Matrix (S6)	_ 2	cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1)	R	reduced Vertic (F18)
Black Histic (A3)	Loamy Gleyed Matrix (F2)	R	led Parent Material (TF2)
Hydrogen Sulfide (A4)	Depleted Matrix (F3)		other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Redox Dark Surface (F6)		
1 cm Muck (A9) (LRR D)	Depleted Dark Surface (F7)		
Depleted Below Dark Surface (A11)	Redox Depressions (F8)	3India	ators of hydrophytic vegetation and
Thick Dark Surface (A12)	Vernal Pools (F9)		tland hydrology must be present,
Sandy Mucky Mineral (S1)	Vernal 1 ools (i 5)		less disturbed or problematic.
Sandy Gleyed Matrix (S4)			
Restrictive Layer (if present):			
Type:	_		c Soil Present? Yes No
Double (inches):		HVORI	C Soli Present? Tes No
Depth (inches):	_	niyan.	
Remarks:			
Remarks:	- 4	Α -	n A. m M.
Remarks:			
Remarks:			
Remarks:			
Remarks: ST A LVI 11 - 17 - 17 - 17 - 17 - 17 - 17 - 17			
Remarks:			
Remarks: CY IYDROLOGY Wetland Hydrology Indicators:	- /\\ /\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \		n A.m M.
Remarks:	check all that apply)		Secondary Indicators (2 or more required)
Remarks: STATE OF THE PROPERTY OF THE PROPERT	check all that apply) Salt Crust (B11)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Remarks: STATE OF THE PROPERTY OF THE PROPERT	check all that apply) Salt Crust (B11) Biotic Crust (B12)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Remarks: STATE OF THE PROPERTY OF THE PROPERT	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Remarks: STATE OF THE PROPERTY OF THE PROPERT	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Remarks: VI VI VI VI VI VI VI V	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	Living Roots (C3)	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)
Remarks: VI VI VI VI VI VI VI V	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4	Living Roots (C3)	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)
Remarks: SYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4	Living Roots (C3)	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)
Remarks: SYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled	Living Roots (C3)	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)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7)	Living Roots (C3)	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)
Remarks: SYPOROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of the control of the contro	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled	Living Roots (C3)	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)
Remarks: SYPOROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of 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) Field Observations:	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks)	Living Roots (C3)	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)
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Remarks: Vilian	check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Other (Explain in Remarks)	Living Roots (C3)	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)
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Appendix C Soil Report



Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants Custom Soil Resource
Report for
Orange County and
Part of Riverside
County, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

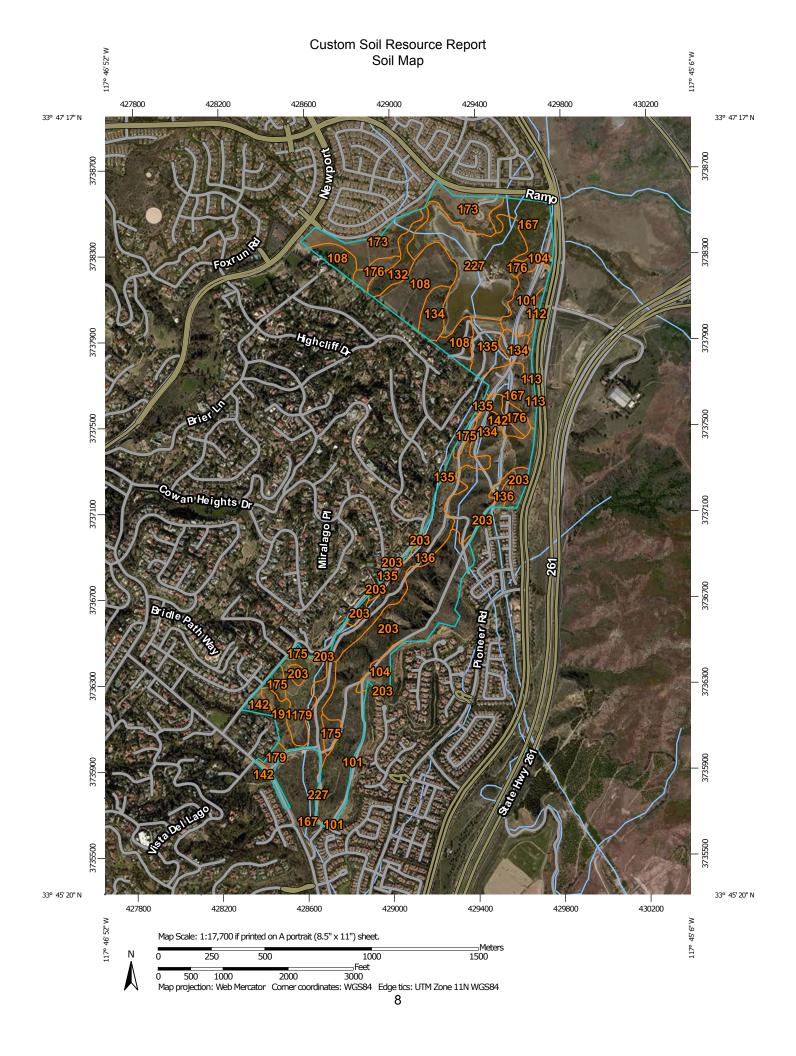
While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Clay Spot 36

 \Diamond Closed Depression

× Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation

Rails ---

Interstate Highways



US Routes



Major Roads



Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County and Part of Riverside County,

California

Survey Area Data: Version 9, Sep 23, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 3, 2010—Jan 17, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

		side County, California (CA678)		
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
101	Alo clay, 15 to 30 percent slopes	9.9	3.0%	
104	Alo variant clay, 15 to 30 percent slopes	6.1	1.8%	
108	Anaheim clay loam, 15 to 30 percent slopes	27.4	8.3%	
112	Balcom clay loam, 15 to 30 percent slopes	1.6	0.5%	
113	Balcom clay loam, 30 to 50 percent slopes	0.2	0.1%	
132	Botella clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19	6.9	2.1%	
134	Calleguas clay loam, 50 to 75 percent slopes, eroded	37.4	11.3%	
135	Capistrano sandy loam, 2 to 9 percent slopes	11.6	3.5%	
136	Capistrano sandy loam, 9 to 15 percent slopes	25.9	7.8%	
142	Cieneba sandy loam, 30 to 75 percent slopes, eroded	5.6	1.7%	
167	Mocho loam, 2 to 9 percent slopes, warm MAAT, MLRA 19	22.0	6.6%	
173	Myford sandy loam, 2 to 9 percent slopes	22.1	6.7%	
175	Myford sandy loam, 9 to 15 percent slopes	7.7	2.3%	
176	Myford sandy loam, 15 to 30 percent slopes	7.7	2.3%	
179	Myford sandy loam, thick surface, 2 to 9 percent slopes	14.4	4.3%	
191	Riverwash	12.2	3.7%	
203	Soper cobbly loam, 15 to 50 percent slopes	70.9	21.4%	
227	Water	41.1	12.4%	
Totals for Area of Interest	'	330.8	100.0%	

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

Custom Soil Resource Report

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Orange County and Part of Riverside County, California

101—Alo clay, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hcl8 Elevation: 200 to 3,250 feet

Mean annual precipitation: 9 to 25 inches

Mean annual air temperature: 59 to 63 degrees F

Frost-free period: 200 to 310 days

Farmland classification: Not prime farmland

Map Unit Composition

Alo and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alo

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 15 inches: clay H1 - 15 to 22 inches: clay

H3 - 22 to 59 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 22 to 26 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYEY (1975) (R019XD001CA)

Minor Components

Bonsall, clay

Percent of map unit: 5 percent

Anaheim, clay loam

Percent of map unit: 5 percent

Balcom, clay loam

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 2 percent

104—Alo variant clay, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hclc Elevation: 200 to 700 feet

Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 59 to 63 degrees F

Frost-free period: 280 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Alo variant and similar soils: 70 percent Alo variant, calcareous: 20 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alo Variant

Settina

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 25 inches: clay H2 - 25 to 38 inches: clay

H3 - 38 to 59 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent

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

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYEY (1975) (R019XD001CA)

Description of Alo Variant, Calcareous

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Properties and qualities

Depth to restrictive feature: More than 80 inches Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Minor Components

Bosanko, clay

Percent of map unit: 5 percent

Myford, sandy loam

Percent of map unit: 3 percent

Anaheim, clay loam

Percent of map unit: 2 percent

108—Anaheim clay loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hclh Elevation: 100 to 2,500 feet

Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Anaheim and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Anaheim

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Fine grained residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 26 inches: clay loam

H2 - 26 to 59 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 20 to 36 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: CLAYEY (1975) (R019XD001CA)

Minor Components

Alo, clay

Percent of map unit: 5 percent

Anaheim, clay loam

Percent of map unit: 5 percent

Nacimiento, clay loam

Percent of map unit: 5 percent

Balcom, clay loam

Percent of map unit: 3 percent

Cieneba, sandy loam

Percent of map unit: 2 percent

112—Balcom clay loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hclm

Elevation: 200 to 4,000 feet

Mean annual precipitation: 12 to 35 inches Mean annual air temperature: 57 to 64 degrees F

Frost-free period: 200 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Balcom and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Balcom

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Calcareous residuum weathered from sandstone and shale

Typical profile

A - 0 to 19 inches: clay loam Bk - 19 to 34 inches: clay loam

Cr - 34 to 44 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 24 to 36 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: CLAYEY (1975) (R019XD001CA)

Minor Components

Bosanko, clay

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Ecological site: CLAYEY (1975) (R019XD001CA)

Cieneba, sandy loam

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Ecological site: SHALLOW LOAMY (1975) (R019XD060CA)

Calleguas, clay loam

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Ecological site: SHALLOW CLAYEY (1975) (R019XD071CA)

113—Balcom clay loam, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hcln

Mean annual air temperature: 61 to 63 degrees F Farmland classification: Not prime farmland

Map Unit Composition

Balcom and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Balcom

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Calcareous residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 30 inches: clay loam

H2 - 30 to 59 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent

Depth to restrictive feature: 24 to 36 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: CLAYEY (1975) (R019XD001CA)

Minor Components

Bosanko, clay

Percent of map unit: 5 percent

Calleguas, clay loam

Percent of map unit: 4 percent

Cieneba, sandy loam

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 3 percent

132—Botella clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19

Map Unit Setting

National map unit symbol: 2tyz8 Elevation: 80 to 1,450 feet

Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 64 to 65 degrees F

Frost-free period: 330 to 360 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Botella and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Botella

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Riser, flat

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 8 inches: clay loam

2Bt - 8 to 35 inches: silty clay loam 2C - 35 to 66 inches: clay loam

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: CLAYEY (1975) (R019XD001CA)

Minor Components

Sorrento

Percent of map unit: 6 percent

Landform: Alluvial fans

Landform position (two-dimensional): Footslope

Down-slope shape: Linear Across-slope shape: Linear

Mocho

Percent of map unit: 4 percent

Landform: Alluvial fans

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

134—Calleguas clay loam, 50 to 75 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcmb Elevation: 200 to 2,500 feet

Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Calleguas and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Calleguas

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from calcareous shale

Typical profile

H1 - 0 to 15 inches: clay loam

H2 - 15 to 19 inches: weathered bedrock

Properties and qualities

Slope: 50 to 75 percent

Depth to restrictive feature: 15 to 19 inches to paralithic bedrock

Natural drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: SHALLOW CLAYEY (1975) (R019XD071CA)

Minor Components

Unnamed

Percent of map unit: 5 percent

Cieneba, sandy loam

Percent of map unit: 5 percent

Balcom, clay loam

Percent of map unit: 5 percent

Anaheim, clay loam

Percent of map unit: 5 percent

Unnamed, steeper sloping soils

Percent of map unit: 5 percent

135—Capistrano sandy loam, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hcmc

Elevation: 0 to 2,500 feet

Mean annual precipitation: 14 to 25 inches Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 240 to 365 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Capistrano and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Capistrano

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Riser, flat

Down-slope shape: Concave Across-slope shape: Convex

Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 27 inches: sandy loam H2 - 27 to 65 inches: fine sandy loam

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Ecological site: LOAMY (1975) (R019XD029CA)

Minor Components

Capistrano, gravelly

Percent of map unit: 5 percent

Hanford

Percent of map unit: 5 percent

Corralitos, loamy sand

Percent of map unit: 5 percent

Myford, sandy loam

Percent of map unit: 3 percent

Ramona, fine sandy loam

Percent of map unit: 2 percent

136—Capistrano sandy loam, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hcmd

Elevation: 0 to 2,500 feet

Mean annual precipitation: 14 to 25 inches Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 240 to 365 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Capistrano and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Capistrano

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Riser, flat

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 27 inches: sandy loam H2 - 27 to 65 inches: fine sandy loam

Properties and qualities

Slope: 9 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Ecological site: LOAMY (1975) (R019XD029CA)

Minor Components

Unnamed

Percent of map unit: 5 percent

San andreas, sandy loam

Percent of map unit: 5 percent

Myford, sandy loam

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 2 percent

142—Cieneba sandy loam, 30 to 75 percent slopes, eroded

Map Unit Setting

National map unit symbol: hcml Elevation: 500 to 4,000 feet

Mean annual precipitation: 12 to 35 inches Mean annual air temperature: 57 to 64 degrees F

Frost-free period: 200 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Cieneba and similar soils: 65 percent Minor components: 35 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cieneba

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Concave, convex

Across-slope shape: Convex

Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 7 inches: sandy loam

H2 - 7 to 59 inches: weathered bedrock

Properties and qualities

Slope: 30 to 75 percent

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

Natural drainage class: Somewhat excessively drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Ecological site: SHALLOW LOAMY (1975) (R019XD060CA)

Minor Components

Cieneba, uneroded

Percent of map unit: 10 percent

San andreas, sandy loam

Percent of map unit: 5 percent

Soper, cobbly loam

Percent of map unit: 5 percent

Calleguas, clay loam

Percent of map unit: 5 percent

Vista, sandy loam

Percent of map unit: 5 percent

Rock outcrop

Percent of map unit: 2 percent

Tollhouse

Percent of map unit: 2 percent

Blasingame, loam

Percent of map unit: 1 percent

167—Mocho loam, 2 to 9 percent slopes, warm MAAT, MLRA 19

Map Unit Setting

National map unit symbol: 2tyz1 Elevation: 10 to 2,240 feet

Mean annual precipitation: 14 to 21 inches
Mean annual air temperature: 61 to 65 degrees F

Frost-free period: 200 to 350 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Mocho and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mocho

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 16 inches: loam H2 - 16 to 60 inches: loam

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 10 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Minor Components

Sorrento

Percent of map unit: 4 percent

Anacapa

Percent of map unit: 3 percent

Pico

Percent of map unit: 3 percent

Garretson

Percent of map unit: 2 percent

Mocho, sandy loam

Percent of map unit: 1 percent

Botella, loam

Percent of map unit: 1 percent

Mocho, 0 to 2 percent slopes

Percent of map unit: 1 percent

173—Myford sandy loam, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hcnl Elevation: 0 to 2,500 feet

Mean annual precipitation: 10 to 25 inches Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 240 to 365 days

Farmland classification: Not prime farmland

Map Unit Composition

Myford and similar soils: 70 percent Minor components: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myford

Setting

Landform: Terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed

Typical profile

A1 - 0 to 1 inches: sandy loam
A2 - 1 to 4 inches: sandy loam
A3 - 4 to 12 inches: sandy loam
Bt1 - 12 to 18 inches: sandy clay
Bt2 - 18 to 28 inches: sandy clay loam
Btk1 - 28 to 35 inches: sandy clay loam
Btk2 - 35 to 41 inches: sandy clay loam
Bt1 - 41 to 49 inches: sandy clay loam
Bt2 - 49 to 61 inches: sandy clay loam
Bt3 - 61 to 71 inches: sandy clay loam
C - 71 to 79 inches: sandy loam

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYPAN (1975) (R019XD061CA)

Minor Components

Myford, thick surface

Percent of map unit: 10 percent

Landform: Terraces

Landform position (two-dimensional): Summit Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: CLAYPAN (1975) (R019XD061CA)

Capistrano, sandy loam

Percent of map unit: 5 percent

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Riser, flat

Down-slope shape: Concave Across-slope shape: Convex

Ecological site: LOAMY (1975) (R019XD029CA)

Yorba, gravelly sandy loam

Percent of map unit: 5 percent

Landform: Terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser

Down-slope shape: Concave Across-slope shape: Convex

Ecological site: CLAYPAN (1975) (R019XD061CA)

Myford

Percent of map unit: 5 percent

Landform: Terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: CLAYPAN (1975) (R019XD061CA)

Chesterton, loamy sand

Percent of map unit: 3 percent

Landform: Terraces

Landform position (two-dimensional): Summit Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Ecological site: CLAYPAN (1975) (R019XD061CA)

Water

Percent of map unit: 2 percent Landform: Depressions

175—Myford sandy loam, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hcnn

Elevation: 1,500 feet

Mean annual precipitation: 12 to 20 inches Mean annual air temperature: 63 degrees F

Frost-free period: 270 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Myford and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myford

Setting

Landform: Terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 12 inches: sandy loam
H2 - 12 to 18 inches: sandy clay
H3 - 18 to 28 inches: sandy clay loam
H4 - 28 to 71 inches: sandy clay loam
H5 - 71 to 79 inches: sandy loam

Properties and qualities

Slope: 9 to 15 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYPAN (1975) (R019XD061CA)

Minor Components

Myford, sandy loam, eroded

Percent of map unit: 5 percent

Capistrano, sandy loam

Percent of map unit: 5 percent

Yorba, gravelly sandy loam

Percent of map unit: 3 percent

San andreas, sandy loam

Percent of map unit: 2 percent

176—Myford sandy loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hcnp

Elevation: 1,500 feet

Mean annual precipitation: 12 to 20 inches Mean annual air temperature: 63 degrees F

Frost-free period: 270 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Myford and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myford

Setting

Landform: Terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 12 inches: sandy loam
H2 - 12 to 18 inches: sandy clay
H3 - 18 to 28 inches: sandy clay loam
H4 - 28 to 71 inches: sandy clay loam
H5 - 71 to 79 inches: sandy loam

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: CLAYPAN (1975) (R019XD061CA)

Minor Components

Myford, sandy loam, eroded

Percent of map unit: 5 percent

Myford, less sloping or steeper

Percent of map unit: 5 percent

Cieneba, sandy loam

Percent of map unit: 3 percent

Yorba, gravelly sandy loam

Percent of map unit: 2 percent

179—Myford sandy loam, thick surface, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hcns

Elevation: 1,500 feet

Mean annual precipitation: 12 to 20 inches Mean annual air temperature: 63 degrees F

Frost-free period: 270 to 350 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Myford and similar soils: 75 percent Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myford

Setting

Landform: Terraces

Landform position (two-dimensional): Summit Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 22 inches: sandy loam H2 - 22 to 28 inches: sandy clay

H3 - 28 to 38 inches: sandy clay loam, clay loam

H3 - 28 to 38 inches: sandy clay loam, clay loam, sandy loam

H4 - 38 to 71 inches: sandy loam

H4 - 38 to 71 inches: H4 - 38 to 71 inches: H5 - 71 to 79 inches:

Properties and qualities

Slope: 2 to 9 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Ecological site: CLAYPAN (1975) (R019XD061CA)

Minor Components

Myford, sandy loam

Percent of map unit: 10 percent

Myford, steeper or gently sloping

Percent of map unit: 5 percent

Capistrano, sandy loam

Percent of map unit: 3 percent

Chesterson, loamy sand

Percent of map unit: 3 percent

Yorba, gravelly sandy loam

Percent of map unit: 3 percent

Unnamed

Percent of map unit: 1 percent Landform: Depressions

191—Riverwash

Map Unit Composition

Riverwash: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Fans

Parent material: Sandy and gravelly alluvium

Typical profile

H1 - 0 to 6 inches: sand

H2 - 6 to 60 inches: stratified coarse sand to sandy loam

Properties and qualities

Slope: 0 to 5 percent

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95

to 19.98 in/hr)

Depth to water table: About 0 to 24 inches

Frequency of flooding: Frequent

Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w

203—Soper cobbly loam, 15 to 50 percent slopes

Map Unit Setting

National map unit symbol: hcpk Elevation: 100 to 2,500 feet

Mean annual precipitation: 12 to 25 inches

Frost-free period: 250 to 350 days

Farmland classification: Not prime farmland

Map Unit Composition

Soper and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soper

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 9 inches: cobbly loam

H2 - 9 to 30 inches: cobbly clay loam, cobbly sandy clay loam, cobbly loam

H2 - 9 to 30 inches: weathered bedrock

H2 - 9 to 30 inches: H3 - 30 to 59 inches:

Properties and qualities

Slope: 15 to 50 percent

Depth to restrictive feature: 20 to 36 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: LOAMY (1975) (R019XD029CA)

Minor Components

Yorba, cobbly sandy loam

Percent of map unit: 5 percent

Soper, gravelly loam

Percent of map unit: 5 percent

Gabino, gravelly clay loam

Percent of map unit: 3 percent

Cieneba, rock outcrop complex

Percent of map unit: 1 percent

Cieneba, sandy loam

Percent of map unit: 1 percent

227—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 8

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Appendix D National Wetlands Inventory Map



PECA - Lower Reservoir

Mar 15, 2016

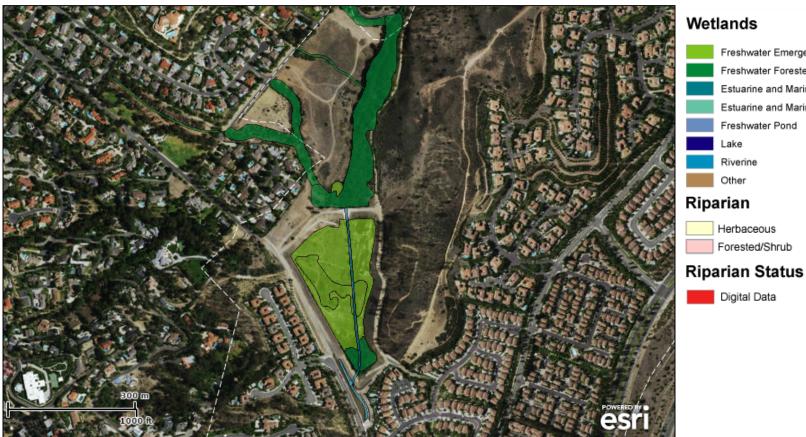
Freshwater Emergent Freshwater Forested/Shrub Estuarine and Marine Deepwater

Estuarine and Marine Freshwater Pond

Lake Riverine Other

Herbaceous Forested/Shrub

Digital Data



This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on

User Remarks:

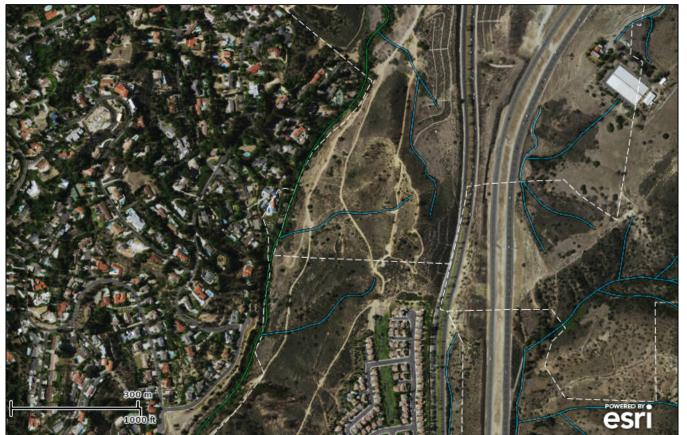


U.S. Fish and Wildlife Service

National Wetlands Inventory

PECA Central

Mar 15, 2016



Wetlands

Freshwater Emergent

Freshwater Forested/Shrub

Estuarine and Marine Deepwater

Estuarine and Marine

Freshwater Pond

Lake

Riverine

Other

Riparian

Herbaceous

Forested/Shrub

Riparian Status

Digital Data

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:



U.S. Fish and Wildlife Service

National Wetlands Inventory

PECA - South Central

Mar 15, 2016



This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Wetlands

Freshwater Emergent

Freshwater Forested/Shrub

Estuarine and Marine Deepwater

Estuarine and Marine

Freshwater Pond

Lake

Riverine

Other

Riparian

Herbaceous

Forested/Shrub

Riparian Status

Digital Data



U.S. Fish and Wildlife Service

National Wetlands Inventory

PECA Upper Reservoir

Lake Riverine Other

Herbaceous Forested/Shrub

Digital Data

Mar 15, 2016

Freshwater Emergent Freshwater Forested/Shrub Estuarine and Marine Deepwater

Estuarine and Marine Freshwater Pond



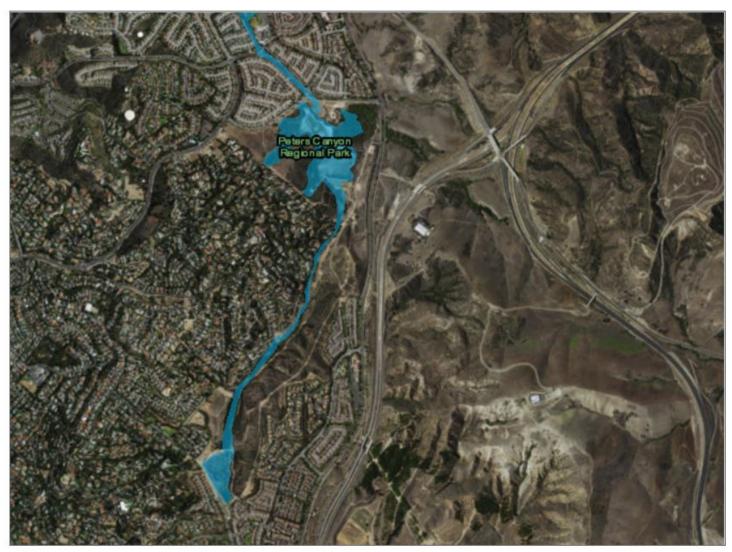
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on

User Remarks:

Appendix E FEMA 100 Year Flood Zone Map

FEMA 100 Year Flood Zones in the U.S.A-Bay County

This map service represents Flood Insurance Rate Map (FIRM) data important for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP).



USDA FSA, DigitalGlobe, Microsoft, CNES/Airbus DS | Federal Emergency Management Agency (FEMA) | Esri, HERE, DeLorme



June 13, 2016

Ms. Jenny Stets-Stephano OC Parks 13042 Old Myford Road Irvine, California 92602-2304

Subject: Results of the Focused Cactus Wren Survey for the Peters Canyon Regional

Park (PECA) Resource Management Plan, Orange County, California.

Dear Ms. Stets-Stephano:

This Letter Report presents the methods and results of a focused presence/absence survey for cactus wren (*Campylorhynchus brunneicapillus*; CACW) at the 340-acre Peters Canyon Regional Park (PECA; survey area) located in Orange County, California (Figure 1, *Regional Vicinity*; all figures follow the end of this report). The findings and conclusions herein are intended for use by OC Parks as baseline/reference information of presence and/or the potential for CACW to occur within PECA, thereby providing guidance for the Resource Management Plan (RMP; Michael Baker Michael Baker] International 2016) in consideration of future management decisions at the park.

Methodology

On March 29, 30, and 31, 2016, Michael Baker conducted a general biological resources survey of the entire survey area to document existing site conditions and biological resources, and to evaluate habitat with the potential to support various special-status plant and wildlife resources, including areas suitable to support CACW.

On April 13 and May 9 and 25, 2016 (i.e., during the peak breeding season and at least 10 days apart), Michael Baker conducted a focused presence/ absence survey for CACW. For the survey schedule, weather conditions, and personnel, refer to Table 1, below.

Table 1. Survey Schedule, Weather Conditions, and Personnel

Date (2016)	Time	Weather	Personnel*
April 13	0700-1100	59 to 70 degrees Fahrenheit (°F); 0 to 1 miles per hour (mph) winds; 100 percent cloud cover to clear skies	DR, SA
May 9	0630-1130	57 to 63 °F; 0 to 3 mph winds; 30 to 100 percent cloud cover	DR, LN
May 25	0630-1100	56 to 70 °F; 0 to 1 mph winds; clear skies	DR, SA

^{*} DR = Dan Rosie; SA = Stephen Anderson; LN = Linda Nguyen

Specifically, following a modified version of the general protocol described by Mitrovich and Hamilton (2007), the survey was conducted in all areas comprised of coastal sage scrub exhibiting native cacti, particularly those with large patches of coastal cholla (*Cylindropuntia prolifera*) and coastal prickly pear (*Opuntia littoralis*).

All CACW detections were recorded using a handheld Global Positioning System (GPS) and mapped on an appropriate U.S. Geological Survey (USGS) quadrangle map (Figure 2, *CACW Locations at PECA*), including observed territories. Additional information about CACW was noted such as sex, nesting behavior, age, etc.

Results

Two (2) CACW territories primarily along south-facing, cactus-dominated ridges were identified and mapped within the survey area: one south of Gnatcatcher Trail and west of the East Ridge View Trail (CACW1) and the other west of the Upper Peters Canyon Reservoir and south of the southern portion of Cactus Point Trail (CACW2), both pairs nesting in coastal cholla (see Figure 2). It should be noted that CACW was heard incidentally throughout all surveys conducted at PECA by Michael Baker during the spring of 2016, with specific focused survey observations discussed below.

On April 13, two individuals (male and female) were observed foraging heard vocalizing throughout the bowl at CACW1 (see Figure 2), which consists of intact coastal sage scrub containing large patches of coastal cholla and coast prickly pear. An additional male CACW was observed perched on a large patch of coastal cholla along the ridge at CACW2, with an observation and GPS recordation of an apparent active nest within (see Figure 2).

On May 9, the two individuals (male and female) at CACW1 were observed gathering nesting material throughout the bowl and depositing them in the nest, repeatedly, located in a coastal cholla stand near the upper end of the bowl (location recorded with GPS; see Figure 2). At CACW2 (see Figure 2), a pair (male and female) was observed gathering nesting material at the base of two sub-ridges south of the recorded nest, then travelling north to the nest for deposition.

On May 25, the male at CACW1 was observed gathering prey, returning to the nest to apparently either feed fledglings or the female resting on eggs, repeatedly; the female was not observed that day. The male was also observed and heard vocalizing throughout the bowl and over two subridges into cactus-dominated slopes (see Figure 2). The male at CACW2 was observed bringing prey to the nest and observed perched on a blue elderberry (*Sambucus nigra* ssp. *caerulea*) vocalizing heavily; the female was observed foraging near the nest.

Confirmation of fledglings at CACW1 and CACW2 was not obtained so as to not disturb nesting activities as it were.

Please contact me at (949) 472-3407 or at dan.rosie@mbakerintl.com with any questions you may have regarding this letter report.

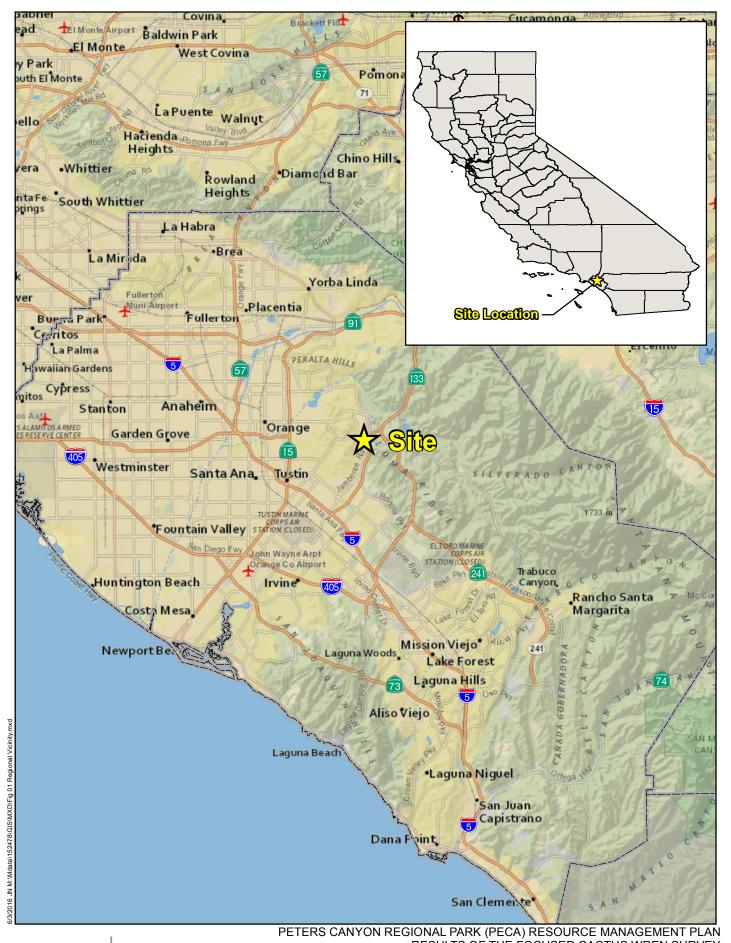
Sincerely,

Dan Rosie Biologist

Natural Resources/Regulatory Permitting

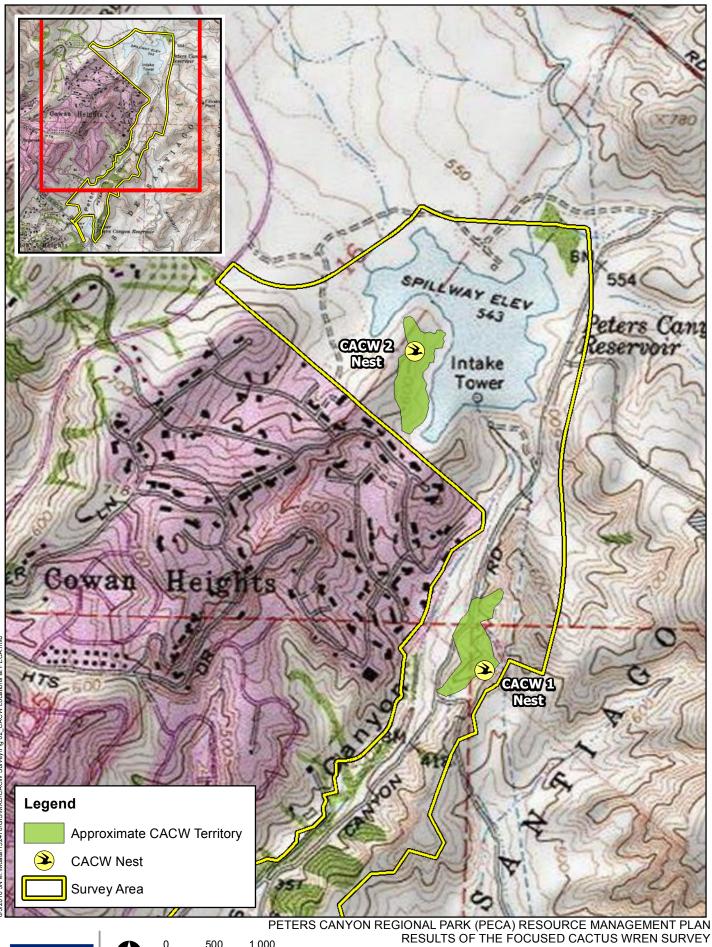
Figure 1: Regional Vicinity

Figure 2: CACW Locations at PECA



Michael Baker

INTERNATIONAL



CACW Locations at PECA



June 13, 2016

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Mr. Kevin Hupf California Department of Fish and Wildlife 3883 Ruffin Road San Diego, California 92123

Ms. Jenny Stets-Stephano
OC Parks
13042 Old Myford Road
Irvine, California 92602-2304

Subject: Results of the Focused Least Bell's Vireo Survey for the Peters Canyon

Regional Park (PECA) Resource Management Plan, Orange County,

California.

Dear Ms. Stets-Stephano:

This Letter Report presents the methods and results of a focused presence/absence survey for least Bell's vireo (*Vireo bellii pusillus*; LBVI) at the 340-acre Peters Canyon Regional Park (PECA; survey area) located in Orange County, California (Figure 1, *Regional Vicinity*; all figures follow the end of this report). The findings and conclusions herein are intended for use by OC Parks as baseline/reference information of presence and/or the potential for LBVI to occur within PECA, thereby providing guidance for the Resource Management Plan (RMP; Michael Baker Michael Baker] International 2016) in consideration of future management decisions at the park.

Methodology

On March 29, 30, and 31, 2016, Michael Baker conducted a general biological resources survey of the entire survey area to document existing site conditions and biological resources, and to evaluate habitat with the potential to support various special-status plant and wildlife resources, including areas suitable to support LBVI.

The survey was conducted following the U.S. Fish and Wildlife Service (USFWS) *Least Bell's Vireo Survey Guidelines* (2001), modified with a USFWS-approved reduction in total site visits (4.5 total of 8 recommended) based on an adequate understanding of site use by LBVI, no impacts proposed, and the results being limited to baseline information only (per e-mail correspondence with Stacey Love [USFWS] on March 24, 2016).

The survey was conducted in suitable, accessible habitat within 500 feet of the park boundaries including southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, disturbed wetland, and tamarisk scrub associated with the Santiago Canyon drainage east of Jamboree Road, Upper Peters Canyon Reservoir (UPCR), Peters Canyon Wash (PCW), and the lower detention basin. The survey area was systematically surveyed by walking slowly and methodically along the margins of suitable habitat, and within habitat where accessible to better

track individuals. All vireo detections were recorded using a handheld Global Positioning System (GPS) and mapped on an appropriate U.S. Geological Survey (USGS) quadrangle map (Figure 2, *LBVI Locations at PECA*). Additional information about LBVI was noted such as sex, nesting behavior, age, etc. Brown-headed cowbirds detected within vireo territories were also recorded and mapped.

On April 12, 2016, Michael Baker began conducting a focused presence/ absence survey (Survey #1 of 5) for LBVI. It was determined at that time that additional survey efforts would be necessary in consideration of the abundance of LBVI detected throughout and surrounding the park; therefore, site visits were conducted to cover half the survey area on one day and the other half another day, ensuring that each area surveyed was visited at least 10 days apart. The survey continued on April 22 (Part [P] 1 of #2), April 25 (P2 of #2), May 3 (P1 of #3), May 13 (P2 of #3 and P1 of #4), May 20 (P2 of #4), and May 24 (P1 of #5) when confirmation to discontinue the survey was received. For the survey schedule, weather conditions, and personnel, refer to Table 1, below.

Table 1. Survey Schedule, Weather Conditions, and Personnel

Date (2016)	Survey #	Time	Weather	Personnel*
April 12	1	0650-1100	56 to 67 degrees Fahrenheit (°F); 0 to 1 miles per hour (mph) winds; clear skies	DR, SA
April 22	P1 of 2	0630-1100	56 to 68 °F; 0 to 3 mph winds; partly cloudy to clear skies	DR, SA
April 25	P2 of 2	0630-1100	56 to 70 °F; 0 to 3 mph winds; partly cloudy to clear skies	DR, SA
May 3	P1 of 3	0630-1100	59 to 69 °F; 0 to 2 mph winds; Light fog to clear skies	DR, LN
May 13	P2 of 3; P1 of 4	0730-1100	61 to 71 °F; 1 to 3 mph winds; overcast to clear skies	DR, SA; LN, RW
May 20	P2 of 4	0630-1100	60 to 68 °F; 0 to 1 mph winds; overcast to clear skies	DR, SA
May 24	P1 of 5	0630-1100	65 to 70 °F; 0 to 1 mph winds; partly cloudy to clear skies	SA, LN

^{*} DR = Dan Rosie; SA = Stephen Anderson; LN = Linda Nguyen; RW = Ryan Winkleman

Results

A total of fourteen (14) potential LBVI territories were identified within and surrounding PECA. The approximate/estimated limits of each territory were mapped. A total of three (3) active nests were encountered incidentally, whereas all other individuals of LBVI were observed and/or heard throughout their respective territories (see Figure 2).

At LBVI-01, two individuals (male and female) were observed consistently foraging throughout the estimated territory. One individual male was observed and/or heard vocalizing repeatedly at LBVI-02, -03, and -04. At LBVI-05, an active nest was discovered after hearing both the male and female vocalizing and observing them foraging; the nest is located in tamarisk (*Tamarix ramosissima*) surrounded by native riparian and disturbed wetland vegetation. At LBVI-06 and -07, two separate male individuals were heard vocalizing and observed foraging repeatedly throughout the riparian scrub and forest, apparently distinct territories; both a male and female were observed in LBVI-06 during one of the visits. An individual male was heard vocalizing consistently throughout LBVI-07, distinct from the individual male heard vocalizing and observed consistently at LBVI-08. The approximate territories for LBVI-09, -10, and -11 are based on repeated observations and vocalizations from apparent males distinguishable from those vocalizing from adjacent territories. At LBVI-12, two individuals (male and female) were heard

vocalizing and observed foraging repeatedly throughout; an active nest was discovered incidentally, located in a poison oak (*Toxicodendron diversilobum*) near the base of a laurel sumac (*Malosma laurina*), all of which is surrounded by riparian scrub and forest vegetation. Two individuals (male and female) were heard vocalizing and observed foraging repeatedly at LBVI-13. At LBVI-13, while the adults were heard from a distance, a nest was observed incidentally. To determine if it was active, a photograph was taken from above without disturbing the nest or associated mule fat (*Baccharis salicifolia*) individual it was in. The photograph revealed two (2) LBVI eggs and 1 brown-headed cowbird (*Molothrus ater*) egg. At LBVI-14, an additional male was heard vocalizing and observed foraging within the strip of riparian scrub on separate occasions; the territory was estimated based on the surrounding other presumed territories. In summary, nearly all of the riparian vegetation within PECA and lower detention basin is being utilized by LBVI.

One individual willow flycatcher (presumably *Empidonax traillii brewsteri*) was heard vocalizing in mule fat southwest of the parking lot, north of UPCR. Three brown-headed cowbird traps are located within the park (see Figure 2): one southwest of PCW at its southern extent, north of the lower detention basin; one at the north end of the reservoir pump station, east of UPCR; and one behind the structures southwest of the parking lot at UPCR. For a complete list of avian species observed at PECA during the LBVI survey and otherwise during general biological resources surveys, jurisdictional delineation, and a focused survey for cactus wren (*Campylorhynchus brunneicapillus*), see Attachment 1 at the end of this report.

Please contact me at (949) 472-3407 or at dan.rosie@mbakerintl.com with any questions you may have regarding this letter report.

Sincerely,

Dan Rosie Biologist

Natural Resources/Regulatory Permitting

Figure 1: Regional Vicinity

Figure 2: LBVI Locations at PECA Attachment 1: Avian Species Observed List

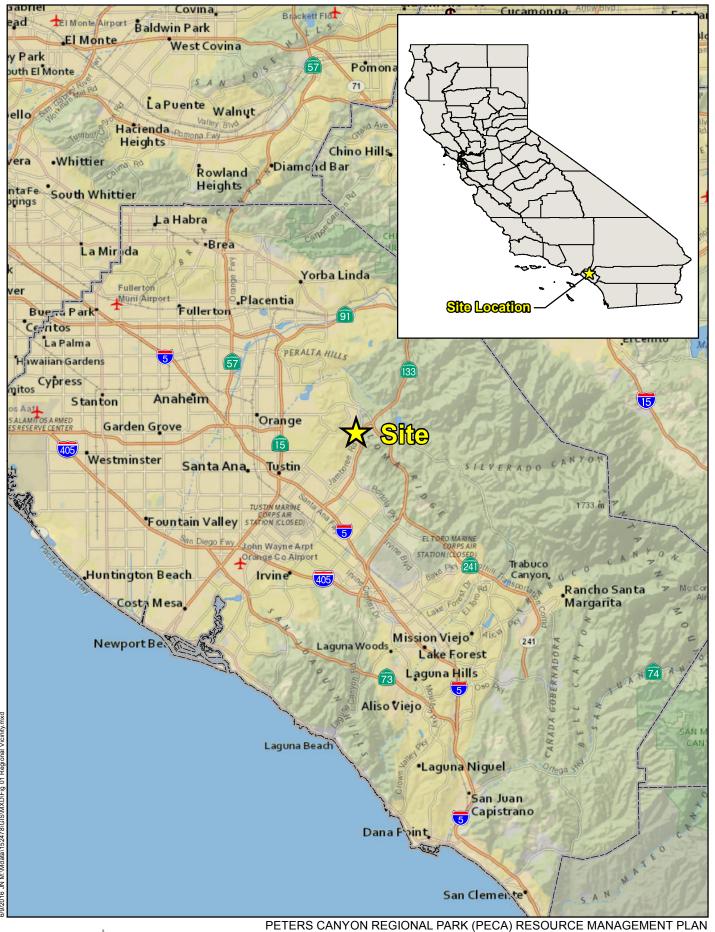
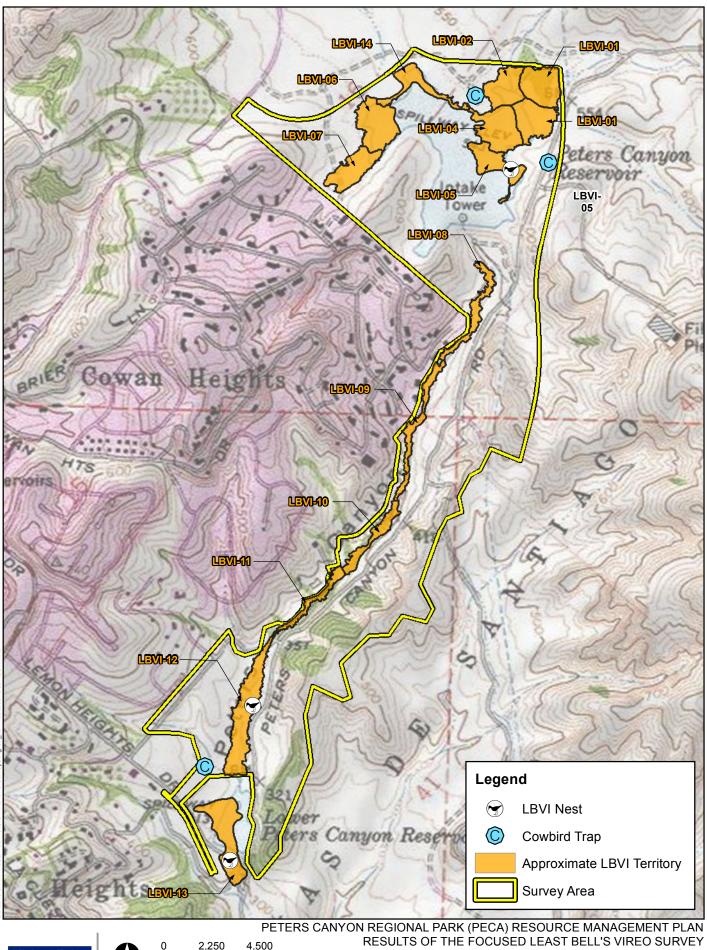


Figure 1

Michael Baker

INTERNATIONAL



LBVI Locations at PECA



June 27, 2018 JN 166923

OC Parks

Attn: Mr. Tuan Richardson 13042 Old Myford Road Irvine, CA 92602

SUBJECT: Post-Fire Update to Biological Resources Report for the Peters Canyon Resource Management Plan, City of Orange, County of Orange, California

Dear Mr. Richardson:

On behalf of Orange County Parks (OC Parks), Michael Baker International (Michael Baker) has prepared this letter report to document the results of a biological resources reconnaissance following the Canyon Fire II for the Peters Canyon Resource Management Plan, located within Orange County, California. The fieldwork for this biological resources report was conducted on April 23, 2018.

Project Description and Location

An additional survey addressed areas of Peters Canyon Regional Park (PCRP) that were affected by the Canyon Fire II. In November 2017, the Canyon Fire II burned the northern portion of the park surrounding the Upper Peters Canyon Reservoir and Dam. The fire entered the park at the corner of Jamboree Road and Canyon View Avenue. It then spread in a southwesterly direction, fed by the wind. The burn area extends from Canyon View Avenue in the north, to the housing development and Brentwood Drive in the west, Jamboree Road in the east and approximately 33 percent of the northern portion of the park toward the south. The entirety of this burn area within PCRP was surveyed.

PCRP is located within the Cities of Orange and Tustin and unincorporated portions of Orange County, California (Figure 1, *Regional Vicinity*). Specifically, the park is located within Section 36 of Township 4 South, Range 9 West; Section 31 of Township 4 South, Range 8 West; Section 6 of Township 5 South, Range 8 West; and Section 1 of Township 5 South, Range 9 West, of the U.S. Geological Survey (USGS) *Orange, California* 7.5-minute topographic quadrangle map (Figure 2, *Site Vicinity*).

Methods

On April 23, 2018 Michael Baker biologists and regulatory specialists Ryan Phaneuf and Stephen Anderson conducted an intensive pedestrian survey of the Canyon Fire II burn area within the boundaries of PCRP. Weather consisted clear skies, a temperature of approximately 85 degrees Fahrenheit, and winds approximately 0 to 2 miles per hour. The survey was conducted by traversing the study area on foot (and using binoculars for areas inaccessible) documenting all vegetation communities impacted by the fire using Figure 5, *Vegetation Communities and Land Uses* of the Biological Resources Report and photographing existing site conditions.

Results

The study area consists of the northern end of PCRP near the reservoir, with a small portion south

of the reservoir within and around Peters Canyon Wash, comprised of Bare Ground, Diegan Coastal Sage Scrub, Disturbed Habitat, Low-Quality Diegan Coastal Sage Scrub, Mule Fat Scrub, Non-Native Grassland, Southern Cottonwood-Willow Riparian Forest, Southern Willow Scrub, Tamarisk Scrub, Urban/Developed, and Valley Freshwater Marsh.

Table 1 below provides the acreages of each vegetation community/land use affected by Canyon Fire II.

Table 1. Vegetation Communities and Land Uses Affected by Canyon Fire II (acres)

Vegetation Community	Acreage
Bare Ground	19.90
Diegan Coastal Sage Scrub	55.34
Disturbed Habitat	20.54
Low-Quality Diegan Coastal Sage Scrub	20.85
Mule Fat Scrub	9.40
Non-Native Grassland	8.90
Southern Cottonwood-Willow Riparian Forest	24.02
Southern Willow Scrub	10.16
Tamarisk Scrub	5.16
Urban/Developed	3.67
Valley Freshwater Marsh	4.88
TOTAL	182.82

Please contact me at (949) 855-3687 or at RBECK@mbakerintl.com with any questions you may have regarding the results of the biological resources reconnaissance.

Sincerely,

Richard Beck, PWS, CEP, CPESC

rehard Beck

Vice President

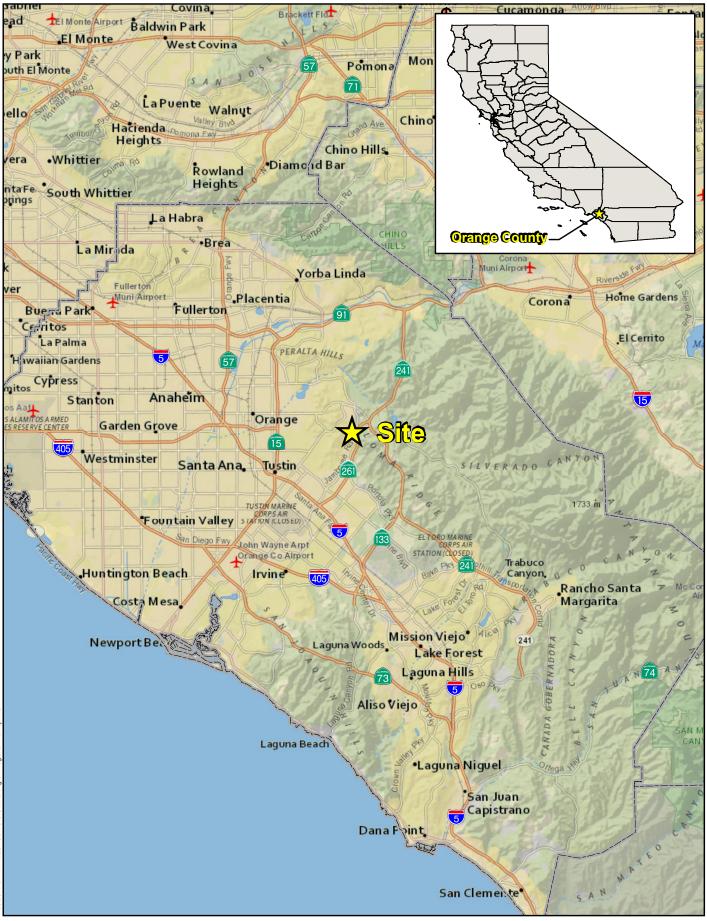
Planning and Environmental Sciences

Attachments:

Figure 1: Regional Vicinity Figure 2: Site Vicinity Figure 3: Project Site

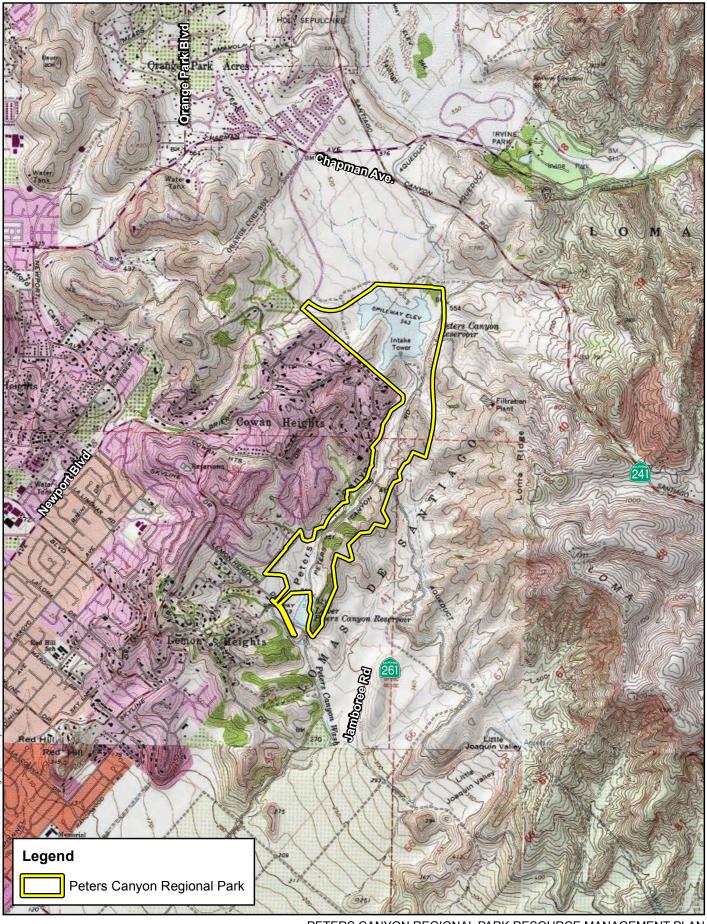
Figure 4: Vegetation Communities/Land Uses Affected by Canyon Fire II

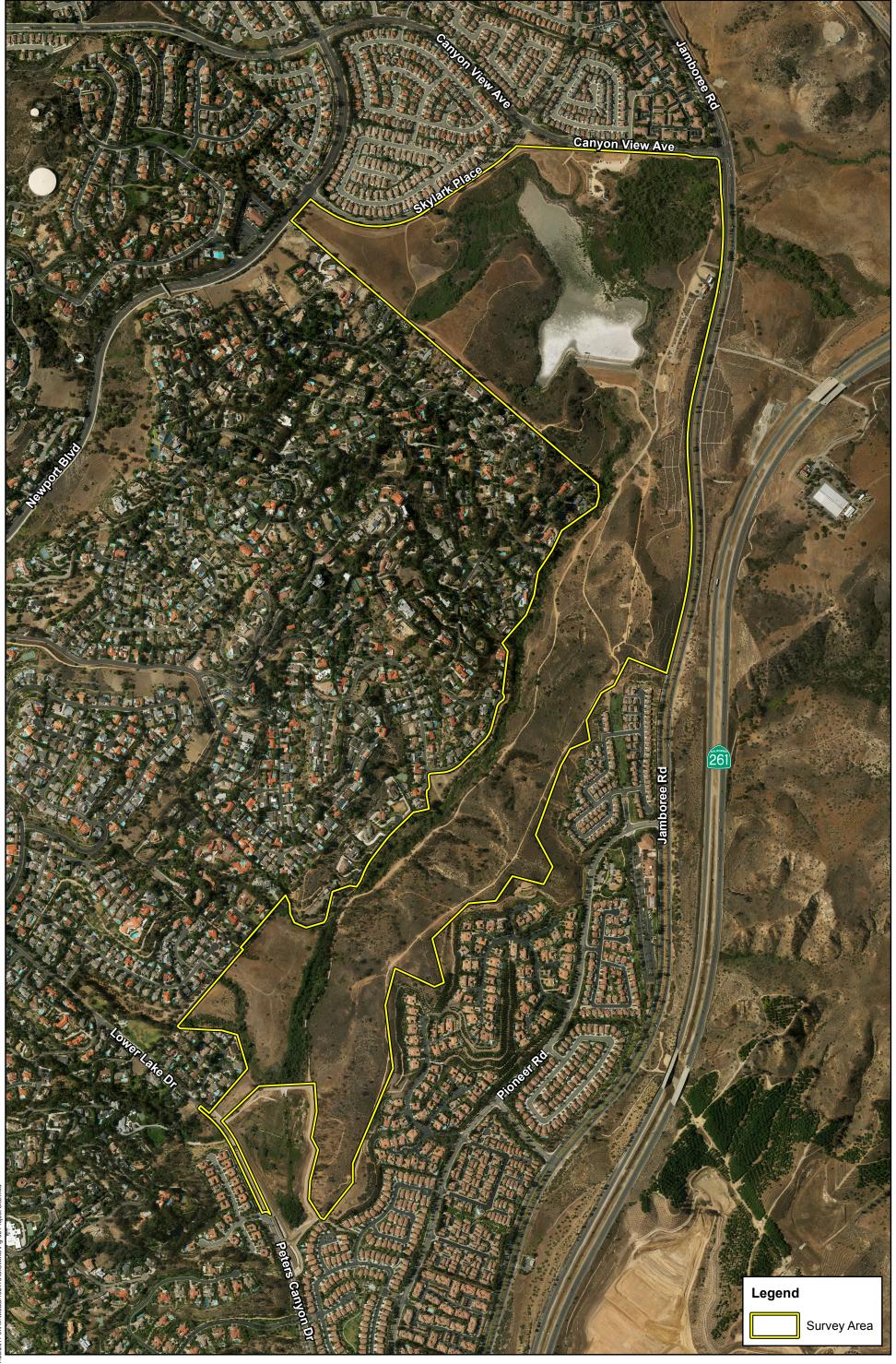
Appendix A: Site Photographs

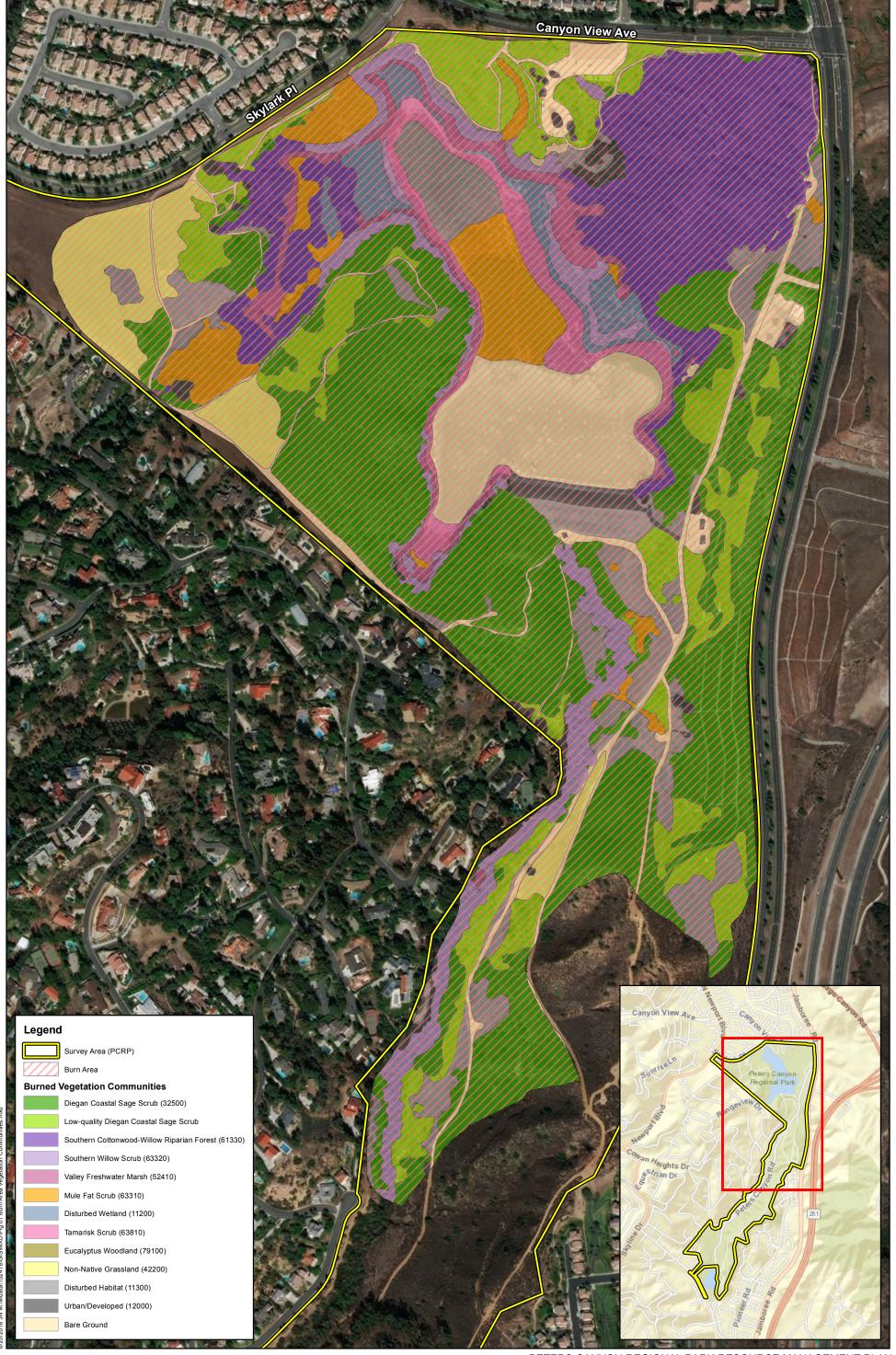




PETERS CANYON REGIONAL PARK RESOURCE MANAGEMENT PLAN
POST FIRE UPDATE
Regional Vicinity







Appendix A: Site Photographs



Photo 1: Looking south at the burned Southern Willow Scrub at northern end of the park



Photo 2: Coastal Sage Scrub restoration at northern end of park



Photo 3: Eastern end of the reservoir



Photo 4: Burned Coastal Sage Scrub along East Ridge View Trail