

# Appendix B

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## Biological Resources Appendices

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**B.1 Least Bell's Vireo Protocol Survey and Territory Mapping  
and Southwestern Willow Flycatcher Protocol Survey**

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**Least Bell's Vireo (*Vireo bellii pusillus*)  
Protocol Survey and Territory Mapping  
on the Santa Clara River  
Oxnard, Ventura County, 2013**



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## Summary of Survey Results

This report presents the results of a protocol presence-absence survey and territory mapping survey for the federal and state endangered least Bell's vireo (*Vireo bellii pusillus*) along a 7.1-mi (11.4-km) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura, California. Twelve territories were identified within the study area, and all were located within a 3.4-mi (5.5-km) section of river. Several nesting areas identified in prior years were unoccupied in 2013, but vireos also nested in newly identified territories in 2013. Nesting was confirmed at eight of the territories. Additional special-status species were identified in the study area as well.

## Introduction

The least Bell's vireo (vireo) is a small gray migratory songbird whose historical range extended from Baja California, Mexico, to the northern Sacramento Valley of California, and from the California coastal ranges east to Death Valley (Grinnell and Miller 1944). Riparian habitat losses and increases in brown-headed cowbird populations starting in the 1930s eventually caused the vireo to become essentially extinct north of the Transverse Ranges of southern California (Grinnell and Miller 1944, Gaines 1974, Goldwasser et al. 1980, Garrett and Dunn 1981, USFWS 1986). The least Bell's vireo was listed as endangered by the California Fish and Game Commission in 1980 and listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in 1986. Critical habitat was designated in 1994, covering approximately 38,000 acres (15,200 hectares) in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside and San Diego Counties (USFWS 1994). Although still absent from major portions of its historical range, the vireo has responded well to conservation management actions. In a 5-year status review, USFWS (2006) determined that the number of occupied vireo territories had increased ten-fold (291 to 2968) since the 1986 listing. Recent data suggests a slight decrease from 2010 to 2012 in vireo numbers rangewide (Kus et al. 2013). The U.S. Fish and Wildlife Service will likely propose downlisting the vireo from endangered to threatened in 2013 or 2014 (P. Beck, USFWS, pers. comm.).

The least Bell's vireo is one of four recognized subspecies of Bell's vireo in the United States (Kus et al. 2010). Least Bell's vireos are obligate riparian breeders, nesting along streamcourses typically dominated by willows (*Salix* spp.) and cottonwoods (*Populus* spp.) (Gray and Greaves 1984). The key structural components of suitable breeding habitat are a dense layer of vegetation within 3-6 ft of the ground along with a taller canopy layer (USFWS 1994). Vireos spend the winter in southern Baja California, Mexico, and arrive on breeding grounds in California in March or April (USFWS 1998). Nests are typically built by both parents and made of leaves, bark, willow catkins, and spider webs into a small cup that hangs from a fork of a tree or shrub within 3 ft of the ground (Franzreb 1989, USFWS 1998, Kus et al. 2010). Unpaired males are known to build 'false' nests, which are not as structurally robust as regular nests (Kus et al. 2010). A clutch of 3-4 eggs is incubated by both parents for 14 days, and nestlings leave the nest at about 12-14 days, after which time they are cared for by the parents for another 2 weeks or more. Vireos may produce up to two successful clutches during a season (Gray and Greaves 1984). Vireos depart from their breeding grounds during July to September en route to wintering sites in Mexico (Gray and Greaves 1984, Franzreb 1989).

The Ventura County Watershed Protection District's (VCWPD) Levee Maintenance Program will be undergoing a California Environmental Quality Act (CEQA) review on the Santa Clara River Levee downstream of Highway 101 (SCR-3) in 2013, and Werner Biological Consulting was contracted to conduct least Bell's vireo protocol surveys and territory mapping along a 7.1-mi (11.4-km) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura,

California. The purpose of the study was: 1) to determine vireo occupancy within 500 ft (152 m) of the south bank levee; 2) to delineate vireo territory boundaries within the 500-foot survey area, in order to determine vireo usage of habitat near the levee; and 3) to document additional special-status species within the study area.

## Methods

### Study Area

The study area is located in coastal Ventura County of southern California and consisted of approximately 7.1 linear mi (11.4 km) of the lower Santa Clara River's south bank and all riparian habitat within 500 ft of the south bank levee (Figure 1). This section of river extends from the western limit of Bailard Landfill (0.73 mi, or 1.2 km, downstream of Victoria Avenue) upstream nearly to the base of South Mountain (0.68 mi, or 1.1 km upstream of Los Angeles Avenue/Highway 118). Elevation ranges from 28 ft (9 m) to 140 ft (43 m) above sea level. Several patches of vegetation that extended just outside the 500-foot buffer were included within the study area. The study area was limited to the habitat north of the levee (no riparian areas south of the levee were identified), for a total of 454 acres (184 hectares). Downstream of the 101 Freeway the study area consists of various associations of arroyo willow (*Salix lasiolepis*) thicket (Sawyer et al. 2009). Upstream of the freeway, the majority of the river bottom is open sand or alluvial scrub, and arroyo willow thickets form a narrow strip along the bank. Several terraced areas north of the levee support blue elderberry (*Sambucus nigra* ssp. *caerulea*) stands and coyote brush (*Baccharis pilularis*) scrub communities (Sawyer et al. 2009), which were composed primarily of upland species.

### Background Review

Prior to the first survey a review was performed of recent local occurrence data and previous surveys conducted in or near the study area, as well as a literature review of recent reports about the subspecies throughout its range. Mr. Werner also had recently attended a meeting of the Riparian Birds Working Group, which focuses on recovery efforts for least Bell's vireo, the federal and state-endangered southwestern willow flycatcher (*Empidonax traillii extimus*), and the state-endangered and federal-listing candidate western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), in Carlsbad, California, on March 22, 2013.

### Survey Methodology

All surveys were conducted by Werner Biological Consulting's Principal Biologist, Scott Werner, who has been issued U.S. Fish and Wildlife Endangered Species Act Section 10(a)(1)(A) Recovery Permit TE-179013 that authorizes nest-monitoring for least Bell's vireo. Mr. Werner also has been issued California Department of Fish and Wildlife (CDFW) Scientific Collecting Permit SC-005186 with Memorandum of Understanding that authorizes nest-monitoring for least Bell's vireo (hereafter referred to as 'vireo'). Mr. Werner has 18 years of experience as a field ornithologist in California, Texas, and Arizona, including 9 years as a consultant in Ventura County.

The presence-absence survey methodology followed the protocol described in *Least Bell's Vireo Survey Guidelines* (USFWS 2001). Eight surveys were conducted at least ten days apart from April 10 to July 2, 2013 (Table 1). Surveys were conducted between dawn and 11:00 am under fair weather conditions. No vireo vocalizations were played. Mr. Werner slowly walked meandering routes along the levee and within the river bottom throughout the entire study area, moving west to east (starting at Bailard Landfill and ending upstream of Highway 118), following natural openings and edges within the habitat while listening for singing males or other vireo calls. Locations of vireos were recorded on aerial photographs, or recorded via global positioning system (GPS) if necessary (in UTM Zone 11 coordinates). The presence-absence survey focused on locating vireos within the 500-foot buffer study area, but

approximate locations of vireos heard outside the buffer were also recorded when possible. Due to the large size of the study area, each survey typically took four days to complete.

The presence-absence survey formed the basis for the follow-up territory mapping. During 2013, the first territory mapping survey was conducted during the second presence-absence survey after a list of potential territories was derived from vireo locations recorded during the first presence-absence survey. Territories identified in previous years (Ryan 2009, 2010) were also referenced. Additional territories were added as the presence-absence surveys progressed. Eight territory mapping surveys were conducted: seven during presence-absence survey numbers 2 through 8, and an eighth in mid-July when Mr. Werner was in the study area conducting a southwestern willow flycatcher survey (Table 1). Therefore, nine total visits (presence-absence plus territory mapping) to the study area were conducted.

Territory mapping followed the methodology used by Ryan (2009, 2010), who had conducted similar surveys within the same general area. The primary differences with the 2013 study were: 1) the 2013 territory mapping was conducted throughout the vireo protocol detection period of April to July with eight visits, compared with five to six visits in June-July during previous studies; and 2) the same observer (Mr. Werner) conducted all 2013 presence-absence and territory mapping surveys, usually during the same visit, compared with the earlier studies that utilized two to three observers plus one permitted biologist who could enter the habitat, with territory mapping being conducted separately from presence-absence surveys.

Territory mapping involved a standard spot-mapping technique to accumulate mapped vireo locations throughout the season and arrive at approximate territory boundaries (Bibby et al. 2000, Ryan 2009, 2010). Upon arriving at a known or suspected territory, the biologist listened quietly for vocalizing vireos. Usually, males were heard singing with a few minutes, but sometimes activity levels were low and visual searches had to be conducted. Each mapping session lasted between 20 and 60 minutes. Upon detection, the biologist used aerial photographs to record locations of all vireos as they moved throughout the vegetation, including males, females, fledglings, and juveniles. Breeding behaviors such as nest-building, carrying nesting material or food, or feeding fledglings were recorded. Locations of counter-singing males helped define the separation of adjacent territories, as there were no known color-banded vireos in the study area. Nest-searching was not conducted, although several active nests were located incidentally while making standard observations of vireo activity within the habitat. After each survey the mapped vireo locations were digitized into a Geographic Information System (GIS), and territory polygons were created using a 50-foot buffer around each vireo location (Table 2).

All wildlife species observed during surveys were recorded (Table 3), and locations of special-status species (CDFW 2011) were noted on maps and recorded via GPS (in UTM Zone 11 coordinates). When feasible, polygons were created to show the locations of special-status bird species observed within the same general area during repeat visits, using a similar point-accumulation technique that was used for mapping vireo territories. California Natural Diversity Data Base (CNDDDB) forms were prepared for observations of special-status species following standard CDFW reporting guidelines, which list specific criteria for reporting avian observations (CDFW 2010). The CNDDDB forms are compiled in Appendix A of this report.

## **Results and Discussion**

### **Background Review**

The CNDDDB contains least Bell's vireo records within or adjacent to the study area from 1981 to 1991 near Saticoy, and from 2003-2004 at the 101 Freeway Bridge (CDFW 2013). More recently, vireo



presence-absence and/or territory mapping studies were conducted within the study area by Ryan (2008, 2009, 2010). Therefore, past vireo occurrence in the study area was well documented.

### **Least Bell's Vireo Territories**

Twelve least Bell's vireo territories were documented within the study area (Figures 1 through 10). All were located within a 3.4-mi (5.5-km) stretch of river between the Bendway Weir Field about 0.6 mi southwest of the 101 Freeway and the model airplane park approximately 0.9 mi southwest of Highway 118/Los Angeles Ave. At least two of the territories (Territories 6 and 11) did not appear to be consistently maintained, and singing vireos were not regularly observed there.

#### **Territory 1**

This territory was located at the transition between the upstream end of the existing SCR-3 levee and the "gap area" (a mixed riparian woodland and scrub area along Ventura Road downstream of the 101 Freeway with no existing levee). Until a fledgling was observed being fed by an adult here on May 27, 2013, the closest location where vireos were detected was in Territory 2. Fledglings and adults were subsequently observed here during all ensuing surveys, independent of vireos observed in Territory 2. Territory 1 may have been overlooked prior to May 27 because the biologist spent a reduced amount of time in this location due to homeless activity. The adjacent Territory 2 was considered to be the furthest west area with vireos during the first several presence-absence surveys. Vegetation within Territory 1 consisted of arroyo willow thicket (Sawyer et al. 2009) and patchy willow recruits in the sandy river bottom, with coyote brush scrub in the drier southeastern section.

#### **Territory 2**

This territory was the first location where vireos were observed in the 2013 presence-absence survey. A presumed male-female pair of vireos was observed foraging on April 11, 2013, in a black cottonwood (*Populus trichocarpa*)-arroyo willow association with a dense understory of poison oak (*Toxicodendron diversilobum*), mule fat (*Baccharis salicifolia*), and arundo (*Arundo donax*). A male was seen regularly singing during all subsequent visits, and a fledgling was seen on June 28, 2013. This territory spanned the western end of the gap area and contained arroyo willow thicket associations, a dense arundo infestation along the river, and mule fat and coyote brush scrub habitats (Figure 11). There was a slight overlap at the northeastern border with Territory 3; sometimes singing males in either territory would encroach into the other (it is shown as a discrete boundary on the maps for clarity).

#### **Territory 3**

Territory 3 appeared to be occupied by a lone male first observed on May 16, 2013, that sang nearly constantly with no apparent mate during mapping sessions. The territory appeared smaller than the surrounding two other territories but covered a similar mix of scrub and woodland habitats as Territories 1 and 2. A fledgling seen in the northern section of the territory during the final mapping survey on July 12 was not associated with the adult male regularly observed here and was likely a visitor from one of the adjacent territories.

#### **Territory 4**

After a lone male was initially observed singing on April 11, 2013, a male-female pair was regularly seen in Territory 4, often seen foraging early in the season in the coyote brush scrub in the southern section of the territory. Later observations indicated potential nesting in a willow thicket along Ventura Road, followed by fledgling observations on June 7. After this date, the pair usually kept to the willow-arundo thicket at the northwestern edge of the territory, where they may have renested.

#### **Territory 5**

Territory 5 was located between the Railroad and the 101 Freeway and consisted of a dense arroyo willow thicket that rose along a terrace, transitioning to coyote brush scrub with some patchy arroyo willows and

eucalyptus (*Eucalyptus* spp.). A nest with an incubating female was located from a distance on April 25, 2013, along the terrace, 3.5 ft (1 m) above the ground in a clump of mule fat, California sagebrush (*Artemisia californica*), and Southern California black walnut (*Juglans californica*) (Figure 12). There was no apparent activity at the nest site during the following visit on May 4, and on May 16, the nest was confirmed to have failed, containing one broken egg. However, fledglings were later seen in the territory on June 18 and July 1.

### **Territory 6**

This territory was classified as a vireo territory although a singing male was observed here only on April 25, 2013. This bird may have moved to the north side of the river but due to constant traffic noise on the 101 Freeway vireos could not be heard across the river. The vegetation in Territory 6 was a patchy arroyo willow thicket with red willows (*Salix laevigata*), black cottonwoods, and a mixed understory of mule fat, California sagebrush, and arundo. Most of the patch is above the river on a terrace, with a small dry arroyo running east-west and bisecting the stand. A permanent supply of water from the Stroube Drain enters the east side of the territory and runs north into the main river channel, and standing water was present along this drainage into July. An adult vireo with a fledgling was seen along the northern edge of the territory on July 1, and an independent juvenile vireo (perhaps the same bird) was seen outside of the delineated territory along the southern edge of the habitat on July 13. These young birds were believed to have been fledged from adjacent territories because no adults were detected in the territory between May 5 and June 20.

### **Territory 7**

Vireos were detected in Territory 7 during all surveys. A singing male's location was followed on April 25, 2013, and the bird was found to be singing while incubating unknown nest contents on April 25. The nest was 5 ft (1.5 m) above the ground in a dense stand of young arroyo willows. Non-intrusive observation was possible because the nest was 15 ft (5 m) from the open sandy river bottom (Figures 13 through 15). The nest was quickly checked for activity while passing by on subsequent visits, and 1 or more large nestlings were observed on May 16, followed by a fledgling located nearby on May 28. Vegetation in the territory consisted of an early seral stage arroyo willow thicket with red willow, sandbar willow (*Salix exigua*), and mule fat at river-level.

### **Territory 8**

A male was observed singing within a stand of arroyo willow 450 ft (137 m) from the levee on April 12 and April 25, 2013, followed by observations in this same area of a male and female on May 4 and May 18, 2013. On May 28 the male was followed from the above location to the south bank of the river, where he settled on a nest, swapping incubating duties with a female for approximately 8 minutes. The nest was located 3 ft (1 m) above the ground in an arroyo willow at the bottom of the eroding terrace along the levee road (Figures 16 and 17). The nest could be seen from the edge of the terrace and fledged four young on June 21. The fledglings were not located within the territory boundaries on the following visit but may have been seen in adjacent territories. Vegetation in Territory 8 was very similar to that of Territory 7, although there were several medium-sized black cottonwoods and white alders (*Alnus rhombifolia*) present among the willows.

### **Territory 9**

A male was observed singing in Territory 9 on April 12 and April 26, 2013. On May 5 he was accompanied by a female that was building a nest 4 ft (1.2 m) above the ground in a thicket of blue elderberry and arundo. By the following visit on May 18, the pair had abandoned the original nest and had built a new nest 50 ft (15 m) away, 4 ft (1.2 m) above the ground in a myoporum (*Myoporum laetum*), on which the incubating female now sat. On May 28, the adults were delivering food to nestlings. On June 10 the nest was empty, and the parents were observed feeding at least 2 fledglings on June 20 and July 1. Territory 9 was located on a slight terrace 6 ft (2 m) above the adjacent river channel,

and the vegetation was a blue elderberry stand composed primarily of upland woodland and scrub species (Figure 18). Arroyo, red, and sandbar willows occurred immediately along the river bank, but the canopy composition elsewhere throughout the site consisted of myoporum, elderberry, and Southern California black walnut. Understory species or dominants within the scrub included arundo, big saltbush (*Atriplex lentiformis*), coyote brush, big sagebrush (*Artemisia tridentata*), coast prickly pear (*Opuntia littoralis*), and black sage (*Salvia mellifera*).

### **Territories 10 and 11**

These two territories are described together because of their proximity and the shifting boundaries through the season. Only one resident vireo was observed consistently (within Territory 10), during most surveys (Figure 19). Vegetation in Territories 10 and 11 was similar to that of Territory 9: willows along the river edge with patchy blue elderberries codominant with Southern California black walnuts and interspersed with the upland scrub species described for Territory 9. On April 26, 2013, a singing vireo was observed in the general area covering Territories 10 and 11. During the following visit on May 5, three singing males were behaving territorially within distinct areas, while one of these birds started to build a nest in the area described as Territory 10 within a poison oak thicket under a blue elderberry. No female was observed with this male. During the following visit on May 18, two singing males were observed, each within the approximate polygons illustrated in Figure 9 as Territories 10 and 11. The approximate dividing line between the territories was the access road running north to south. The nest observed during the previous visit had fallen and was not much more than a loosely woven outline. This nest was determined to be a false nest (Kus et al. 2010) because only one bird was observed building it and extensive observation indicated that this vireo was unmated. The vireo in Territory 11 was observed for a final time on May 29 and not detected thereafter. The vireo in Territory 10 continued to sing regularly throughout the territory during all subsequent visits except on June 21 when it was not detected. It was never observed to be paired with any other female or young vireos that would indicate a mated status or breeding attempt. This bird had a brief notable encounter on July 15 with another vireo moving through the territory. It encountered the second bird at the south edge of Territory 10 and performed a courtship display similar to the pre-copulatory display described by Kus et al. (2010) for about 20 seconds. The second bird appeared unresponsive and continued on its way, exiting the territory and flying downriver.

### **Territory 12**

This was the furthest upstream active territory, where vireos were observed during all surveys and nested twice. The site was a patch of arroyo willow thicket on a terrace 10 ft above the adjacent river bottom (Figure 20). The vegetation was closest in similarity to Territory 1 in that it had a relatively continuous canopy of mature arroyo and red willows with dense understory edges composed of these species as well as mule fat, poison oak, and coyote brush. A singing male was detected during the presence-absence survey on April 12, 2013, and on the next visit (April 26), the singing male was followed and found to be incubating a nest 4 ft (1.5 m) above the ground in an arroyo willow. A fledgling was observed on May 28 and a second nest was located on June 21, 3.5 ft (1 m) above the ground in a mule fat intertwined with an arroyo willow, 90 ft (27 m) northeast of the first nest. The outcome was unknown, but the nest was found to be intact well after the potential nestlings would have fledged.

### **Least Bell's Vireos Detected Outside of the Study area and a Single Vireo Observation**

Given the relatively large distances from which singing least Bell's vireos can be heard, it was possible to record vireo locations as far as the north bank of the Santa Clara River in most sections of the study area. Traffic noise from the 101 Freeway noise made it impossible to listen for distant vireo vocalizations across the river in that location. There were five general areas outside of the study area where vireos were consistently heard: three clusters near Territories 7 and 8 on the upstream side of the 101 Freeway; one in the groins between Sudden Barranca and Clark Barranca; and one near Riverbank Drive and Highway

118 (Figures 24 through 28). A vireo was observed during the first presence-absence survey within the study area east of Highway 118, but was not relocated during territory-mapping surveys (Figure 28).

### **Comparisons with Previous Territory-mapping Surveys in the Study Area**

Ryan (2009) conducted vireo territory mapping in 2009 within the same approximate area surveyed in the 2013 study. Territories identified in 2009 where vireos were not located in 2013 included two sites on either side of Victoria Avenue, an additional area between Territory 5 and the Santa Clara River, an area just upstream of Territories 10 and 11, a site at the model airplane park, and two territories in the eastern study area terminus. Only three of Ryan's (2009) ten territories corresponded to active 2013 areas: Territories 5, 7, 10, and 11. Data from limited mapping efforts in 2010 (Ryan 2010) and 2011 (VCWPD unpubl. data) showed up to 2 territories per year in the vicinity of Territories 1 through 5.

The 2013 data show a consolidation in vireo territories around the 101 Freeway. Territories 1 through 8 plus the number of vireos heard beyond the 500-ft survey boundary in that area may add up to 11 or 12 total vireo territories from the Weir Field eastward to Montgomery Avenue in Ventura. However, the vegetation along the levee on either side of Highway 118 was very open and scrubby, and it was not surprising that vireos were mostly absent from that area.

### **Disturbances and Threats to Biological Resources in the Study Area**

Territories 1 through 5 were located in the gap area, which had many abandoned homeless camps (at least one active camp within Territory 1 during the survey) and widespread trash. The area also had a severe infestation of arundo, which has little to no value to special-status species and encourages homeless use by providing additional shelter. Regular visitors, including an occasional mountain biker, were seen in this area that was off-limits to the public. A fire burned approximately 0.5 ac (0.2 ha) adjacent to the railroad tracks and an illegal paintball park on an unknown date between June 7 and June 18, 2013. Most of this area was within least Bell's vireo Territory 4. Evidence of a second fire, likely from the same date, was found to have engulfed a much smaller area around a trash pile within Territory 5. The Territory 5 vireo nest had been observed to be inactive on May 16 and then on June 18 was observed to have been located within the fire perimeter and destroyed (note trash pile in Figure 12, which was taken before the fire). Possible impacts to vireos from either fire are mostly unknown because of the lack of nesting data there. At least one fledgling was observed in the area just prior to the fire and 1-2 weeks afterward.

A second disturbance occurred soon after the fire in the gap area. A maintenance crew removed brush within a 50-foot perimeter on both sides of the railroad tracks on an unknown date between June 18 and June 28, 2013, which resulted in the loss of some vireo habitat along the western edge of Territory 5. The corridor appeared to be maintained annually, but some large willow limbs in Territory 5 were removed during this event.

Recreational visitors were seen regularly walking or jogging the levee road in the eastern half of the study area. Dogs were occasionally seen off-leash entering the vegetation in this area. Tracks from off-highway vehicle (OHV) activity were often seen in the river bottom throughout the study area. Dumping activity into the river bed was observed on a spur road at the eastern terminus of the study area, where the road seemed to be expanding into a historical vireo territory from 2009.

### **Brown-headed Cowbirds**

Brown-headed cowbirds were rarely observed in the field, and their presence was recorded on only three survey dates (May 27, June 6 and 7, 2013). This may have been due to the five active brown-headed cowbird traps located in the study area.

## Special-status Species

Locations of special-status species observed during the surveys are shown in Figures 21 through 28. CNDDDB forms for species that met the CNDDDB's reporting criteria are included in Appendix A.

Western pond turtle (*Emys marmorata*) – State of California Special Concern Species. A western pond turtle was seen basking in a ponded area under the Victoria Avenue Bridge on April 10 but was not resighted on subsequent visits.

Coast horned lizard (*Phrynosoma blainvillii*) – State of California Special Concern Species. A coast horned lizard was seen on May 29 at UTM Coordinates 302547E, 3794445N along the old road cut just east of the model airplane park (Figure 27). This area was a patch of coyote brush scrub on a high (20 ft) bench above the river channel composed of coyote brush, mule fat, California buckwheat (*Eriogonum fasciculatum*), and California sagebrush.

Double-crested cormorant (*Phalacrocorax auritus*) – State of California Watchlist (nesting colony). A double-crested cormorant was seen flying over the west end of the study area on April 10, 2013, but was not seen using any habitat in the study area.

White-tailed kite (*Elanus leucurus*) – State of California Fully Protected. White-tailed kites were seen hunting on May 15 and June 17, 2013 at separate locations west and east of Victoria Avenue. This species nested in the study area in 2012 (Padre and Associates, Inc. 2012) but no evidence of nesting was observed in 2013.

Northern harrier (*Circus cyaneus*) – State of California Special Concern Species (nesting). Northern harriers were seen hunting in the study area on five dates from April 10 to May 29, 2013. This species nests on the ground in treeless marshy areas that provide protection from people and other predators. No suitable nesting habitat was identified in the study area.

Cooper's hawk (*Accipiter cooperii*) – State of California Watchlist (nesting). Cooper's hawks were regularly seen hunting in the study area and nested successfully in the riparian woodland between Territories 1 and 2. The presence of fledgling groups in three additional locations in and out of the study area downstream of the 101 Freeway suggested successful nesting in those areas as well.

Merlin (*Falco columbarius*) – State of California Watchlist (wintering). A merlin was seen hunting on April 12 in the vicinity of Territories 10 and 11, and its migratory or wintering status was unknown.

Peregrine falcon (*Falco peregrinus*) – State of California Fully Protected (nesting). A peregrine falcon was seen hunting on April 12 in the vicinity of Territory 8, and its migratory or wintering status was unknown.

Costa's hummingbird (*Calypte costae*) – American Bird Conservancy Watchlist of Birds of Conservation Concern (nesting). A Costa's hummingbird was observed in Territory 2 on May 27. This individual was likely a migrant and was not resighted on later dates.

Allen's hummingbird (*Selasphorus sasin*) – Federal Bird Species of Conservation Concern (nesting). Allen's hummingbirds were observed throughout the survey area, with confirmed nesting. This species was common throughout the survey area, and locations of individuals were not mapped.

Nuttall's woodpecker (*Picoides nuttallii*) – Federal Bird Species of Conservation Concern (nesting). One Nuttall's woodpecker was detected in the study area: a single bird was heard in the gap area on May 5 and

was not observed on later visits. This individual was likely resident to the commercial and residential area southeast of Ventura Road.

Willow flycatcher (*Empidonax traillii*) – State of California Endangered and Federally Endangered for *Empidonax traillii extimus* subspecies (nesting). A singing willow flycatcher (subspecies undetermined) was observed on May 27 along the northern edge of Territory 2, at GPS coordinates 298021E, 3790583N. This bird was foraging in a sandy, scrubby area of young arroyo willow and black cottonwood, within 30-50 ft of the dense riparian forest nearby. It was not acting territorial; it responded briefly to the tape playback but during 15 minutes of observation did not vocalize unsolicited. There was a brief aggressive interaction with a Pacific-slope flycatcher that had been singing in the nearby forest, but the willow flycatcher stayed out in the open channel. It was not relocated during subsequent visits and was assumed to be a transient bird (Werner 2013).

Loggerhead shrike (*Lanius ludovicianus*) – State of California Special Concern Species (nesting). This species was observed on June 21, July 2, and July 15, 2013. This species rarely nests in coastal Ventura County but is seen more commonly in middle and late summer as a migratory or wintering species. The late June/July observations indicate that these individuals did not likely nest in the study area.

California horned lark (*Eremophila alpestris actia*) – State of California Watchlist. This species was observed in the vicinity of Territory 1, and at several locations upstream of the 101 Freeway Bridge. Observations throughout the survey period suggest resident status, but nesting was not confirmed.

Yellow warbler (*Setophaga petechia*) – State of California Species of Special Concern, Federal Bird Species of Conservation Concern (nesting). Territorial males of this species were detected throughout the study area during all survey periods, with the highest concentrations in the willow thickets downstream of the 101 Freeway. For map exhibits, circular territory polygons were created using a radius of 100 ft (30 m), based on field observations and sources in the literature (Lowther et al. 1999). Locations of singing males observed during only one survey prior to May 25 were omitted due to the high potential for non-resident migrants. Nesting was not confirmed but was suspected, considering the large number of resident territorial males observed. Forty-three territories were estimated in the study area based on locations of singing males.

Yellow-breasted chat (*Icteria virens*) – State of California Species of Special Concern (nesting). Four territorial male yellow-breasted chats were resident within the survey area, based on repeated observations during successive visits. Polygons were created using a 50-ft (15 m) radius around observation points. Additional chat detections were made either during only one visit, suggesting non-resident status, or beyond the survey area boundary, for which territory polygons were not created. Nesting was not confirmed.

Lawrence's goldfinch (*Spinus lawrencei*) – Federal Bird Species of Conservation Concern, American Bird Conservancy Watchlist of Birds of Conservation Concern (nesting). Lawrence's goldfinches were observed at three locations between the 101 Freeway and Highway 118 on July 1 and July 2, 2013. One of the observations was of an adult foraging with two fledglings that could fly well enough to follow the adult out of the study area. Nesting was not suspected in the study area but may have occurred elsewhere on the river or nearby.

## Conclusions and Recommendations

Least Bell's vireo territories were clumped in the area around the 101 Freeway and scattered throughout the eastern portion of the study area where willow thickets were rarer and the south bank vegetation had more of an upland character. No vireos were detected downstream of the gap area where there appeared to be an abundance of patchy willow growth and recent records of nesting. Despite the vireo's absence from this lower section, it appeared to be a local stronghold for yellow warbler, a California Species of Special Concern. Brown-headed cowbirds were rarely detected anywhere in the study area, likely due to the intensive trapping program.

The information provided in this report is intended to provide guidance to VCWPD and regulatory agencies so that they can make sound management decisions that ensure the recovery of the least Bell's vireo. The *Draft Least Bell's Vireo Recovery Plan* (USFWS 1998) specifically cites the Santa Clara River as an important recovery area for the subspecies.

The following recommendations are provided to reduce or eliminate impacts to vireos and their habitat:

- Within the vireo territories identified above, construction activities including vegetation removal should be avoided during the vireo breeding season of March 15 through September 30, unless a USFWS- and CDFW-approved protocol survey determines that the area is not occupied.
- Beneficial management actions to improve vireo habitat conditions in the study area and throughout the lower Santa Clara River may include continued cowbird trapping, non-native arundo removal, trash cleanup, reduction in homeless camps and other unauthorized intrusions, and restoration of native riparian plant communities and hydrology.

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**Table 1.** Summary of least Bell's vireo survey dates, times, and conditions.

Presence-Absence Survey Number	Territory Mapping Survey Number	Day	Date	Time		Temp. (°F)		Clouds (%)		Wind (mph)	
				Start	Stop	Start	Stop	Start	Stop	Start	Stop
1	n/a	1	4/10/13	0650	1100	43	68	0	0	2	0-4
1	n/a	2	4/11/13	0645	1056	54	63	0	0	0	4-10
1	n/a	3	4/12/13	0635	1050	59	60	100	10	1-2	4-9
1	n/a	4	4/15/13	0720	0945	54	58	90	95	4-6	0-5
2	1	1	4/23/13	0620	1100	61	67	100	50	0	2-6
2	1	2	4/24/13	0700	1055	59	62	100	100	0	0-4
2	1	3	4/25/13	0635	1100	59	69	10	5	0	3-10
2	1	4	4/26/13	0650	1100	51	67	0	0	4-6	4-12
2	1	5	4/27/13	0628	0743	51	64	0	0	0	0
3	2	1	5/3/13	0620	1100	56	84	5	20	0	2-4
3	2	2	5/4/13	0620	1100	54	69	5	0	0	4-9
3	2	3	5/5/13	0640	1025	60	63	100	100	0-3	2-7
3	2	4	5/7/13	0807	0950	63	65	25	70	3	0-4
4	3	1	5/15/13	0610	1052	61	65	100	35	0	3-8
4	3	2	5/16/13	0610	1010	61	62	100	100	0-2	6-8
4	3	3	5/18/13	0600	1045	60	69	0	0	0	3-8
4	3	4	5/20/13	0620	1030	60	70	0	0	1-4	5-12
5	4	1	5/25/13	0605	1100	54	69	5	2	0	3-6
5	4	2	5/27/13	0635	1035	57	67	0	0	2-3	6-8
5	4	3	5/28/13	0623	1050	57	72	10	2	0	4-8
5	4	4	5/29/13	0615	1022	62	74	0	0	1-4	2-4
6	5	1	6/6/13	0606	1020	63	63	100	100	0	1-3
6	5	2	6/7/13	0604	0930	62	63	100	100	2-3	1
6	5	3	6/10/13	0600	1037	64	74	90	10	0	0
6	5	4	6/11/13	0615	0950	61	70	5	15	3-5	6-8
7	6	1	6/17/13	0645	1034	64	73	100	95	0	2-6
7	6	2	6/18/13	0610	1016	60	71	5	0	0	1-4
7	6	3	6/20/13	0630	1026	60	78	0	0	0	2-4
7	6	4	6/21/13	0613	0945	64	70	15	0	0	5-8
8	7	1	6/27/13	0603	1030	64	71	0	0	0	4-6
8	7	2	6/28/13	0610	1000	61	72	0	0	0	4-6
8	7	3	7/1/13	0555	1050	68	84	90	95	0	0-2
8	7	4	7/2/13	0602	1020	68	75	20	5	0	0-3
n/a	8	1	7/11/13	0602	1037	67	71	100	100	0	0
n/a	8	2	7/12/13	0600	0940	64	68	100	100	0	0-3
n/a	8	3	7/13/13	0600	1010	62	70	100	5	1	2-5
n/a	8	4	7/15/13	0645	1110	59	73	0	0	0	5-9

**Table 2.** Summary of least Bell's vireo territories in the study area.

<b>Territory Number</b>	<b>Size in acres (hectares)</b>	<b>Paired vireos (assumed nesting)?</b>	<b>Fledgling obs.</b>	<b>Cowbirds observed in territory?</b>
1	7.1 (2.9)	Yes	1	N
2	5.0 (2.0)	Yes	1	N
3	2.8 (1.1)	No	-	N
4	5.2 (2.1)	Yes	1	N
5	3.7 (1.5)	Yes	1	N
6	1.5 (0.6)	No	-	N
7	6.2 (2.5)	Yes	2	N
8	11.1 (4.5)	Yes	4*	N
9	2.9 (1.2)	Yes	2	N
10	3.6 (1.5)	Unlikely	-	N
11	1.2 (0.5)	No	-	N
12	1.9 (0.8)	Yes	1-2	N

\*Three fledglings were out of the nest while one was still in nest and was assumed to have eventually fledged.

**Table 3.** List of wildlife species observed in the survey area. Bold type indicates a special-status species, as listed in CDFW's Special Animals List (CDFW 2011).

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
<b>Notable Invertebrates</b>	
red swamp crawfish (I)	<i>Procambarus clarkii</i>
<b>Fish</b>	
western mosquitofish (I)	<i>Gambusia affinis</i>
<b>Amphibians</b>	
Pacific tree frog	<i>Pseudacris regilla</i>
Bullfrog (I)	<i>Rana catesbeiana</i>
<b>Reptiles</b>	
<b>western pond turtle<sup>4</sup></b>	<b><i>Emys marmorata</i></b>
<b>coast horned lizard<sup>4</sup></b>	<b><i>Phrynosoma blainvillii</i></b>
western fence lizard	<i>Sialia mexicana</i>
side-blotched lizard	<i>Uta stansburiana</i>
southern alligator lizard	<i>Elgaria multicarinata</i>
gopher snake	<i>Pituophis catenifer</i>
coachwhip	<i>Masticophis flagellum</i>
<b>Birds</b>	
Canada goose	<i>Branta canadensis</i>
mallard	<i>Anas platyrhynchos</i>
California quail	<i>Callipepla californica</i>
<b>double-crested cormorant<sup>6</sup></b>	<b><i>Phalacrocorax auritus</i></b>
great blue heron	<i>Ardea herodias</i>
great egret	<i>Ardea alba</i>
snowy egret	<i>Egretta thula</i>
green heron	<i>Butorides virescens</i>
black-crowned night heron	<i>Pittasoma michleri</i>
turkey vulture	<i>Cathartes aura</i>
<b>white-tailed kite<sup>5</sup></b>	<b><i>Elanus leucurus</i></b>
northern harrier	<i>Circus cyaneus</i>
<b>Cooper's hawk<sup>6</sup> *</b>	<b><i>Accipiter cooperii</i></b>
red-shouldered hawk	<i>Buteo lineatus</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
American kestrel	<i>Falco sparverius</i>
<b>merlin<sup>6</sup></b>	<b><i>Falco columbarius</i></b>
<b>peregrine falcon<sup>5</sup></b>	<b><i>Falco peregrinus</i></b>
killdeer	<i>Charadrius vociferus</i>
great-horned owl	<i>Bubo virginianus</i>

COMMON NAME	SCIENTIFIC NAME
common ground dove	<i>Tringa nebularia</i>
western gull	<i>Larus occidentalis</i>
rock pigeon (I)	<i>Columba livia</i>
Eurasian collared-dove (I)	<i>Streptopelia decaocto</i>
mourning dove	<i>Zenaida macroura</i>
greater roadrunner	<i>Geococcyx californianus</i>
barn owl	<i>Tyto alba</i>
lesser nighthawk	<i>Chordeiles acutipennis</i>
Anna's hummingbird	<i>Calypte anna</i>
<b>Costa's hummingbird<sup>7</sup></b>	<b><i>Calypte costae</i></b>
<b>Allen's hummingbird<sup>2*</sup></b>	<b><i>Selasphorus sasin</i></b>
Nuttall's woodpecker	<i>Picoides nuttallii</i>
downy woodpecker	<i>Picoides pubescens</i>
northern flicker	<i>Colaptes auratus</i>
western wood-pewee	<i>Contopus sordidulus</i>
<b>willow flycatcher<sup>2,3,7</sup></b>	<b><i>Empidonax traillii</i></b>
Pacific-slope flycatcher	<i>Empidonax difficilis</i>
black phoebe	<i>Sayornis nigricans</i>
Say's phoebe	<i>Sayornis saya</i>
ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Cassin's kingbird	<i>Tyrannus vociferans</i>
western kingbird	<i>Tyrannus verticalis</i>
<b>loggerhead shrike<sup>4</sup></b>	<b><i>Lanius ludovicianus</i></b>
<b>least Bell's vireo<sup>1,3,7*</sup></b>	<b><i>Vireo bellii pusillus</i></b>
Hutton's vireo	<i>Vireo huttoni</i>
warbling vireo	<i>Vireo gilvus</i>
western scrub-jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
common raven	<i>Corvus corax</i>
<b>California horned lark<sup>6</sup></b>	<b><i>Eremophila alpestris actia</i></b>
tree swallow	<i>Tachycineta bicolor</i>
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
cliff swallow	<i>Petrochelidon pyrrhonota</i>
barn swallow	<i>Hirundo rustica</i>
bushtit	<i>Psaltriparus minimus</i>
Bewick's wren	<i>Thryomanes bewickii</i>
blue-gray gnatcatcher	<i>Poliophtila caerulea</i>

COMMON NAME	SCIENTIFIC NAME
wrentit	<i>Chamaea fasciata</i>
Swainson's thrush	<i>Catharus ustulatus</i>
hermit thrush	<i>Catharus guttatus</i>
American robin	<i>Turdus migratorius</i>
northern mockingbird	<i>Mimus polyglottos</i>
California thrasher	<i>Toxostoma redivivum</i>
orange-crowned warbler	<i>Oreothlypis celata</i>
common yellowthroat	<i>Geothlypis trichas</i>
<b>yellow warbler<sup>2,4</sup></b>	<b><i>Setophaga petechia</i></b>
yellow-rumped warbler	<i>Setophaga coronata</i>
black-throated gray warbler	<i>Setophaga nigrescens</i>
Townsend's warbler	<i>Setophaga townsendi</i>
Wilson's warbler	<i>Cardellina pusilla</i>
<b>yellow-breasted chat<sup>4</sup></b>	<b><i>Icteria virens</i></b>
spotted towhee	<i>Pipilo maculatus</i>
California towhee	<i>Melospiza crissalis</i>
savannah sparrow	<i>Passerculus sandwichensis</i>
song sparrow	<i>Melospiza melodia</i>
white-crowned sparrow	<i>Zonotrichia leucophrys</i>
golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
dark-eyed junco	<i>Junco hyemalis</i>
western tanager	<i>Piranga ludoviciana</i>
black-headed grosbeak	<i>Pheucticus melanocephalus</i>
blue grosbeak	<i>Passerina caerulea</i>
lazuli bunting	<i>Passerina amoena</i>
red-winged blackbird	<i>Agelaius phoeniceus</i>
great-tailed grackle	<i>Quiscalus mexicanus</i>
brown-headed cowbird	<i>Molothrus ater</i>
hooded oriole	<i>Icterus cucullatus</i>
Bullock's oriole	<i>Icterus bullockii</i>
purple finch	<i>Carpodacus purpureus</i>
house finch	<i>Carpodacus mexicanus</i>
lesser goldfinch	<i>Spinus psaltria</i>
<b>Lawrence's goldfinch<sup>2,7</sup></b>	<b><i>Spinus lawrencei</i></b>
American goldfinch	<i>Spinus tristis</i>
<b>Mammals</b>	
desert cottontail	<i>Sylvilagus audubonii</i>

COMMON NAME	SCIENTIFIC NAME
California ground squirrel	<i>Otospermophilus beecheyi</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
big-eared woodrat (middens)	<i>Neotoma macrotis</i>
common muskrat (I)	<i>Ondatra zibethicus</i>
coyote	<i>Canis latrans</i>
domestic dog (I)	<i>Canis lupus familiaris</i>
raccoon	<i>Procyon lotor</i>
long-tailed weasel	<i>Mustela frenata</i>
domestic cat (I)	<i>Felis catus</i>

<sup>1</sup> U.S. Fish and Wildlife Service: Endangered

<sup>2</sup> U.S. Fish and Wildlife Service: Bird Species of Conservation Concern

<sup>3</sup> California Department of Fish and Wildlife: Endangered

<sup>4</sup> California Department of Fish and Wildlife: Species of Special Concern (for birds: nesting)

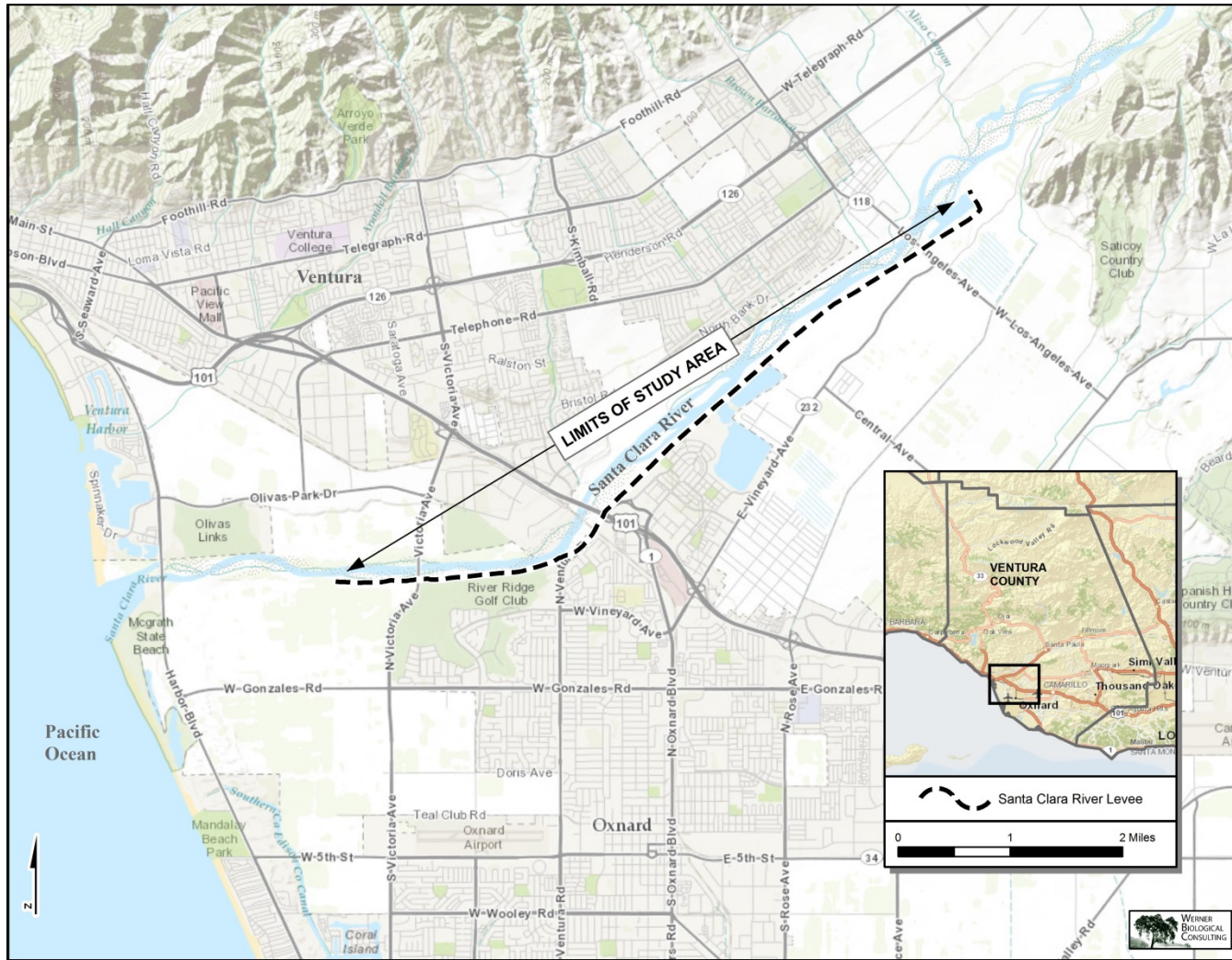
<sup>5</sup> California Department of Fish and Wildlife: Fully Protected Species (nesting)

<sup>6</sup> California Department of Fish and Wildlife: Watchlist Species (nesting)

<sup>7</sup> American Bird Conservancy: U.S. Watch List of Birds of Conservation Concern (nesting)

\* evidence of nesting observed in study area (special-status species only)

I introduced

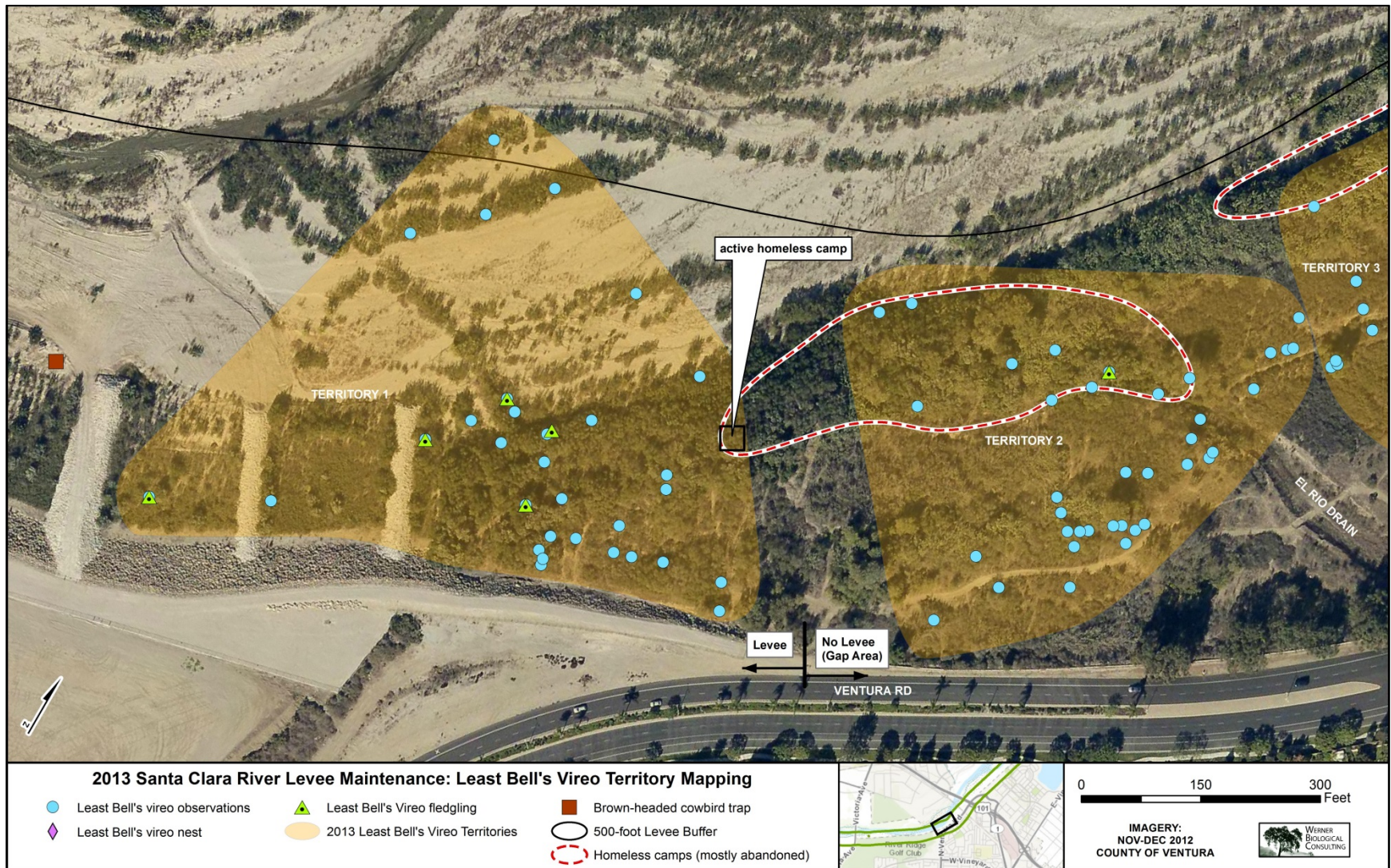


**Figure 1.** Mapped study area location along the Santa Clara River in Oxnard, Ventura County, California.

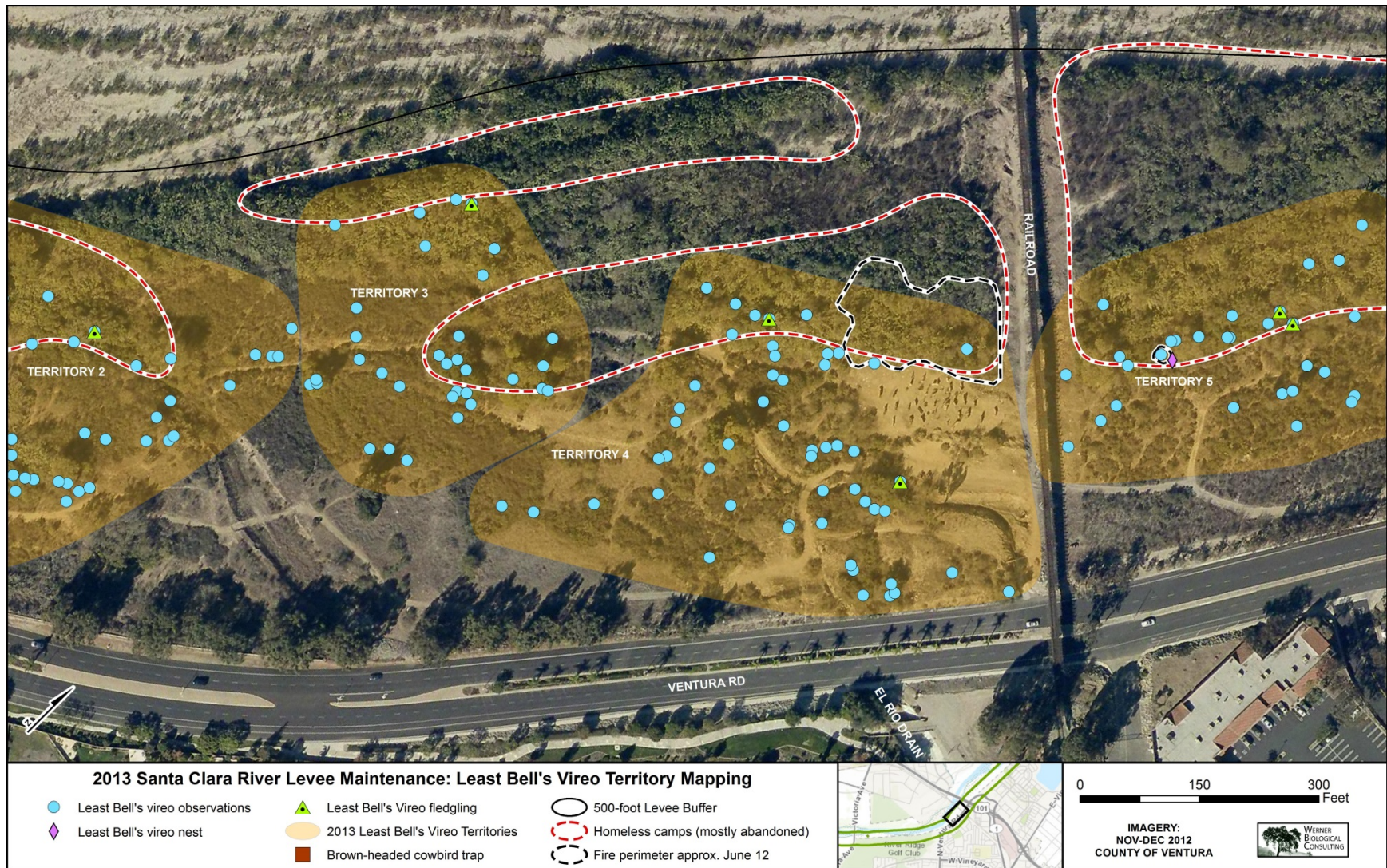


**Figure 2.** Mapped overview of study area and least Bell's vireo territories.

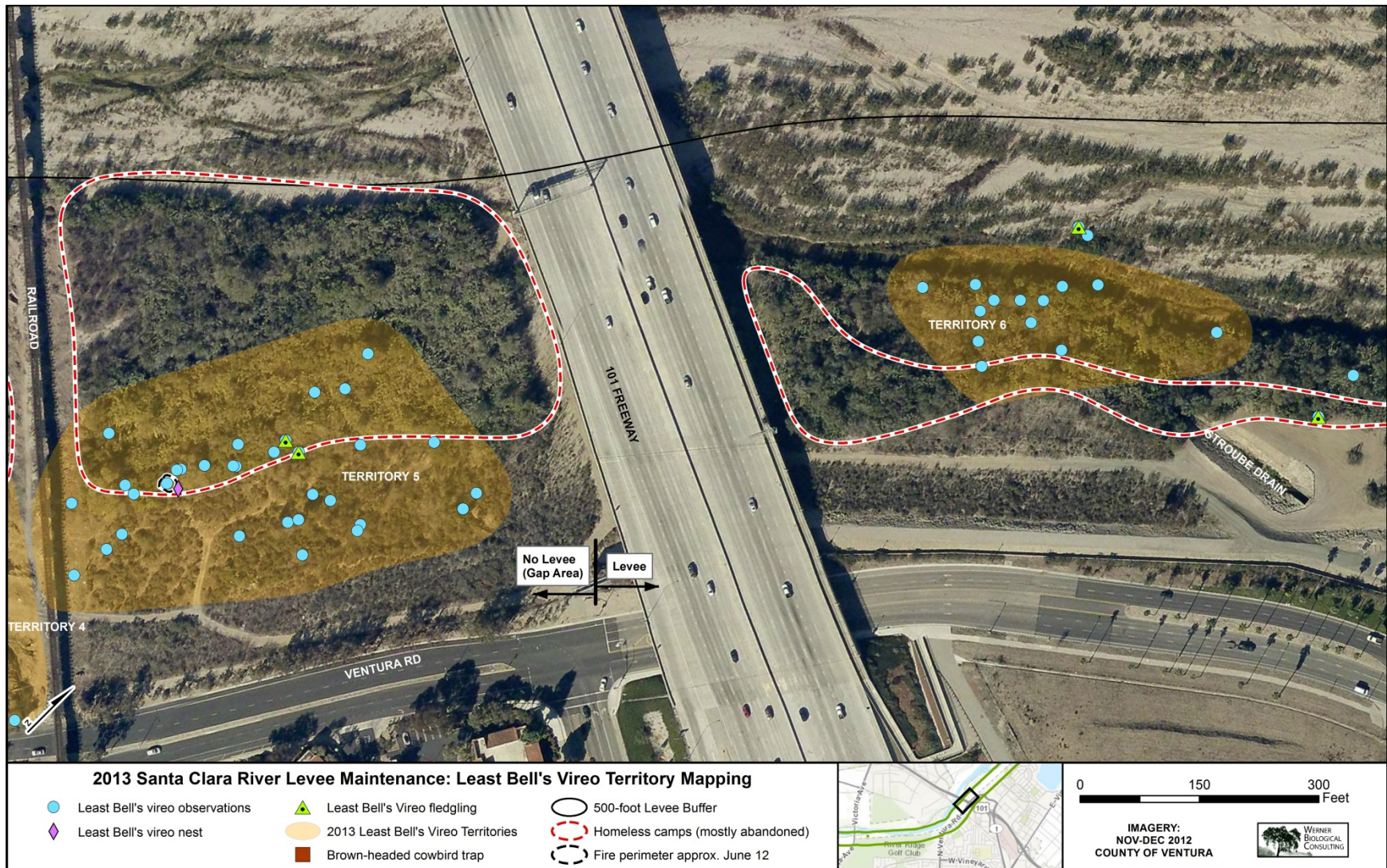




**Figure 3.** Mapped locations of least Bell's vireo Territories 1 and 2.



**Figure 4.** Mapped locations of least Bell's vireo Territories 3 and 4.



**Figure 5.** Mapped locations of least Bell's vireo Territories 5 and 6.



**Figure 6.** Mapped location of least Bell's vireo Territory 7.



**Figure 7.** Mapped location of least Bell's vireo Territory 8.



**Figure 8.** Mapped location of least Bell's vireo Territory 9.



**Figure 9.** Mapped locations of least Bell's vireo Territories 10 and 11.



**Figure 10.** Mapped location of least Bell's vireo Territory 12.





**Figure 11.** Photo of arroyo willow thicket in Territory 2 (May 16, 2013).



**Figure 12.** Photo of least Bell's vireo nest site in Territory 5 (April 24, 2013).  
The area in the foreground was later burned (see text).



**Figure 13.** Photo of Territory 7 nest stand with young arroyo willow, red willow, sandbar willow, and mule fat (April 25, 2013).



**Figure 14.** Photo of Territory 7 nest stand (May 28, 2013).



**Figure 15.** Photo of Territory 7 nest with least Bell's vireo delivering food to young (May 16, 2013).



**Figure 16.** Photo of Territory 8 nest site just below levee road (May 28, 2013).



**Figure 17.** Photo of adult least Bell's vireo on Territory 8 nest (May 28, 2013).



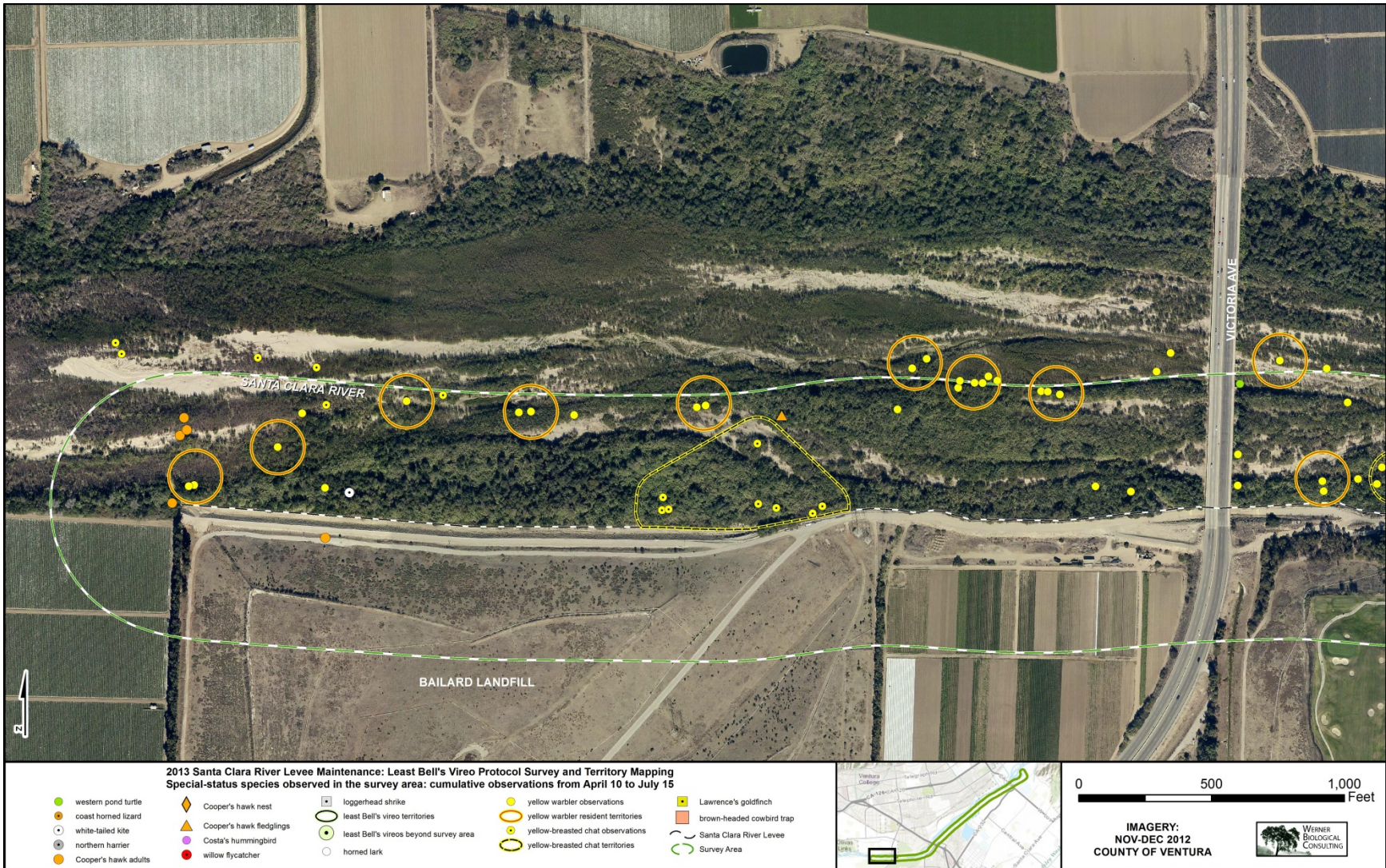
**Figure 18.** Photo of Territory 9 nest site for both nests found there (May 28, 2013).



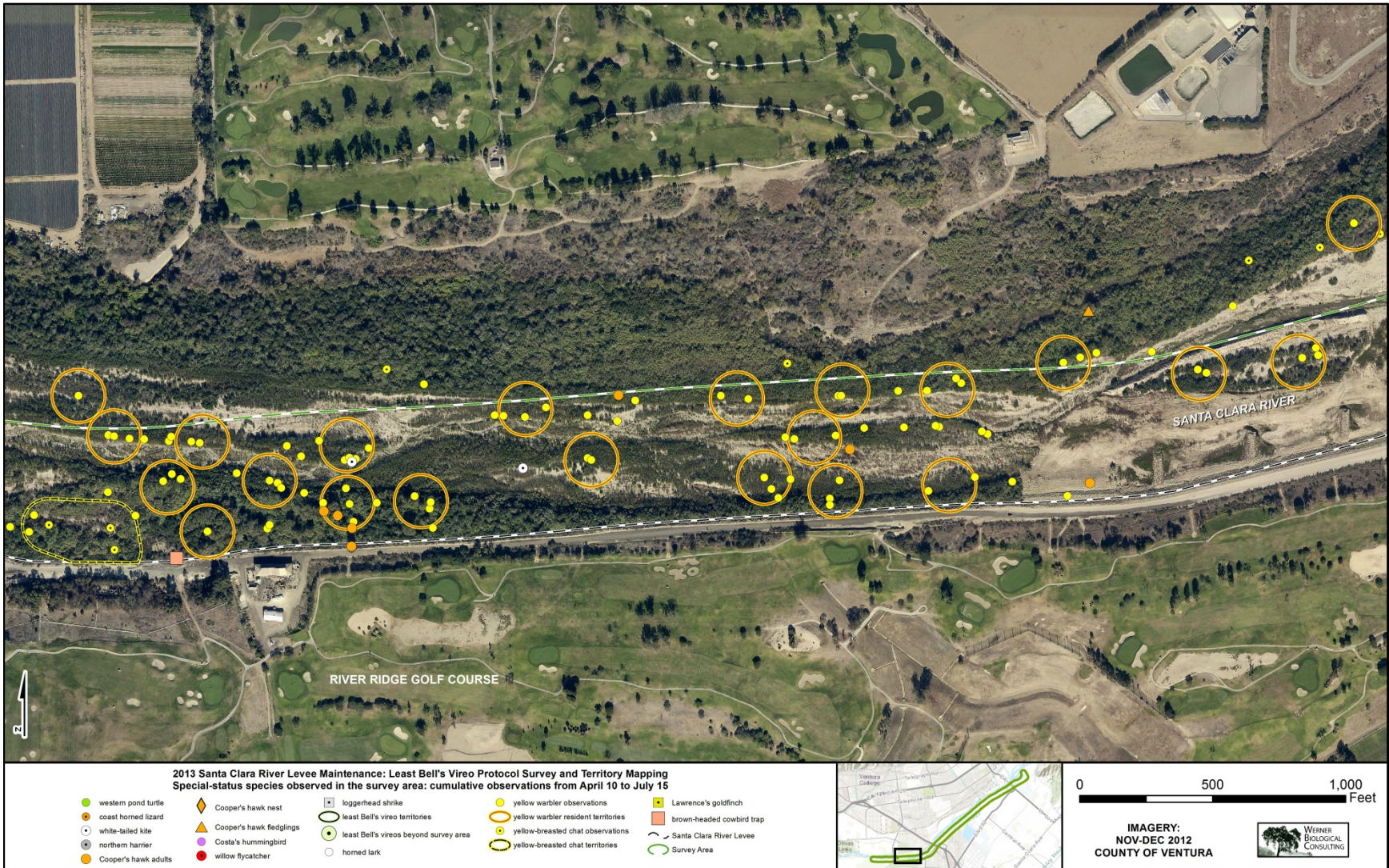
**Figure 19.** Photo of singing male least Bell's vireo in a blue elderberry in Territory 10 (May 29, 2013).



**Figure 20.** Panoramic photo of Territory 12 from the Santa Clara River looking east (July 15, 2013).



**Figure 21.** Mapped locations of special-status species, including those detected outside the study area (Map 1 of 8).

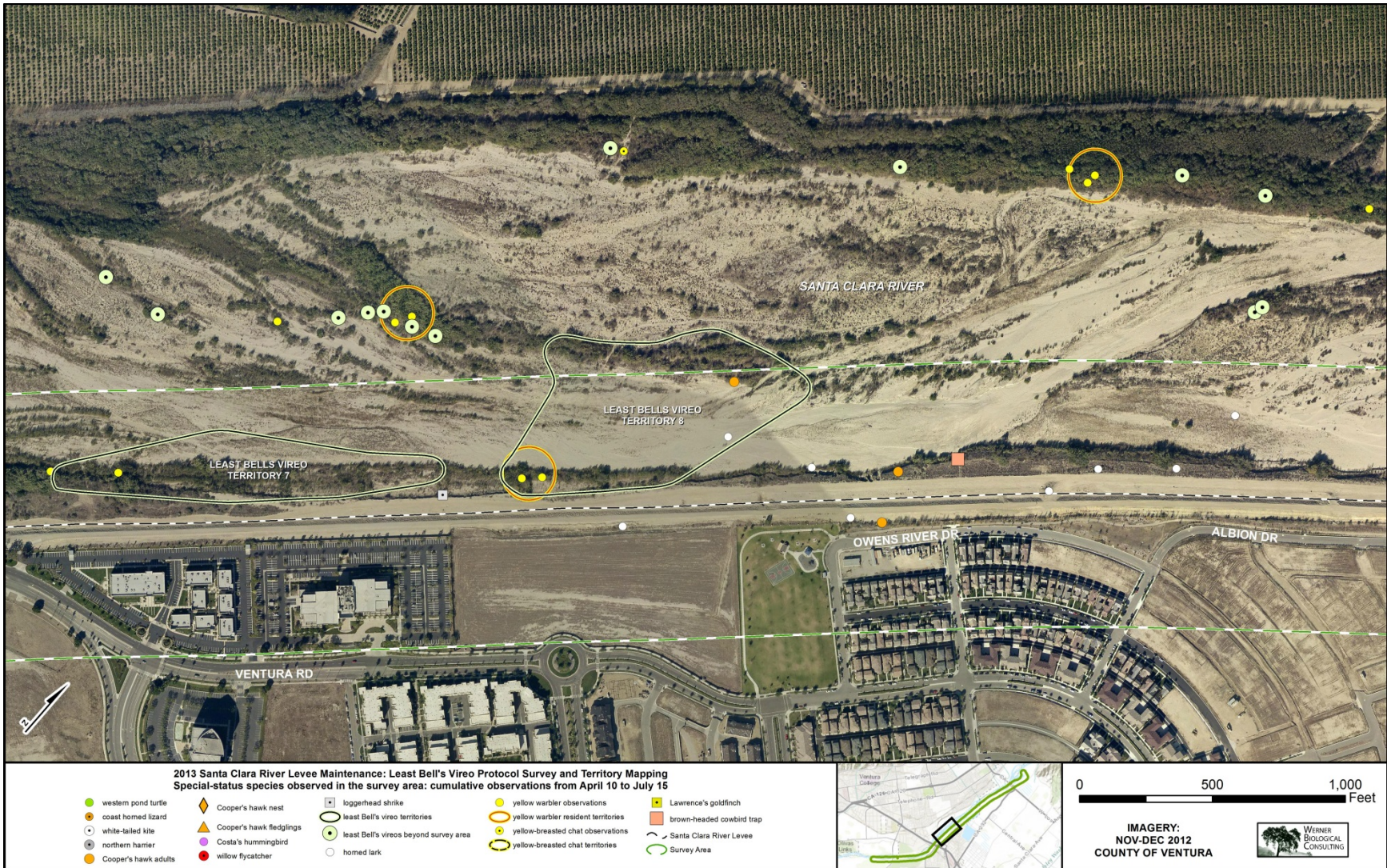


**Figure 22.** Mapped locations of special-status species, including those detected outside the study area (Map 2 of 8).

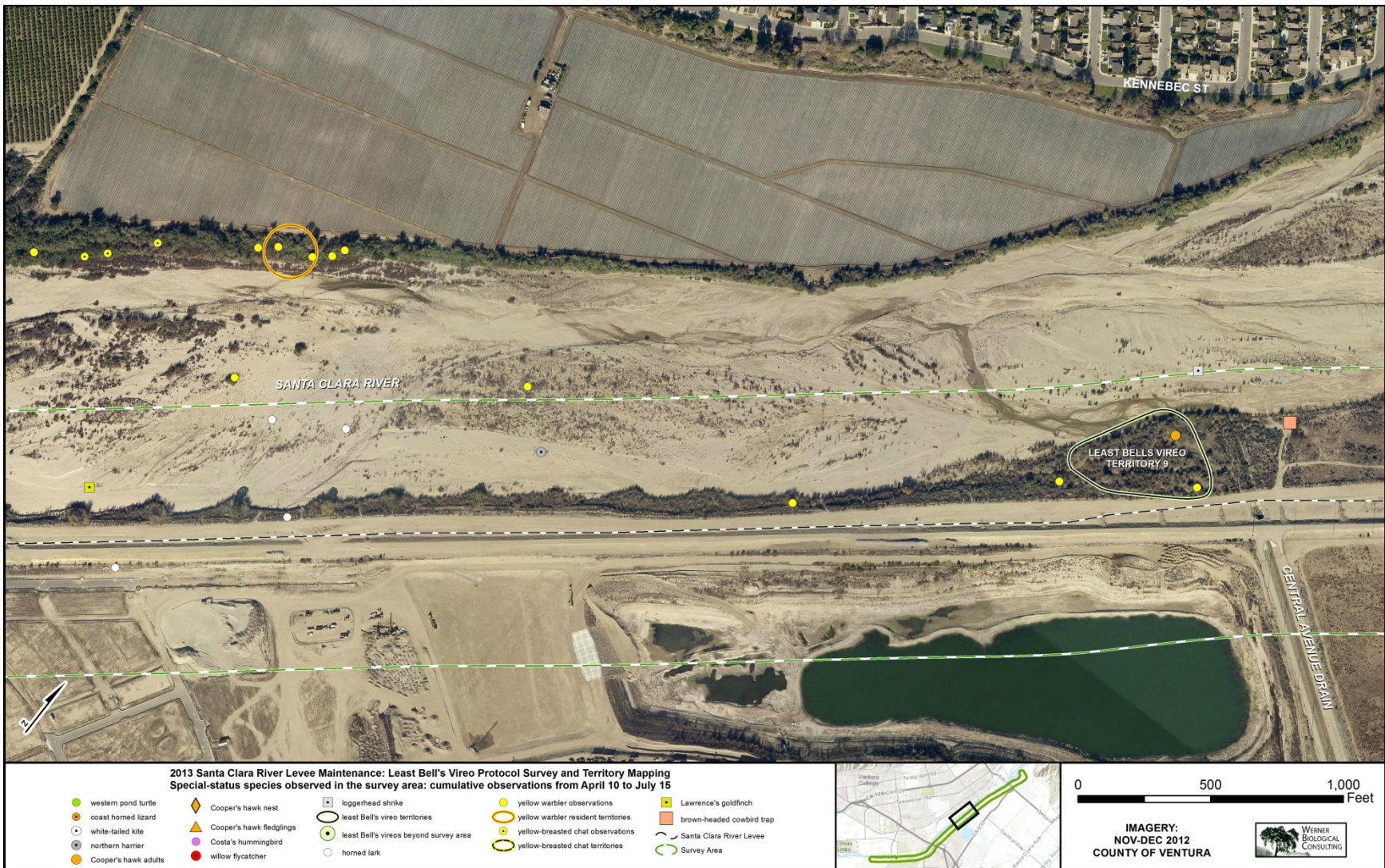




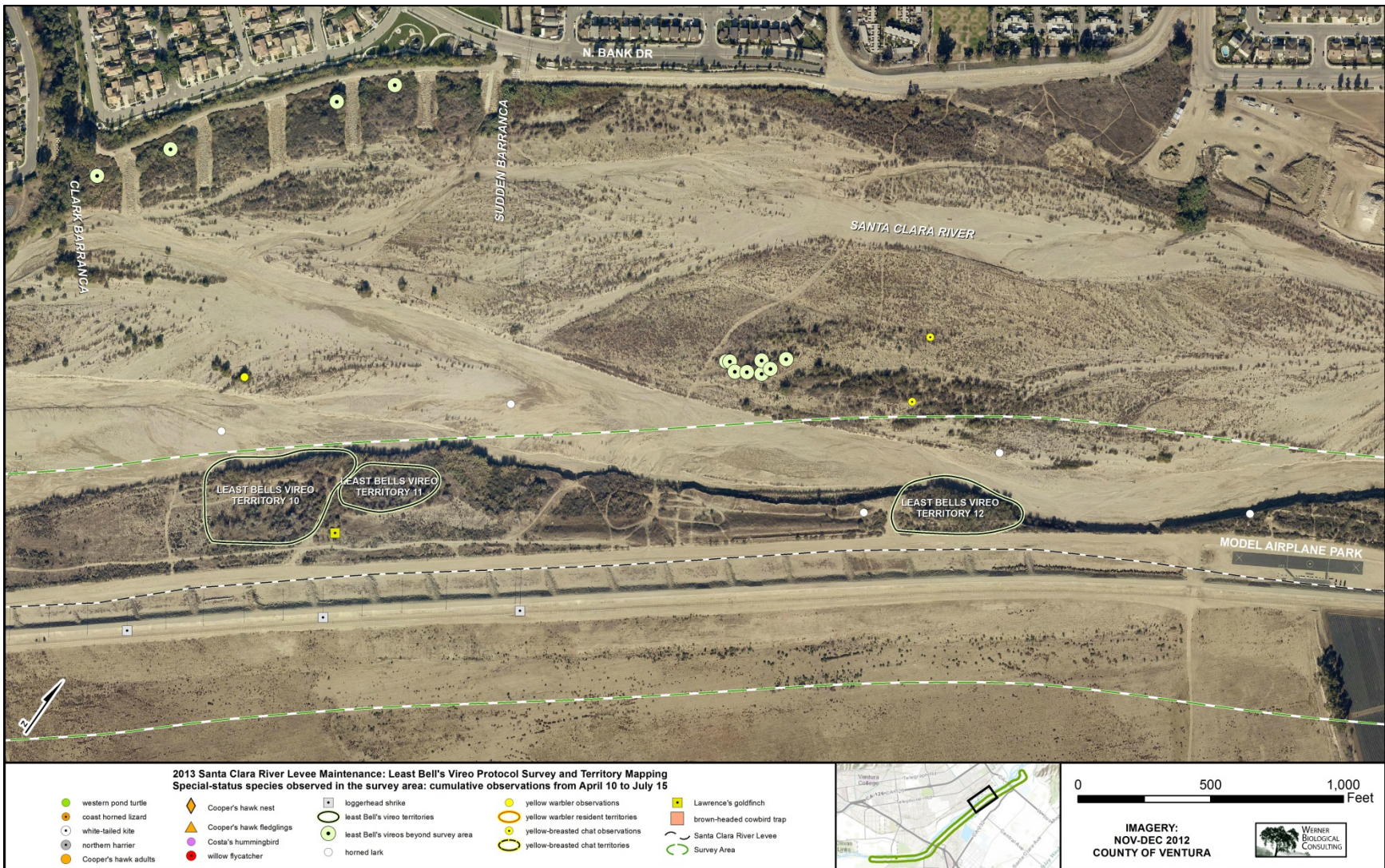
**Figure 23.** Mapped locations of special-status species, including those detected outside the study area (Map 3 of 8).



**Figure 24.** Mapped locations of special-status species, including those detected outside the study area (Map 4 of 8).



**Figure 25.** Mapped locations of special-status species, including those detected outside the study area (Map 5 of 8).



**Figure 26.** Mapped locations of special-status species, including those detected outside the study area (Map 6 of 8).

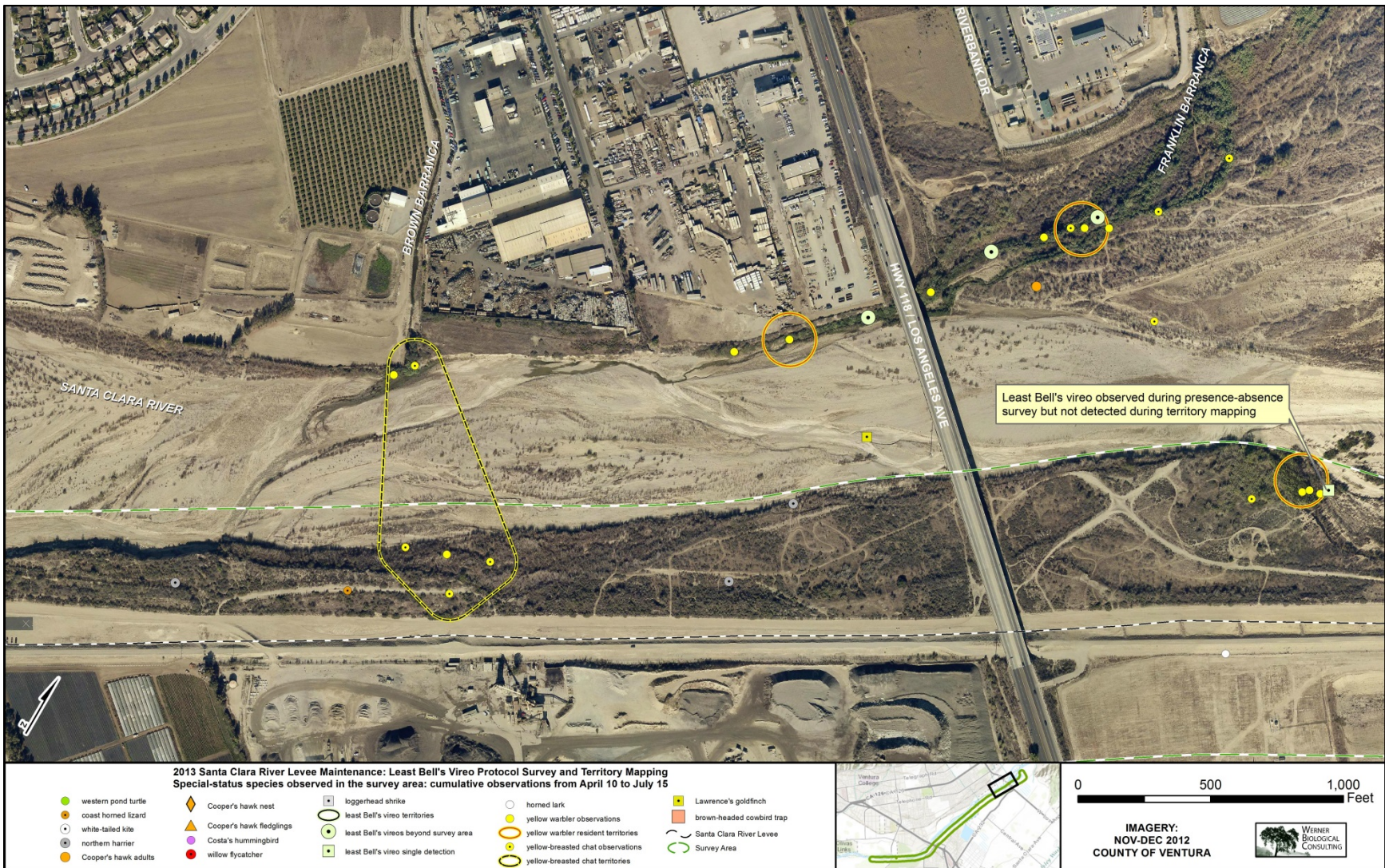
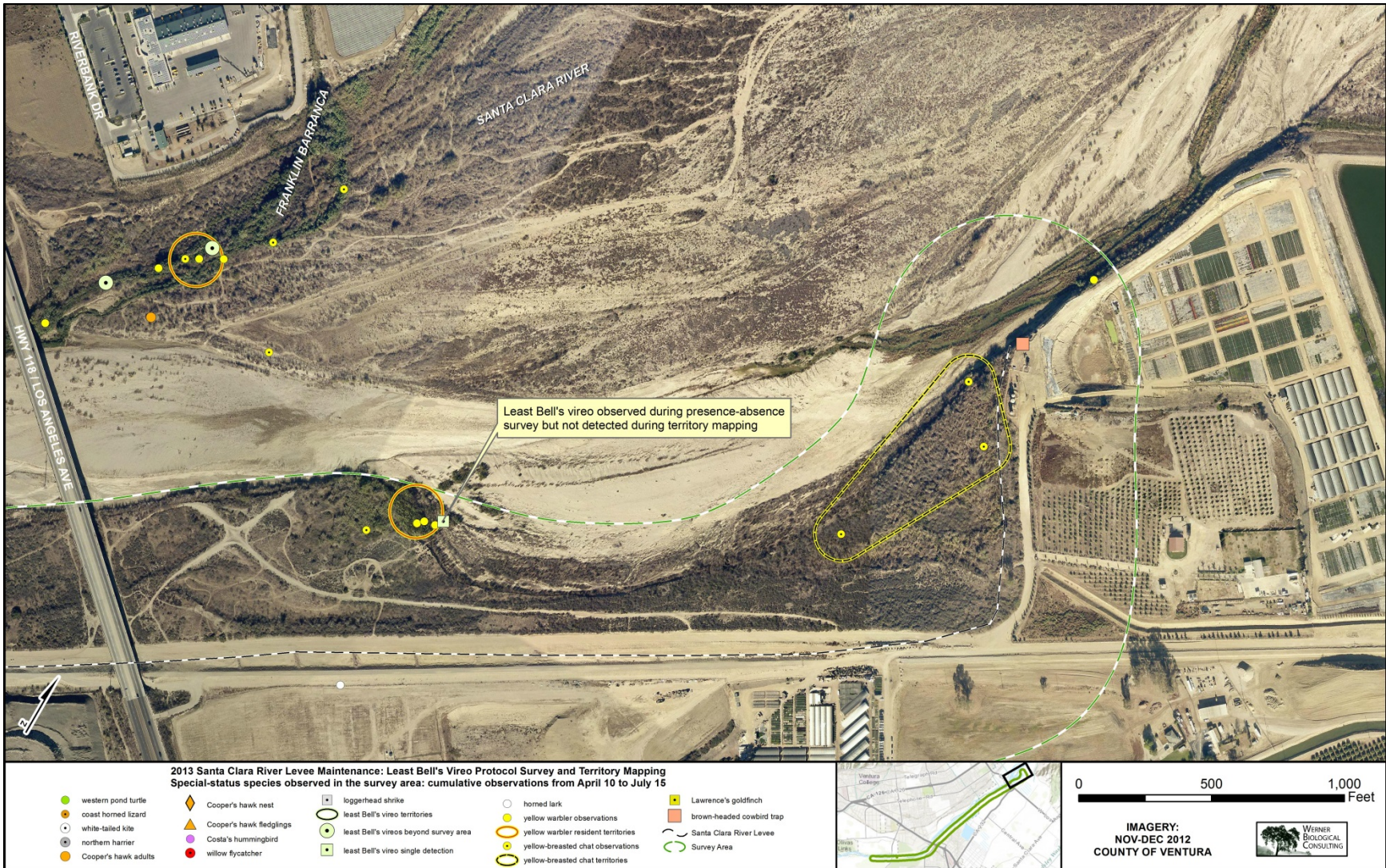


Figure 27. Mapped locations of special-status species, including those detected outside the study area (Map 7 of 8).



**Figure 28.** Mapped locations of special-status species, including those detected outside the study area (Map 8 of 8).

## **Appendix A: CNDDDB Forms**

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/13/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: *Vireo bellii pusillus*

Common Name: Least Bell's vireo

Species Found?  Yes  No If not, why? \_\_\_\_\_  
Total No. Individuals 27 Subsequent Visit?  yes  no  
Is this an existing NDDDB occurrence? 267  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner  
Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
E-mail Address: scott@wernerbio.com  
Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

17 # adults 9 # juveniles \_\_\_\_\_ # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River, from 3200 ft downstream to 5800 ft upstream of Hwy 101 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Oxnard, Saticoy Elevation: 60-90 ft  
T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
T 2N R 22W Sec 15, NW ¼ of SW ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Downstream/upstream extent from 297772E, 3790477N to 299634E, 3792443N (see map).

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

TERRITORY MAPPING FOCUSED ON AREA WITHIN 500 FT OF SOUTH RIVER BANK. Cumulative aural point detection data also provided for river corridor N of primary 500-ft survey area. Salix lasiolepis woodland and scrub of various age classes. Older stands with Salix laevigata, Populus trichocarpa; understory of Arundo donax, Toxicodendron diversilobum, Baccharis salicifolia. Younger scrub stands primarily Salix lasiolepis with S. exigua. Adjacent upland stands of B. salicifolia scrub and B. pilularis scrub also used. 8 territories mapped from individuals observed from April 11 through July 13, 2013. Fledglings seen in most territories; 3 active nests observed; at least 2 territories were defended by unmated males.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.

Visible disturbances: arundo infestation, homeless camps, trash, fire damage, railroad veg trimming, paintball, OHV.

Threats: arundo infestation, homeless camps, fire, levee and road/railroad maintenance activities, paintball, OHV.

Comments: CNDDDB Occ # 317 also covers some of this area. More information in 2013 least Bell's vireo report to VCWPD.

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: multiple sources for vocalizations

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no



Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/15/2013

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Vireo bellii pusillus*

Common Name: Least Bell's vireo

Species Found?  Yes  No If not, why? \_\_\_\_\_  
Total No. Individuals 11 Subsequent Visit?  yes  no  
Is this an existing NDDDB occurrence?  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner  
Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
E-mail Address: scott@wernerbio.com  
Phone: (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

<u>8</u> # adults	<u>3</u> # juveniles	_____ # larvae	_____ # egg masses	_____ # unknown	
<input type="checkbox"/> wintering	<input checked="" type="checkbox"/> breeding	<input checked="" type="checkbox"/> nesting	<input type="checkbox"/> rookery	<input type="checkbox"/> burrow site	<input type="checkbox"/> other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 4800-9600 ft downstream of Hwy 118 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Saticoy Elevation: 95-100 ft  
T 2N R 22W Sec 14, NW ¼ of NW ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): ArcGIS  
T 2N R 22W Sec 11, NW ¼ of SE ¼, Meridian:  H  M  S  Z GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Downstream/upstream extent from 300736E, 3793154N to 301894E, 3794060N (see map).

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
TERRITORY MAPPING FOCUSED ON AREA WITHIN 500 FT OF SOUTH RIVER BANK. Cumulative aural point detection data also provided for river corridor N of primary 500-ft survey area. Most of river corridor including northeasternmost territory was Salix lasiolepis thicket. Two southwesternmost patches were Sambucus stands composed primarily of open upland woodland and scrub species: Sambucus nigra ssp. caerulea, Myoporum laetum, Juglans californica with understories of Arundo donax, Atriplex lentiformis, Baccharis pilularis, Artemisia tridentata, Opuntia littoralis, Salvia mellifera. Detections on various dates from 4/12/13-7/15/13. Three active nests from 2 confirmed nesting pairs. 1 confirmed unpaired male.  
Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.  
Visible disturbances: arundo infestation, homeless camps, trash  
Threats: arundo infestation, homeless camps, levee maintenance activities  
Comments: More information in 2013 least Bell's vireo report to VCWPD.

**Determination:** (check one or more, and fill in blanks)

<input type="checkbox"/>	Keyed (cite reference): _____
<input type="checkbox"/>	Compared with specimen housed at: _____
<input checked="" type="checkbox"/>	Compared with photo / drawing in: <u>Sibley (2003)</u>
<input type="checkbox"/>	By another person (name): _____
<input checked="" type="checkbox"/>	Other: <u>multiple sources for vocalizations</u>

**Photographs:** (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/15/2013

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Vireo bellii pusillus*

Common Name: Least Bell's vireo

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River, at Hwy 118 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Saticoy Elevation: 120-130 ft

T 2N R 22W Sec 1, SE ¼ of SW ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): ArcGIS

T 2N R 22W Sec 1, SW ¼ of SE ¼, Meridian:  H  M  S  Z GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** 5 detections in the area circumscribed by 302907E, 3795016N; 303079E, 3795246N; 303465E, 3795107N (see map).

### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

SURVEY FOCUSED ON AREA WITHIN 500 FT OF SOUTH RIVER BANK. Cumulative aural point detection data also provided for river corridor N of primary 500-ft survey area. South bank riparian was Salix lasiolepis woodland and scrub with S. exigua and Arundo donax. Detections on 4/15/13, 4/26/13, 5/7/13, and 6/21/13. Only one detection on 4/15/13 within south bank levee survey area; no more than one singing male heard on each date.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1800-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.

Visible disturbances: arundo infestation

Threats: arundo infestation, levee maintenance activities

Comments: More information in 2013 least Bell's vireo report to VCWPD.

### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: multiple sources for vocalizations

### Photographs: (check one or more)

Slide	Print	Digital	
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/29/2013

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Phrynosoma blainvillii*

Common Name: coast horned lizard

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
Total No. Individuals 1 Subsequent Visit?  yes  no  
Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner  
Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
E-mail Address: scott@wernerbio.com  
Phone: (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

<u>1</u> # adults	_____ # juveniles	_____ # larvae	_____ # egg masses	_____ # unknown	
<input type="checkbox"/> wintering	<input type="checkbox"/> breeding	<input type="checkbox"/> nesting	<input type="checkbox"/> rookery	<input type="checkbox"/> burrow site	<input type="checkbox"/> other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

On upland terrace on south side of Santa Clara River flood plain (north of levee), 2417 feet downstream of Hwy 118 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Saticoy Elevation: 120 ft  
T 2N R 22W Sec 12, SW ¼ of NW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model Garmin eTrex Ventura HC  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
Coordinates: 302547E, 3794445N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
300-ft wide strip of coyote brush (*Baccharis pilularis*) scrub on a high (20 ft) bench above the river channel composed of coyote brush, mule fat (*Baccharis salicifolia*), California buckwheat (*Eriogonum fasciculatum*), and California sagebrush (*Artemisia californica*).  
Basking on old road cut within the vegetation (away from levee road).

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
Immediate AND surrounding land use: 1000-ft wide Santa Clara River corridor bordered by cement plant to the south.  
Visible disturbances: OHV/overgrown roads and trails, nearby model airplane park, nearby levee and dirt levee road  
Threats: levee maintenance activities, illegal OHV activity  
Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Stebbins (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital	
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/11/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Accipiter cooperii

Common Name: Cooper's hawk

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 2 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

# adults \_\_\_\_\_ # juveniles 2 # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (north of Oxnard city boundary), 1600 ft W of Victoria Avenue Bridge, 405 ft N of levee.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 35 ft

T 2N R 22W Sec 30, NW ¼ of NE ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin eTrex Ventura HC

**DATUM:**  NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  **OR** Geographic (Latitude & Longitude)

Coordinates: 295352E, 3790374N

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) woodland in Santa Clara River.

2 fledglings observed on 7/11/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by agriculture

Visible disturbances: Arundo donax infestation

Threats: levee maintenance activities

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

**Date of Field Work (mm/dd/yyyy):** 07/11/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Accipiter cooperii

**Common Name:** Cooper's hawk

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 3 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1 # adults 2 # juveniles \_\_\_\_\_ # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (between Oxnard and Ventura city boundaries), 4500 ft E of Victoria Avenue Bridge, 646 ft N of levee. (N side of river)

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 50 ft  
 T 2N R 22W Sec 20, SE ¼ of SE ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin eTrex Ventura HC  
**DATUM:**  NAD27  NAD83  WGS84 \_\_\_\_\_ Horizontal Accuracy 14 ft \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** 297249E, 3790548N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland in Santa Clara River.  
2 fledglings observed with 1 adult on 7/11/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1000-ft wide Santa Clara River corridor bordered by agriculture, golf courses  
 Visible disturbances: Arundo donax infestation  
 Threats: levee maintenance activities  
 Comments: \_\_\_\_\_

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Plant / animal  
 Habitat  
 Diagnostic feature

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/12/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Accipiter cooperii

Common Name: Cooper's hawk

Species Found?  Yes  No If not, why? \_\_\_\_\_

Total No. Individuals 4 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

2 # adults 2 # juveniles \_\_\_\_\_ # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (between Oxnard and Ventura city boundaries), south bank forested habitat, 2400 ft SW of Hwy 101 Bridge and Ventura Rd intersection.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 60 ft

T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin eTrex Ventura HC

**DATUM:**  NAD27  NAD83  WGS84 Horizontal Accuracy 14 ft meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 297983E, 3790618N

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) forest along south side of Santa Clara River.

Repeat visits on 6/18/13, 6/28/13, 7/12/13. Fledglings were out of nest, within 50 ft, on 7/12/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by residential development and golf course

Visible disturbances: Trails, trash, active homeless camps, Arundo donax infestation to the northeast.

Threats: levee maintenance activities, homeless activity

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/18/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Eremophila alpestris actia*

**Common Name:** California horned lark

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 2 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

### Animal Information

2  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (between city boundaries of Ventura and Oxnard), 3260 ft SW of Hwy 101 bridge intersection with Ventura Rd. (Both sides of river levee)

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 60 ft

T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T 2N R 22W Sec 28, NW ¼ of NW ¼, Meridian: H  M  S  GPS Make & Model Garmin eTrex Ventura HC

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** 297800E, 3790430N. Coordinates are at regular male perch on levee. Potential nest site just south of there.

### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Repeated observations of territorial male singing (4/23/13, 5/16/13, 5/27/13, 6/18/13). Two birds (presumed male and female) foraging and flying together.

Pair forages in alluvial scrub of riverbed as well as disturbed areas along levee. Possible nest site south of levee in weedy field.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by maintenance yard/fields, golf courses, residential

Visible disturbances: see above

Threats: levee maintenance activities, development

Comments:

### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/01/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: *Eremophila alpestris actia*

Common Name: California horned lark

Species Found?  Yes  No If not, why? \_\_\_\_\_

Total No. Individuals 3 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence?  yes  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

3  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (between cities of Ventura and Oxnard), south bank, 3100-7000 ft upstream of Hwy 101 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard and Saticoy Elevation: 80 ft

T 2N R 22W Sec 21, NE ¼ of NE ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): GPS

T 2N R 22W Sec 15, all ¼ of SW ¼, Meridian:  H  M  S  Z GPS Make & Model Garmin eTrex Ventura HC

DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 2-3 territories from 299245E, 3791774N to 300059E, 3792670N.

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Dry riverbed of open alluvial scrub, young patchy willows lining south bank levee. Levee and periphery have some patchy grassland/herbaceous habitat.

2-3 territories estimated from 12 total observations made on 4/25/13, 5/4/13, 5/18/13, 5/28/13, 6/10/13, 6/20/13, and 7/1/13. Males singing or traveling together with second bird.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1400-ft wide Santa Clara River corridor bordered by residential development to S and agriculture to N.

Visible disturbances: levee and road

Threats: levee maintenance activities, development

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no



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Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

**Date of Field Work (mm/dd/yyyy):** 07/02/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** *Eremophila alpestris actia*

**Common Name:** California horned lark

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 2 Subsequent Visit?  yes  no

**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

### Animal Information

2  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (south of Ventura), south bank, 4000-8000 ft downstream of Hwy 118 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Saticoy Elevation: 100 ft

T 2N R 22W Sec 11, SE ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T 2N R 22W Sec 11, NE ¼ of SE ¼, Meridian: H  M  S  GPS Make & Model Garmin eTrex Ventura HC

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** At least 1-2 territories from 301087E, 3793609N to 302110E, 3794209N.

### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Dry riverbed of open alluvial scrub, young patchy willows lining south bank levee. Levee and periphery have some patchy grassland/herbaceous habitat.

1-2 territories estimated from 5 total observations made on 5/5/13, 5/18/13, 5/29/13, and 7/2/13. Males singing or traveling together with second bird.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1800-ft wide Santa Clara River corridor bordered by residential development to N and fallow field to S.

Visible disturbances: levee and road

Threats: levee maintenance activities, development, illegal OHV use in riverbed

Comments:

### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

### Photographs: (check one or more)

- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| Slide                    | Print                    | Digital                  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Plant / animal           | <input type="checkbox"/> | <input type="checkbox"/> |
| Habitat                  | <input type="checkbox"/> | <input type="checkbox"/> |
| Diagnostic feature       | <input type="checkbox"/> | <input type="checkbox"/> |

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 04/27/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** *Eremophila alpestris actia*

**Common Name:** California horned lark

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (southeast of Ventura), south bank, 750 ft upstream of Hwy 118 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 130 ft  
 T 2N R 22W Sec 1, SW ¼ of SE ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model Garmin eTrex Ventura HC  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** At least 1-2 territories from 301087E, 3793609N to 302110E, 3794209N.

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Coyote brush scrub on north side of levee, fallow field to south.  
Singing male on 4/27/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1500-ft wide Santa Clara River corridor bordered by agriculture  
 Visible disturbances: levee and road  
 Threats: levee maintenance activities, development  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
 California Natural Diversity Database  
 California Dept. of Fish & Wildlife  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/01/2013

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Spinus lawrencei*

Common Name: Lawrence's goldfinch

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 3 Subsequent Visit?  yes  no  
 Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner  
 Address: Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
 E-mail Address: scott@wernerbio.com  
 Phone: (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1 # adults 2 # juveniles \_\_\_\_\_ # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 6250 ft upstream of Hwy 101 bridge, south side of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 90 ft  
 T 2N R 22W Sec 15, NE ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
 Coordinates: 299869E, 3792436N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Alluvial scrub. Scattered Salix lasiolepis and Salix exigua with Hirschfeldia incana and other fruiting annuals.  
One adult seen with 2 begging juveniles able to fly as well as parent on 7/1/13. Seen during 8th of 9 passes in survey area of 500-foot south levee buffer and not documented previously, therefore was not likely nesting on this south side of river.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 04/10/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Emys marmorata

**Common Name:** western pond turtle

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** 873  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Victoria Ave bridge over Santa Clara River, Ventura/Oxnard, Ventura County.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 44 ft  
 T 2N R 22W Sec 29, NW ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin eTrex Ventura HC  
**DATUM:**  NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** 295878E, 3790410N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):**

Basking at the edge of a ponded area in the middle of river - adjacent to one of the bridge footings. Arroyo willow riparian.

Please fill out separate form for other rare taxa seen at this site.

**Site Information Overall site/occurrence quality/viability (site + population):**  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor surrounded by agriculture, golf courses, and residential

Visible disturbances: 4 lane bridge. Patches of Arundo donax. Cape Ivy (Delairea odorata) under bridge.

Threats: levee maintenance activities

Comments: Not observed on 5+ return visits during April to July

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Stebbins (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
 California Natural Diversity Database  
 California Dept. of Fish & Wildlife  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only	
Source Code _____	Quad Code _____
Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 07/01/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 37+ Subsequent Visit?  yes  no

**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. #

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
 Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

37  
 # adults # juveniles # larvae # egg masses # unknown

wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, from 3900 ft downstream of Victoria Ave to 750 ft upstream of Hwy 101 bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 35-60 ft

T 2N R 22W Sec 30, NE ¼ of NW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T 2N R 22W Sec 15, all ¼ of SW ¼, Meridian: H  M  S  GPS Make & Model Garmin eTrex Ventura HC

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** Approximately 37 territories from 294680E, 3790303N to 291628E, 3791305N.

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Primarily arroyo willow (Salix lasiolepis) dominated scrub and woodland stands of various age classes. Some red willow (Salix laevigata), emergent black cottonwood (Populus trichocarpa), and Pacific willow (Salix lasiandra). Understory of mulefat (Baccharis salicifolia), arundo (Arundo donax), poison oak (Toxicodendron diversilobum).

37 territories estimated primarily from repeated observations of singing males during 4 rounds of least Bell's vireo and southwestern willow flycatcher surveys from May 25 to July 2. Detections during additional April and May surveys omitted due to potential migrants.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.

Visible disturbances: levee and road, arundo infestation

Threats: levee maintenance activities, arundo infestation, cowbirds if trapping discontinues

Comments: 2 brown-headed cowbird traps active in this area for least Bell's vireo mitigation. 6 least Bell's vireo territories at east end of described area.

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_

Compared with specimen housed at: \_\_\_\_\_

Compared with photo / drawing in: Sibley (2003)

By another person (name): \_\_\_\_\_

Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/20/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 2700 ft upstream of Hwy 101 bridge, south bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 75 ft  
 T 2N R 22W Sec 21, NE ¼ of NE ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model Garmin eTrex Ventura HC  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** 299124E, 3791747N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Primarily arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 6/10/13 and 6/20/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
 Immediate AND surrounding land use: 1400-ft wide Santa Clara River corridor bordered by office, residential, and agricultural development.  
 Visible disturbances: levee and road, arundo infestation, some trash present  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/01/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Setophaga petechia

Common Name: Yellow warbler

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River, 2600 ft upstream of Hwy 101 bridge, center of river channel.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 70 ft

T 2N R 22W Sec 21, NE ¼ of NE ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin eTrex Ventura HC

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 14 ft \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 298899E, 379179N

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Primarily arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax). Vegetation stand is in the center of the river corridor.

Singing male heard on 6/10/13 and 7/1/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1400-ft wide Santa Clara River corridor bordered by office, residential, and agricultural development.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: multiple sources for vocalizations

#### Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/01/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 5300 ft upstream of Hwy 101 bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 90 ft  
 T 2N R 22W Sec 15, NW ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** 299391E, 3792432N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 5/18/13, 6/20/13, and 7/1/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1400-ft wide Santa Clara River corridor bordered by agricultural development on this side.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no



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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/01/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. #

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
 Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown

wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 7200 ft upstream of Hwy 101 bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Saticoy Elevation: 95 ft

T 2N R 22W Sec 15, SE ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_

**DATUM:**  NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** 299884E, 3792791N

**Habitat Description (plants & animals)** *plant communities, dominants, associates, substrates/soils, aspects/slope:*

**Animal Behavior** *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Singing male heard on 5/18/13, 6/10/13, 6/20/13, and 7/1/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1400-ft wide Santa Clara River corridor bordered by agricultural development on this side.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_

Compared with specimen housed at: \_\_\_\_\_

Compared with photo / drawing in: Sibley (2003)

By another person (name): \_\_\_\_\_

Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/02/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 400 ft downstream of Hwy 118 bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 120 ft  
 T 2N R 22W Sec 1, SE ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** 302842E, 3794948N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 5/7/13 and 7/2/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
 Immediate AND surrounding land use: 1400-ft wide Santa Clara River corridor bordered by a junkyard on this side.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments: \_\_\_\_\_

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/21/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 700 ft upstream of Hwy 118 bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 130 ft  
 T 2N R 22W Sec 1, NE ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** 303068E, 3795227N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 5/18/13, 6/11/13, and 6/21/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1600-ft wide Santa Clara River corridor bordered by maintenance yard and agriculture on this side.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/21/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Setophaga petechia

Common Name: Yellow warbler

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River, 1600 ft upstream of Hwy 118 bridge, south bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Saticoy Elevation: 135 ft

T 2N R 22W Sec 1, SW ¼ of SE ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 303432E, 3795102N

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) and sandbar willow (S. exigua) dominated woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Singing male heard on 5/18/13 and 6/21/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1600-ft wide Santa Clara River corridor bordered by maintenance yard and agriculture on this side.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: multiple sources for vocalizations

#### Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/11/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No If not, why? \_\_\_\_\_  
 Total No. Individuals 2 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

2 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, cluster of points centered at 3500 ft downstream of Victoria Ave bridge, in the center and north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 30-35 ft  
 T 2N R 22W Sec 30, NW ¼ of NW ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T 2N R 22W Sec 30, NE ¼ of NW ¼, Meridian:  H  M  S  Z GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Cluster of points centered at 294793E, 3790412N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Two likely territories in area estimated by 1-2 singing males heard on 5/3/13, 6/6/13, 6/27/13, and 7/11/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1600-ft wide Santa Clara River corridor bordered by agriculture and landfill.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/27/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No If not, why? \_\_\_\_\_  
Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?**  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**  
Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**  
1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 1800 ft downstream of Victoria Ave bridge, south bank of river.  
County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Oxnard Elevation: 35 ft  
T 2N R 22W Sec 30, NW ¼ of NE ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
T 2N R 22W Sec 30, NE ¼ of NE ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Polygon is centered at 295308E, 3790298N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Territory mapped from singing male heard/seen on 4/23/13, 5/3/13, 5/15/13, 5/25/13, 6/6/13, 6/17/13, 6/27/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
Immediate AND surrounding land use: 1600-ft wide Santa Clara River corridor bordered by landfill, maintenance yard and agriculture on this side.  
Visible disturbances: arundo infestation  
Threats: levee maintenance activities, arundo infestation  
Comments:

**Determination:** (check one or more, and fill in blanks)  
 Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more) Slide Print Digital  
Plant / animal     
Habitat     
Diagnostic feature     
May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/27/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

<u>1</u> # adults	_____ # juveniles	_____ # larvae	_____ # egg masses	_____ # unknown	
<input type="checkbox"/> wintering	<input checked="" type="checkbox"/> breeding	<input type="checkbox"/> nesting	<input type="checkbox"/> rookery	<input type="checkbox"/> burrow site	<input type="checkbox"/> other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 700 ft upstream of Victoria Ave bridge, south bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Oxnard Elevation: 35 ft  
T 2N R 22W Sec 29, NW ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** **NAD27**  **NAD83**  **WGS84**  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  **OR** Geographic (Latitude & Longitude)   
**Coordinates:** Territory centered at 296092E, 3790300N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Territory mapped from singing male heard on 5/3/13, 5/15/13, and 6/27/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
Immediate AND surrounding land use: 1000-ft wide Santa Clara River corridor bordered by golf course, agriculture and landfill.  
Visible disturbances: arundo infestation  
Threats: levee maintenance activities, arundo infestation  
Comments:

**Determination:** (check one or more, and fill in blanks)

<input type="checkbox"/>	Keyed (cite reference): _____
<input type="checkbox"/>	Compared with specimen housed at: _____
<input checked="" type="checkbox"/>	Compared with photo / drawing in: <u>Sibley (2003)</u>
<input type="checkbox"/>	By another person (name): _____
<input checked="" type="checkbox"/>	Other: <u>multiple sources for vocalizations</u>

**Photographs:** (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/11/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, 1800 ft upstream of Victoria Ave bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 45 ft  
 T 2N R 22W Sec 29, NE ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** **NAD27**  **NAD83**  **WGS84**  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Territory centered at 296445E, 3790481N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 7/11/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1000-ft wide Santa Clara River corridor bordered by golf course, agriculture and landfill.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no



Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/28/2013

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Icteria virens*

Common Name: Yellow-breasted chat

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River, 3400 ft upstream of Victoria Ave bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 48 ft

T 2N R 22W Sec 20, SW ¼ of SE ¼, Meridian:  H  M  S

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S

DATUM: NAD27  NAD83  WGS84  Source of Coordinates (GPS, topo. map & type): ArcGIS

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)  Horizontal Accuracy \_\_\_\_\_ meters/feet

Coordinates: 296901E, 3790488N

### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Singing male heard on 6/28/13.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1000-ft wide Santa Clara River corridor bordered by golf course, landfill, and agriculture.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: multiple sources for vocalizations

### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/28/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, cluster of points centered at 3000 ft downstream of Hwy 101 bridge, center and north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 55 ft  
 T 2N R 22W Sec 20, SE ¼ of SE ¼, Meridian:  H  M  S  Z  
 Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian:  H  M  S  Z  
 GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Cluster of points centered at 297586E, 3790627N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 5/16/13, 5/27/13, 6/6/13, and 6/18/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1000-ft wide Santa Clara River corridor bordered by agriculture.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/18/2013

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Icteria virens

Common Name: Yellow-breasted chat

Species Found?  Yes  No If not, why? \_\_\_\_\_  
Total No. Individuals 1 Subsequent Visit?  yes  no  
Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner  
Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
E-mail Address: scott@wernerbio.com  
Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River, 3600 ft upstream of Hwy 101 bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Saticoy Elevation: 75 ft  
T 2N R 22W Sec 16, SE ¼ of SE ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
Coordinates: 298963E, 3792098N

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Singing male heard on 5/18/13.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1500-ft wide Santa Clara River corridor bordered by agriculture.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: multiple sources for vocalizations

#### Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/18/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547, Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, cluster of points centered at 6700 ft upstream of Hwy 101 bridge, north bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 90 ft  
 T 2N R 22W Sec 15, NE ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Cluster of points centered at 299729E, 3792668N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Singing male heard on 5/18/13, 6/10/13, and 7/1/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
 Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/02/2013

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, two detections centered at 5160 ft downstream of Hwy 118 bridge, center of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 100 ft  
 T 2N R 22W Sec 11, NW ¼ of SE ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:**  NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Two detections at 301719E, 3794091N and 301693E, 3794164N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):**

Arroyo willow (*Salix lasiolepis*) woodland and scrub. Understory of mulefat (*Baccharis salicifolia*) and arundo (*Arundo donax*).

Singing male heard on 4/26/13 and 7/2/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1600-ft wide Santa Clara River corridor bordered by agriculture and residential.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/02/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**  
Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**  
1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, two detections centered at 1800 ft downstream of Hwy 118 bridge, spanning river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Saticoy Elevation: 120 ft  
T 2N R 22W Sec 12, NW ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
T 2N R 22W Sec 12, NE ¼ of NW ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Center of mapped territory at 302577E, 3794602N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):**

Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Territory mapped from singing male heard on 5/29/13, 6/11/13, and 7/2/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1600-ft wide Santa Clara River corridor bordered by cement plant, storage yard, agriculture and residential.

Visible disturbances: arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

**Determination:** (check one or more, and fill in blanks)  
 Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more) Slide Print Digital  
Plant / animal     
Habitat     
Diagnostic feature     
May we obtain duplicates at our expense? yes  no

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/21/2013

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Icteria virens*

Common Name: Yellow-breasted chat

Species Found?  Yes  No If not, why? \_\_\_\_\_  
Total No. Individuals 1 Subsequent Visit?  yes  no  
Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner  
Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
E-mail Address: scott@wernerbio.com  
Phone: (805) 272-5871

**Plant Information**  
Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**  
1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**  
Santa Clara River, cluster of detections centered at 1800 ft upstream of Hwy 118 bridge, spanning river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Saticoy Elevation: 130 ft  
T 2N R 22W Sec 1, NE ¼ of SW ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
T 2N R 22W Sec 1, SE ¼ of SW ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Center of mapped territory at 303146E, 3795280N

**Habitat Description (plants & animals)** plant communities, dominants, associates, substrates/soils, aspects/slope:  
**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Cluster of detections from singing male heard on 4/27/13, 5/7/13, 6/11/13, and 6/21/13.  
Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor  
Immediate AND surrounding land use: 1800-ft wide Santa Clara River corridor bordered by agriculture and maintenance yard.  
Visible disturbances: arundo infestation  
Threats: levee maintenance activities, arundo infestation  
Comments:

**Determination:** (check one or more, and fill in blanks)  
 Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more) Slide Print Digital  
Plant / animal     
Habitat     
Diagnostic feature     
May we obtain duplicates at our expense? yes  no

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/02/2013

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River, mapped territory centered at 3000 ft upstream of Hwy 118 bridge, south bank of river.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Saticoy Elevation: 140 ft  
 T 2N R 22W Sec 1, NE ¼ of SE ¼, Meridian: H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS  
 T 2N R 21W Sec 6, NW ¼ of SW ¼, Meridian: H  M  S  GPS Make & Model \_\_\_\_\_  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Center of mapped territory at 303900E, 3795419N

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
Territory mapped from singing male heard on 5/18/13 and 7/2/13.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 2500-ft wide Santa Clara River corridor bordered by agriculture.  
 Visible disturbances: arundo infestation  
 Threats: levee maintenance activities, arundo infestation  
 Comments:

**Determination:** (check one or more, and fill in blanks)

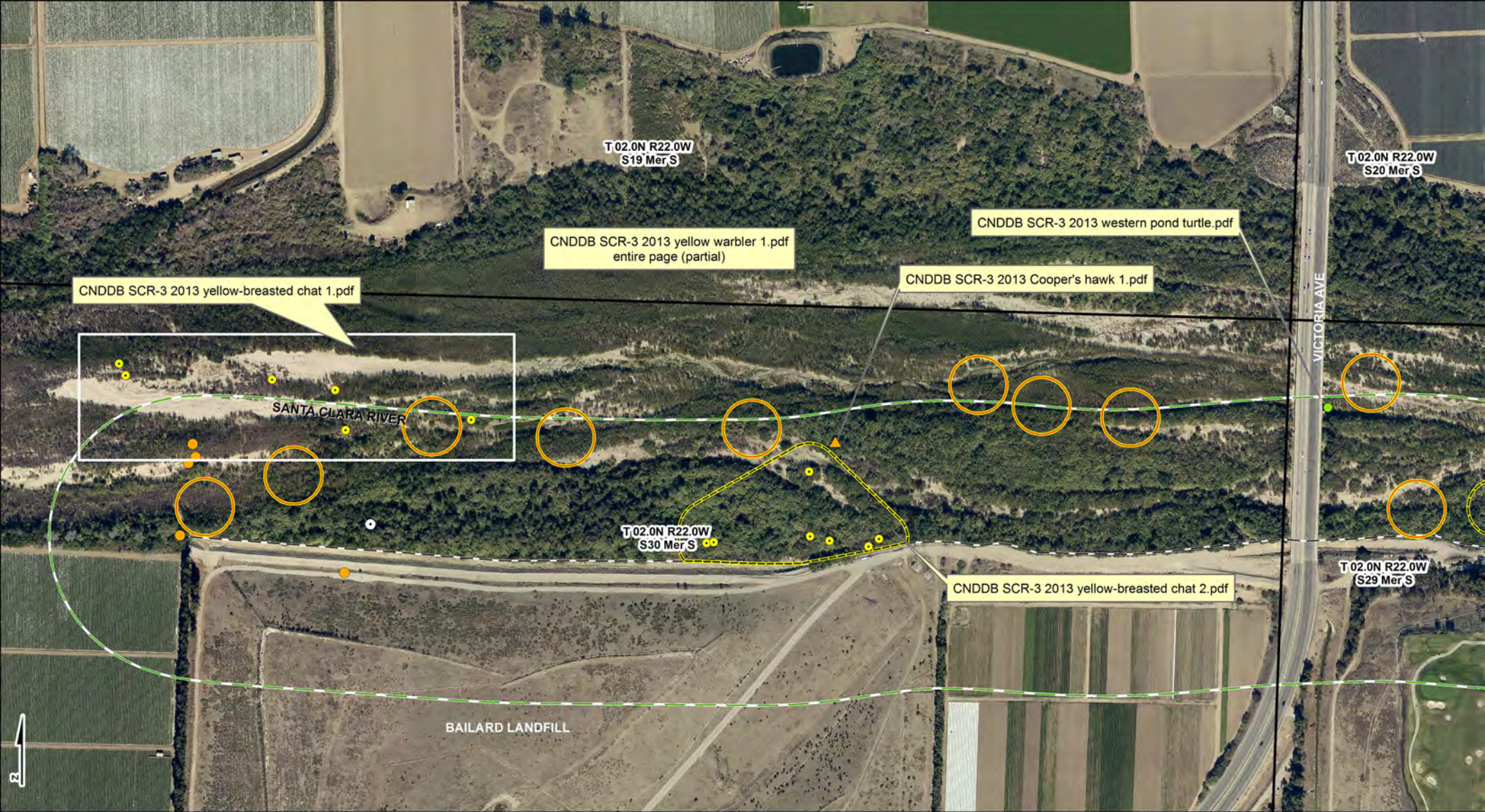
Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: multiple sources for vocalizations

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no





T 02.0N R 22.0W  
S 19 Mer S

T 02.0N R 22.0W  
S 20 Mer S

CNDDDB SCR-3 2013 yellow warbler 1.pdf  
entire page (partial)

CNDDDB SCR-3 2013 western pond turtle.pdf

CNDDDB SCR-3 2013 yellow-breasted chat 1.pdf

CNDDDB SCR-3 2013 Cooper's hawk 1.pdf

SANTA CLARA RIVER

T 02.0N R 22.0W  
S 30 Mer S

CNDDDB SCR-3 2013 yellow-breasted chat 2.pdf

T 02.0N R 22.0W  
S 29 Mer S

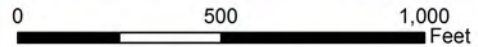
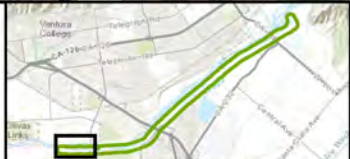
BAILARD LANDFILL

VICTORIA AVE



**2013 Santa Clara River Levee Maintenance: Least Bell's Vireo Protocol Survey and Territory Mapping**  
**Special-status species observed in the survey area: cumulative observations from April 10 to July 15**

- |                     |                          |  |                                     |                                  |
|---------------------|--------------------------|--|-------------------------------------|----------------------------------|
| western pond turtle | Cooper's hawk adults     | willow flycatcher                      | horned lark                         | Yellow-breasted chat territories |
| coast horned lizard | Cooper's hawk nest       | loggerhead shrike                      | yellow warbler resident territories | Lawrence's goldfinch             |
| white-tailed kite   | Cooper's hawk fledglings | Least Bell's Vireo territories         | Yellow-breasted chat observations   | Santa Clara River Levee          |
| northern harrier    | Costa's hummingbird      | Least Bell's Vireos beyond survey area | Survey Area                         |                                  |



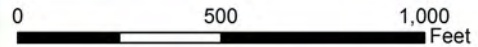
IMAGERY:  
NOV-DEC 2012  
COUNTY OF VENTURA





**2013 Santa Clara River Levee Maintenance: Least Bell's Vireo Protocol Survey and Territory Mapping**  
**Special-status species observed in the survey area: cumulative observations from April 10 to July 15**

- |                     |                          |  |                                     |                                  |
|---------------------|--------------------------|--|-------------------------------------|----------------------------------|
| western pond turtle | Cooper's hawk adults     | willow flycatcher                      | horned lark                         | Yellow-breasted chat territories |
| coast horned lizard | Cooper's hawk nest       | loggerhead shrike                      | yellow warbler resident territories | Lawrence's goldfinch             |
| white-tailed kite   | Cooper's hawk fledglings | Least Bell's Vireo territories         | Yellow-breasted chat observations   | Santa Clara River Levee          |
| northern harrier    | Costa's hummingbird      | Least Bell's Vireos beyond survey area | Survey Area                         |                                  |



IMAGERY:  
 NOV-DEC 2012  
 COUNTY OF VENTURA





CNDDDB SCR-3 2013 yellow warbler 1.pdf  
entire page (partial)

CNDDDB SCR-3 2013 Least Bell's vireo 1.pdf (partial)

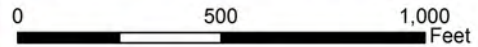
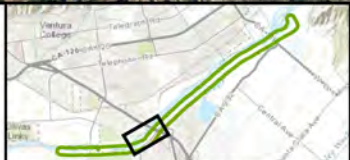
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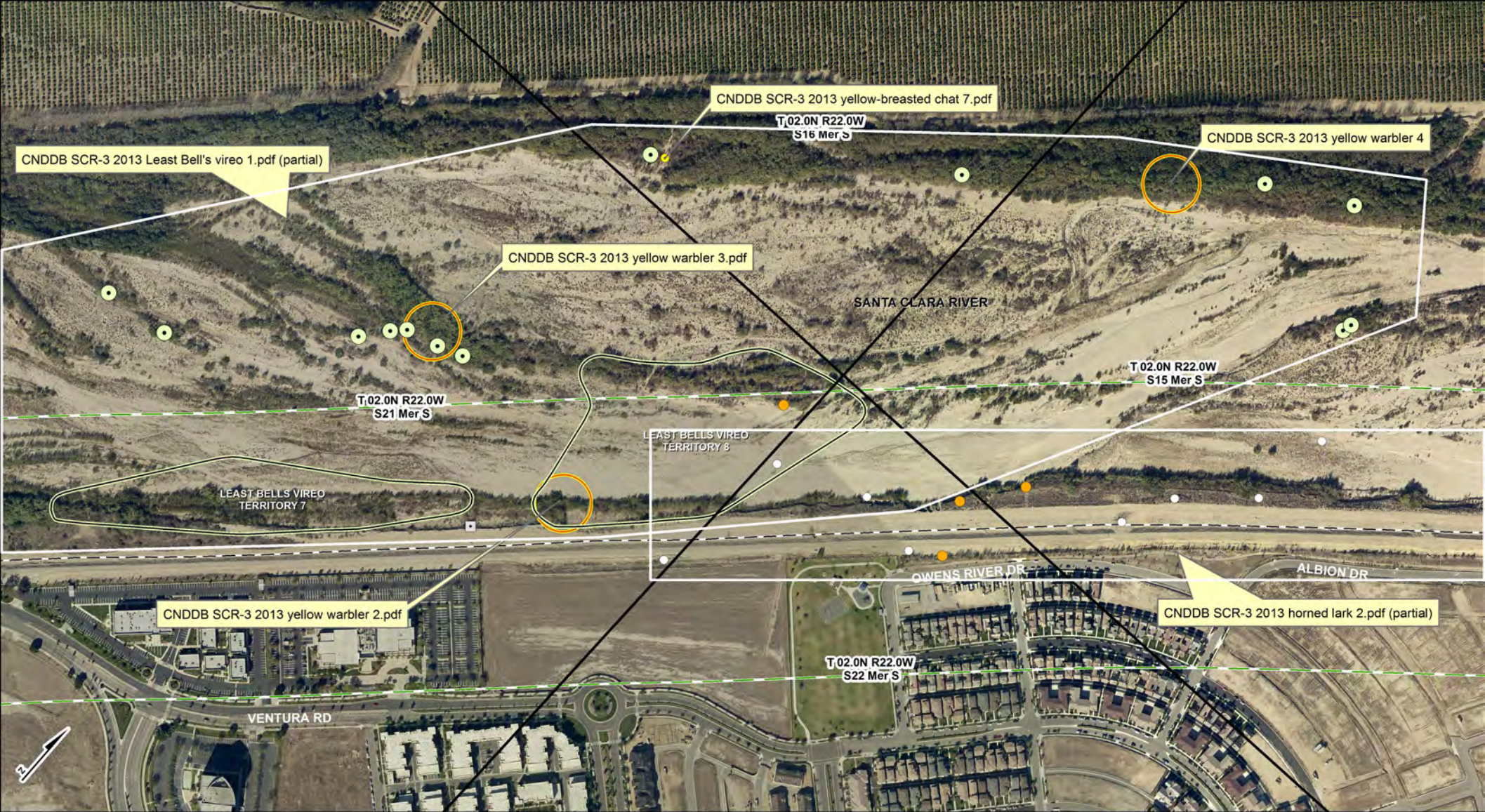
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**Special-status species observed in the survey area: cumulative observations from April 10 to July 15**

- |                     |                          |  |                                     |                                  |
|---------------------|--------------------------|--|-------------------------------------|----------------------------------|
| western pond turtle | Cooper's hawk adults     | willow flycatcher                      | horned lark                         | Yellow-breasted chat territories |
| coast horned lizard | Cooper's hawk nest       | loggerhead shrike                      | yellow warbler resident territories | Lawrence's goldfinch             |
| white-tailed kite   | Cooper's hawk fledglings | Least Bell's Vireo territories         | Yellow-breasted chat observations   | Santa Clara River Levee          |
| northern harrier    | Costa's hummingbird      | Least Bell's Vireos beyond survey area | Survey Area                         |                                  |



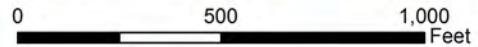
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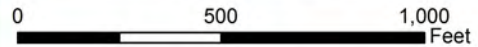
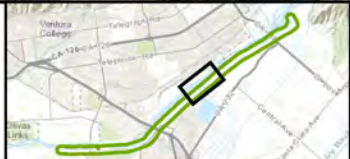
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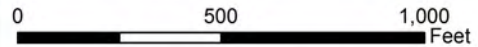
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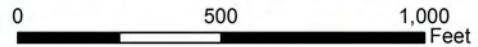
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CNDDB SCR-3 2013 yellow warbler 7.pdf

CNDDB SCR-3 2013 Least Bell's vireo 3.pdf

CNDDB SCR-3 2013 yellow-breasted chat 12.pdf

Vireo observed during presence-absence survey but not detected during territory mapping

CNDDB SCR-3 2013 yellow warbler 8

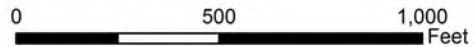
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**Southwestern Willow Flycatcher  
(*Empidonax traillii extimus*)  
Protocol Survey on the Santa Clara River  
Oxnard, Ventura County, 2013**



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**September 2013**

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## Summary of Survey Results

This report presents the results of a protocol presence-absence survey for the federal and state endangered southwestern willow flycatcher (*Empidonax traillii extimus*) along a 7.1-mi (11.4-km) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura, California. No breeding southwestern willow flycatchers were detected within 32.1 ac (13.0 ha) of suitable habitat. Listed or special-status species observed within the study area included least Bell's vireo (*Vireo bellii pusillus*), yellow warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*), and others.

## Introduction

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a small migratory songbird that nests in riparian thickets in the southwestern U.S. It was listed as endangered by the State of California in 1991 and listed as endangered by the U.S. Fish and Wildlife Service in 1995 (USFWS 1995, CDFW 2013b). Like other subspecies of willow flycatcher and *Empidonax* species, southwestern willow flycatchers are primarily aerial foragers, sallying forth from a perch and hawking insects from the air or hover-gleaning vegetation. Southwestern willow flycatchers are drably colored with olive-green and brown plumage above with yellow and white underparts. Willow flycatchers are distinctive from other *Empidonax* species by a lack of an eye-ring, a larger bill, and subtle differences in plumage and body proportions, but are primarily distinguished by the unique *fitz-bew* vocalization (Sedgwick 2000).

The southwestern willow flycatcher is one of four subspecies of willow flycatcher that breed in the U.S., although the subspecies are generally not distinguishable in the field except by geographic nesting location. The geographic breeding range of the southwestern willow flycatcher (*Empidonax traillii extimus*) includes southern California, Arizona, New Mexico, southern Nevada and Utah, southwestern Colorado, western Texas, and northern Mexico near the U.S. border (Unitt 1987). Three willow flycatcher subspecies occur in California: *Empidonax traillii extimus* breeds in the southwestern third of the state, while *Empidonax traillii brewsteri* and *Empidonax traillii adastus* breed in the northern regions but are frequently encountered within the *E. t. extimus* breeding range during migration. All three subspecies of willow flycatcher are classified as endangered by the California Department of Fish and Wildlife (CDFW), although the federally endangered designation applies only to the *E. t. extimus* subspecies.

Willow flycatchers winter throughout Central America (Styles and Skutch 1989, Howell and Webb 1995), and the southwestern subspecies' winter range may be concentrated within the Costa Rican Pacific lowlands (Paxton et al. 2011). Male southwestern willow flycatchers usually arrive on breeding territories by early- to mid-May and establish territories before the arrival of females (USFWS 2002). Nesting takes place from late May to mid-August. Females build a 3-in (7-cm) tall by 3-in (7-cm) wide cup nest within a shrub or tree fork anywhere from 2 ft (0.6 m) to 60 ft (18 m) above the ground, depending on site characteristics. Three to four eggs are laid, and incubation lasts 12-13 days. Young leave the nest 12-15 days after hatching and are fed by the parents for about 2 weeks, during which time the fledglings may return to and leave the nest several times (Sogge et al. 2010). Flycatchers frequently re-nest after a nest fails and generally do not have more than one successful nest in a season, although 19% of pairs studied in a large New Mexico nesting population had two successful nests during one season (Ahlers and Moore 2009).

Southwestern willow flycatchers are habitat specialists that nest only in dense riparian vegetation with either standing water or saturated soils in the summer months. Sites range in elevation from near sea level to 8,500 ft (2,591 m). Other key components include a dense tree or shrub layer at least 10 ft (3 m) in height with an abundance of green foliage, with or without a tall overhead canopy layer. Nesting sites usually have a mosaic of layers and structural elements within a broad (>30 ft [9 m] wide) floodplain.

Linear strips of riparian vegetation less than 30 ft (9 m) wide generally do not support breeding southwestern willow flycatchers unless they are located adjacent to other patches or strips within a greater mosaic of riparian vegetation (Sogge and Marshall 2000). Beyond these key characteristics, breeding sites vary considerably in overall species composition. Many sites are dominated by native broadleaf species such as willows (*Salix* spp.), cottonwoods (*Populus* spp.), boxelder (*Acer negundo*), ash (*Fraxinus* spp.), alder (*Alnus* spp.), and buttonbush (*Cephalanthus* spp.), but some sites consist of nearly monotypic stands of non-native saltcedar, or tamarisk (*Tamarix* spp.) (McKernan and Braden 1999, Sogge and Marshall 2000, USFWS 2002).

The 2002 *Southwestern Willow Flycatcher Final Recovery Plan* (USFWS 2002) identified habitat loss and modification as the primary cause of the subspecies' decline. Other compounding threats include nest parasitism by brown-headed cowbirds (*Molothrus ater*), vulnerability of small disjunct populations, and migration and winter range stresses. In southern California, Willett (1933) and Grinnell and Miller (1944) described the subspecies' occurrence as common, although Willett noted that, in at least one location, it was difficult to find a southwestern willow flycatcher nest that didn't contain cowbird eggs. Garrett and Dunn (1981) later described the subspecies as 'virtually extirpated' in southern California. The U.S. Fish and Wildlife Service estimated the number of southwestern willow flycatcher territories in the Coastal California Recovery Units and the Basin and Mojave Recovery Unit as 171 in 2007, down from 236 in 2002 (USFWS 2013). However, data presented by Kus et al. (2013) suggest a recent reduction in total southwestern willow flycatchers in this region to approximately 37 known individuals from sites surveyed in 2012 (not all areas were surveyed). Recently, the U.S. Fish and Wildlife Service issued a revised critical habitat designation for the southwestern willow flycatcher that, in Ventura County, includes all of the Santa Clara River, the Ventura River upstream to Matilija Creek, and Piru Creek upstream to Pyramid Lake (USFWS 2013).

The Ventura County Watershed Protection District's (VCWPD) Levee Maintenance Program will be undergoing a California Environmental Quality Act (CEQA) review in 2013, and Werner Biological Consulting was contracted to conduct southwestern willow flycatcher protocol surveys during 2013 along a 7.1-mile (11.4-kilometer) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura, California.

## Methods

### Study Area

The study area is located in coastal Ventura County of southern California and consisted of approximately 7.1 mi (11.4 km) of the lower Santa Clara River's south bank and all riparian habitat within 500 ft (152 m) of the south bank levee (Figure 1). This section of river extends from the western limit of Bailard Landfill (0.73 mi, or 1.2 km, downstream of the Victoria Avenue) upstream nearly to the base of South Mountain (0.68 mi, or 1.1 km, upstream of Los Angeles Avenue/Highway 118). Elevation ranges from 28 ft (9 m) to 140 ft (43 m) above sea level. Several patches of vegetation that extended just outside the 500-ft buffer were included within the study area. The study area was limited to the habitat north of the levee (no riparian areas south of the levee were identified), for a total of 454 ac (184 ha). The dominant vegetation community in the study area is best characterized as arroyo willow (*Salix lasiolepis*) thicket (Sawyer et al. 2009) but there are also mixed associations of arroyo willow with red willow (*Salix laevigata*), sandbar willow (*Salix exigua*), and black cottonwood (*Populus trichocarpa*), as well as drier bank areas above the main river channel with upland plant species (Padre Associates, Inc. 2009a). A substantial portion of study area consists of open sand within the active river channel, especially upstream of the 101 Freeway.

## Background Review

Prior to the first survey a review was performed of recent local occurrence data and previous surveys conducted in or near the study area, as well as a literature review of recent reports about the subspecies throughout its range. Mr. Werner also had recently attended a meeting of the Riparian Birds Working Group, which focuses on recovery efforts for the flycatcher, the federally and state-endangered least Bell's vireo (*Vireo bellii pusillus*), and the state-endangered and federal-listing candidate western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), in Carlsbad, California, on March 22, 2013.

## Survey Methodology

All surveys were conducted by Werner Biological Consulting's Principal Biologist, Scott Werner, who has been issued U.S. Fish and Wildlife Endangered Species Act Section 10(a)(1)(A) Recovery Permit No. TE-179013 that authorizes tape-playback for southwestern willow flycatcher surveys. Mr. Werner also has been issued California Department of Fish and Wildlife Scientific Collecting Permit SC-005186 with Memorandum of Understanding that authorizes tape-playback for southwestern willow flycatcher (hereafter referred to as 'flycatcher'). Mr. Werner has 18 years of experience as a field ornithologist in California, Texas, and Arizona, including 9 years as a consultant in Ventura County.

Prior to starting the first survey, a habitat assessment of the study area was conducted to determine the locations of flycatcher habitat on which to focus the survey effort (defined as the survey area). Mr. Werner had already begun presence/absence and territory mapping surveys for least Bell's vireo within the study area while contracted to VCWPD during April and early May, 2013, allowing him to thoroughly assess potentially suitable habitat conditions for the flycatcher. Flycatcher habitat was delineated on aerial photos as suitable, potentially suitable, or unsuitable per USFWS (2002). Suitable habitat was defined as a riparian area with all the components needed to provide conditions suitable for breeding flycatchers (dense, mesic riparian shrub and tree communities greater than 0.25 ac, or 0.1 ha, in size). Potentially suitable habitats were those that did not have all the necessary components for breeding flycatchers but could develop those components in the future with proper management. Unsuitable habitats were those areas that would not develop suitable components even with management, such as upland areas or narrow canyons. The survey area was determined after identifying suitable habitat areas, which are presented in the Results section.

The current southwestern willow flycatcher survey protocol (Sogge et al. 2010) was followed for the presence/absence survey. The protocol requires a minimum of 5 surveys for project-related surveys: one survey during Period 1 (May 15-31); two surveys during Period 2 (June 1-24); and two surveys during Period 3 (June 25-July 17). For this study, six southwestern willow flycatcher surveys were conducted: two surveys were done during Survey Period 1 (May 15-31) because Mr. Werner was already scheduled to conduct two least Bell's vireo surveys in the study area during this period. Due to the size of the study area, each survey required 3 visits to complete. The survey dates were as follows:

- Survey Period 1, Survey 1: May 15, 16, 18
- Survey Period 1, Survey 2: May 25, 27, 28
- Survey Period 2, Survey 3: June 6, 7, 10
- Survey Period 2, Survey 4: June 17, 18, 20
- Survey Period 3, Survey 5: June 27, 28, July 1
- Survey Period 3, Survey 6: July 11, 12, 13

All surveys were conducted between dawn and 11:00 am under fair weather conditions suitable for observing bird activity (Table 1). Mr. Werner slowly walked meandering routes along the levee and within the river bottom, following natural openings and edges within the habitat and making entries into the woodland habitat where possible. Pre-recorded *fitz-bew*, *whitt*, and other southwestern willow

flycatcher vocalizations were played every 100-200 ft (30-61 m) through a 2.5-watt portable speaker attached to a digital music player, followed by a pause to listen for flycatchers. All vertebrate species detected by sight, sound, and sign were recorded (Table 2). Locations of willow flycatchers and other special-status species per CDFW (2011) were recorded onto high-resolution aerial photos from November and December 2012 provided by the County of Ventura GIS Division. In addition, special-status avian species detected (usually by sound) outside the 500-foot buffer were recorded and approximate locations were plotted. Flycatcher surveys were conducted simultaneously with the least Bell's vireo surveys described above because of the high degree of overlap of riparian habitat for both species within the study area, although suitable flycatcher habitat encompassed a relatively small area within the entire study area.

## Results

### Background Review

The U.S. Fish and Wildlife Service recently wrote that there were a total of three flycatcher breeding sites on the lower Santa Clara River (USFWS 2013). Recent flycatcher protocol surveys in parts of the study area confirmed the absence of breeding flycatchers during 2009 and 2010 (Padre and Associates, Inc. 2009a, 2010b). Flycatchers likely nested in the late 1990s in the vicinity of Saticoy (at the east end of the study area), but have not been documented there recently (Durst et al. 2008, USFWS unpubl. data). Flycatchers nested as recently as 2009 near the Santa Paula Wastewater Treatment Facility, which is approximately 4 miles upstream of the study area (BioResource Consultants, Inc. 2010). Recent breeding sites are also known from Fillmore (Greaves 2003, John Gallo Conservation Services and Envicom Corporation 2007, CDFW 2013b).

### Southwestern Willow Flycatcher Habitat Assessment and Survey Area Delineation

Approximately 32.1 ac (13.0 ha) were identified as suitable flycatcher habitat, consisting of five stands located in the general area extending from the 101 Freeway downstream to the western limit of the study area (Figures 2 through 4). These stands generally met the threshold of having a dense shrub and/or canopy layer along with the presence of water or saturated soils within or at the edge of the stand. Most stands consisted of a mosaic of various age classes of arroyo willow, red willow, and black cottonwood. Stands 1 and 2 were strips of arroyo willow thicket with some black cottonwoods and red willows bordered by natural river channels with saturated soils (and supplemented by a winter storm drain in Stand 1). On the north side of Stand 2 was the primary river channel with standing water into July (Figure 5). Stand 3 was a mosaic of different age classes of willows and cottonwoods that appeared to be fed by runoff from nearby residential and golf course developments. This stand had a patch of black cottonwood forest (Sawyer et al. 2009) adjoining dense thickets of arroyo willow, red willow, and Pacific willow (*Salix lasiandra*) and contained surface water into July (Figures 6 through 8). Stand 4 was a strip of red willow thicket (Sawyer et al. 2009) along the north edge of the river that extended outside the study area for more than one mile upstream and downstream of the habitat delineation. Stand 5 was an extensive continuous-canopy mosaic of arroyo willow, red willow, and black cottonwood at a bend in the Santa Clara River, into which El Rio Drain emptied (though it was dry during all surveys). This stand was likely being supported by subsurface moisture from the river and the drain. Stand 5 was also located near a major homeless encampment and had at least one camp that was occupied during a portion of the season. The understory of all five stands was typically a dense growth of the canopy species described above along with mulefat (*Baccharis salicifolia*), sandbar willow, poison oak (*Toxicodendron diversilobum*), and arundo (*Arundo donax*). Nearly all stands had patchy areas of arundo infestation, which has little or no value to flycatchers.

The remaining 422 ac (170 ha) of the study area north of the levee were characterized as potentially suitable flycatcher habitat. These areas did not have the hydrologic and structural components required for flycatcher nesting in 2013 but are nonetheless within the Santa Clara River channel and have the

potential to become suitable habitat with proper management or naturally increased river flow. Much of the potential habitat downstream of the 101 Freeway consisted of woodland with mature willow and cottonwoods but these habitats were deemed unsuitable due to an infestation of arundo in the understory. Two significant sources of summer water were located near the suitable habitat stands but drained into unsuitable habitats: one was immediately west of Victoria Avenue (unnamed) and the second was Stroube Drain on the east side of the 101 Freeway (Figures 3 and 4). These areas supported some large willows but were infested with arundo and did not meet the criteria for flycatcher habitat. Given the seemingly plentiful supply of summer water, these locations could be developed into suitable habitat with a targeted restoration program.

### **Presence/Absence Surveys**

Tape-playback surveys were focused on the suitable habitat stands described above, although nearly all of the suitable and potential habitat from Stroube Drain on the east side of the 101 Freeway downstream to the western end of the study area (178.9 ac, or 72.4 ha) was surveyed with tape playback (Figures 2 through 4). This river length is a total of 2.9 mi (4.6 km). Playing the willow flycatcher vocalizations in this mosaic of both suitable and potential habitats ensured complete coverage in case of inaccuracies in the suitability characterization. Potential habitat upstream of Stroube Drain was not surveyed with tape playback because there was no doubt of its lack of suitability (i.e. there was no surface water or saturated soils associated with any dense woodland stands).

No breeding pairs of southwestern willow flycatcher were observed in the study area. A singing willow flycatcher (subspecies undetermined) was observed on May 27, 2013, along the northern edge of Stand 5, at GPS coordinates 298021mE, 3790583mN (UTM Zone 11). This bird was foraging in a sandy, scrubby area of young arroyo willow and black cottonwood, within 30-50 feet of the dense riparian forest nearby. It was not acting territorial; it responded briefly to the tape playback but during 15 minutes of observation did not vocalize unsolicited. There was a brief aggressive interaction with a Pacific-slope flycatcher (*Empidonax difficilis*) that had been singing in the nearby forest, but the willow flycatcher stayed out in the open channel. It was not observed again during subsequent visits and was assumed to be a transient bird.

### **Brown-headed Cowbirds**

Adult brown-headed cowbirds were observed on three survey dates (May 27, June 6 and 7, 2013), and no nest parasitism or fledgling cowbirds were observed. This unusually lower number of observations was likely due to the presence of two active brown-headed cowbird traps in the survey area.

### **Special-status Species**

Locations of special-status species observed during the surveys are shown in Figures 9 through 11. CNDDDB forms for species that met the CNDDDB's reporting criteria are included in a least Bell's vireo survey report that was conducted concurrently in the same study area (Werner 2013). Some data presented below are derived from analyses in Werner (2013).

White-tailed kite (*Elanus leucurus*) – State of California Fully Protected. White-tailed kites were seen hunting in the riparian woodland on two dates. This species nested in the survey area in 2012 (Padre and Associates, Inc. 2012) but no evidence of nesting was observed in 2013.

Cooper's hawk (*Accipiter cooperii*) – State of California Watchlist (nesting). Cooper's hawks were regularly seen hunting in the survey area and nested successfully in Stand 5. The presence of fledgling groups in Stands 2 and 3, and north of Stand 4 suggested successful nesting in those areas as well.



Costa's hummingbird (*Calypte costae*) – American Bird Conservancy Watchlist of Birds of Conservation Concern (nesting). A Costa's hummingbird was observed in Stand 5 on May 27, 2013. This individual was likely a migrant and was not resighted on later dates.

Allen's hummingbird (*Selasphorus sasin*) – Federal Bird Species of Conservation Concern (nesting). Allen's hummingbirds were observed throughout the survey area, with confirmed nesting. This species was common throughout the survey area, and locations of individuals were not recorded or presented in Figures 9 through 11.

Least Bell's vireo (*Vireo bellii pusillus*) – State of California and Federal Endangered. Least Bell's vireos maintained breeding territories in the area from the 101 Freeway downstream to Stand 5. Five least Bell's vireo territories were identified in this area and are discussed in Werner (2013). Figure 11 shows least Bell's vireo territory boundaries but omits individual locations, which are provided in Werner (2013).

California horned lark (*Eremophila alpestris actia*) – State of California Watchlist. This species was observed on several dates in the vicinity of the Weir Field near Ventura Road. Nesting was suspected but not confirmed.

Yellow warbler (*Setophaga petechia*) – State of California Species of Special Concern, Federal Bird Species of Conservation Concern (nesting). Territorial males of this species were observed throughout the survey area during all survey periods. Thirty-seven territories were estimated to be in the survey area based on locations of singing males (data from the first flycatcher survey was omitted due to the high potential for non-resident migrants). For map exhibits, circular territory polygons were created using a radius of 100 ft (30 m), based on field observations and sources in the literature (Lowther et al. 1999). Nesting was not confirmed but was suspected, considering the large number of resident territorial males observed.

Yellow-breasted chat (*Icteria virens*) – State of California Species of Special Concern (nesting). Two territorial male yellow-breasted chats were resident within the survey area, based on repeated observations during successive visits. Polygons were created using a 50-ft (15 m) radius around observation points; some point data shown in Figures 9 and 10 (near stands 1 and 2) and used to create the polygons were recorded prior to the first flycatcher survey (Werner 2013). Additional chats were heard either at the edge of or beyond the survey area boundary, for which territory polygons were not created (because point data and territory boundaries outside of the survey could not be confirmed). Nesting was not confirmed.

## Recommendations

- **Continued monitoring.** Due to the dynamic nature of the Santa Clara River and the potential for year-to-year changes in flycatcher breeding sites, surveys should continue to be regularly conducted in and around the study area annually or as frequently as possible. The north bank of the Santa Clara River downstream of the 101 Freeway (an area mostly out of, but very close to the study area) appears to support a significant amount of willow thicket and should be surveyed as well.
- **Active habitat management.** The Santa Clara River has been characterized as having substantial recovery value for the flycatcher and is the largest intact river system in southern California (AMEC 2005, USFWS 2013). Some of the suitable habitat stands identified in the study area were fed by urban runoff sources that provided water into the summer. Restoration

efforts that utilize these water sources could prove beneficial to the flycatcher, whose breeding sites are nearly always associated with standing water or saturated soils.

## Conclusion

Approximately 32.1 ac (13.0 ha) of suitable southwestern willow flycatcher habitat was identified and surveyed in an area primarily downstream of the 101 Freeway. A total of 146.8 ac (59.4 ha) of potential habitat that was interspersed with the suitable habitat was also surveyed. No breeding southwestern willow flycatchers were observed or suspected within the survey area, although one transient individual was observed on May 27, 2013. The habitat in the survey area supported breeding pairs of endangered least Bell's vireo, as well as other special-status species.

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**Table 1.** Summary of southwestern willow flycatcher survey dates, times, and conditions.

Survey Period	Survey #	Date	Time		Temp. (°F)		Clouds (%)		Wind (mph)	
			Start	Stop	Start	Stop	Start	Stop	Start	Stop
1	1	5/15/13	0610	1052	61	65	100	35	0	3-8
1	1	5/16/13	0610	1010	61	62	100	100	0-2	6-8
1	1	5/18/13	0600	0650	60	62	0	0	0	0
1	2	5/25/13	0605	1100	54	69	5	2	0	3-6
1	2	5/27/13	0635	1035	57	67	0	0	2-3	6-8
1	2	5/28/13	0623	0710	57	60	10	10	0	0
2	3	6/6/13	0606	1020	63	63	100	100	0	1-3
2	3	6/7/13	0604	0930	62	63	100	100	2-3	1
2	3	6/10/13	0600	0646	64	65	90	100	0	0
2	4	6/17/13	0645	1034	64	73	100	95	0	2-6
2	4	6/18/13	0610	1016	60	71	5	0	0	1-4
2	4	6/20/13	0630	0730	60	65	0	0	0	0-2
3	5	6/27/13	0603	1030	64	71	0	0	0	4-6
3	5	6/28/13	0610	1000	61	72	0	0	0	4-6
3	5	7/1/13	0555	0754	68	74	90	20	0	0
3	6	7/11/13	0602	1037	67	71	100	100	0	0
3	6	7/12/13	0600	0940	64	68	100	100	0	0-3
3	6	7/13/13	0600	0805	62	67	100	100	1	0

**Table 2.** List of wildlife species observed in the survey area. Bold type indicates a special-status species, as listed in CDFW's Special Animals List (CDFW 2011).

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
<b>Notable Invertebrates</b>	
red swamp crawfish <sup>†</sup>	<i>Procambarus clarkii</i>
<b>Fish</b>	
western mosquitofish <sup>†</sup>	<i>Gambusia affinis</i>
<b>Amphibians</b>	
Pacific tree frog	<i>Pseudacris regilla</i>
bullfrog <sup>†</sup>	<i>Rana catesbeiana</i>
<b>Reptiles</b>	
western fence lizard	<i>Sialia mexicana</i>
side-blotched lizard	<i>Uta stansburiana</i>
southern alligator lizard	<i>Elgaria multicarinata</i>
gopher snake	<i>Pituophis catenifer</i>
<b>Birds</b>	
mallard	<i>Anas platyrhynchos</i>
California quail	<i>Callipepla californica</i>
great blue heron	<i>Ardea herodias</i>
great egret	<i>Ardea alba</i>
black-crowned night heron	<i>Spizella atrogularis</i>
turkey vulture	<i>Cathartes aura</i>
<b>white-tailed kite<sup>5</sup></b>	<b><i>Elanus leucurus</i></b>
<b>Cooper's hawk<sup>6*</sup></b>	<b><i>Accipiter cooperii</i></b>
red-shouldered hawk	<i>Buteo lineatus</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
American kestrel	<i>Falco sparverius</i>
killdeer	<i>Charadrius vociferus</i>
great-horned owl	<i>Bubo virginianus</i>
western gull	<i>Larus occidentalis</i>
rock pigeon <sup>†</sup>	<i>Columba livia</i>
Eurasian collared-dove <sup>†</sup>	<i>Streptopelia decaocto</i>
mourning dove	<i>Zenaida macroura</i>
greater roadrunner	<i>Geococcyx californianus</i>
barn owl	<i>Tyto alba</i>
Anna's hummingbird	<i>Calypte anna</i>
<b>Costa's hummingbird<sup>7</sup></b>	<b><i>Calypte costae</i></b>
<b>Allen's hummingbird<sup>2*</sup></b>	<b><i>Selasphorus sasin</i></b>
downy woodpecker	<i>Picoides pubescens</i>

COMMON NAME	SCIENTIFIC NAME
western wood-pewee	<i>Contopus sordidulus</i>
<b>willow flycatcher<sup>2,3,7</sup></b>	<b><i>Empidonax traillii</i></b>
Pacific-slope flycatcher	<i>Empidonax difficilis</i>
black phoebe	<i>Sayornis nigricans</i>
Say's phoebe	<i>Sayornis saya</i>
ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Cassin's kingbird	<i>Tyrannus vociferans</i>
<b>least Bell's vireo<sup>1,3,7*</sup></b>	<b><i>Vireo bellii pusillus</i></b>
Hutton's vireo	<i>Vireo huttoni</i>
warbling vireo	<i>Vireo gilvus</i>
American crow	<i>Corvus brachyrhynchos</i>
common raven	<i>Corvus corax</i>
<b>California horned lark<sup>6</sup></b>	<b><i>Eremophila alpestris actia</i></b>
tree swallow	<i>Tachycineta bicolor</i>
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
cliff swallow	<i>Petrochelidon pyrrhonota</i>
barn swallow	<i>Hirundo rustica</i>
bushtit	<i>Psaltriparus minimus</i>
Bewick's wren	<i>Thryomanes bewickii</i>
wrentit	<i>Chamaea fasciata</i>
Swainson's thrush	<i>Catharus ustulatus</i>
American robin	<i>Turdus migratorius</i>
California thrasher	<i>Toxostoma redivivum</i>
orange-crowned warbler	<i>Oreothlypis celata</i>
common yellowthroat	<i>Geothlypis trichas</i>
<b>yellow warbler<sup>2,4</sup></b>	<b><i>Setophaga petechia</i></b>
Wilson's warbler	<i>Cardellina pusilla</i>
<b>yellow-breasted chat<sup>4</sup></b>	<b><i>Icteria virens</i></b>
spotted towhee	<i>Pipilo maculatus</i>
California towhee	<i>Melospiza crissalis</i>
song sparrow	<i>Melospiza melodia</i>
dark-eyed junco	<i>Junco hyemalis</i>
western tanager	<i>Piranga ludoviciana</i>
black-headed grosbeak	<i>Pheucticus melanocephalus</i>
blue grosbeak	<i>Passerina caerulea</i>
lazuli bunting	<i>Passerina amoena</i>
red-winged blackbird	<i>Agelaius phoeniceus</i>

COMMON NAME	SCIENTIFIC NAME
brown-headed cowbird	<i>Molothrus ater</i>
hooded oriole	<i>Icterus cucullatus</i>
Bullock's oriole	<i>Icterus bullockii</i>
purple finch	<i>Carpodacus purpureus</i>
house finch	<i>Carpodacus mexicanus</i>
lesser goldfinch	<i>Spinus psaltria</i>
American goldfinch	<i>Spinus tristis</i>
<b>Mammals</b>	
desert cottontail	<i>Sylvilagus audubonii</i>
California ground squirrel	<i>Otospermophilus beecheyi</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
big-eared woodrat (middens)	<i>Neotoma macrotis</i>
common muskrat <sup>†</sup>	<i>Ondatra zibethicus</i>
coyote	<i>Canis latrans</i>
raccoon	<i>Procyon lotor</i>
domestic cat <sup>†</sup>	<i>Felis catus</i>

<sup>1</sup> U.S. Fish and Wildlife Service: Endangered

<sup>2</sup> U.S. Fish and Wildlife Service: Bird Species of Conservation Concern

<sup>3</sup> California Department of Fish and Wildlife: Endangered

<sup>4</sup> California Department of Fish and Wildlife: Species of Special Concern (nesting)

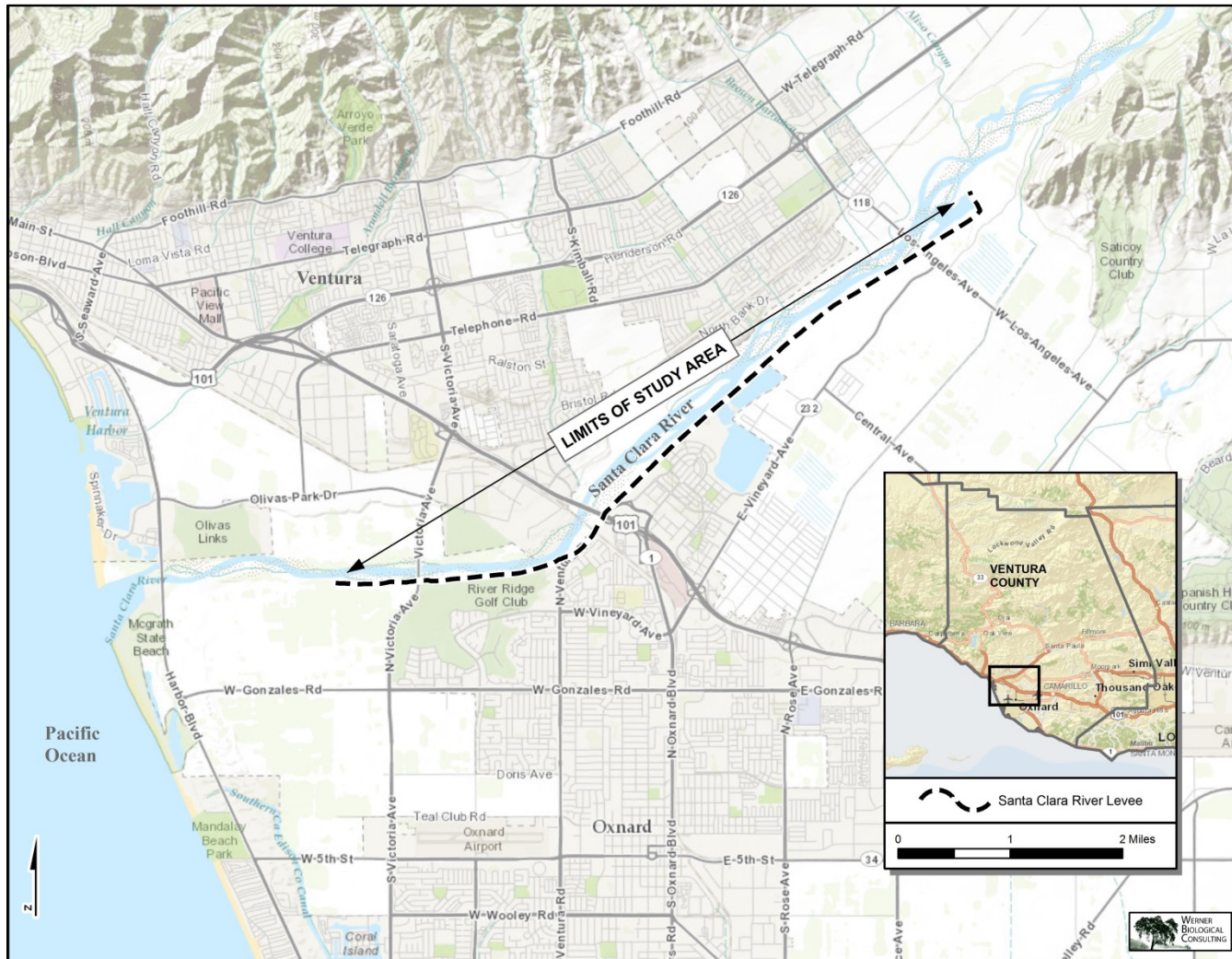
<sup>5</sup> California Department of Fish and Wildlife: Fully Protected Species (nesting)

<sup>6</sup> California Department of Fish and Wildlife: Watchlist Species (nesting)

<sup>7</sup> American Bird Conservancy: U.S. Watch List of Birds of Conservation Concern

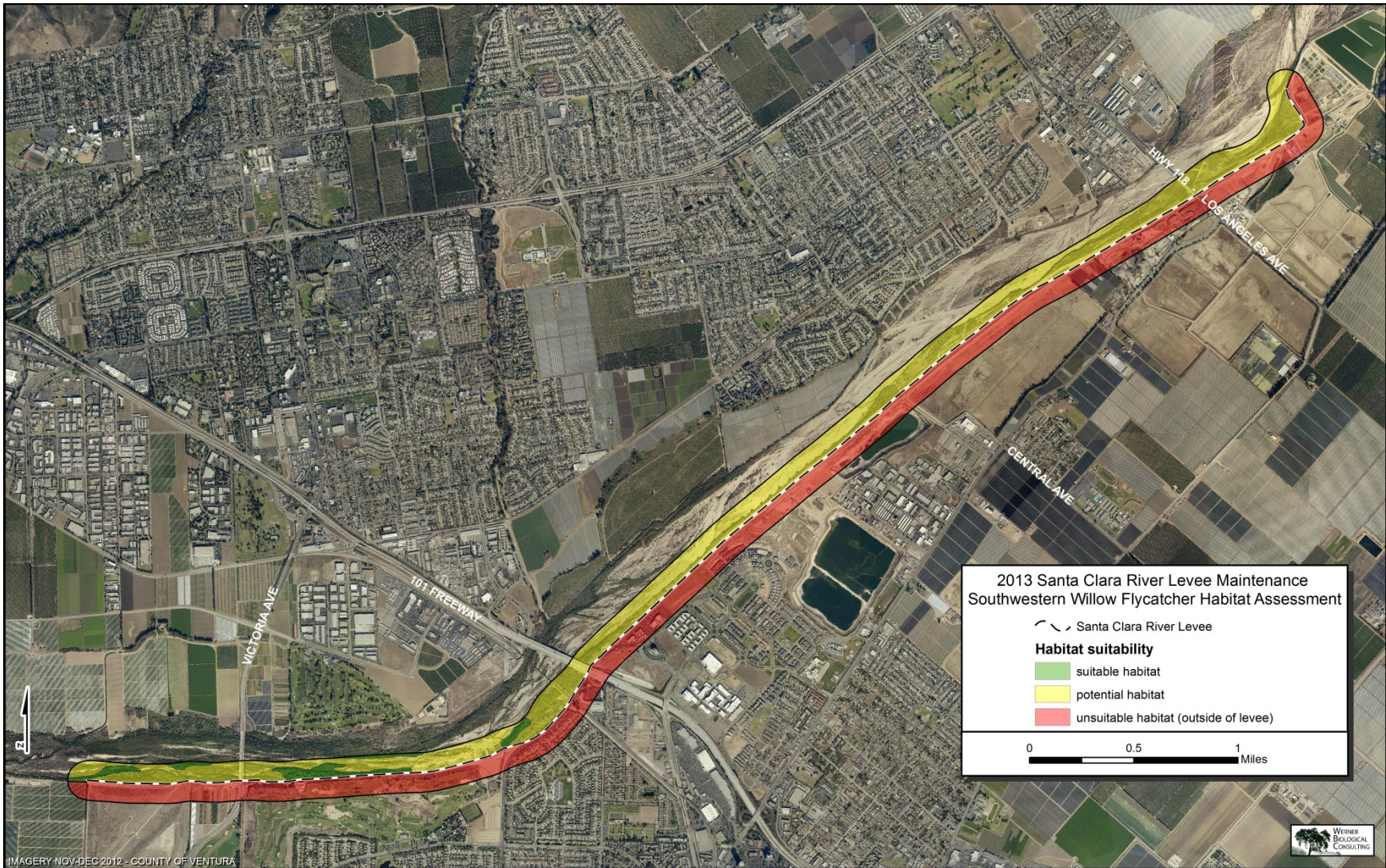
\* evidence of nesting observed (special-status species only)

† non-native species

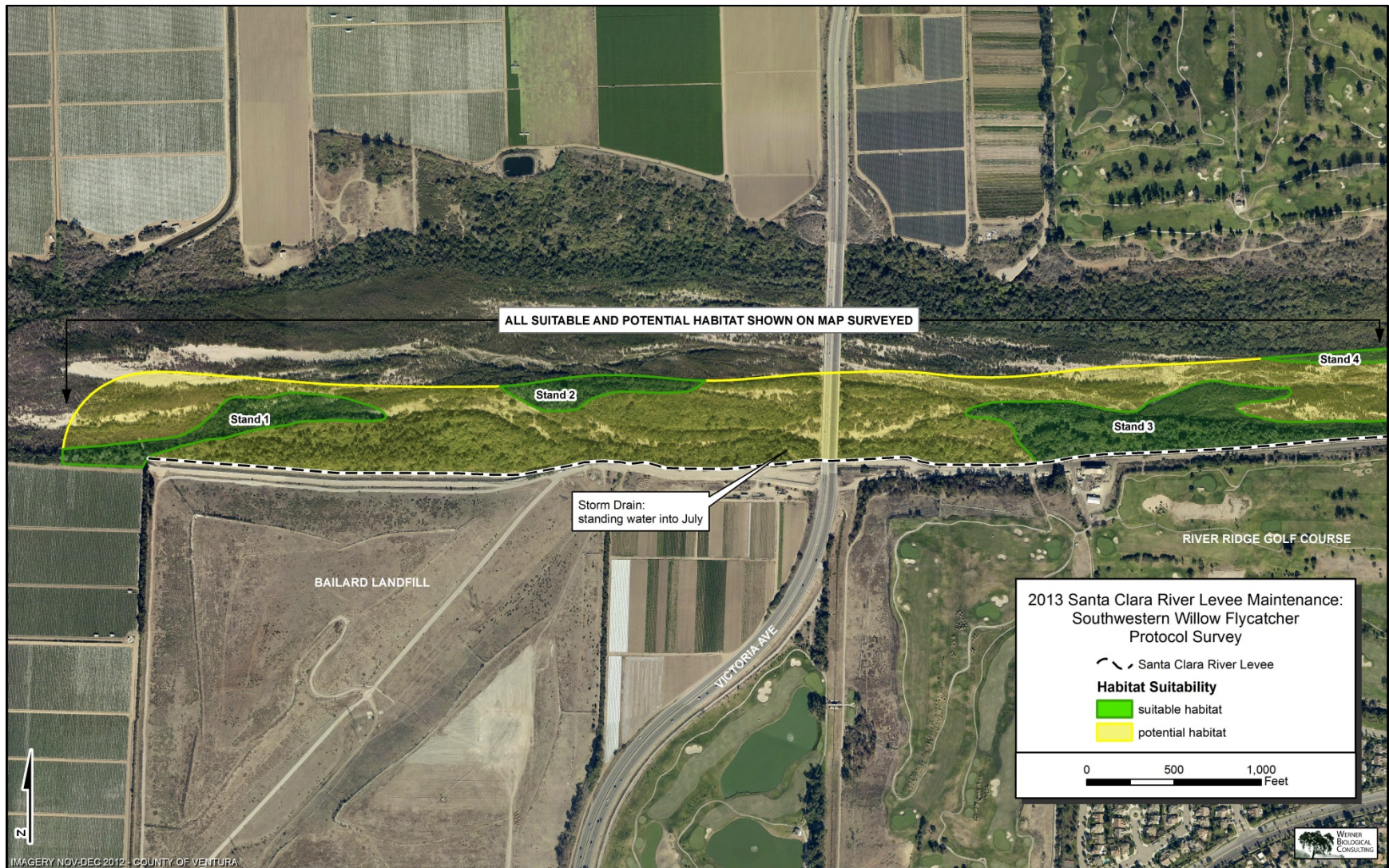


**Figure 1.** Study area location along the Santa Clara River in Oxnard, Ventura County, California.

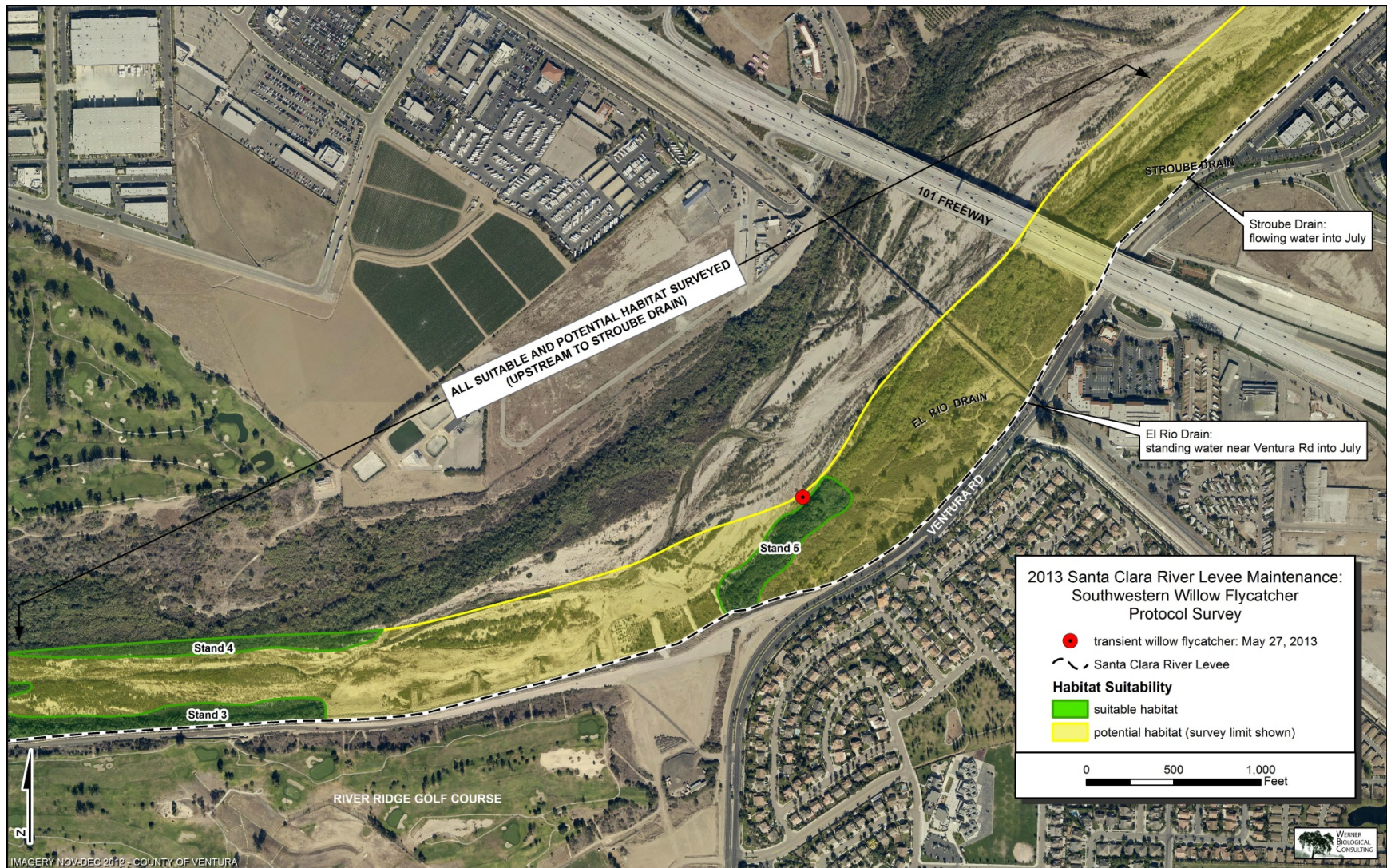




**Figure 2.** Overview of study area and habitat characterization.



**Figure 3.** Suitable Habitat Stands 1 through 4. Potential habitat areas were also walked and surveyed via tape playback.



**Figure 4.** Suitable Habitat Stands 3 through 5. Potential habitat areas were also walked and surveyed via tape playback upstream to storm drain.



**Figure 5.** Suitable habitat Stand 2 looking east along a natural side channel (July 11, 2013).



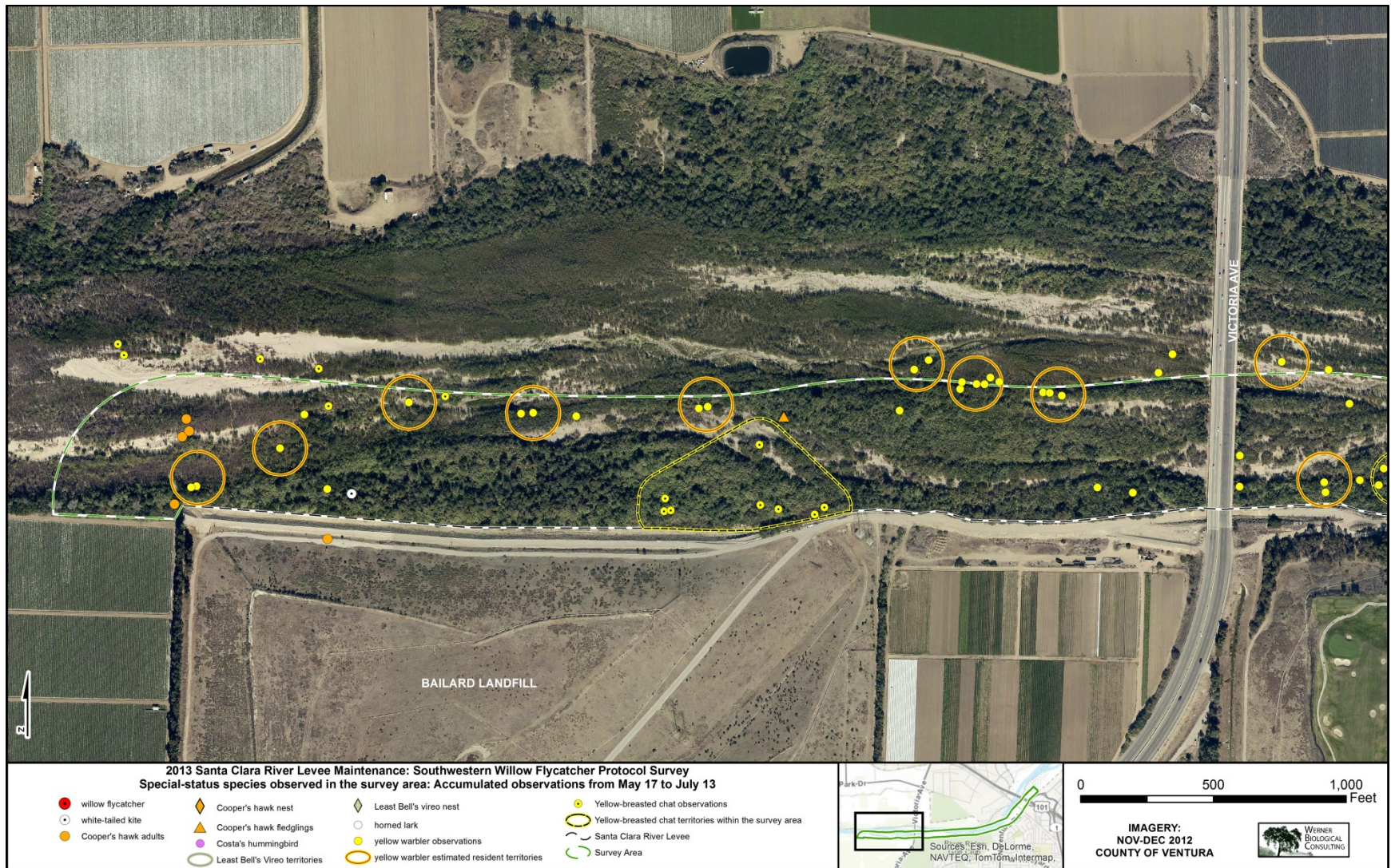
**Figure 6.** Suitable habitat Stand 3 looking south from within main channel (May 25, 2013).



**Figure 7.** Suitable habitat Stand 3 looking north from levee (May 15, 2013).

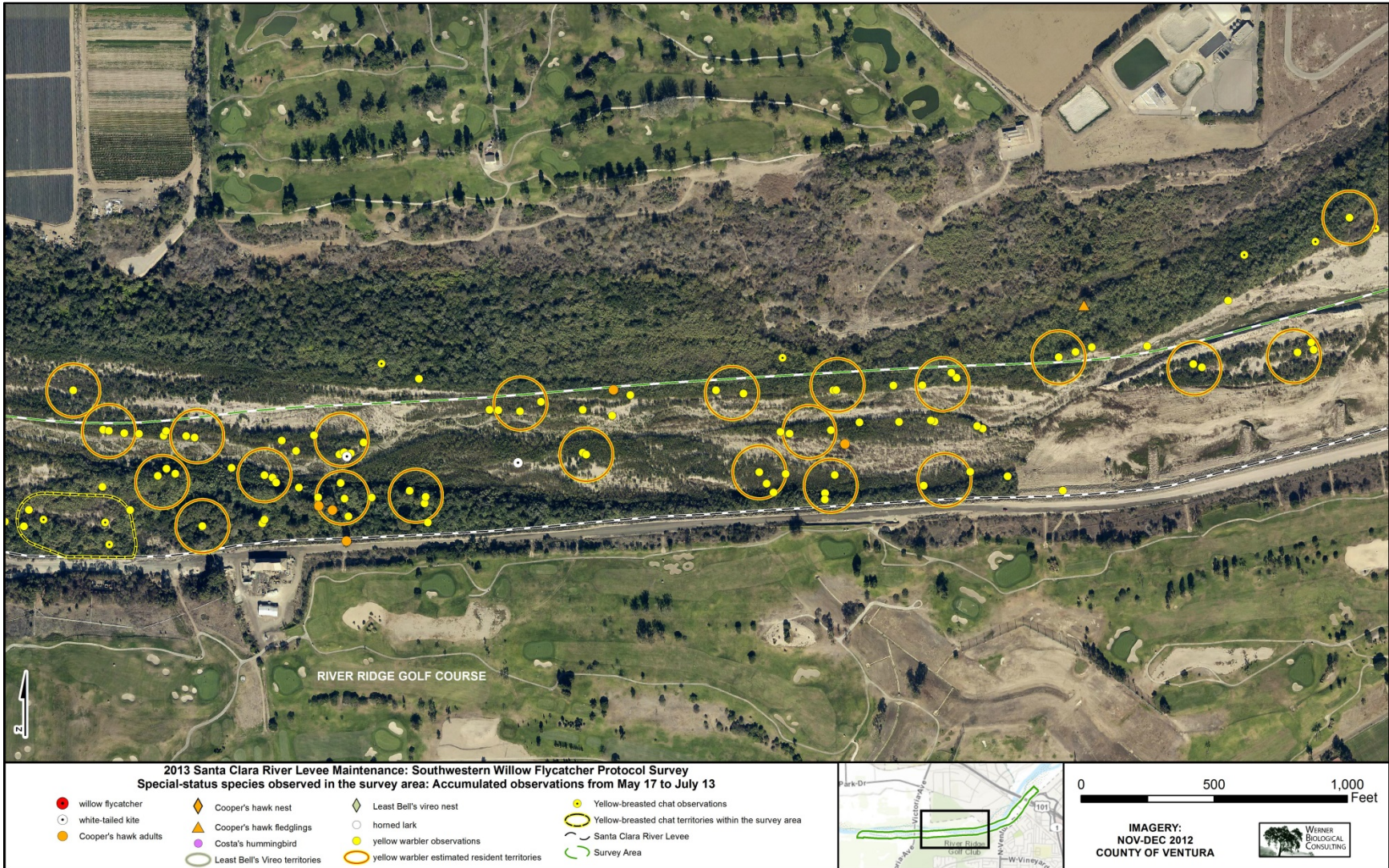


**Figure 8.** View of golf course-fed channel in Stand 3 looking southwest (June 27, 2013).



**Figure 9.** Locations of special-status species observed in the western portion of the survey area.





**Figure 10.** Locations of special-status species observed in the central portion of the survey area.



**Figure 11.** Locations of special-status species observed in the eastern portion of the survey area.

## **Appendix A: Willow Flycatcher detection form and topo map**

## Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Site Name: Santa Clara River State: California County: Ventura  
 USGS Quad Name: Oxnard Elevation: 8 to 20 (meters)  
 Creek, River, or Lake Name: Santa Clara River

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? Yes X No       

Survey Coordinates: Start: E 294515 N 3790280 UTM Datum: NAD83 (See instructions)  
 Stop: E 298675 N 3791353 UTM Zone: 11

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

**\*\*Fill in additional site information on back of this page\*\***

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N  If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;-potential threats [livestock, cowbirds, <i>Diorhabda</i> spp.]). If <i>Diorhabda</i> found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
							# Birds	Sex	UTM E	UTM N
Survey # 1 Observer(s): Scott M. Werner	Date: 5/15/2013	0	0	0	N		# Birds	Sex	UTM E	UTM N
	Start: 6:10									
	Stop: 10:52									
	Total hrs: 4.7									
Survey # 1 Observer(s): Scott M. Werner	Date: 5/16/2013	0	0	0	N		# Birds	Sex	UTM E	UTM N
	Start: 6:10									
	Stop: 10:10									
	Total hrs: 4.0									
Survey # 1 Observer(s): Scott M. Werner	Date: 5/18/2013	0	0	0	N		# Birds	Sex	UTM E	UTM N
	Start: 6:00									
	Stop: 6:50									
	Total hrs: 0.8									
Survey # 2 Observer(s): Scott M. Werner	Date: 5/25/2013	0	0	0	N		# Birds	Sex	UTM E	UTM N
	Start: 6:05									
	Stop: 11:00									
	Total hrs: 5.1									
Survey # 2 Observer(s): Scott M. Werner	Date: 5/27/2013	1	0	0	N	Not territorial, not located within suitable nesting habitat.	# Birds	Sex	UTM E	UTM N
	Start: 6:35						1	M	298021	3790583
	Stop: 10:35									
	Total hrs: 4.0									
Survey # 2 Observer(s): Scott M. Werner	Date: 5/28/2013	0	0	0	N		# Birds	Sex	UTM E	UTM N
	Start: 6:23									
	Stop: 7:10									
	Total hrs: 0.8									

<b>Survey # 3</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/6/2013									
Scott M. Werner	Start:				N					
	6:06	0	0	0						
	Stop:									
	10:20									
	Total hrs:									
	4.2									
<b>Survey # 3</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/7/2013									
Scott M. Werner	Start:				N					
	6:04	0	0	0						
	Stop:									
	9:30									
	Total hrs:									
	3.4									
<b>Survey # 3</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/10/2013									
Scott M. Werner	Start:				N					
	6:00	0	0	0						
	Stop:									
	6:46									
	Total hrs:									
	0.8									
<b>Survey # 4</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/17/2013									
Scott M. Werner	Start:				N					
	6:45	0	0	0						
	Stop:									
	10:34									
	Total hrs:									
	3.8									
<b>Survey # 4</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/18/2013									
Scott M. Werner	Start:				N					
	6:10	0	0	0						
	Stop:									
	10:16									
	Total hrs:									
	4.1									
<b>Survey # 4</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/20/2013									
Scott M. Werner	Start:				N					
	6:30	0	0	0						
	Stop:									
	7:30									
	Total hrs:									
	1.0									
<b>Survey # 5</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/27/2013									
Scott M. Werner	Start:				N					
	6:03	0	0	0						
	Stop:									
	10:30									
	Total hrs:									
	4.5									
<b>Survey # 5</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/28/2013									
Scott M. Werner	Start:				N					
	6:10	0	0	0						
	Stop:									
	10:00									
	Total hrs:									
	3.8									

<b>Survey # 5</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/1/2013									
Scott M. Werner	Start:				N					
	5:55	0	0	0						
	Stop:									
	7:54									
	Total hrs:									
	2.0									
<b>Survey # 6</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/11/2013									
Scott M. Werner	Start:				N					
	6:02	0	0	0						
	Stop:									
	10:37									
	Total hrs:									
	4.6									
<b>Survey # 6</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/12/2013									
Scott M. Werner	Start:				N					
	6:00	0	0	0						
	Stop:									
	9:40									
	Total hrs:									
	3.7									
<b>Survey # 6</b>	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/13/2013									
Scott M. Werner	Start:				N					
	6:00	0	0	0						
	Stop:									
	8:05									
	Total hrs:									
	2.1									
<b>Overall Site Summary</b>						Were any WIFLs color-banded?    Yes                      No <b>X</b> _____ If yes, report color combination(s) in the comments section on back of form and report to USFWS.				
Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total survey hrs:	Total Adult Residents	Total Pairs	Total Territories	Total Nests	57.4					

Reporting Individual: Scott Werner Date Report Completed: 8/9/2013  
 US Fish & Wildlife Service Permit #: TE-179013 State Wildlife Agency Permit #: SC-005186 (CA)

**Submit form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.**

Fill in the following information completely. Submit form by September 1<sup>st</sup>. Retain a copy for your records.

Reporting Individual Scott Werner Phone # 805-272-5871  
 Affiliation Werner Biological Consulting E-mail scott@wernerbio.com  
 Site Name Santa Clara River South Bank Levee, Oxnard Date report Completed 8/9/2013  
 Was this site surveyed in a previous year? Yes X No      Unknown       
 Did you verify that this site name is consistent with that used in previous yrs? Yes      No X Not Applicable     

If name is different, what name(s) was used in the past? Same Survey Area surveyed in 2009 (Thea Bensen of Padre Associates). 'Santa Clara River Weir Project' is a subset of survey area and was surveyed in 2010.  
 If site was surveyed last year, did you survey the same general area this year? Yes      No      If no, summarize below.  
 Did you survey the same general area during each visit to this site this year? Yes X No      If no, summarize below.

Management Authority for Survey Area: Federal      Municipal/County X State      Tribal      Private       
 Name of Management Entity or Owner (e.g., Tonto National Forest) Ventura County Watershed Protection District

Length of area surveyed: 4.6 (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

- Native broadleaf plants (entirely or almost entirely, > 90% native)
- X Mixed native and exotic plants (mostly native, 50 - 90% native)
- Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)
- Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.

Salix lasiolepis, Salix laevigata, Populus trichocarpa

Average height of canopy (Do not include a range): 8 (meters)

- Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;  
 2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;  
 3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.

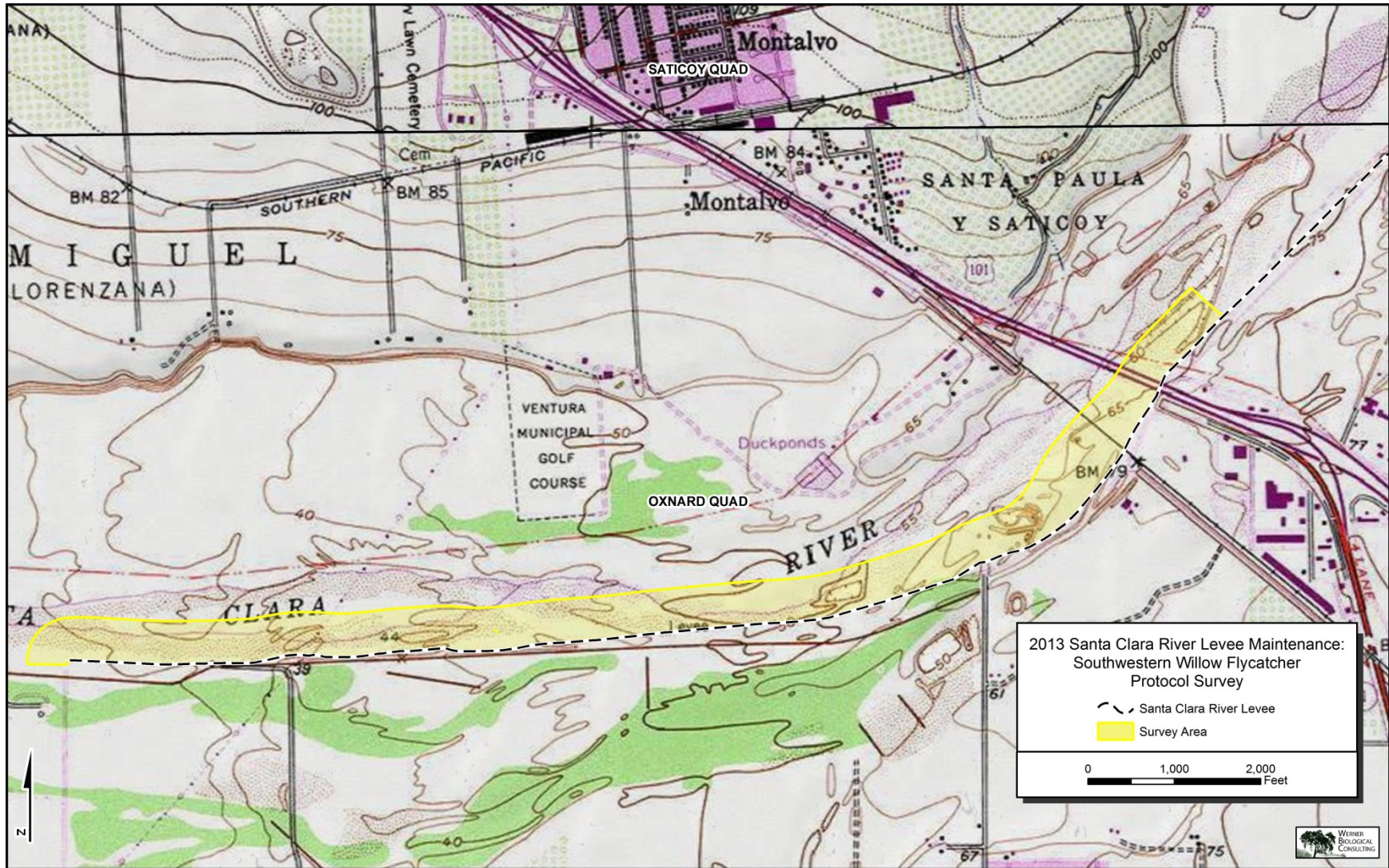
Attach additional sheets if necessary.

**Total survey area took 3 days to complete. A second survey was added during period 1 because surveyor was already in the area conducting a least Bell's vireo survey.**

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary





**Least Bell's Vireo (*Vireo bellii pusillus*)  
Protocol Survey and Territory Mapping  
for the Santa Clara River Levee Improvements Downstream of  
Union Pacific Railroad (SCR-3), Ventura County, 2015**

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September 2015



## Summary of Survey Results

Surveys and territory mapping were conducted for least Bell's vireo along a section of the Santa Clara River. This report presents the results of a protocol presence-absence survey and territory mapping survey for the federal and state endangered least Bell's vireo (*Vireo bellii pusillus*) along a 2.7-mile (4.3-kilometer) section of the Santa Clara River from Highway 101 downstream to Bailard Landfill in unincorporated Ventura County between the Cities of Oxnard and Ventura, California. Six territories were identified within the area near Ventura Road and Highway 101. Nesting or fledglings were observed in most of the territories. Additional special-status species were identified in the study area as well, including California Species of Special Concern western pond turtle (*Emys marmorata*), yellow warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*).

## Introduction

The least Bell's vireo (vireo) is a small gray migratory songbird whose historical range extended from Baja California, Mexico, to the northern Sacramento Valley of California, and from the California coastal ranges east to Death Valley (Grinnell and Miller 1944). Riparian habitat losses and increases in brown-headed cowbird populations starting in the 1930s eventually caused the vireo to become essentially extinct north of the Transverse Ranges of southern California (Grinnell and Miller 1944, Gaines 1974, Goldwasser et al. 1980, Garrett and Dunn 1981, USFWS 1986). The vireo was listed as endangered by the California Fish and Game Commission in 1980 and listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in 1986. Critical habitat was designated in 1994, covering approximately 38,000 acres (15,200 hectares) in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside and San Diego Counties (USFWS 1994). Although still absent from major portions of its historical range, the vireo has responded well to conservation management actions. In a 5-year status review, USFWS (2006) determined that the number of occupied vireo territories had increased ten-fold (291 to 2968) since the 1986 listing. Recent data suggests a slight decrease from 2010 to 2012 in vireo numbers throughout their range (Kus et al. 2013).

The least Bell's vireo is one of four recognized subspecies of Bell's vireo in the United States (Kus et al. 2010). Least Bell's vireos are obligate riparian breeders, nesting along stream courses typically dominated by willows (*Salix* spp.) and cottonwoods (*Populus* spp.; Gray and Greaves 1984). The key structural components of suitable breeding habitat are a dense layer of vegetation 3–6 feet above the ground along with a taller canopy layer (USFWS 1994). This subspecies spends the winter in southern Baja California, Mexico, and arrives on breeding grounds in California in March or April (USFWS 1998). Nests are typically built by both parents and made of leaves, bark, willow catkins, and spider webs into a small cup that hangs from a fork of a tree or shrub, usually within 3 feet of the ground (Franzreb 1989, USFWS 1998, Kus et al. 2010). Unpaired males are known to build 'false' nests, which are not as structurally robust as regular nests (Kus et al. 2010). A clutch of 3–4 eggs is incubated by both parents for 14 days, and nestlings leave the nest after about 12 to 14 days, after which time they are cared for by the parents for another 2 or more weeks. Vireos may produce up to two successful clutches during a season (Gray and Greaves 1984). Vireos are monogamous (Kus et al. 2010) but are known to switch territories and mates during a single season (Greaves and Labinger 1997). Vireos depart from their breeding grounds during July to September en route to wintering sites in Mexico (Gray and Greaves 1984, Franzreb 1989).

Werner Biological Consulting was contracted to conduct least Bell's vireo protocol surveys and territory mapping along a 2.7-mile (4.3-kilometer) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura, California. The purpose of the study was: 1) to determine vireo occupancy within 500 feet (152 m) of the south bank levee; 2) to delineate vireo territory boundaries

within the 500-foot-wide survey area, in order to determine vireo usage of habitat near the levee; and 3) to document additional special-status species within the study area.

## Methods

### Study Area

The study area is located in coastal Ventura County of southern California and consists of approximately 2.7 miles (4.3 kilometers) of the lower Santa Clara River's south bank and all riparian habitat within 500 feet (152 meters) of the south bank levee (Figure 1). The downstream limit of the study area was just west of the Bailard Landfill at Universal Transverse Mercator (UTM) coordinates 294512mE, 3790260mN (UTM NAD83, Zone 11S). The upstream limit of the study area was the Highway 101 Bridge at coordinates 298524mE, 3791089mN. The bridge is roughly 500 feet northeast of the Union Pacific Railroad (UPRR), which is the SCR-3 upstream project limit. Elevations range from 28–75 feet (9–23 meters) above mean sea level. The study area was primarily limited to the habitat north of the levee to approximately the center of the Santa Clara River, for a total of 158 acres (64 hectares). No suitable riparian areas south of the levee were identified, but potential foraging habitats (e.g., scrub) along the levee were scanned for vireo activity. The dominant riparian vegetation communities in the study area are best characterized as arroyo willow (*Salix lasiolepis*) thicket and scrub, red willow (*Salix laevigata*) thicket, black cottonwood (*Populus trichocarpa*) forest, and mule fat (*Baccharis salicifolia*) scrub (Sawyer et al. 2009). Dense infestations of giant reed (*Arundo donax*) are scattered throughout the study area. Vegetation communities are described in more detail in Padre Associates, Inc. (2009). There is no perennial river flow within the study area, but small pockets of surface water persist into late spring and summer within low-elevation areas along the main channel. In addition, several manmade drains convey small amounts of water during this period from the adjacent golf course and urban storm drains along the bank.

### Background Review

Prior to the first survey, a review was performed of recent local occurrence data and previous surveys conducted in or near the study area, as well as a literature review of recent reports about the subspecies throughout its range.

### Survey Methodology

All surveys were conducted by Scott Werner (biologist), who is authorized for nest-monitoring of least Bell's vireo nests per USFWS Endangered Species Act Section 10(a)(1)(A) Recovery Permit TE-179013. The biologist also has been issued California Department of Fish and Wildlife (CDFW) Scientific Collecting Permit SC-005186 with Memorandum of Understanding that authorizes nest-monitoring of least Bell's vireo nests. The biologist has 20 years of experience as a field ornithologist in California, Texas, and Arizona, including 11 years working as a consultant in Ventura County and throughout southern California. The biologist previously conducted a protocol presence/absence vireo survey and territory mapping in the same study area in 2013 (Werner 2013).

The presence-absence survey methodology followed the protocol described in *Least Bell's Vireo Survey Guidelines* (USFWS 2001), which requires eight surveys to be conducted at least ten days apart from April 10 to July 31. Survey dates, times, and environmental conditions are summarized in Table 1. Surveys were generally conducted between dawn and 11:00 am under fair weather conditions (some territory-mapping continued later than 11:00 am because vireo presence had already been established). No vireo vocalizations were played. The biologist slowly walked meandering routes along the levee and within the river bottom throughout the entire study area, generally moving west to east (downstream to upstream), following natural openings and edges within the habitat while listening for singing males or other vireo calls. A survey of the entire study area took two to three mornings because of its large size. Locations of vireos were recorded on aerial photographs, or recorded via a handheld Global Positioning System (GPS) device if necessary (in

UTM Zone 11 coordinates). The presence-absence survey focused on locating vireos within the 500-foot buffer study area, but approximate locations of vireos heard outside the buffer were also recorded when possible.

Territory mapping surveys were conducted concurrently with the eight presence-absence surveys (Table 2). Territories identified in previous years (Ryan 2009, 2010, Werner 2013) were reviewed for the current survey. Territory mapping involved a spot-mapping technique to accumulate mapped vireo locations throughout the season and arrive at approximate territory boundaries (Bibby et al. 2000, Ryan 2009, 2010, Werner 2013). Upon arriving at a known or suspected territory, the biologist listened quietly for several minutes for vocalizing vireos and began a visual search if none were initially heard. Each mapping session lasted between 20 and 60 minutes. Upon detection, the biologist used aerial photographs to record locations of all vireos as the birds moved through the vegetation, including males, females, fledglings, and juveniles. Breeding behaviors such as nest-building, carrying nesting material or food, or feeding fledglings were recorded. Locations of counter-singing males helped define the separation of adjacent territories; there were no color-banded vireos within the study area. Nest-searching was not conducted but incidentally confirmed or suspected nest locations were mapped. After each survey the mapped vireo locations were digitized into a Geographic Information System (GIS). Territory polygons were created using a 50-foot buffer around each vireo location. Polygons that overlapped due to the 50-foot buffer were adjusted for clarity on the maps. Territory boundary estimates derived from counter-singing males generally did not change or overlap during the season.

All wildlife species or sign observed during surveys were recorded (Tables 3 and 4), and locations of special-status species (CDFW 2015) were noted on maps and/or recorded via GPS (in UTM Zone 11 coordinates). All detection points from all eight visits were plotted, which likely shows repeated detections of some individuals. California Natural Diversity Data Base (CNDDDB) forms were prepared for observations of special-status species following standard CDFW reporting guidelines, which list specific criteria for reporting avian observations (CDFW 2010). The CNDDDB forms are compiled in Appendix A of this report.

### **Survey Limitations**

The entire survey area was not accessible during all surveys due to a marked increase in the homeless population since 2013. Many homeless camps and trash piles were encountered within the denser riparian forest in Reach 4 (UPRR downstream nearly to the Groins) and the Gap Area (UPRR upstream to Highway 101). Singing vireos could not be followed in certain areas for safety concerns, and birds were often lost and not resighted if they stopped singing in those areas.

The spot-mapping technique for estimating territory boundaries, especially with unmarked birds, likely underestimates a bird's true home range, which includes undefended areas (Odum and Kuenzler 1955, Anich et al. 2009). In addition, it relies on the assumption that birds live in fixed, discrete, and non-overlapping ranges (Bibbey et al. 2000). Vireos are known to switch territories and mates over the course of the nesting season (Greaves and Labinger 1997), which may violate this assumption. Therefore, the territories are meant to indicate defended areas but do not necessarily include all of the habitat utilized by vireos in the study area (see Figures 2–4).

# Results and Discussion

## Background Review

Recent vireo occurrence in the study area is well documented (Ryan 2008, 2009, 2010; Padre 2009, 2012; Werner 2013), with CNDDDB records dating to 2004 around the Highway 101 bridge (CNDDDB 2015).

## Least Bell's Vireo Detections and Territories

Six least Bell's vireo territories were documented within the study area in 2015 (Figures 2–3). All were located in the river section between the Santa Clara River Bendway Weir Field and Highway 101. Vireos were observed in every territory during only one of the eight visits; usually there were one or more territories where vireos could not be located, although homeless activity prevented full access to most areas at any given time.

### Territory 1

This territory was centered in a stand of arroyo willow and mule fat regrowth around the easternmost of four bendway weirs constructed in 2012 and the westernmost of three groins constructed in 2006. During one survey, a male vireo was followed from the groin area to a stand of big saltbush (*Atriplex lentiformis*) scrub along Ventura Road south of the levee and was observed foraging there. This was the only observation during the 2015 surveys of a vireo traveling south of the levee. Two fledglings were seen on June 22, 2015 (sixth survey), northwest of Territory 1 and appeared to be associated with a male singing from the north bank of the river, beyond the survey area (Figure 2). During the second observation of this male during the seventh survey on July 2, 2015 (assuming it was the same bird), singing males were concurrently observed on Territories 1 and 2, indicating the potential for another undescribed territory on the north side of the river. However, it is unusual that this male had not been heard at this location during the first five visits.

### Territory 2

This territory, located upstream of Territory 1, was centered at the eastern two groins and included a transitional area between the river and the gap area (Figure 2). A nest with three loud nestlings was observed in an arroyo willow and mule fat thicket along the easternmost groin during the third survey on May 20, 2015 (UTM coordinates 297852mE, 3790539mN). A Cooper's hawk nest that fledged two young was located within this territory (Figure 9). The observed northeastern boundary of this territory abutted a large homeless camp, which reduced the amount of data collected there.

### Territory 3

This territory along Reach 4 (Figure 3) roughly corresponded to a 2013 territory (Werner 2013). The area is located along a drier bench above the main river, with willow and mule fat thickets and black cottonwood stands. The lower El Rio Drain and a second unnamed urban storm drain converge in this area. A wildfire had recently burned approximately 0.5 acre (0.2 hectare) of giant reed and native species in the territory prior to the start of surveys. A suspected vireo nest (determined from a possible male/female incubation swap) was observed on May 30, 2015 (fourth survey), followed by a begging vireo nestling/fledgling heard at the same location on June 23, 2015 (sixth survey). This location was in a mule fat thicket at UTM coordinates 298116mE, 3790683mN. A family group found within Territory 3 on July 17, 2015 (final survey), was followed through Territories 4 and 5 with no visible disputes with other territorial vireos (Figure 4; see below).

### Territory 4

A singing male was detected during most surveys in the black cottonwoods and arroyo willow/mule fat thickets along the northwest boundary of Territory 4 (Figure 3). Significant homeless activity was observed in that area as well. Nonetheless, the male vireo was observed feeding two fledglings in the mule fat thickets in the southeastern half of the territory on May 21, 2015, and May 30, 2015 (third and fourth surveys,

respectively). The Territory 4 boundary delineation did not include an anomalous observation of a family group that moved through the southern portion of the territory on July 17, 2015 (final survey), even while the Territory 4 male continued to sing in the northern portion (Figure 4).

### **Territory 5**

Vegetation in Territory 5 was similar to that of Territory 4. The El Rio Drain bisects the territory and supports riparian willow thickets from Ventura Road westward to the river bank (Figure 3). A male vireo was observed feeding a fledgling on May 30, 2015 (fourth survey). Locations of the vireo family group described above for Territory 4 that ventured into Territory 5 were not included in the boundary delineation of Territory 5 (Figure 4).

### **Territory 6**

This territory spanned the gap area between the railroad and Highway 101, encompassing a willow-cottonwood riparian area slightly higher in elevation than the main river channel but below an upland bench along Ventura Road with coyote brush scrub and patchy mule fat and willows (Figure 3). Most of the riparian area burned in a late 2013 fire that was focused around the giant reed stands and left some willow thicket intact. Substantial clearing of the woodland from homeless activity was observed along the river. A male vireo was regularly observed in this territory and a male-female pair was observed feeding 1–2 fledglings on July 16 and 17, 2015 (final survey).

### **Comparisons with Previous Surveys in the Study Area**

The 2015 vireo territories were concentrated in and near Reach 4 and the gap area, similar to what was observed in 2013 but with more vireo observations around the groins and bendway weir field and across the river in 2015. As in 2013, no vireos were detected near Victoria Avenue where Ryan (2009) identified two territories in 2009.

### **Territory Mapping as a Model for Occupied Habitat in the Study Area**

Territory mapping, as was conducted in this study with unmarked birds during a relatively small number (8) of visits at lengthy intervals (10 days apart), likely underestimates the vireos' true home range sizes (Odum and Kuenzler 1955, Anich et al. 2009) and would not detect potential intra-seasonal movements by adults and juveniles. For example, adults were not always detected in every territory, either because they were present and went unnoticed or because they were potentially roaming beyond the assumed territorial boundaries. At least two instances of vireo family groups roaming into a new area (vireos northwest of Territory 1) or into adjacent territories (Territories 3–5, see above) were observed. Juvenile vireos have been seen 1 mile (1.6 kilometers) away from their nest site in the same nesting season (Gray and Greaves 1984) during what is surely a critical period of their development prior to fall migration, emphasizing the need for juvenile habitat-usage studies. The limitations of the current study methodology should be recognized, and future studies should emphasize comprehensive habitat usage, fledgling/juvenile dispersal, and potential effects from levee maintenance and other habitat disturbances.

### **Threats to Biological Resources in the Study Area**

Homeless activity and associated brush clearing and fire damage were evident throughout Reach 4 and the gap area in 2015. The amount of understory habitat in several of the vireo territories was noticeably reduced compared to 2013 due to active homeless camps, trash dumps, and fire damage. Nonetheless, fledgling vireos or nests were observed on all territories. No direct adverse effects on vireos or other nesting birds were observed during the surveys, but it was clear that some small brush clearing and gathering of wood had occurred between several of the visits, potentially affecting nesting birds in general (Figure 19).

A swath of riparian habitat measuring approximately 450 feet long (137 meters) by 15 feet (4.6 meters) wide near Bailard landfill had been removed since 2013, presumably by a municipal agency or utility (Figure 22). It appeared to be an extension of an old access road leading into the river bottom.

### **Brown-headed Cowbirds**

No free-roaming brown-headed cowbirds were detected during the survey. An active brown-headed cowbird trap was established near the River Ridge Golf Course maintenance building at UTM 296204mE, 3790266mN. A brown-headed cowbird trap that was active during 2013 at UTM 297725mE, 3790507mN near the groins was relocated to Buenaventura Golf Course (UTM 297019mE, 3790917mN) north of the Santa Clara River in 2015 due to poor performance in 2013 and 2014.

### **Special-status Species**

Locations of special-status species observed during the surveys are shown in Figures 5–10. All detection points are plotted without reference to survey date and likely show repeated detections of some resident individuals. CNDDDB forms with maps and photos for species that met the CNDDDB's reporting criteria are included in Appendix A.

Western pond turtle (*Emys marmorata*) – State of California Special Concern Species (SSC). One western pond turtle was seen in a shallow pool in the center of the river channel on April 27, 2015 at UTM 296424mE, 3790372mN (Figure 7). Two western pond turtles were seen on May 19, 2015, along the main river channel in a shallow pool that dried up by July 2 (seventh visit), at UTM 296048mE, 3790399mN (Figure 7). Two western pond turtles were seen on May 19, 2015, and on June 20, 2015, in a pooled area around a footing of the Victoria Avenue Bridge at approximate UTM 295878mE, 3790409mN (Figure 6). This pool was still inundated during the final visit on July 14, 2015.

Great blue heron (*Ardea herodias*) – California Department of Forestry and Fire Protection (CDF) Sensitive (nesting colony). Great blue herons were regularly seen flying over the area or hunting at ponded areas along the river. No nesting colonies were observed or suspected.

White-tailed kite (*Elanus leucurus*) – State of California Fully Protected (SFP) when nesting. A white-tailed kite was seen on June 30, 2015, hunting and flying northward over the extreme west end of the survey area near Bailard Landfill (Figure 5). This species nested in the survey area in 2012 (Padre Associates, Inc. 2012) but no evidence of nesting was observed in 2013 or 2015.

Cooper's hawk (*Accipiter cooperii*) – State of California Watchlist (WL) when nesting. Cooper's hawks were regularly seen hunting in the survey area and nested successfully in Reach 4 (Figure 9). This nest location was approximately 360 feet southwest of a 2013 historical nesting location that was now occupied by a sizable homeless camp. Cooper's hawk fledglings were observed (along with regular adult sightings throughout the season) at three additional locations: just west of Victoria Avenue, near the River Ridge Golf Course maintenance building, and just north of the survey area on the north side of the river near the bendway weir field (Figures 6, 7, 9).

Allen's hummingbird (*Selasphorus sasin*) – Federal Bird Species of Conservation Concern (BCC) when nesting. Allen's hummingbirds were observed in large numbers throughout the study area and were considered too numerous to map. No nesting was observed. The Allen's hummingbird 2015 nesting season likely reached its peak before the start of the surveys, based on earlier 2015 observations from the local area.

Nuttall's woodpecker (*Picoides nuttallii*) – BCC (nesting). A male Nuttall's woodpecker was observed in a black cottonwood grove on May 20, 2015, at UTM 298017mE, 3790685mN, but was not detected thereafter. An active downy woodpecker (*Picoides pubescens*) nest was later observed at this location (Figures 9–10).



Willow flycatcher (*Empidonax traillii*) – State Endangered, BCC (nesting). Six transient willow flycatchers (subspecies unknown) were observed on May 19-20, 2015 (Table 3; Figures 5, 7, 9, 10). A separate report has been prepared that summarizes the results of a concurrently conducted southwestern willow flycatcher (*E. t. extimus*) protocol survey in the study area (Werner 2015).

California horned lark (*Eremophila alpestris actia*) – WL. A California horned lark was observed singing in a cleared area south of the levee near Ventura Road at UTM 297777mE, 3790423mN on May 11, 2015 (Figure 9). Two California horned larks were observed in flight south of the levee at Bailard Landfill at UTM 295106mE, 3790221mN on June 30, 2015 (Figure 9).

Yellow warbler (*Setophaga petechia*) – SSC, BCC (nesting). Territorial males of this species were observed throughout the survey area during all survey periods. An average of 18 (range = 13–25) detections per survey period, usually of singing males, was recorded. The best estimated number of territories is approximately 23, based on detections during June 20–22, 2015 (Survey #6), well after any migrants would be in the area (Lowther et al. 1999). Figures 5–10 show locations of all detections, undifferentiated by survey number.

Yellow-breasted chat (*Icteria virens*) – SSC (nesting). There were five general locations throughout the study area with repeated detections of yellow-breasted chat, as well as several additional isolated observations (Figures 5–10).

## Conclusions and Recommendations

Least Bell's vireo territories were clumped in Reach 4 and the gap area bordered by Ventura Road and Highway 101. Active nesting was confirmed and fledglings were observed in most territories. No vireos were detected downstream of the bendway weir field, where an abundance of suitable habitat remains and two vireo territories were documented in 2009.

Potential habitat disturbances resulting from the Santa Clara River Levee Improvements Downstream of UPRR (SCR-3) project should be minimized and conducted with biological monitoring and bird-nesting avoidance measures. Active homeless camps should be disbanded to reduce adverse effects on the habitat (and potential direct adverse effects on protected species) in the form of noise and visual disturbances, brush and trail clearing, wildfires, off-leash pets, and trash piles.

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## Certification Statement

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.

 9/2/15

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SCOTT WERNER  
TE-179013-1

**Table 1.** Summary of least Bell's vireo survey dates, times, and conditions.

Survey Number	Day	Date	Time		Temp. (°F)		Clouds (%)		Wind (mph)	
			Start	Stop	Start	Stop	Start	Stop	Start	Stop
1	1	4/27/15	0705	1115	58	74	0	0	0	4-7
1	2	4/28/15	0655	0930	62	69	0	0	0	2
2	1	5/7/15	0620	1100	50	60	100	40	0	4-7
2	2	5/11/15	0620	1000	55	67	50	25	0	2-3
2	3	5/12/15	0830	1015	58	64	25	25	0	3
3	1	5/19/15	0630	1025	53	63	0	0	0	4-7
3	2	5/20/15	0640	1020	55	64	0	5	0	3
3	3	5/21/15	0630	1010	55	63	20	70	0	4-10
4	1	5/29/15	0550	0945	58	65	100	100	0	0
4	2	5/30/15	0600	0930	57	65	100	100	0	2-3
5	1	6/9/15	0615	1030	61	65	100	100	0	0-3
5	2	6/10/15	0550	1050	61	68	50	100	0	4-8
6	1	6/20/15	0645	1045	60	70	0	0	0	3-6
6	2	6/22/15	0619	1015	57	70	0	0	4	4-8
6	3	6/23/15	0640	1005	58	75	15	0	0	0-3
7	1	6/30/15	0715	1005	63	74	10	5	2-4	3-5
7	2	7/2/15	0630	1015	64	80	90	60	2	2
7	3	7/3/15	0645	0835	60	66	100	100	1	2
8	1	7/14/15	0640	1001	60	70	100	90	0	4-7
8	2	7/16/15	0720	1105	65	74	100	40	2	1-2
8	3	7/17/15	0720	1220	61	74	100	40	2	3-7

**Table 2.** Summary of least Bell's vireo territories in the study area. Family groups were observed to travel beyond territorial boundaries, limiting the usefulness of the territory-specific fledgling data.

Territory Number	Size in acres (hectares)	Paired vireos?	nests observed	fledglings observed	Cowbirds observed in territory?
1	6.0 (2.4)	yes	-	-	N
2	3.8 (1.5)	yes	1	-	N
3	3.6 (1.4)	yes	-	yes	N
4	3.4 (1.4)	yes	-	yes	N
5	4.1 (1.6)	yes	-	yes	N
6	3.9 (1.6)	yes	-	yes	N

**Table 3.** Summary of transient willow flycatchers observed in the study area (Werner 2015).

Detection	Date	First Location Detected		Habitat	Detected prior to tape playback? (how)
		UTM Easting	UTM Northing		
1	5/19/15	294663	3790261	<i>Atriplex lentiformis</i> scrub near levee and arroyo/red willow thicket	Y ( <i>whitts</i> )
2*	5/19/15	294993	3790426	arroyo willow scrub	N
3	5/19/15	295129	3790378	arroyo willow scrub	N
4	5/20/15	296400	3790373	arroyo willow scrub	N
5	5/20/15	297863	3790586	patchy arroyo willow scrub and giant reed	N
6	5/20/15	298070	3790616	arroyo/red willow thicket	Y (visual, no vocalization)

\* location was just outside of 500-foot buffer survey area

**Table 4.** List of wildlife species observed in the survey area. Bold type indicates a special-status species, as listed in CDFW's Special Animals List (CDFW 2015). All non-introduced bird species are protected under the Migratory Bird Treaty Act (MBTA). I = introduced.

Common Name	Scientific Name	Status	Notes
<b>FISH</b>			
western mosquitofish (I)	<i>Gambusia affinis</i>	-	-
<b>AMPHIBIANS</b>			
Pacific tree frog	<i>Pseudacris regilla</i>	-	-
bullfrog (I)	<i>Rana catesbeiana</i>	-	-
<b>REPTILES</b>			
<b>western pond turtle</b>	<b><i>Emys marmorata</i></b>	<b>SSC</b>	-
western fence lizard	<i>Sceloporus occidentalis</i>	-	-
side-blotched lizard	<i>Uta stansburiana</i>	-	-
<b>coastal whiptail</b>	<b><i>Aspidoscelis tigris stejnegeri</i></b>	<b>G5T3T4 S2S3</b>	-
<b>BIRDS</b>			
Canada goose	<i>Branta canadensis</i>	-	-
mallard	<i>Anas platyrhynchos</i>	-	-
California quail	<i>Callipepla californica</i>	-	-
<b>great blue heron</b>	<b><i>Ardea herodias</i></b>	<b>CDFS (nesting colony)</b>	no nesting colonies observed
great egret	<i>Ardea alba</i>	-	-
snowy egret	<i>Egretta thula</i>	-	-
turkey vulture	<i>Cathartes aura</i>	-	-
<b>white-tailed kite</b>	<b><i>Elanus leucurus</i></b>	<b>CFP (nesting)</b>	nesting not observed
<b>Cooper's hawk</b>	<b><i>Accipiter cooperii</i></b>	<b>WL (nesting)</b>	<b>nesting observed</b>
red-shouldered hawk	<i>Buteo lineatus</i>	-	-
red-tailed hawk	<i>Buteo jamaicensis</i>	-	-
lesser yellowlegs	<i>Tringa flavipes</i>	-	-
western gull	<i>Larus occidentalis</i>	-	-
Eurasian collared-dove (I)	<i>Streptopelia decaocto</i>	-	-
mourning dove	<i>Zenaida macroura</i>	-	-
common ground-dove	<i>Columbina passerina</i>	-	-
greater roadrunner	<i>Geococcyx californianus</i>	-	-
lesser nighthawk	<i>Chordeiles acutipennis</i>	-	-
<b>Vaux's swift</b>	<b><i>Chaetura vauxi</i></b>	<b>SSC (nesting)</b>	transient
Anna's hummingbird	<i>Calypte anna</i>	-	-
<b>Allen's hummingbird</b>	<b><i>Selasphorus sasin</i></b>	<b>BCC (nesting)</b>	resident birds seen but nesting not observed
<b>Nuttall's woodpecker</b>	<b><i>Picoides nuttallii</i></b>	<b>BCC (nesting)</b>	nesting not observed
downy woodpecker	<i>Picoides pubescens</i>	-	-
hairy woodpecker	<i>Picoides villosus</i>	-	-
western wood-pewee	<i>Contopus sordidulus</i>	-	-
<b>willow flycatcher</b>	<b><i>Empidonax traillii</i></b>	<b>SE, BCC (nesting <i>E. traillii</i>) FE, SE (nesting <i>E. t. extimus</i>)</b>	transients observed (no resident birds or nesting)
Pacific-slope flycatcher	<i>Empidonax difficilis</i>	-	-
black phoebe	<i>Sayornis nigricans</i>	-	-
Say's phoebe	<i>Sayornis saya</i>	-	-
ash-throated flycatcher	<i>Myiarchus cinerascens</i>	-	-
<b>least Bell's vireo</b>	<b><i>Vireo bellii pusillus</i></b>	<b>FE, SE (nesting)</b>	<b>nesting observed</b>
Cassin's vireo	<i>Vireo cassinii</i>	-	-
Hutton's vireo	<i>Vireo huttoni</i>	-	-
warbling vireo	<i>Vireo gilvus</i>	-	-

Common Name	Scientific Name	Status	Notes
western scrub-jay	<i>Aphelocoma californica</i>	-	-
American crow	<i>Corvus brachyrhynchos</i>	-	-
common raven	<i>Corvus corax</i>	-	-
<b>horned lark</b>	<b><i>Eremophila alpestris</i></b>	<b>WL</b>	nesting not observed
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	-	-
cliff swallow	<i>Petrochelidon pyrrhonota</i>	-	-
Barn Swallow	<i>Hirundo rustica</i>	-	-
bushtit	<i>Psaltriparus minimus</i>	-	-
Bewick's wren	<i>Thryomanes bewickii</i>	-	-
house wren	<i>Troglodytes aedon</i>	-	-
Swainson's thrush	<i>Catharus ustulatus</i>	-	-
American robin	<i>Turdus migratorius</i>	-	-
California thrasher	<i>Toxostoma redivivum</i>	-	-
orange-crowned warbler	<i>Oreothlypis celata</i>	-	-
common yellowthroat	<i>Geothlypis trichas</i>	-	-
<b>yellow warbler</b>	<b><i>Setophaga petechia</i></b>	<b>SSC (nesting), BCC</b>	resident birds seen but nesting not observed
Wilson's warbler	<i>Cardellina pusilla</i>	-	-
<b>yellow-breasted chat</b>	<b><i>Icteria virens</i></b>	<b>SSC (nesting)</b>	resident birds seen but nesting not observed
spotted towhee	<i>Pipilo maculatus</i>	-	-
California towhee	<i>Melospiza crissalis</i>	-	-
song sparrow	<i>Melospiza melodia</i>	-	-
dark-eyed junco	<i>Junco hyemalis</i>	-	-
western tanager	<i>Piranga ludoviciana</i>	-	-
rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	-	-
black-headed grosbeak	<i>Pheucticus melanocephalus</i>	-	-
blue grosbeak	<i>Passerina caerulea</i>	-	-
hooded oriole	<i>Icterus cucullatus</i>	-	-
Bullock's oriole	<i>Icterus bullockii</i>	-	-
purple finch	<i>Haemorhous purpureus</i>	-	-
house finch	<i>Haemorhous mexicanus</i>	-	-
lesser goldfinch	<i>Spinus psaltria</i>	-	-
American goldfinch	<i>Spinus tristis</i>	-	-
<b>MAMMALS</b>			
desert cottontail	<i>Sylvilagus audubonii</i>	-	-
California ground squirrel	<i>Otospermophilus beecheyi</i>	-	-
Botta's pocket gopher	<i>Thomomys bottae</i>	-	-
coyote	<i>Canis latrans</i>	-	-
domestic dog (I)	<i>Canis lupus familiaris</i>	-	-
raccoon	<i>Procyon lotor</i>	-	-
domestic cat (I)	<i>Felis catus</i>	-	-

#### STATUS KEY

FE = Federal Endangered

FT = Federal Threatened

FPE = Federal Proposed Endangered

FPT = Federal Proposed Threatened

BCC = USFWS: Birds of Conservation Concern

SE = California Endangered

ST = California Threatened

SR = California Rare

SC = California candidate for listing as threatened/endangered

SSC = California Special Concern Species

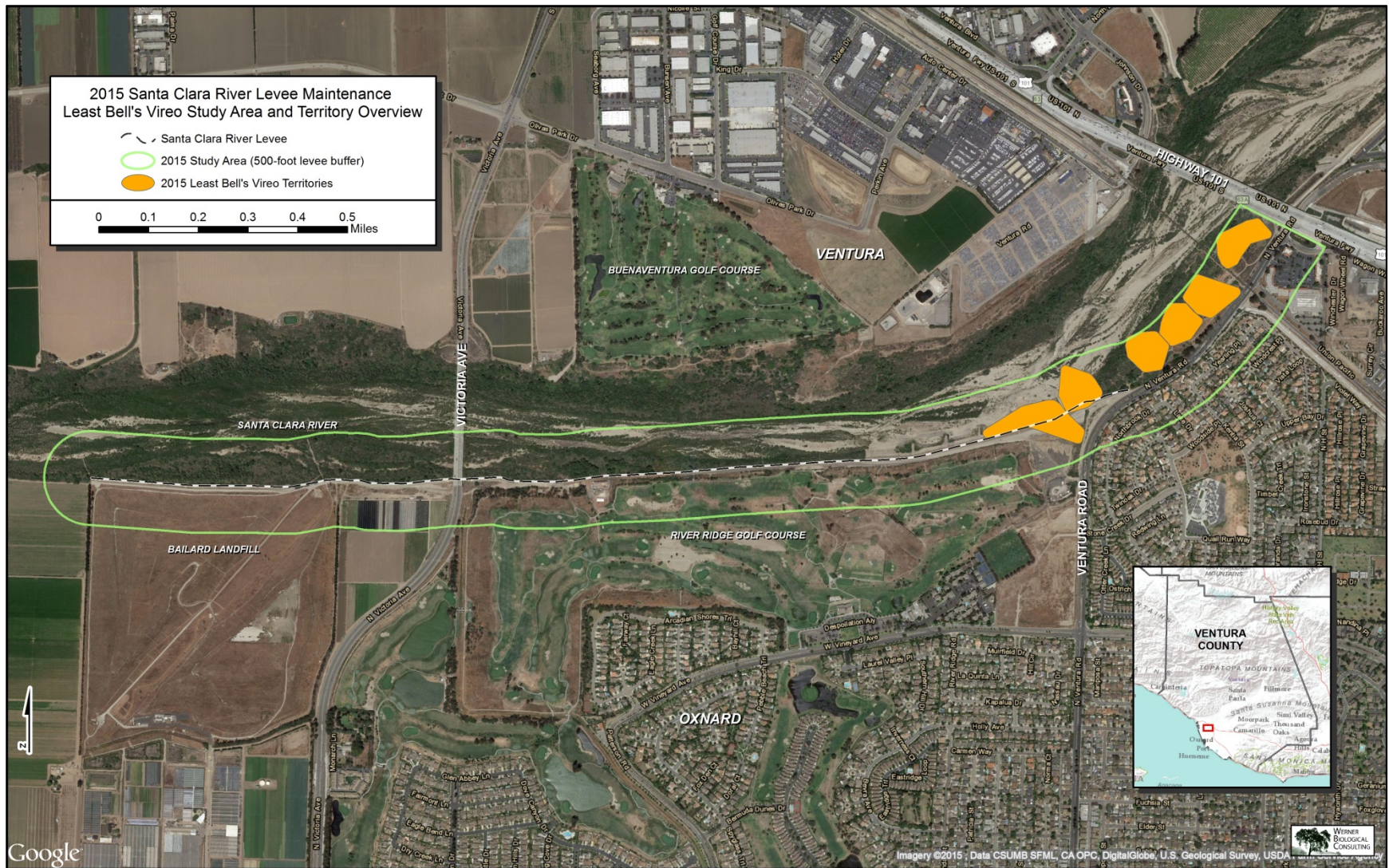
CFP = California Fully Protected

CDFS = California Department of Forestry and Fire Protection Sensitive

WL = California Watch List

G5T3T4 S2S3 – Species globally secure (G5), subspecies vulnerable or apparently secure (T3T4), imperiled or vulnerable in California (S2S3)





**Figure 1.** Mapped study area location along the Santa Clara River in Oxnard, Ventura County, California.

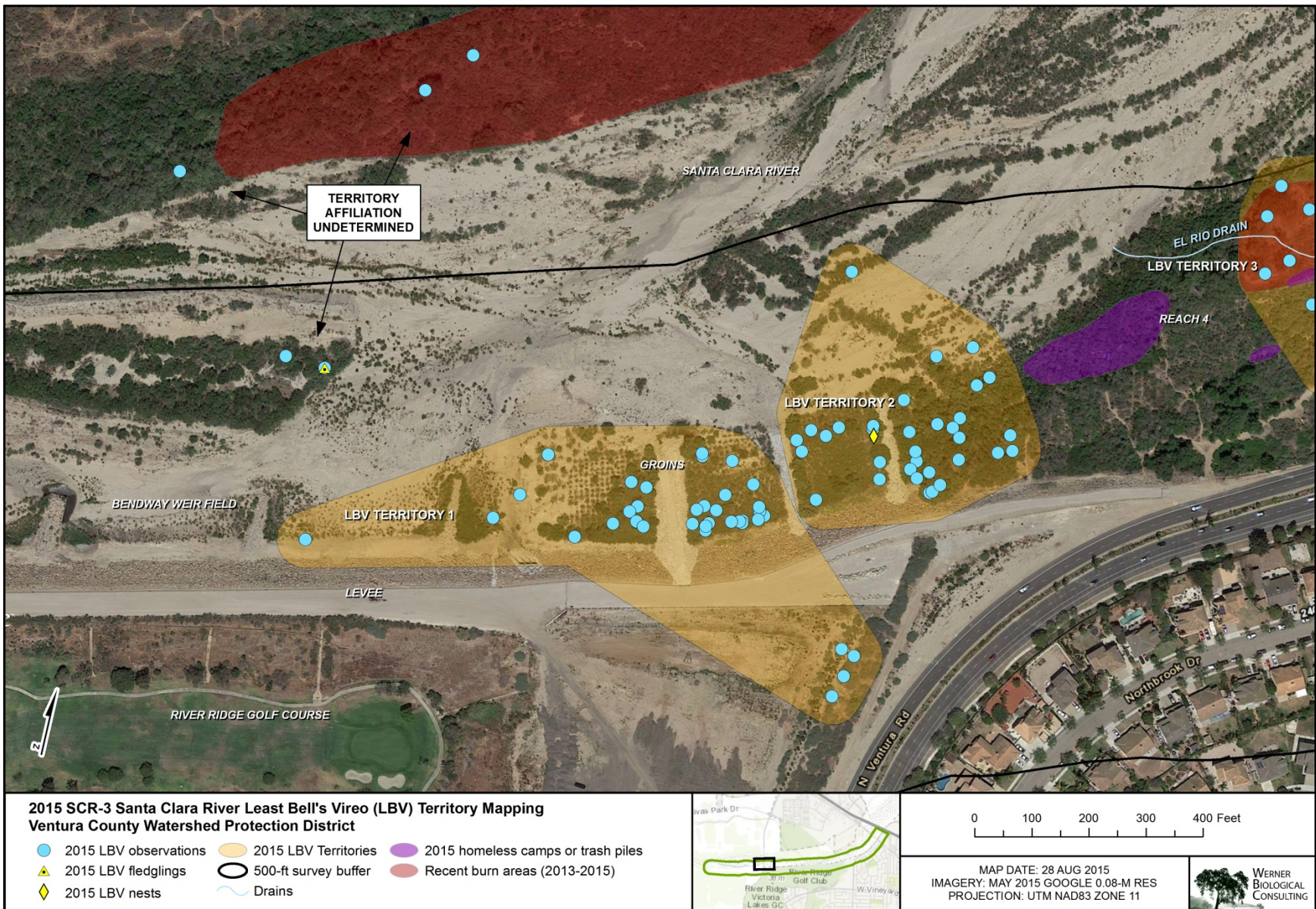


Figure 2. Mapped locations of least Bell's vireo Territories 1 and 2.

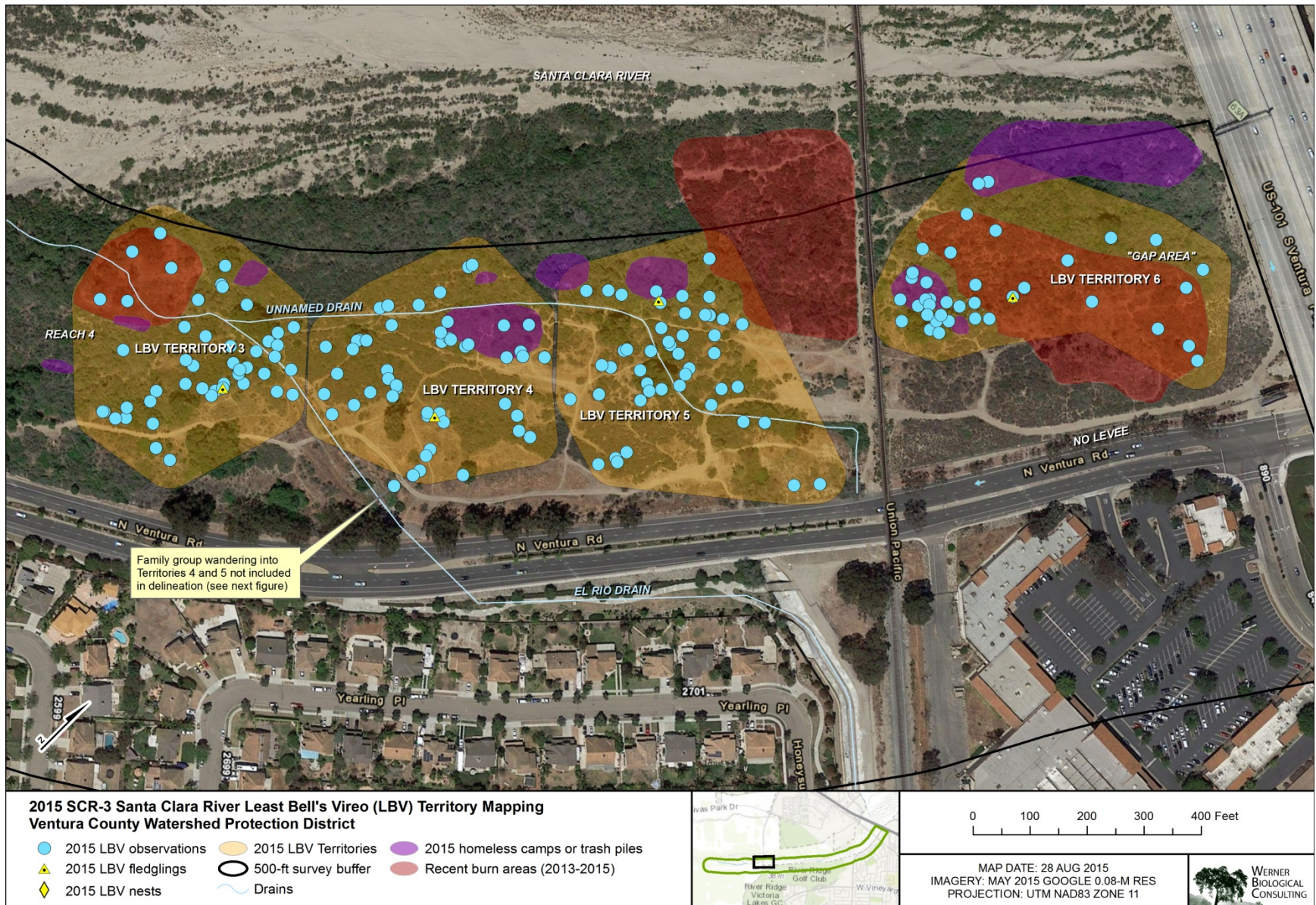
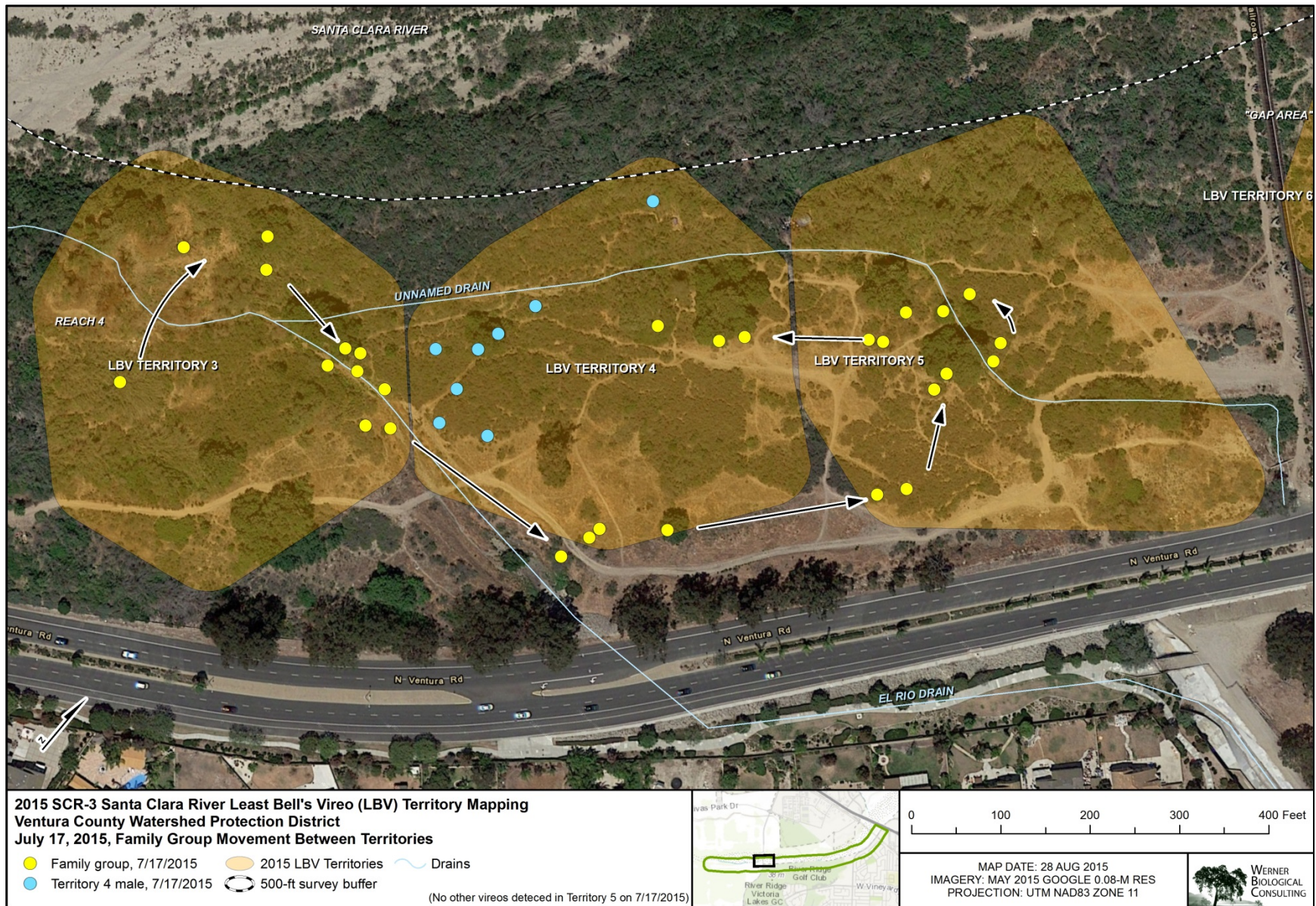


Figure 3. Mapped locations of least Bell's vireo Territories 3-6.



**Figure 4.** Single-day movements of a least Bell's vireo family group through several different territories (July 17, 2015).

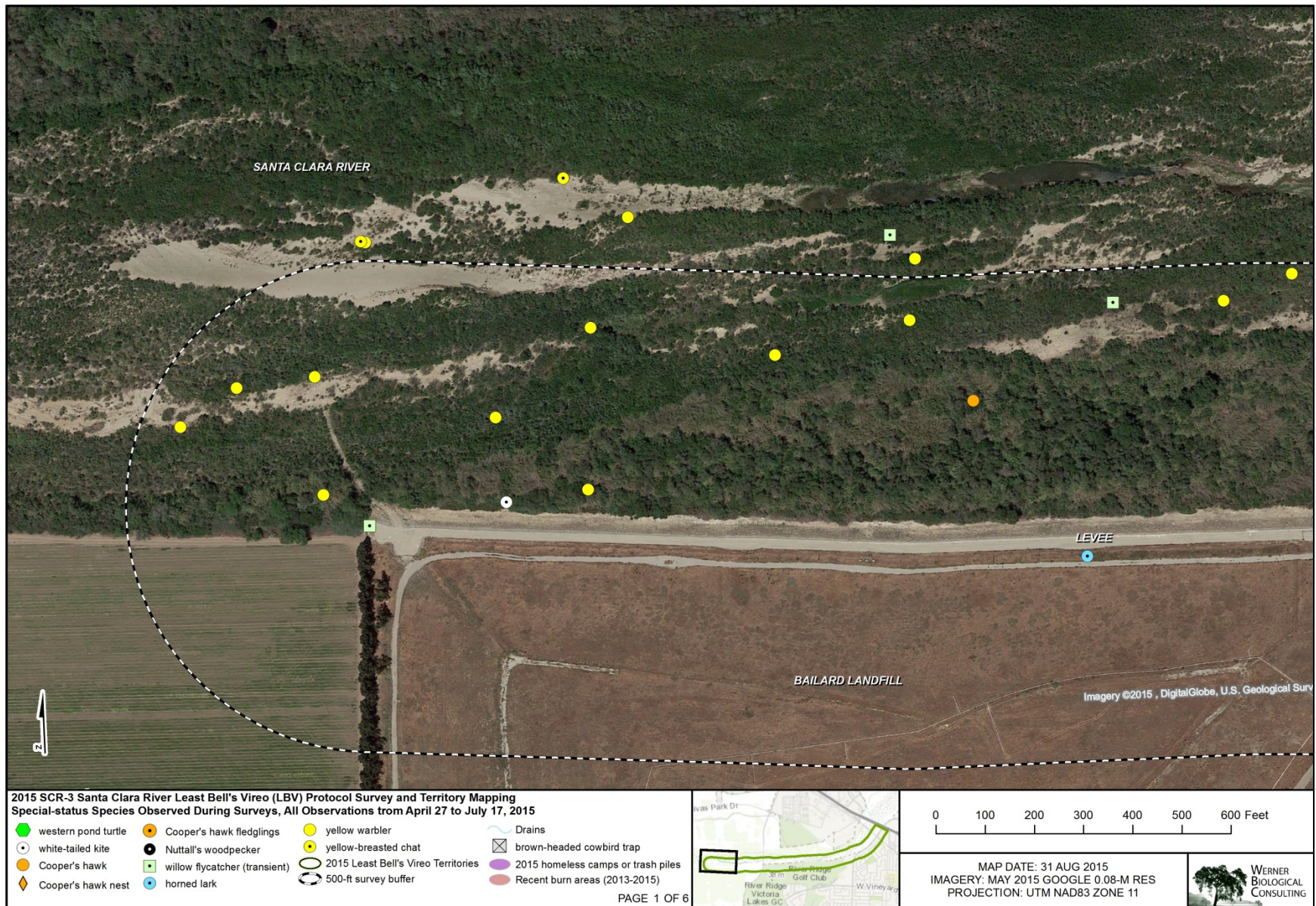


Figure 5. Mapped locations of special-status species observed in or adjacent to the study area (Map 1 of 6).

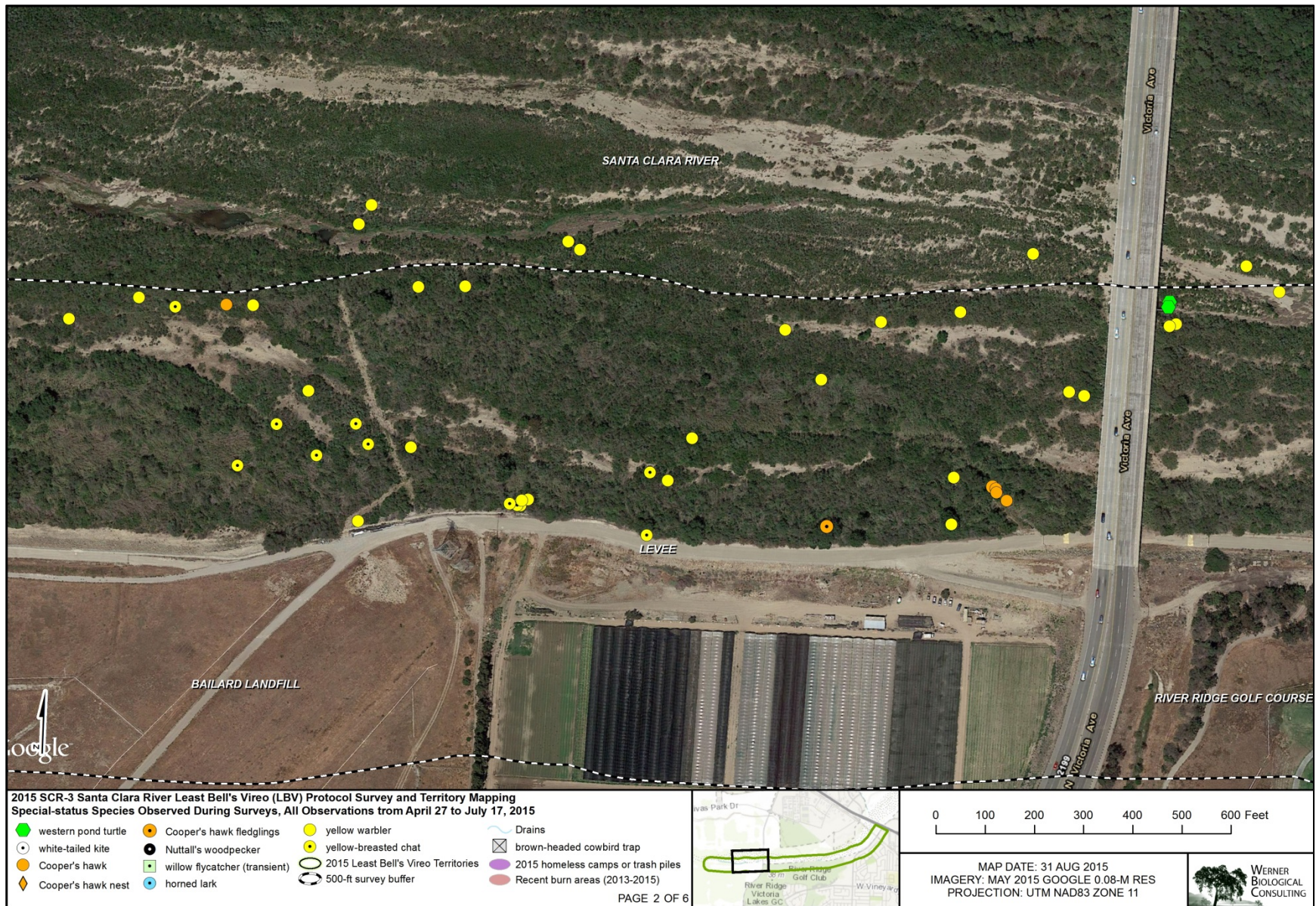


Figure 6. Mapped locations of special-status species observed in or adjacent to the study area (Map 2 of 6).

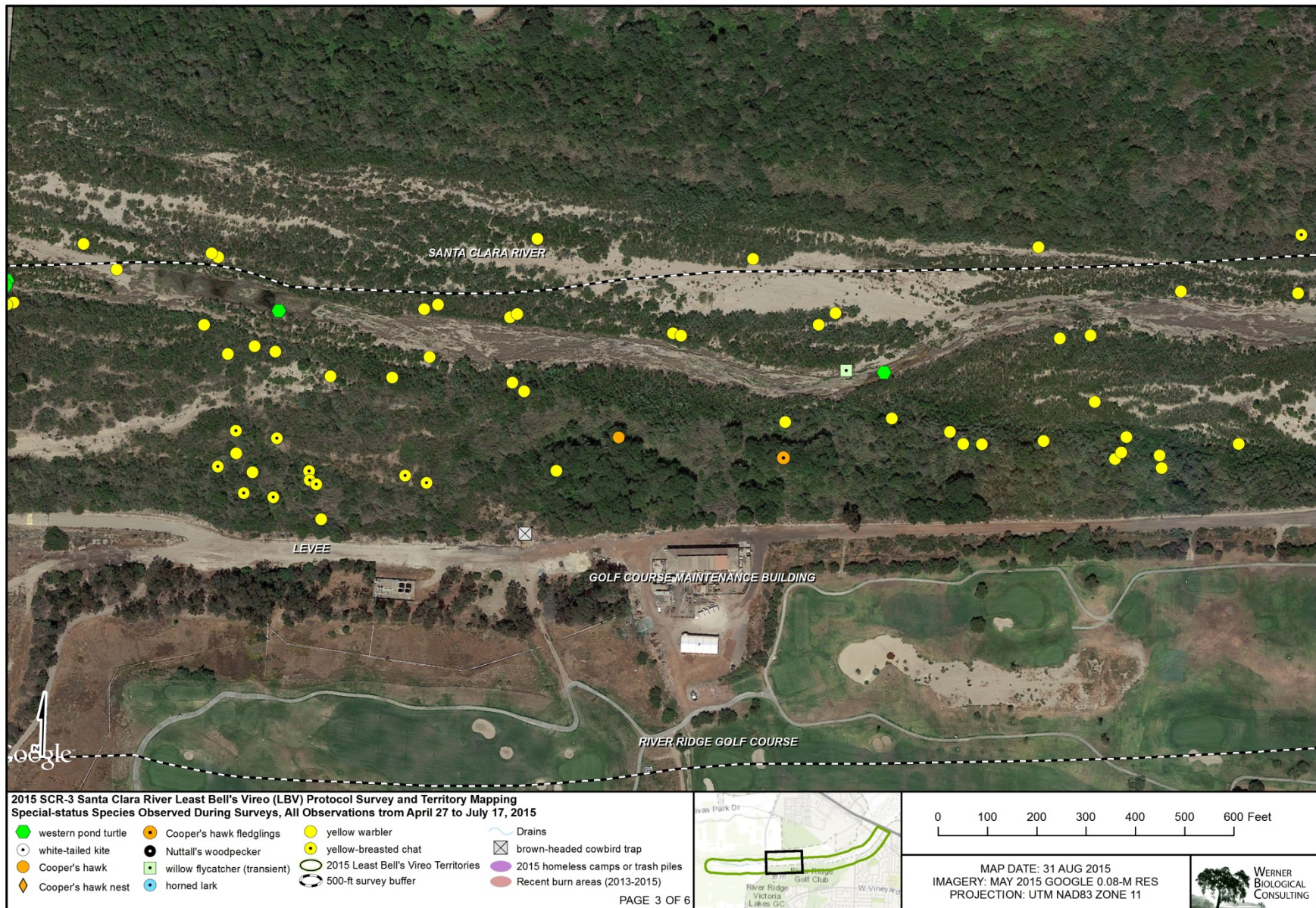
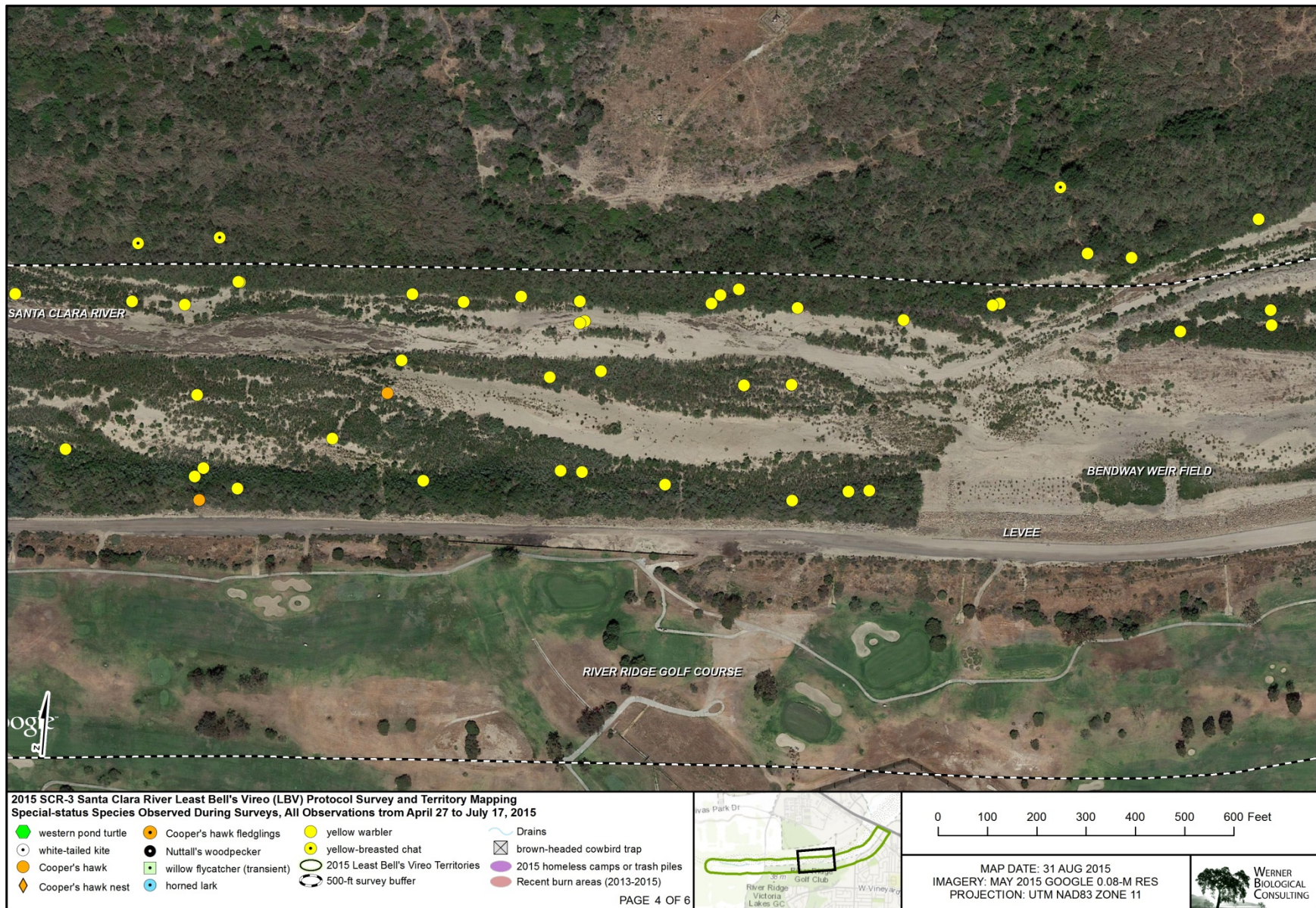


Figure 7. Mapped locations of special-status species observed in or adjacent to the study area (Map 3 of 6).



**Figure 8.** Mapped locations of special-status species observed in or adjacent to the study area (Map 4 of 6).



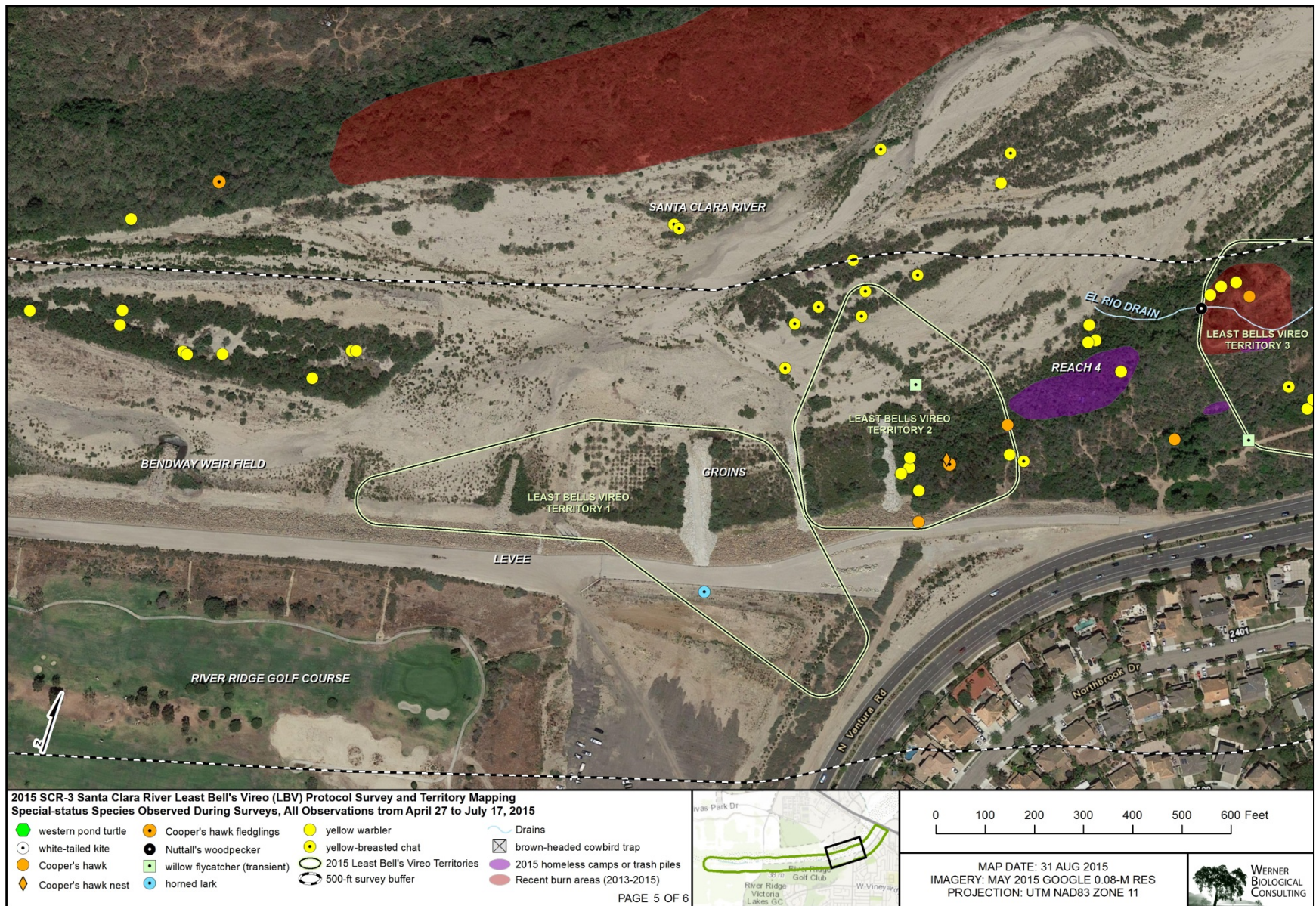


Figure 9. Mapped locations of special-status species observed in or adjacent to the study area (Map 5 of 6).

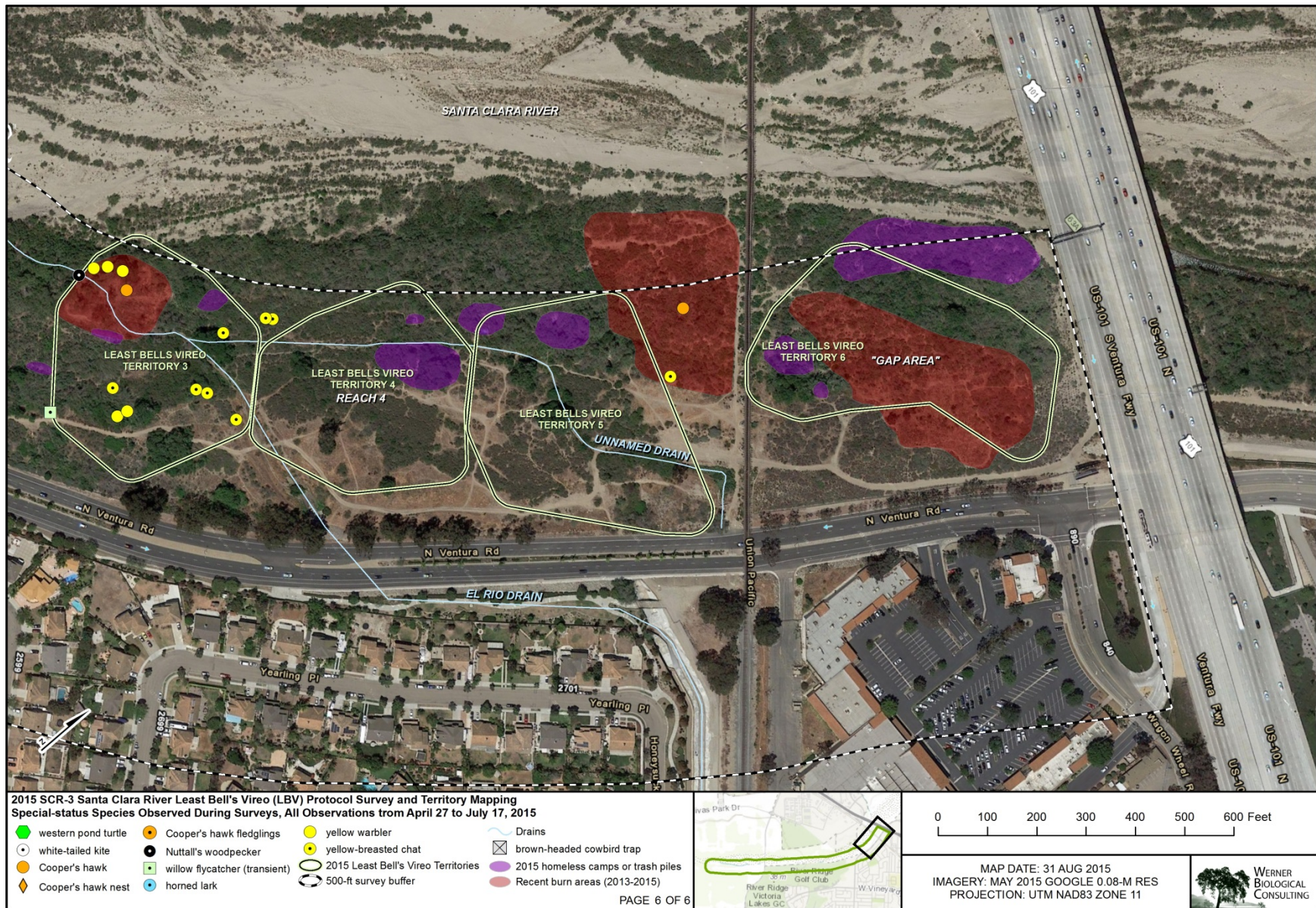


Figure 10. Mapped locations of special-status species observed in or adjacent to the study area (Map 6 of 6).



**Figure 11.** LBV Territory 1 along concrete rock groin, facing west (5/11/15).



**Figure 12.** Big saltbush (*Atriplex lentiformis*) scrub along Ventura Road used for LBV foraging in Territory 1, facing southeast (6/10/15).



**Figure 13.** Riparian woodland in Territory 2, adjacent to the levee, facing east (6/23/15).



**Figure 14.** LBV nest with nestlings in Territory 2, located several meters from the concrete rock groin, facing southwest (5/20/15).



**Figure 15.** Nest site of LBV nest shown in Figure 14, in Territory 2, facing southwest (5/20/15).



**Figure 16.** Suspected LBV nest site in Territory 3 with mule fat, red willow, and black cottonwood, facing north (6/23/15).



**Figure 17.** Recently burned black cottonwood forest with red willow, arroyo willow, and giant reed in Territory 3, facing northwest (5/12/15).



**Figure 18.** Homeless camp in black cottonwood forest in Territory 4, facing south (6/23/15).



**Figure 19.** Black cottonwood tree cut down in Territory 4, facing southwest (6/23/15).



**Figure 20.** Territory 5, facing west (5/21/15).



**Figure 21.** Territory 6, facing southwest (6/23/15).



**Figure 21.** Territory 6, burned several times in 2014, facing north (7/16/15).



**Figure 22.** Riparian habitat in Santa Clara River bottom cleared since the previous 2013 survey, facing southeast (5/7/15).

## **Appendix A: CNDDDB Forms**

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

**For Office Use Only**

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/23/2015

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Accipiter cooperii*

**Common Name:** Cooper's hawk

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 4 Subsequent Visit?  yes  no

**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

### Animal Information

2 # adults    2 # juveniles    \_\_\_\_\_ # larvae    \_\_\_\_\_ # egg masses    \_\_\_\_\_ # unknown  
 wintering     breeding     nesting     rookery     burrow site     other

### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River south bank (between city boundaries of Ventura and Oxnard) near Ventura Road and start of levee. 2,500 feet downstream of Hwy 101

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 52 ft

T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

**DATUM:** **NAD27**  **NAD83**  **WGS84**  Horizontal Accuracy 10 ft \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  **OR** Geographic (Latitude & Longitude)

**Coordinates:** nest: 297895mE, 3790548mN

### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

6/23/15 active nest with 1 fledgling on nest, 1 fledgling in adjacent tree begging.

Arroyo willow (Salix lasiolepis) woodland with emergent black cottonwood (Populus trichocarpa) in Santa Clara River.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor surrounded by agriculture, golf courses, and residential

Visible disturbances: Arundo donax infestation. Substantial homeless activity.

Threats: levee maintenance activities

Comments: Old nest site used in 2013 360 feet to the NE is currently within major homeless compound; presumably the hawks moved to this new location due to the disturbance.

### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/30/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Accipiter cooperii

Common Name: Cooper's hawk

Species Found?  Yes  No If not, why? \_\_\_\_\_

Total No. Individuals 4 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

2 # adults 2 # juveniles \_\_\_\_\_ # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River south bank (between city boundaries of Ventura and Oxnard), 215 feet west of Victoria Bridge

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 52 ft

T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

**DATUM:** **NAD27**  **NAD83**  **WGS84**  Horizontal Accuracy 10 ft meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  **OR** Geographic (Latitude & Longitude)

Coordinates: 295776mE, 3790293mN

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Adult(s) seen loafing at this location on 4/27/15, 6/9/15, 6/20/15, and fledglings seen on 6/30/15. Nest not located.

Arroyo willow (Salix lasiolepis) woodland in Santa Clara River.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor surrounded by agriculture, golf courses, and residential

Visible disturbances: Arundo donax infestation.

Threats: levee maintenance activities

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no



Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/02/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Accipiter cooperii

Common Name: Cooper's hawk

Species Found?  Yes  No If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence?  yes, Occ. # \_\_\_\_\_  no  unk.

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

# adults \_\_\_\_\_ # juveniles 1 # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River south bank (between city boundaries of Ventura and Oxnard), 1,600 feet east of Victoria Ave Bridge

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 52 ft

T 2N R 22W Sec 29, NE ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 296363mE, 3790318mN

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Fledgling begging from Populus trichocarpa forest in Santa Clara River on 7/2/15. Nest not located.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor surrounded by agriculture, golf courses, and residential

Visible disturbances: Arundo donax infestation.

Threats: levee maintenance activities

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/02/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Accipiter cooperii

Common Name: Cooper's hawk

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

# adults \_\_\_\_\_ # juveniles 1 # larvae \_\_\_\_\_ # egg masses \_\_\_\_\_ # unknown \_\_\_\_\_  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River north bank (between city boundaries of Ventura and Oxnard), 3,300 feet downstream (southwest) of Hwy 101 Bridge

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 60 ft

T 2N R 22W Sec 20, SE ¼ of SE ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft \_\_\_\_\_ meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 297413mE, 3790575mN

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Fledgling begging from Populus trichocarpa - Salix lasiolepis forest in Santa Clara River on 7/2/15. Nest not located.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor surrounded by agriculture, golf courses, and residential

Visible disturbances: Arundo donax infestation.

Threats: levee maintenance activities, homeless activity

Comments: Area possibly burned in August 2015 wildfire.

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/11/2015

Reset

## California Native Species Field Survey Form

Send Form

Scientific Name: *Eremophila alpestris actia*

Common Name: California horned lark

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River levee, Oxnard 3,300 ft SE of Highway 101.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 65 ft

T 2N R 22W Sec 28, NW ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 297777mE, 3790423mN

### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Singing male 5/11/15. Open gravel, annual grassland, Atriplex lentiformis scrub on upland side of Santa Clara River Levee.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.

Visible disturbances: dirt road, non-native grasses and forbs

Threats: levee maintenance

Comments:

### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/30/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: *Eremophila alpestris actia*

Common Name: California horned lark

Species Found?  Yes  No If not, why? \_\_\_\_\_

Total No. Individuals 2 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

2  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Bailard Landfill and Santa Clara River levee, Oxnard 2,400 ft W of Victoria Ave

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 49 ft

T 2N R 22W Sec 30, NW ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: 295106mE, 3790221mN

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Aggressive interaction between 2 horned larks, 6/30/15. Open gravel, annual grassland on upland side of Santa Clara River Levee.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.

Visible disturbances: built-up landfill, non-native grasses and forbs, levee

Threats: levee maintenance

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

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 California Dept. of Fish & Wildlife  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 07/17/2015

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Vireo bellii pusillus*

**Common Name:** Least Bell's vireo

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 24 Subsequent Visit?  yes  no

**Is this an existing NDDDB occurrence?** 267  no  unk.  
Yes, Occ. #

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
 Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

12 # adults    12 # juveniles    \_\_\_\_\_ # larvae    \_\_\_\_\_ # egg masses    \_\_\_\_\_ # unknown

wintering     breeding     nesting     rookery     burrow site     other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (between city boundaries of Ventura and Oxnard), from Hwy 101 bridge to 3,600 ft downstream of bridge.

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 60-90 ft

T 2N R 22W Sec 29, NE ¼ of NE ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): ArcGIS

T 2N R 22W Sec 21, NE ¼ of SW ¼, Meridian:  H  M  S  Z GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** Downstream/upstream extent from 297552E, 3790414N to 298463E, 3791118N (see map).

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

6 territories mapped within 500 feet of south bank levee/street. Birds unmarked. Fledglings seen in most or all territories; 1 active nest observed. Salix lasiolepis woodland and scrub of various age classes. Mature stands with Salix laevigata, Populus trichocarpa; understory of Arundo donax, Toxicodendron diversilobum, Baccharis salicifolia. Adjacent upland stands of B. salicifolia scrub and B. pilularis scrub also used.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1100-ft wide Santa Clara River corridor bordered by agriculture and residential/commercial development.

Visible disturbances: arundo infestation, homeless camps, trash, fire damage

Threats: arundo infestation, homeless camps, fire, levee and road/railroad maintenance activities

Comments: More information in 2015 least Bell's vireo report to VCWPD.

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_

Compared with specimen housed at: \_\_\_\_\_

Compared with photo / drawing in: Sibley (2003)

By another person (name): \_\_\_\_\_

Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/20/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Emys marmorata

Common Name: western pond turtle

Species Found?  Yes  No \_\_\_\_\_  
If not, why?

Total No. Individuals 5 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? 873  no  unk.  
Yes, Occ. #

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

5  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (between city boundaries of Ventura and Oxnard) near Victoria Road Bridge

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 36 ft

T 2N R 22W Sec 29, NW ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): ArcGIS

T 2N R 22W Sec 29, NE ¼ of NW ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** 296424mE, 3790372mN; 296048mE, 3790399mN; 295878mE, 3790409mN

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

4/27/15: shallow pool in center of river channel with 1 turtle UTM 296424mE, 3790372mN.

5/19/15: shallow pool in center of river channel with 2 turtles UTM 296048mE, 3790399mN.

5/19/15 and 6/20/15: pool at Victoria bridge footing with 2 turtles each day UTM 295878mE, 3790409mN

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor surrounded by agriculture, golf courses, and residential

Visible disturbances: 4 lane bridge. Patches of Arundo donax. Cape Ivy (Delairea odorata) under bridge.

Threats: levee maintenance activities

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Stebbins (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
 California Natural Diversity Database  
 California Dept. of Fish & Wildlife  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95811  
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Elm Code _____	Occ. No. _____
EO Index No. _____	Map Index No. _____

Date of Field Work (mm/dd/yyyy): 07/17/2015

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** Setophaga petechia

**Common Name:** Yellow warbler

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 23+ Subsequent Visit?  yes  no

**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. #

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

**Reporter:** Scott Werner

**Address:** Werner Biological Consulting, P.O. Box 547,  
 Ojai, CA 93024

**E-mail Address:** scott@wernerbio.com

**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

23  
 # adults # juveniles # larvae # egg masses # unknown

wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (between city boundaries of Ventura and Oxnard), 2.7 miles surveyed from Bailard Landfill to Highway 101

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 35-60 ft

T 2N R 22W Sec 30, NE ¼ of NW ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): ArcGIS

T 2N R 22W Sec 21, all ¼ of SW ¼, Meridian:  H  M  S  Z GPS Make & Model \_\_\_\_\_

**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet

**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

**Coordinates:** At least 23 territories from 294537mE, 3790322mN to 298101mE, 3790651mN. TRS above are start and end sections

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Primarily arroyo willow (Salix lasiolepis) dominated scrub and woodland stands of various age classes. Some red willow (Salix laevigata), emergent black cottonwood (Populus trichocarpa), and Pacific willow (Salix lasiandra). Understory of mulefat (Baccharis salicifolia), arundo (Arundo donax), poison oak (Toxicodendron diversilobum). Area walked eight times for least bell's vireo survey, a maximum number of 23 males detected 6/20/15-6/22/15, which is likely an underestimate.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.

Visible disturbances: levee and road, arundo infestation

Threats: levee maintenance activities, arundo infestation, cowbirds if trapping discontinues

Comments: 1 brown-headed cowbird traps active in this area for least Bell's vireo mitigation. 6 least Bell's vireo territories at east end of described area.

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_

Compared with specimen housed at: \_\_\_\_\_

Compared with photo / drawing in: Sibley (2003)

By another person (name): \_\_\_\_\_

Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 05/29/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Icteria virens

Common Name: Yellow-breasted chat

Species Found?  Yes  No If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence?  yes, Occ. # \_\_\_\_\_  no  unk.

Collection? If yes: \_\_\_\_\_  
Number Museum / Herbarium

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (between city boundaries of Ventura and Oxnard), 3,500 ft W of Victoria Avenue

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 27 ft

T 2N R 22W Sec 30, NE ¼ of NW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc

DATUM:  NAD27  NAD83  WGS84 Horizontal Accuracy 10 ft meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: Cluster of 3 detections from is centered at 294729mE, 3790454mN.

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.

Visible disturbances: levee and road, arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

Slide	Print	Digital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no



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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/14/2015

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (between city boundaries of Ventura and Oxnard), 1,400 ft W of Victoria Avenue

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 40 ft  
 T 2N R 22W Sec 30, NW ¼ of NE ¼, Meridian:  H  M  S  Z  
 Source of Coordinates (GPS, topo. map & type): GPS  
 T 2N R 22W Sec 30, NE ¼ of NE ¼, Meridian:  H  M  S  Z  
 GPS Make & Model Garmin 62stc  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Cluster of 11 detections from 5/7/15 to 7/14/15 is centered at 295402mE, 3790318mN.

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.

Visible disturbances: levee and road, arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 07/14/2015

Reset

### California Native Species Field Survey Form

Send Form

Scientific Name: Icteria virens

Common Name: Yellow-breasted chat

Species Found?  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals 1 Subsequent Visit?  yes  no

Is this an existing NDDDB occurrence? \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

Reporter: Scott Werner

Address: Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024

E-mail Address: scott@wernerbio.com

Phone: (805) 272-5871

#### Plant Information

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

#### Animal Information

1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

#### Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Santa Clara River (between city boundaries of Ventura and Oxnard), 1,400 ft W of Victoria Avenue

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District

Quad Name: Oxnard Elevation: 44 ft

T 2N R 22W Sec 30, NW ¼ of NE ¼, Meridian:  H  M  S  Z Source of Coordinates (GPS, topo. map & type): GPS

T 2N R 22W Sec 30, NE ¼ of NE ¼, Meridian:  H  M  S  Z GPS Make & Model Garmin 62stc

DATUM: NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft meters/feet

Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)

Coordinates: Cluster of 10 detections from 4/27/15 to 7/14/15 is centered at 296070mE, 3790298mN.

#### Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

#### Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.

Visible disturbances: levee and road, arundo infestation

Threats: levee maintenance activities, arundo infestation

Comments:

#### Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): \_\_\_\_\_
- Compared with specimen housed at: \_\_\_\_\_
- Compared with photo / drawing in: Sibley (2003)
- By another person (name): \_\_\_\_\_
- Other: \_\_\_\_\_

#### Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

Mail to:  
California Natural Diversity Database  
California Dept. of Fish & Wildlife  
1807 13<sup>th</sup> Street, Suite 202  
Sacramento, CA 95811  
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/22/2015

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
Total No. Individuals 1-2 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
Yes, Occ. # \_\_\_\_\_  
Collection? If yes: \_\_\_\_\_  
Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**  
Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**  
1  
# adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (between city boundaries of Ventura and Oxnard), 1,400 ft W of Victoria Avenue  
County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
Quad Name: Oxnard Elevation: 49 ft  
T 2N R 22W Sec 29, NE ¼ of NE ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc  
**DATUM:** **NAD27**  **NAD83**  **WGS84**  Horizontal Accuracy 10 ft \_\_\_\_\_ meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  **OR** Geographic (Latitude & Longitude)   
**Coordinates:** Cluster of 12 detections from 4/28/15 to 6/22/15 is centered at 297820mE, 3790631mN.

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub. Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).  
This may be 2 adjacent territories.

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.  
Visible disturbances: arundo infestation  
Threats: levee maintenance activities, arundo infestation  
Comments:

**Determination:** (check one or more, and fill in blanks)  
 Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more) Slide Print Digital  
Plant / animal     
Habitat     
Diagnostic feature     
May we obtain duplicates at our expense? yes  no

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Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work (mm/dd/yyyy): 06/23/2015

Reset

## California Native Species Field Survey Form

Send Form

**Scientific Name:** *Icteria virens*

**Common Name:** Yellow-breasted chat

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_  
 Total No. Individuals 1-2 Subsequent Visit?  yes  no  
**Is this an existing NDDDB occurrence?** \_\_\_\_\_  no  unk.  
 Yes, Occ. # \_\_\_\_\_  
 Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Scott Werner  
**Address:** Werner Biological Consulting, P.O. Box 547,  
Ojai, CA 93024  
**E-mail Address:** scott@wernerbio.com  
**Phone:** (805) 272-5871

**Plant Information**

Phenology: \_\_\_\_\_% vegetative \_\_\_\_\_% flowering \_\_\_\_\_% fruiting

**Animal Information**

1  
 # adults # juveniles # larvae # egg masses # unknown  
 wintering  breeding  nesting  rookery  burrow site  other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

Santa Clara River (between city boundaries of Ventura and Oxnard), 1,400 ft W of Victoria Avenue

County: Ventura Landowner / Mgr.: Ventura County Watershed Protection District  
 Quad Name: Oxnard Elevation: 49 ft  
 T 2N R 22W Sec 21, SW ¼ of SW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): GPS  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model Garmin 62stc  
**DATUM:** NAD27  NAD83  WGS84  Horizontal Accuracy 10 ft meters/feet  
**Coordinate System:** UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
**Coordinates:** Cluster of 7 detections from 4/28/15 to 6/23/15 is centered at 298118mE, 3790708mN.

**Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:**

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):  
Arroyo willow (Salix lasiolepis) woodland and scrub with black cottonwood (Populus trichocarpa).  
Understory of mulefat (Baccharis salicifolia) and arundo (Arundo donax).

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population):  Excellent  Good  Fair  Poor

Immediate AND surrounding land use: 1200-ft wide Santa Clara River corridor bordered by golf courses, agriculture, residential.  
 Visible disturbances: roads/trails, arundo infestation, homeless camps  
 Threats: levee maintenance activities, arundo infestation, veg disturbances from homeless camps, trash, fire  
 Comments:

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): \_\_\_\_\_  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: Sibley (2003)  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes  no

**Southwestern Willow Flycatcher (*Empidonax traillii extimus*)  
Protocol Survey for the Santa Clara River Levee Improvements  
Downstream of Union Pacific Railroad (SCR-3, Ventura County, 2015**

**Prepared by:**

Scott M. Werner  
Werner Biological Consulting  
P.O. Box 547  
Ojai, CA 93024-0547

**Submitted to:**

Aspen Environmental Group  
5020 Chesebro Road, Suite 200  
Agoura Hills, CA 91301

and

Angela Bonfiglio Allen  
Ventura County Watershed Protection District  
800 South Victoria Avenue  
Ventura, CA 93009

September 2015

## Summary of Survey Results

This report presents the results of a protocol presence-absence survey for the federally and state-endangered southwestern willow flycatcher (*Empidonax traillii extimus*) along a 2.7 mile (4.3 kilometer) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura, California. No resident southwestern willow flycatchers were detected, although six transient willow flycatchers (subspecies undetermined) were observed. Other special-status species were observed in the area, including Federally and State Endangered least Bell's vireos (*Vireo bellii pusillus*) and California Species of Special Concern western pond turtle (*Emys marmorata*), yellow warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*).

## Introduction

The southwestern willow flycatcher is a small migratory songbird that nests in riparian thickets in the southwestern U.S. and northern Mexico. It was listed as endangered by the State of California in 1991 and listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in 1995 (USFWS 1995, CDFW 2015). Like other subspecies of willow flycatcher and *Empidonax* species, southwestern willow flycatchers are primarily aerial foragers, sallying forth from a perch and hawking insects from the air or hover-gleaning vegetation. Southwestern willow flycatchers are drably colored with olive-green and brown plumage above with yellow and white underparts. Willow flycatchers are distinctive from other *Empidonax* species by a lack of an eye-ring, a larger bill, and subtle differences in plumage and body proportions, but are primarily distinguished by the unique *fitz-bew* vocalization (Sedgwick 2000).

The southwestern willow flycatcher is one of four subspecies of willow flycatcher that breed in the U.S., although the subspecies are generally not distinguishable in the field except by geographic nesting location. The geographic breeding range of the southwestern willow flycatcher includes southern California, Arizona, New Mexico, southern Nevada and Utah, southwestern Colorado, western Texas, and northern Mexico near the U.S. border (Unitt 1987). Three willow flycatcher subspecies occur in California: *Empidonax traillii extimus* breeds in the southwestern third of the state, while *Empidonax traillii brewsteri* and *Empidonax traillii adustus* breed in the northern regions, but are frequently encountered within the *E. t. extimus* breeding range during migration. All three subspecies of willow flycatcher are classified as endangered by the California Department of Fish and Wildlife (CDFW), although the federally endangered designation applies only to the *E. t. extimus* subspecies.

Willow flycatchers winter throughout Central America (Styles and Skutch 1989, Howell and Webb 1995), and the southwestern subspecies' winter range may be concentrated within the Costa Rican Pacific lowlands (Paxton et al. 2011). Male southwestern willow flycatchers usually arrive at breeding territories by early- to mid-May and establish territories before the arrival of females (USFWS 2002). Nesting takes place from late May to mid-August. Females build a 3-inch (7-centimeter) tall by 3-inch (7-centimeter) wide cup nest within a shrub or tree fork anywhere from 2 feet (0.6 meters) to 60 feet (18 meters) above the ground, depending on site characteristics. Three to four eggs are laid, and incubation lasts 12–13 days. Young leave the nest 12–15 days after hatching, and continue to be fed by the parents for about 2 weeks after fledging, during which time the fledglings may return to and leave the nest several times (Sogge et al. 2010). Flycatchers frequently re-nest after a nest fails and generally do not have more than one successful nest in a season, although 19% of pairs studied in a large New Mexico nesting population had two successful nests during one season (Ahlers and Moore 2009).

The southwestern willow flycatcher (flycatcher) is a habitat specialist that nests in dense riparian vegetation, usually with standing water or saturated soils present in the late spring or summer, and wet areas that dry up can support breeding flycatchers up to several years after having been inundated (USFWS 2002). Kus

and Kenwood (2006) reported that only 27% (7 of 26) of resident flycatchers studied at Marine Corps Base Camp Pendleton in San Diego County, California, were located within 279 feet (85 meters) of standing water, although soil saturation without standing water was not addressed. Breeding sites range in elevation from near sea level to 8,500 feet (2,591 meters). Other key components include a dense tree or shrub layer at least 10 feet (3 meters) in height with an abundance of green foliage, with or without a tall overhead canopy layer. Nest sites usually have a mosaic of layers and structural elements within a broad (>30 feet [9 meters] wide) floodplain. Linear strips of riparian vegetation less than 30 feet (9 meters) wide generally do not support breeding southwestern willow flycatchers unless they are located adjacent to other patches or strips within a greater mosaic of riparian vegetation (Sogge and Marshall 2000). Beyond these key characteristics, breeding sites vary considerably in overall species composition. Many sites are dominated by native broadleaf species such as willows (*Salix* spp.), cottonwoods (*Populus* spp.), boxelder (*Acer negundo*), ash (*Fraxinus* spp.), alder (*Alnus* spp.), and buttonbush (*Cephalanthus* spp.), but some sites consist of nearly monotypic stands of non-native saltcedar, or tamarisk (*Tamarix* spp.; McKernan and Braden 1999, Sogge and Marshall 2000, USFWS 2002). During migration, flycatchers are commonly seen in patchy, open habitats unsuitable for nesting, including non-riparian habitats (Sogge and Marshall 2000).

The 2002 *Southwestern Willow Flycatcher Final Recovery Plan* (USFWS 2002) identified habitat loss and modification as the primary cause of the subspecies' decline. Other compounding threats include nest parasitism by brown-headed cowbirds (*Molothrus ater*), vulnerability of small disjunct populations, and migration and winter range stresses. In southern California, Willett (1933) and Grinnell and Miller (1944) described the subspecies' occurrence as common, although Willett (1933) anecdotally reported a high rate of brown-headed cowbird parasitism in Colton, California. Garrett and Dunn (1981) later described the subspecies as 'virtually extirpated' in southern California. USFWS estimated the number of southwestern willow flycatcher territories in the Coastal California Recovery Units and the Basin and Mojave Recovery Unit as 171 in 2007, down from 236 in 2002 (USFWS 2013). However, data presented by Kus et al. (2013) suggest a recent reduction in total southwestern willow flycatchers in this region to approximately 37 known individuals from sites surveyed in 2012 (not all areas were surveyed). Recently, USFWS issued a revised critical habitat designation for the southwestern willow flycatcher that, in Ventura County, includes all of the Santa Clara River, the Ventura River upstream to Matilija Creek, and Piru Creek upstream to Pyramid Lake (USFWS 2013).

The Ventura County Watershed Protection District (VCWPD) is currently preparing an environment impact report for the Santa Clara River Levee Improvements Downstream of UPRR (Union Pacific Railroad (UPRR), or SCR-3, project. Werner Biological Consulting was contracted to conduct southwestern willow flycatcher protocol surveys, in support of the project, during 2015 along a 2.7-mile (4.3-kilometer) section of the Santa Clara River in unincorporated Ventura County between the Cities of Oxnard and Ventura, California.

## Methods

### Study Area

The study area is located in coastal Ventura County of southern California and consists of approximately 2.7 miles (4.3 kilometers) of the lower Santa Clara River's south bank and all riparian habitat within 500 feet (152 meters) of the south bank levee (Figure 1). The downstream limit of the study area was just west of the Bailard Landfill at Universal Transverse Mercator (UTM) coordinates 294512mE, 3790260mN (UTM NAD83, Zone 11S). The upstream limit of the study area was the Highway 101 Bridge at coordinates 298524mE, 3791089mN. Elevations range from 28–75 feet (9–23 meters) above mean sea level. The study area was limited to the habitat north of the levee (no suitable riparian areas south of the levee were identified), for a total of 158 acres (64 hectares). The dominant riparian vegetation communities in the study area are best characterized as arroyo willow (*Salix lasiolepis*) thicket and scrub, red willow (*Salix laevigata*)

thicket, and black cottonwood (*Populus trichocarpa*) forest (Sawyer et al. 2009). Vegetation communities are described in more detail in Padre Associates, Inc. (2009b). There is no perennial river flow within the study area, but small pockets of surface water persist into late spring and summer within low-elevation areas along the main channel. In addition, several manmade drains convey small amounts of water during this period from adjacent golf courses and urban storm drains.

### **Background Review**

Prior to the first survey a review was performed of recent local southwestern willow flycatcher occurrence data and previous surveys conducted in or near the study area, as well as a literature review of recent reports about the subspecies throughout its range.

### **Survey Methodology**

All surveys were conducted by Scott Werner (biologist), who is authorized for tape-playback surveys of southwestern willow flycatcher per USFWS Endangered Species Act Section 10(a)(1)(A) Recovery Permit TE-179013. The biologist also has been issued California Department of Fish and Wildlife (CDFW) Scientific Collecting Permit SC-005186 with Memorandum of Understanding that authorizes tape-playback surveys for southwestern willow flycatcher. The biologist has 20 years of experience as a field ornithologist in California, Texas, and Arizona, including 11 years working as a consultant in Ventura County and throughout southern California.

Prior to starting the first survey, a habitat assessment of the study area was conducted to determine the locations of flycatcher habitat on which to focus the survey effort. The biologist had already begun presence/absence and territory mapping surveys for least Bell's vireo within the study area as a separate component of the proposed Santa Clara River Levee Improvements Downstream of UPRRR during April and early May, 2015, during which time a habitat assessment for the flycatcher was conducted. Flycatcher habitat was delineated on aerial photos as highly suitable, potentially suitable, or unsuitable per USFWS (2002). Suitable habitat was defined as a riparian area with the required components for nesting flycatchers (mesic riparian shrub and tree communities with a dense shrub layer below 10–13 feet (3–4 meters) within a patch greater than 0.25 acres, or 0.1 hectares, in size). Highly suitable habitats adjacent to standing water or saturated soils and with noticeably greater canopy cover compared to other areas were also identified and shown on the maps. Potentially suitable habitats were those that appeared too dry or lacked the appropriate structural elements commonly considered as suitable. These habitats may be negatively affected by the current drought or could develop more suitable components in the future due to natural changes in the river. Unsuitable habitats were those areas that would not develop suitable components even with management, such as upland or developed areas. Tape-playback surveys were focused in and around the highly suitable habitat patches but were also played throughout most of the potentially suitable habitat as well.

The presence-absence survey was conducted according to the current southwestern willow flycatcher survey protocol (Sogge et al. 2010). The protocol requires a minimum of 5 visits for project-related surveys: one survey during Period 1 (May 15-31); two surveys during Period 2 (June 1-24); and two surveys during Period 3 (June 25-July 17). Additional survey requirements for least Bell's vireo allowed a second survey to be added to the first window, for a total of six surveys. All surveys were conducted between dawn and 11:05 am under fair weather conditions suitable for observing bird activity (Table 1). Surveys were conducted by slowly walking the access road and routes within or near suitable habitats, following natural openings and edges within the vegetation. Pre-recorded *fitz-bew*, *whitt*, and other southwestern willow flycatcher vocalizations were played every 100-200 feet (30-61 meters) through a 2.5-watt portable speaker attached to a digital music player, followed by a pause to listen for flycatchers. All vertebrate species detected by sight, sound, and sign were recorded (Tables 2 and 3), and locations of brown-headed cowbirds and special-status species (CDFW 2015b) were noted on maps and/or recorded via a Global Positioning System (GPS) unit in UTM Zone 11 coordinates. While surveying for southwestern willow flycatcher, the



biologist conducted a concurrent survey for least Bell's vireo, the results of which are discussed in a separate report (Werner 2015). It took 2–3 mornings to complete a single survey due to the size of the study area.

## Results and Discussion

### Background Review

Flycatcher protocol surveys during 2009, 2010, and 2013 confirmed the absence of breeding flycatchers in the study area or a subset of the study area (Padre and Associates, Inc. 2009a, Padre and Associates, Inc. 2010, Werner 2013). USFWS recently reported a total of three flycatcher breeding sites on the lower Santa Clara River (USFWS 2013). Recent breeding sites along the lower Santa Clara River are known from Fillmore (Greaves 2003, John Gallo Conservation Services and Envicom Corporation 2007, Labinger et al. 2011) and Santa Paula (BioResource Consultants, Inc. 2010). The biologist encountered a single transient willow flycatcher (subspecies unknown) in the study area in May 2013 (Werner 2013).

### Critical Habitat in the Study Area

The entire study area north of the levee is located within designated critical habitat except for some minor demarcation differences near the levee at Bailard Landfill (USFWS 2013).

### Habitat Assessment

Approximately 90 acres (36.4 hectares) were identified as suitable southwestern willow flycatcher habitat. The suitable habitat stands generally met the threshold of riparian vegetation with a dense shrub layer below 10 feet (3 meters) with or without a secondary overhead canopy layer. However, standing water and saturated soils were relatively limited within the study area (Figures 1–4). The suitable habitat stands consisted of arroyo willow thicket, red willow thicket, and black cottonwood forest (Sawyer et al. 2009). Understory was typically a dense growth of arroyo and red willow, mule fat (*Baccharis salicifolia*), sandbar willow (*Salix exigua*), giant reed (*Arundo donax*), and poison oak (*Toxicodendron diversilobum*).

The remaining 68 acres (27.5 hectares) of the study area north of the levee were characterized as potentially suitable flycatcher habitat. These areas consisted of open alluvial riverbed, patchy willow scrub, or dry upland habitats within the river flood plain. No suitable or potentially suitable habitat was identified on the south side of the levee.

### Presence-absence Survey

No resident southwestern willow flycatchers were confirmed in the study area. Six transient willow flycatchers (subspecies undetermined) were observed on May 19 and 20, 2015 (Table 2, Figures 2–4), although one of the birds was observed just outside the defined survey area. Five of the birds responded to the tape-playback with the *fitz-bew*, *whitt*, and *britt* calls (Sogge et al. 2010), while one bird was located by sight and did not vocalize, even in response to the recorded calls. No *fitz-bew* songs were heard prior to broadcasting the recorded calls, thereby suggesting a lack of any resident territoriality.

### Brown-headed Cowbirds

No free-roaming brown-headed cowbirds were detected during the survey. An active brown-headed cowbird trap was established near the River Ridge Golf Course maintenance building at UTM 296204mE, 3790266mN. A brown-headed cowbird trap that was active during 2013 at UTM 297725mE, 3790507mN near the Ventura Road levee was relocated to the Buenaventura Golf Course north of the Santa Clara River in 2015 due to poor performance in 2013 and 2014.

### Special-status Species

Locations of special-status species observed during the surveys are shown in Figures 5–10. All detection points are plotted without reference to survey date and likely show repeated detections of some resident

individuals. CNDDDB forms with maps and photos for species that met the CNDDDB's reporting criteria are included in the least Bell's vireo survey report submitted separately (Werner 2015).

Western pond turtle (*Emys marmorata*) – State of California Special Concern Species (SSC). Two western pond turtles were seen on May 19, 2015, along the main river channel in a shallow pool that dried up by July 2 (Survey #5), at UTM 296048mE, 3790399mN. Two western pond turtles were also seen on May 19, 2015, and on June 20, 2015, in a pooled area around a footing of the Victoria Avenue Bridge at approximate UTM 295878mE, 3790409mN. This pool was still inundated during the final visit on July 14, 2015.

Great blue heron (*Ardea herodias*) – California Department of Forestry and Fire Protection (CDF) Sensitive (nesting colony). Great blue herons were regularly seen flying over the area or hunting at ponded areas along the river. No nesting colonies were observed or suspected.

White-tailed kite (*Elanus leucurus*) – State of California Fully Protected (SFP) when nesting. A white-tailed kite was seen on June 30, 2015, hunting and flying northward over the extreme west end of the survey area near Bailard Landfill. This species nested in the survey area in 2012 (Padre and Associates, Inc. 2012) but no evidence of nesting was observed in 2013 or 2015.

Cooper's hawk (*Accipiter cooperii*) – State of California Watchlist (WL) when nesting. Cooper's hawks were regularly seen hunting in the survey area and nested along Reach 4 (Figure 9). This nest location was approximately 360 feet southwest of a 2013 historical nesting location that was now occupied by a sizable homeless camp. Cooper's hawk fledglings were observed (along with regular adult sightings throughout the season) at three additional locations: just west of Victoria Avenue, near the River Ridge Golf Course maintenance building, and just north of the survey area on the north side of the river near the bendway weir field (Figures 6, 7, 9).

Allen's hummingbird (*Selasphorus sasin*) – Federal Bird Species of Conservation Concern (BCC) when nesting. Allen's hummingbirds were observed in large numbers throughout the study area and were considered too numerous to map. No nesting was observed. The Allen's hummingbird 2015 nesting season likely reached its peak before the start of the surveys, based on earlier 2015 observations from the local area.

Nuttall's woodpecker (*Picoides nuttallii*) – BCC (nesting). A male Nuttall's woodpecker was observed in a black cottonwood grove on May 20, 2015, at UTM 298017mE, 3790685mN, but was not detected thereafter. An active downy woodpecker (*Picoides pubescens*) nest was later observed at this location.

Least Bell's vireo (*Vireo bellii pusillus*) – State Endangered, Federal Endangered (nesting). Least Bell's vireos maintained breeding territories in the area from the Highway 101 Bridge downstream to the Weir Field. Six least Bell's vireo territories were identified in this area (Figures 9–10) with confirmed nesting and are discussed in Werner (2015).

California horned lark (*Eremophila alpestris actia*) – WL. Two California horned larks were observed in flight south of the levee at Bailard Landfill at UTM 295106mE, 3790221mN on June 30, 2015. No nesting was confirmed.

Yellow warbler (*Setophaga petechia*) – SSC, BCC (nesting). Territorial males of this species were observed throughout the survey area during all survey periods. At least 23 territories were estimated based on the maximum number of detections during the June 20–22, 2015 visit, well after any migrants would be in the area (Lowther et al. 1999). Figures 5–10 show locations of all detections, undifferentiated by survey number.

Yellow-breasted chat (*Icteria virens*) – SSC (nesting). There were five general locations throughout the study area with repeated detections of yellow-breasted chat, as well as several additional isolated observations (Figures 5–10).

## Conclusion and Recommendations

Although six transient willow flycatchers were detected on May 19 and May 20, 2015, no resident southwestern willow flycatchers were observed. Approximately 90 acres (36.4 hectares) of suitable southwestern willow flycatcher habitat was identified and surveyed. Other special-status species were observed in the area, including nesting least Bell’s vireos and western pond turtles. Continued surveys in the future are recommended as drought conditions subside and habitat conditions (presumably) improve. An expansion of the survey area into outlying areas of the Santa Clara River that may support high quality habitat from perennial runoff flows may yield additional detections of transient and potentially resident flycatchers.

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## Certification Statement

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.



9/2/15

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SCOTT WERNER  
TE-179013-1

**Table 1.** Summary of southwestern willow flycatcher survey dates, times, and conditions.

Survey Period	Survey #	Date	Time		Temp. (°F)		Clouds (%)		Wind (mph)	
			Start	Stop	Start	Stop	Start	Stop	Start	Stop
1	1	5/19/15	0630	1025	53	63	0	0	0	4–7
1	1	5/20/15	0640	1020	55	64	0	5	0	3
1	1	5/21/15	0630	1010	55	63	20	70	0	4–10
1	2	5/29/15	0550	0945	58	65	100	100	0	0
1	2	5/30/15	0600	0930	57	65	100	100	0	2–3
2	3	6/9/15	0615	1030	61	65	100	100	0	0–3
2	3	6/10/15	0550	1050	61	68	50	100	0	4–8
2	4	6/20/15	0645	1045	60	70	0	0	0	3–6
2	4	6/22/15	0619	1015	57	70	0	0	4	4–8
2	4	6/23/15	0640	1005	58	75	15	0	0	0–3
3	5	6/30/15	0715	1005	63	74	10	5	2–4	3–5
3	5	7/2/15	0630	1015	64	80	90	60	2	2
3	5	7/3/15	0645	0835	60	66	100	100	1	2
3	6	7/14/15	0640	1001	60	70	100	90	0	4–7
3	6	7/16/15	0720	1105	65	74	100	40	2	1–2
3	6	7/17/15	0720	1220	61	74	100	40	2	3–7

**Table 2.** Summary of transient willow flycatchers observed in the study area.

Detection	Date	First Location Detected		Habitat	Detected prior to tape playback? (how)
		UTM Easting	UTM Northing		
1	5/19/15	294663	3790261	<i>Atriplex lentiformis</i> scrub near levee and arroyo/red willow thicket	Y ( <i>whitts</i> )
2*	5/19/15	294993	3790426	arroyo willow scrub	N
3	5/19/15	295129	3790378	arroyo willow scrub	N
4	5/20/15	296400	3790373	arroyo willow scrub	N
5	5/20/15	297863	3790586	patchy arroyo willow scrub and giant reed	N
6	5/20/15	298070	3790616	arroyo/red willow thicket	Y (visual, no vocalization)

\* location was just outside of 500-foot buffer survey area

**Table 3.** List of wildlife species observed in the survey area. Bold type indicates a special-status species, as listed in CDFW's Special Animals List (CDFW 2015). All non-introduced bird species are protected under the Migratory Bird Treaty Act (MBTA). I = introduced.

Common Name	Scientific Name	Status	Notes
<b>FISH</b>			
western mosquitofish (I)	<i>Gambusia affinis</i>	-	-
<b>AMPHIBIANS</b>			
Pacific tree frog	<i>Pseudacris regilla</i>	-	-
bullfrog (I)	<i>Rana catesbeiana</i>	-	-
<b>REPTILES</b>			
<b>western pond turtle</b>	<b><i>Emys marmorata</i></b>	<b>SSC</b>	-
western fence lizard	<i>Sialia mexicana</i>	-	-
side-blotched lizard	<i>Uta stansburiana</i>	-	-
<b>coastal whiptail</b>	<b><i>Aspidoscelis tigris stejnegeri</i></b>	<b>G5T3T4 S2S3</b>	-
<b>BIRDS</b>			
Canada goose	<i>Branta canadensis</i>	-	-
mallard	<i>Anas platyrhynchos</i>	-	-
California quail	<i>Callipepla californica</i>	-	-
<b>great blue heron</b>	<b><i>Ardea herodias</i></b>	<b>CDFS (nesting colony)</b>	no nesting colonies observed
great egret	<i>Ardea alba</i>	-	-
snowy egret	<i>Egretta thula</i>	-	-
<b>white-tailed kite</b>	<b><i>Elanus leucurus</i></b>	<b>CFP (nesting)</b>	nesting not observed
<b>Cooper's hawk</b>	<b><i>Accipiter cooperii</i></b>	<b>WL (nesting)</b>	<b>nesting observed</b>
red-shouldered hawk	<i>Buteo lineatus</i>	-	-
red-tailed hawk	<i>Buteo jamaicensis</i>	-	-
western gull	<i>Larus occidentalis</i>	-	-
Eurasian collared-dove (I)	<i>Streptopelia decaocto</i>	-	-
mourning dove	<i>Zenaida macroura</i>	-	-
common ground-dove	<i>Columbina passerina</i>	-	-
greater roadrunner	<i>Geococcyx californianus</i>	-	-
lesser nighthawk	<i>Chordeiles acutipennis</i>	-	-
Anna's hummingbird	<i>Calypte anna</i>	-	-
<b>Allen's hummingbird</b>	<b><i>Selasphorus sasin</i></b>	<b>BCC (nesting)</b>	resident birds seen but nesting not observed
<b>Nuttall's woodpecker</b>	<b><i>Picoides nuttallii</i></b>	<b>BCC (nesting)</b>	nesting not observed
downy woodpecker	<i>Picoides pubescens</i>	-	-
hairy woodpecker	<i>Picoides villosus</i>	-	-
western wood-pewee	<i>Contopus sordidulus</i>	-	-
<b>willow flycatcher</b>	<b><i>Empidonax traillii</i></b>	<b>SE, BCC (nesting <i>E. traillii</i>) FE, SE (nesting <i>E. t. extimus</i>)</b>	transients observed (no resident birds or nesting)
Pacific-slope flycatcher	<i>Empidonax difficilis</i>	-	-
black phoebe	<i>Sayornis nigricans</i>	-	-
Say's phoebe	<i>Sayornis saya</i>	-	-
ash-throated flycatcher	<i>Myiarchus cinerascens</i>	-	-
<b>least Bell's vireo</b>	<b><i>Vireo bellii pusillus</i></b>	<b>FE, SE (nesting)</b>	<b>nesting observed</b>
Hutton's vireo	<i>Vireo huttoni</i>	-	-
warbling vireo	<i>Vireo gilvus</i>	-	-

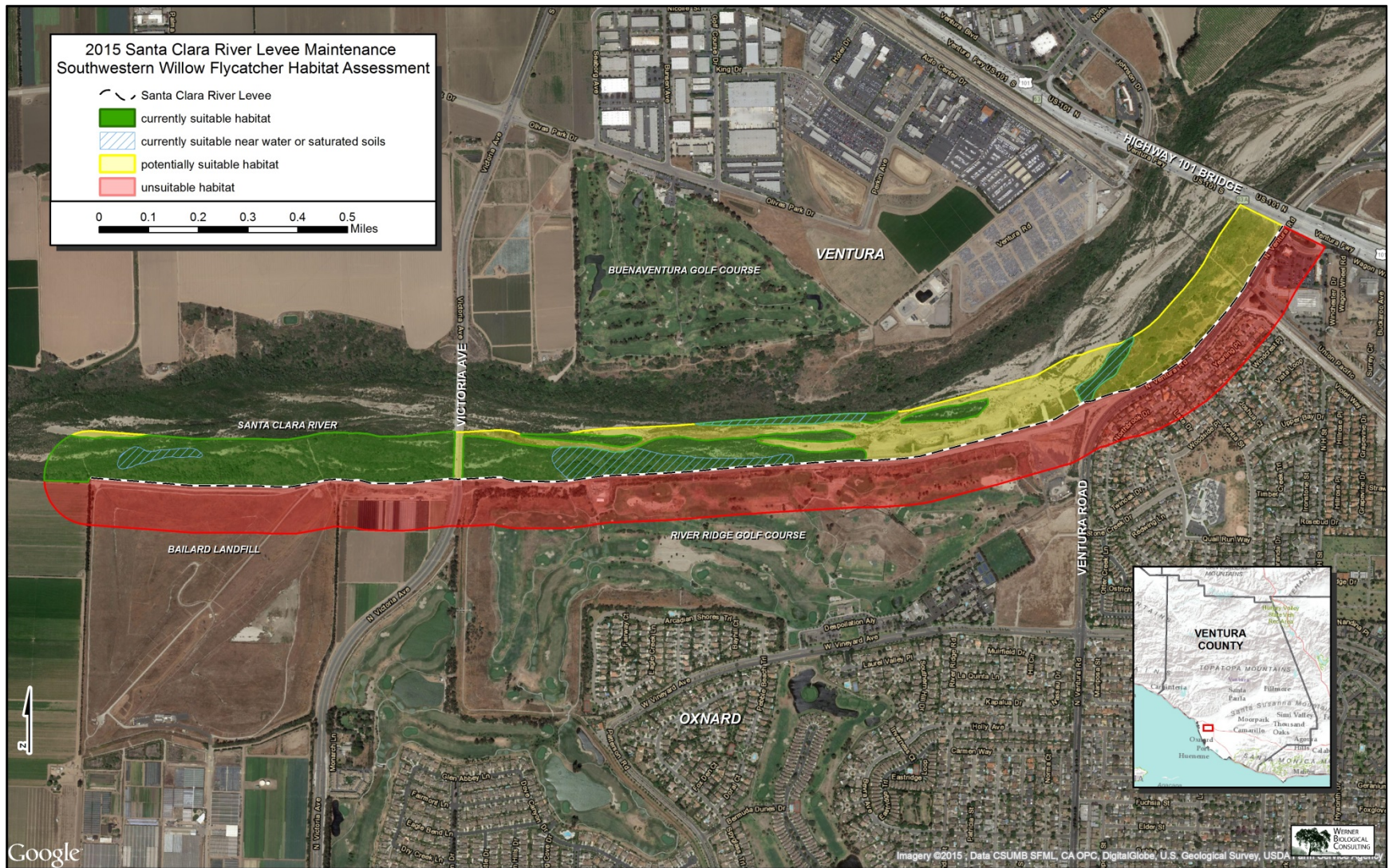
Common Name	Scientific Name	Status	Notes
western scrub-jay	<i>Aphelocoma californica</i>	-	-
American crow	<i>Corvus brachyrhynchos</i>	-	-
common raven	<i>Corvus corax</i>	-	-
<b>horned lark</b>	<b><i>Eremophila alpestris</i></b>	<b>WL</b>	nesting not observed
northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	-	-
cliff swallow	<i>Petrochelidon pyrrhonota</i>	-	-
bushtit	<i>Psaltriparus minimus</i>	-	-
Bewick's wren	<i>Thryomanes bewickii</i>	-	-
house wren	<i>Troglodytes aedon</i>	-	-
Swainson's thrush	<i>Catharus ustulatus</i>	-	-
American robin	<i>Turdus migratorius</i>	-	-
California thrasher	<i>Toxostoma redivivum</i>	-	-
orange-crowned warbler	<i>Oreothlypis celata</i>	-	-
common yellowthroat	<i>Geothlypis trichas</i>	-	-
<b>yellow warbler</b>	<b><i>Setophaga petechia</i></b>	<b>SSC (nesting)</b>	resident birds seen but nesting not observed
Wilson's warbler	<i>Cardellina pusilla</i>	-	-
<b>yellow-breasted chat</b>	<b><i>Icteria virens</i></b>	<b>SSC (nesting)</b>	resident birds seen but nesting not observed
spotted towhee	<i>Pipilo maculatus</i>	-	-
California towhee	<i>Melospiza crissalis</i>	-	-
song sparrow	<i>Melospiza melodia</i>	-	-
dark-eyed junco	<i>Junco hyemalis</i>	-	-
western tanager	<i>Piranga ludoviciana</i>	-	-
rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	-	-
black-headed grosbeak	<i>Pheucticus melanocephalus</i>	-	-
blue grosbeak	<i>Passerina caerulea</i>	-	-
hooded oriole	<i>Icterus cucullatus</i>	-	-
purple finch	<i>Haemorhous purpureus</i>	-	-
house finch	<i>Haemorhous mexicanus</i>	-	-
lesser goldfinch	<i>Spinus psaltria</i>	-	-
American goldfinch	<i>Spinus tristis</i>	-	-
<b>MAMMALS</b>			
desert cottontail	<i>Sylvilagus audubonii</i>	-	-
California ground squirrel	<i>Otospermophilus beecheyi</i>	-	-
Botta's pocket gopher	<i>Thomomys bottae</i>	-	-
coyote	<i>Canis latrans</i>	-	-
domestic dog (I)	<i>Canis lupus familiaris</i>	-	-
raccoon	<i>Procyon lotor</i>	-	-

#### STATUS KEY

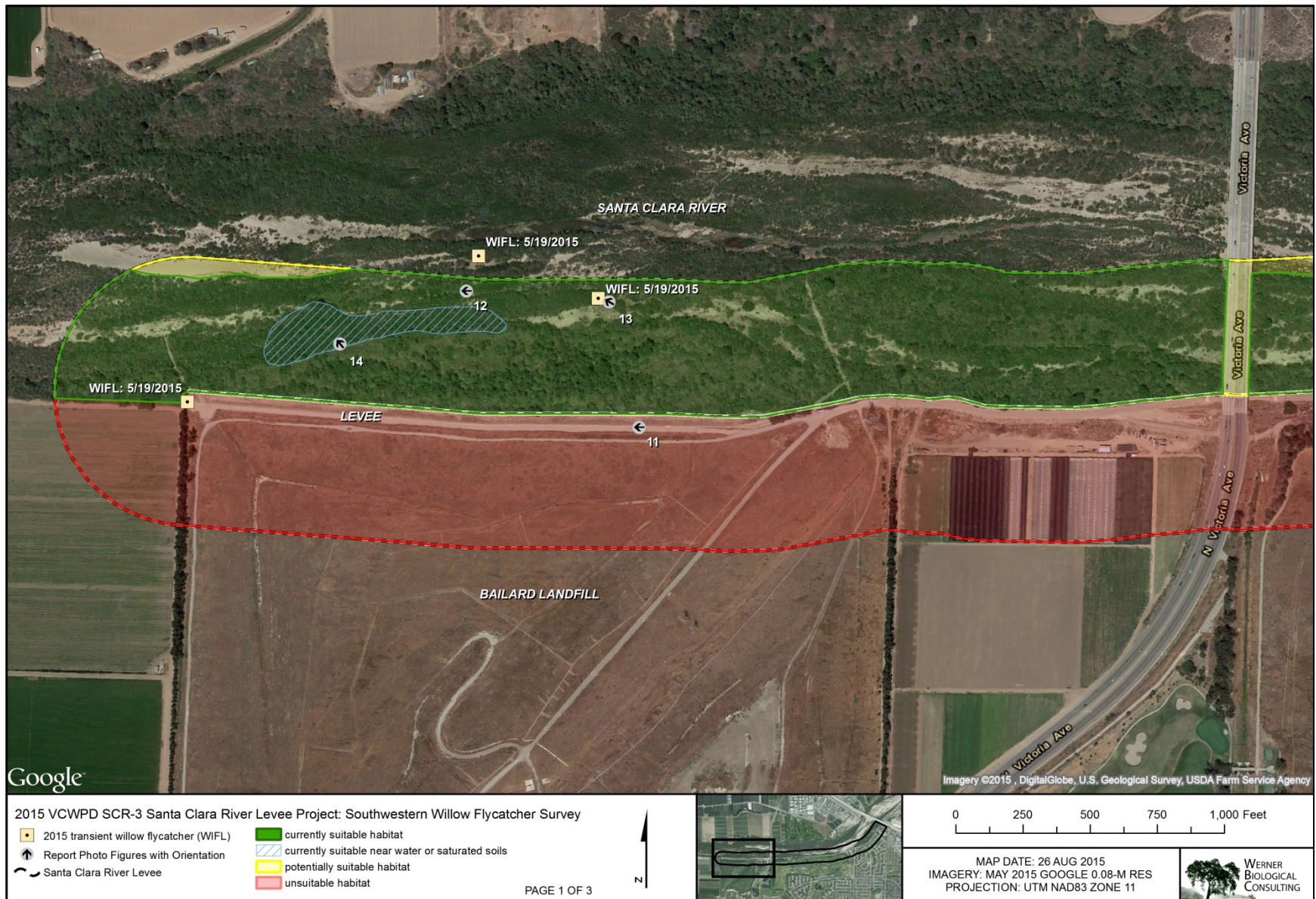
FE = Federal Endangered  
 FT = Federal Threatened  
 FPE = Federal Proposed Endangered  
 FPT = Federal Proposed Threatened  
 BCC = USFWS: Birds of Conservation Concern  
 SE = California Endangered  
 ST = California Threatened

SR = California Rare  
 SC = California candidate for listing as threatened/endangered  
 SSC = California Special Concern Species  
 CFP = California Fully Protected  
 CDFS = California Department of Forestry and Fire Protection Sensitive  
 WL = California Watch List  
 G5T3T4 S2S3 = Species globally secure (G5), subspecies vulnerable or apparently secure (T3T4), imperiled or vulnerable in California (S2S3)

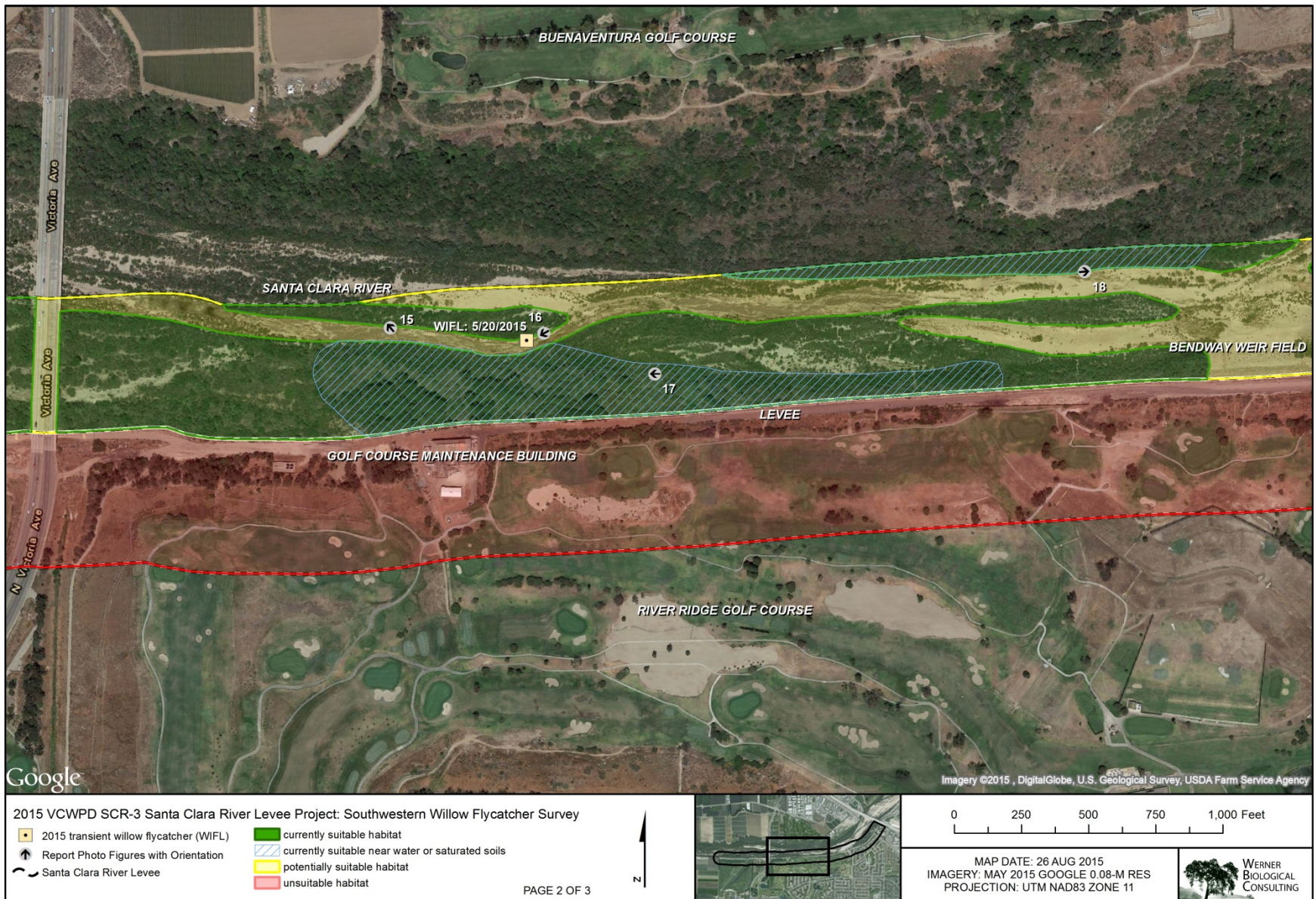




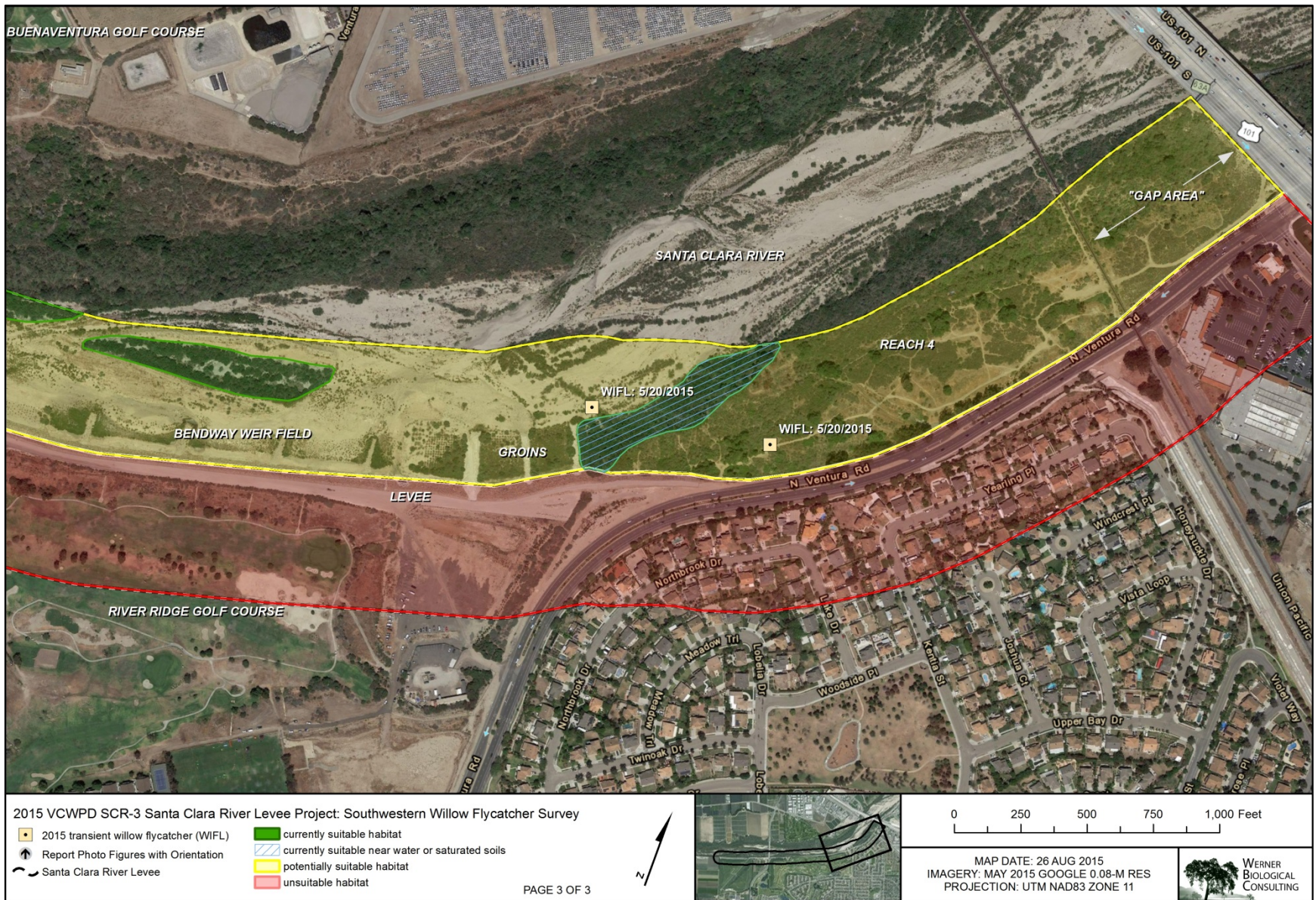
**Figure 1.** Overview of study area and habitat characterization in Oxnard, Ventura County, California.



**Figure 2.** Transient willow flycatcher locations and habitat characterization.



**Figure 3.** Transient willow flycatcher locations and habitat characterization.



**Figure 4.** Transient willow flycatcher locations and habitat characterization.

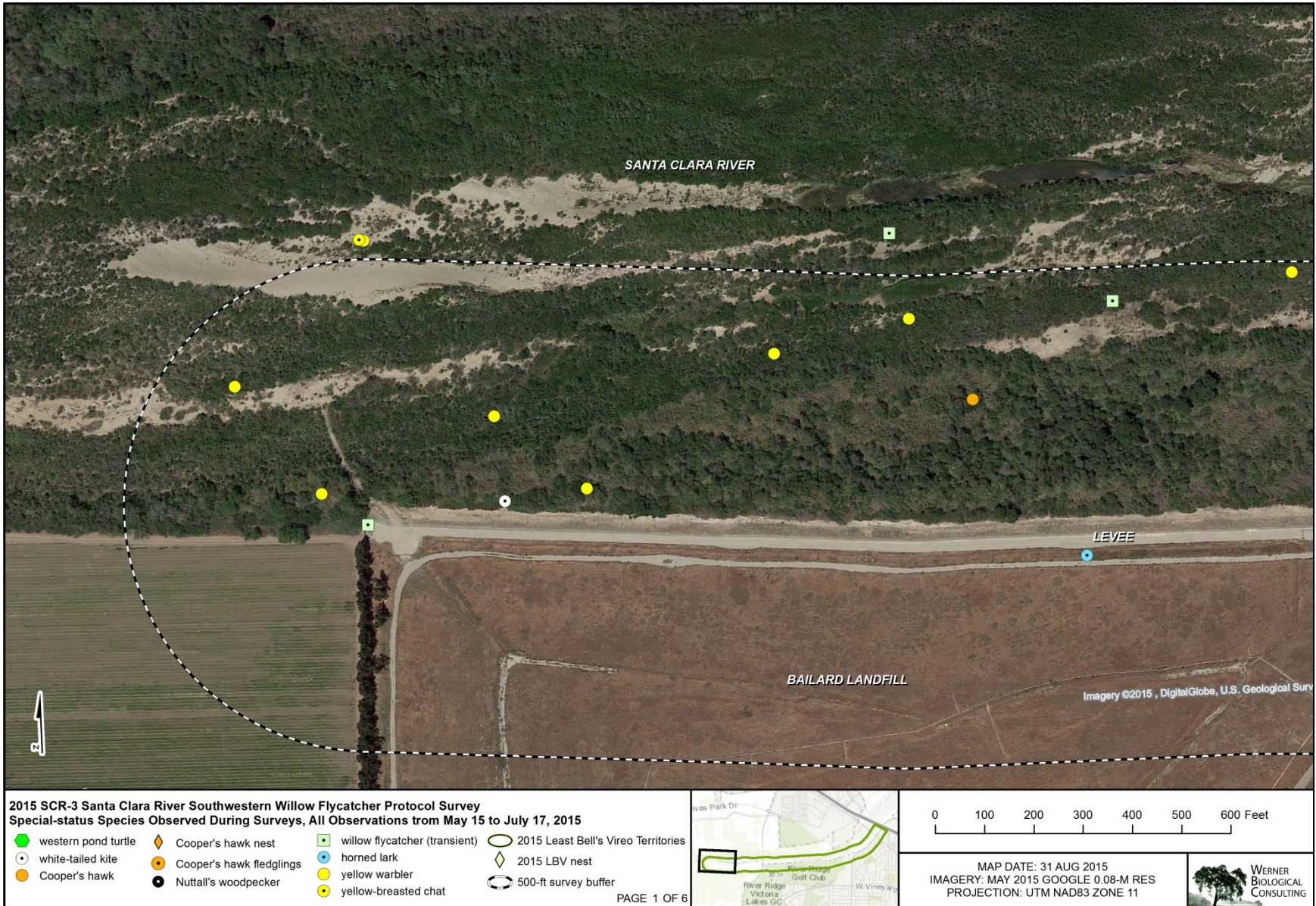


Figure 5. Special-status species detections.

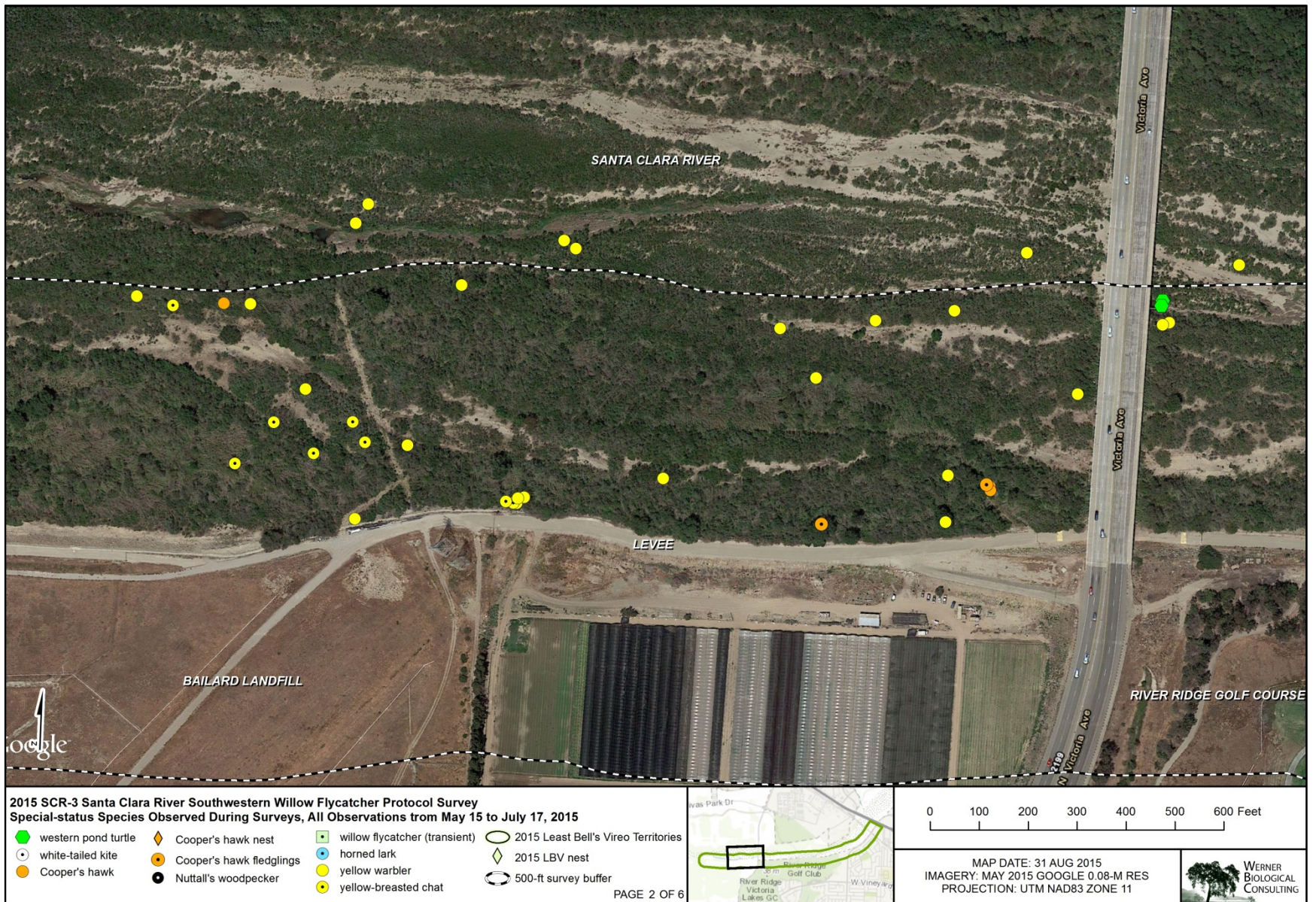


Figure 6. Special-status species detections.

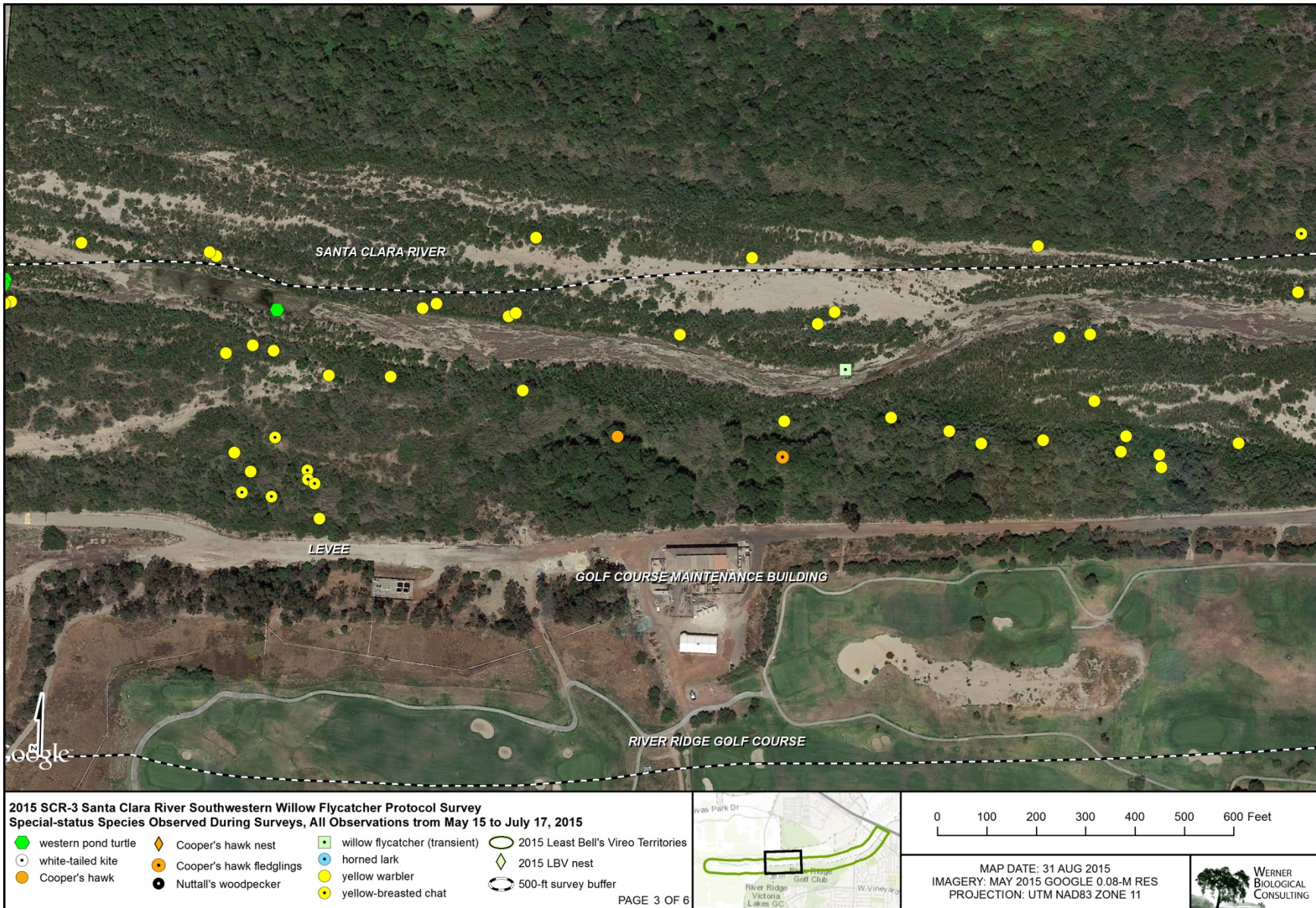


Figure 7. Special-status species detections.

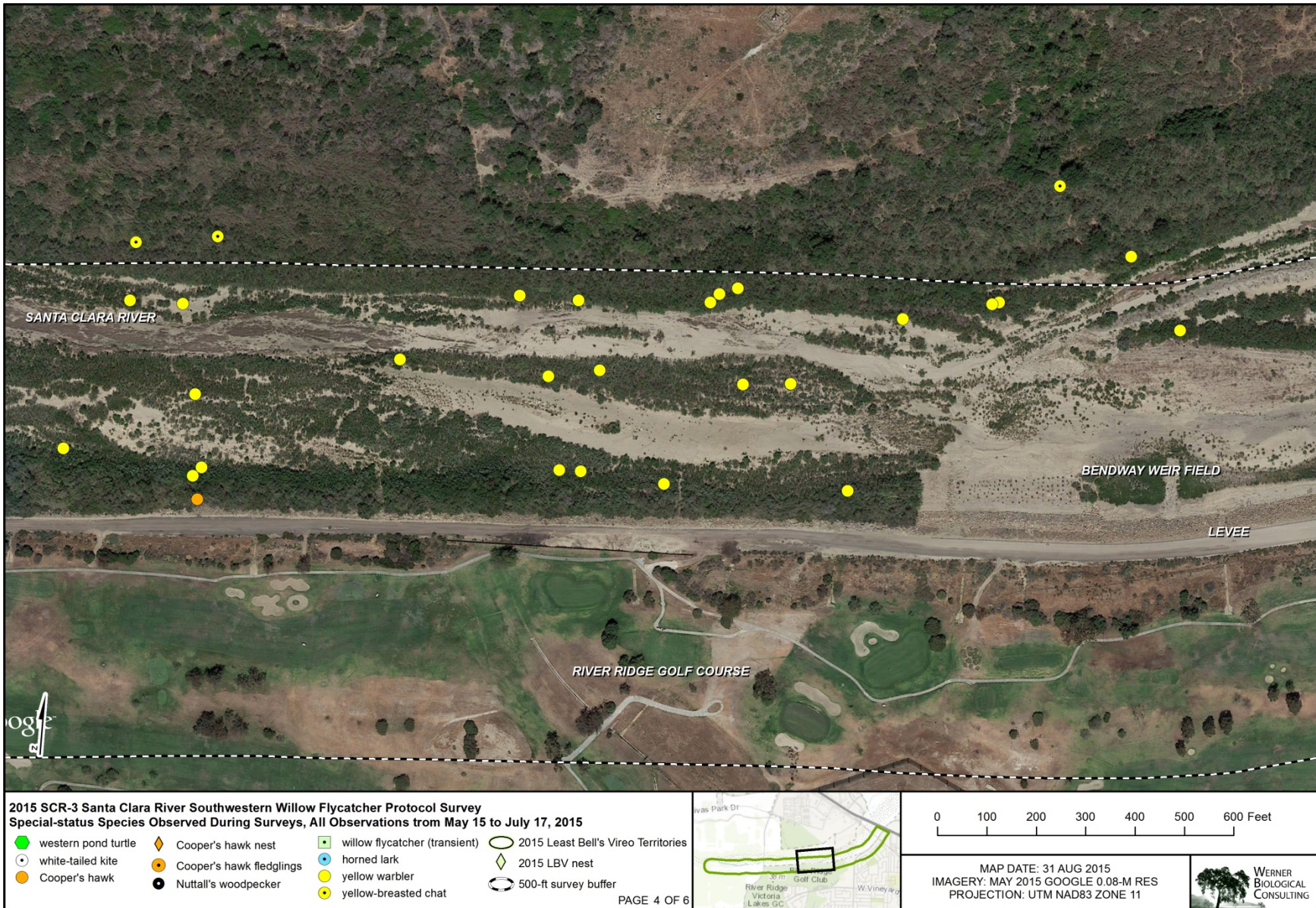


Figure 8. Special-status species detections.



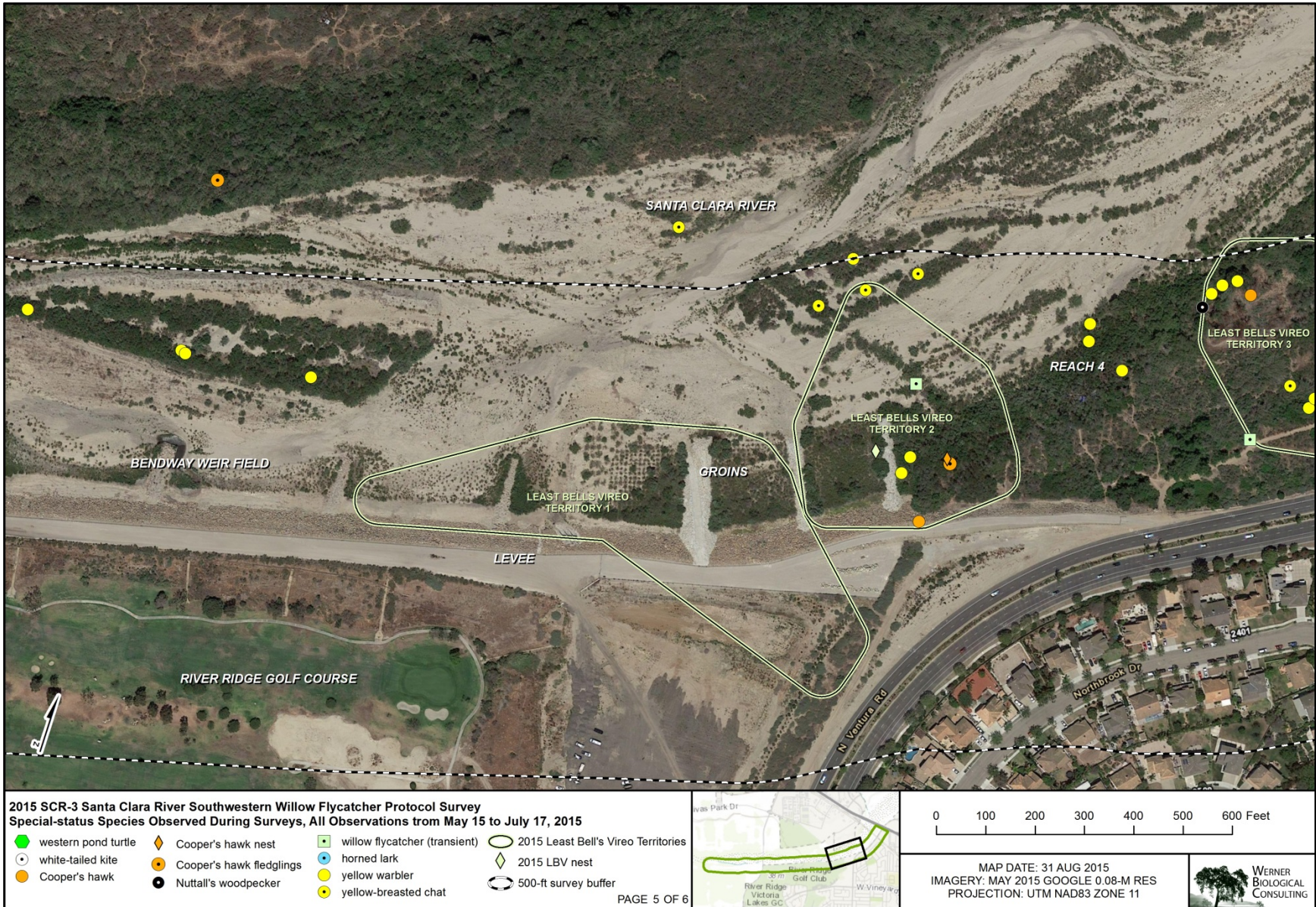


Figure 9. Special-status species detections.

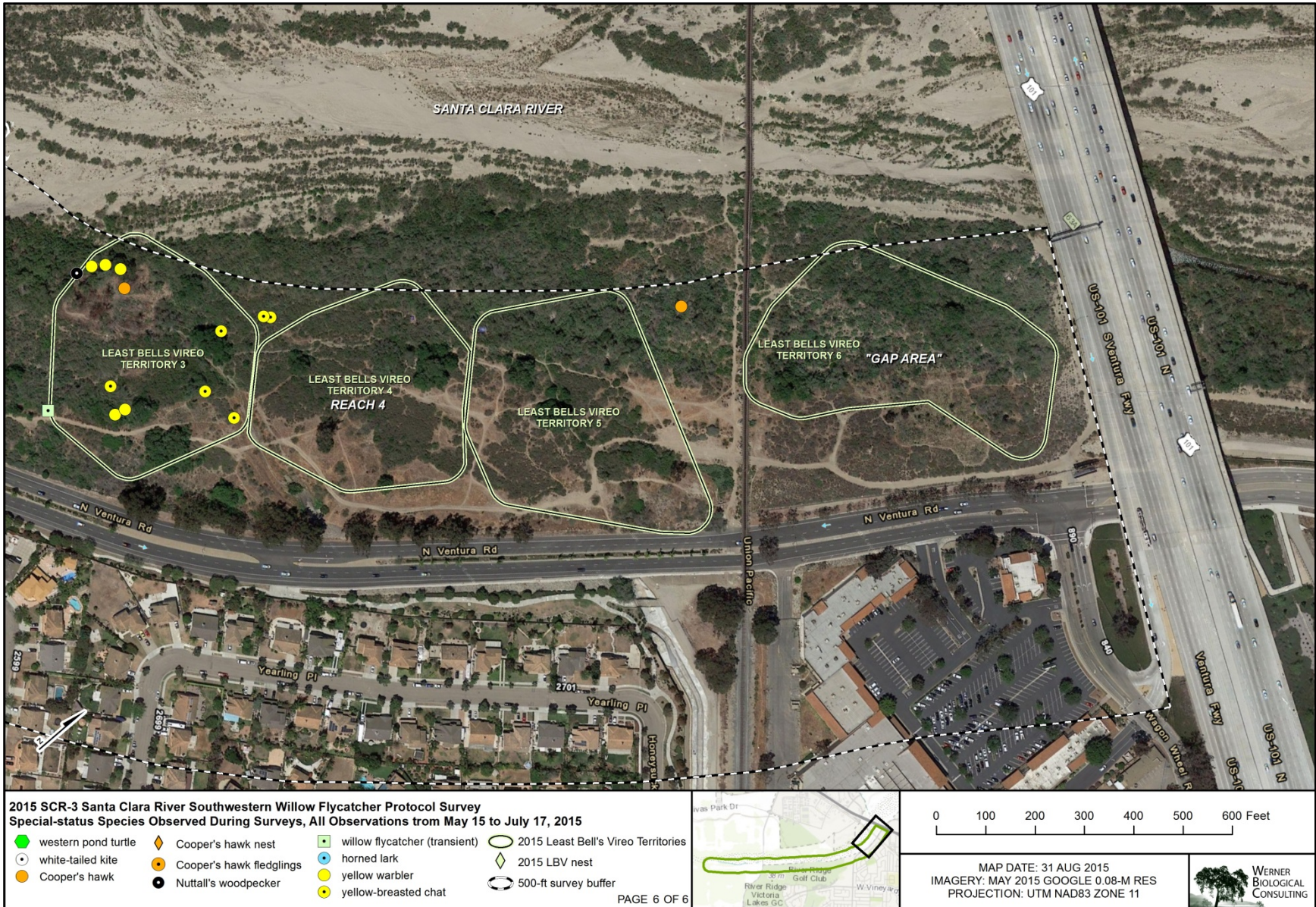


Figure 10. Special-status species detections.



**Figure 11.** Riparian vegetation along levee near Bailard Landfill, facing west (6/9/2015).



**Figure 12.** Riparian vegetation and swale area, facing west (5/19/2015).



**Figure 13.** Transient willow flycatcher in giant reed, detection # 2 shown in Table 2 and Figure 2 (5/19/2015).



**Figure 14.** Dense willow stand near Bailard Landfill, facing northwest (6/9/2015).



**Figure 15.** Riparian vegetation along central river channel near River Ridge Golf Course maintenance building, facing southeast (5/29/2015).



**Figure 16.** Riparian vegetation along central river channel near River Ridge Golf Course maintenance building, facing southwest (7/14/2015).



**Figure 17.** Dense willow stand near River Ridge Golf Course maintenance building, facing west (6/22/2015).



**Figure 18.** Riparian vegetation along north side of central river channel, facing east (5/29/2015).

**Appendix A. Willow Flycatcher detection form and topo map.**

**Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)**

Site Name: SCR-3 Santa Clara River Levee Project State: California County: Ventura  
 USGS Quad Name: Oxnard Elevation: 9 to 23 (meters)  
 Creek, River, or Lake Name: Santa Clara River

*Is copy of USGS map marked with survey area and WIFL sightings attached (as required)?* Yes X No     

Survey Coordinates: Start: E 294512 N 3790260 UTM Datum: NAD83 (See instructions)  
 Stop: E 298524 N 3791089 UTM Zone: 11

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

**\*\*Fill in additional site information on back of this page\*\***

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding; potential threats [livestock, cowbirds, <i>Diorhabda</i> spp.]). If <i>Diorhabda</i> found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
							# Birds	Sex	UTM E	UTM N
Survey # 1 Observer(s): Scott Werner	Date: 5/19/2015	3	0	0	N	Day 1 of Survey #1				
	Start: 6:30									
	Stop: 10:25									
	Total hrs: 3.9									
Survey # 1 Observer(s): Scott Werner	Date: 5/20/2015	3	0	0	N	Day 2 of Survey #1				
	Start: 6:40									
	Stop: 10:20									
	Total hrs: 3.7									
Survey # 1 Observer(s): Scott Werner	Date: 5/21/2015	0	0	0	N	Day 3 of Survey #1				
	Start: 6:30									
	Stop: 10:10									
	Total hrs: 3.8									
Survey # 2 Observer(s): Scott Werner	Date: 5/29/2015	0	0	0	N	Day 1 of Survey #2				
	Start: 5:50									
	Stop: 9:45									
	Total hrs: 3.9									
Survey # 2 Observer(s): Scott Werner	Date: 5/30/2015	0	0	0	N	Day 2 of Survey #2				
	Start: 6:00									
	Stop: 9:30									
	Total hrs: 3.5									
Survey # 3 Observer(s): Scott Werner	Date: 6/9/2015	0	0	0	N	Day 1 of Survey #3				
	Start: 6:15									
	Stop: 10:30									
	Total hrs: 4.3									



<b>Survey # 3</b> Observer(s): Scott Werner	Date:					Day 2 of Survey #3	# Birds	Sex	UTM E	UTM N
	6/10/2015									
	Start:									
	5:50	0	0	0	N					
	Stop:									
10:50										
Total hrs:										
5.0										
<b>Survey # 4</b> Observer(s): Scott Werner	Date:					Day 1 of Survey #4	# Birds	Sex	UTM E	UTM N
	6/20/2015									
	Start:									
	6:45	0	0	0	N					
	Stop:									
10:45										
Total hrs:										
4.0										
<b>Survey # 4</b> Observer(s): Scott Werner	Date:					Day 2 of Survey #4	# Birds	Sex	UTM E	UTM N
	6/22/2015									
	Start:									
	6:19	0	0	0	N					
	Stop:									
10:15										
Total hrs:										
3.9										
<b>Survey # 4</b> Observer(s): Scott Werner	Date:					Day 3 of Survey #4	# Birds	Sex	UTM E	UTM N
	6/23/2015									
	Start:									
	6:40	0	0	0	N					
	Stop:									
10:05										
Total hrs:										
3.4										
<b>Survey # 5</b> Observer(s): Scott Werner	Date:					Day 1 of Survey #5	# Birds	Sex	UTM E	UTM N
	6/30/2015									
	Start:									
	7:15	0	0	0	N					
	Stop:									
10:05										
Total hrs:										
2.8										
<b>Survey # 5</b> Observer(s): Scott Werner	Date:					Day 2 of Survey #5	# Birds	Sex	UTM E	UTM N
	7/2/2015									
	Start:									
	6:30	0	0	0	N					
	Stop:									
10:15										
Total hrs:										
3.8										
<b>Survey # 5</b> Observer(s): Scott Werner	Date:					Day 3 of Survey #5	# Birds	Sex	UTM E	UTM N
	7/3/2015									
	Start:									
	6:45	0	0	0	N					
	Stop:									
8:35										
Total hrs:										
1.8										
<b>Survey # 6</b> Observer(s): Scott Werner	Date:					Day 1 of Survey #6	# Birds	Sex	UTM E	UTM N
	7/14/2015									
	Start:									
	6:40	0	0	0	N					
	Stop:									
10:01										
Total hrs:										
3.4										

<b>Survey # 6</b> Observer(s): Scott Werner	Date:	7/16/2015	0	0	0	N	Day 2 of Survey #6	# Birds	Sex	UTM E	UTM N		
	Start:	7:20											
	Stop:	11:05											
	Total hrs:	3.8											
<b>Survey # 6</b> Observer(s): Scott Werner	Date:	7/17/2015	0	0	0	N	Day 3 of Survey #6	# Birds	Sex	UTM E	UTM N		
	Start:	7:20											
	Stop:	12:20											
	Total hrs:	5.0											
<b>Overall Site Summary</b> Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total survey hrs: 59.9			Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded?      Yes      No <b>X</b>						
			0	0	0	0	If yes, report color combination(s) in the comments section on back of form and report to USFWS.						

Reporting Individual: Scott Werner Date Report Completed: 9/9/2015  
 US Fish & Wildlife Service Permit #: TE-179013 State Wildlife Agency Permit #: SC-005186 (CA)

***Submit form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.***

Fill in the following information completely. Submit form by September 1<sup>st</sup>. Retain a copy for your records.

Reporting Individual Scott Werner Phone # 805-272-5871  
 Affiliation Werner Biological Consulting E-mail scott@wernerbio.com  
 Site Name SCR-3 Santa Clara River Levee Project Date report Completed 9/9/2015  
 Was this site surveyed in a previous year? Yes X No      Unknown       
 Did you verify that this site name is consistent with that used in previous yrs? Yes X No      Not Applicable     

If name is different, what name(s) was used in the past? Santa Clara River [South Bank Levee, Oxnard]  
 If site was surveyed last year, did you survey the same general area this year? Yes      No      If no, summarize below.  
 Did you survey the same general area during each visit to this site this year? Yes      No      If no, summarize below.

Management Authority for Survey Area: Federal      Municipal/County X State      Tribal      Private       
 Name of Management Entity or Owner (e.g., Tonto National Forest) Ventura County Watershed Protection District

Length of area surveyed: 4.3 (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

- Native broadleaf plants (entirely or almost entirely, > 90% native)
- X  Mixed native and exotic plants (mostly native, 50 - 90% native)
- Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)
- Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.  
Salix lasiolepis, Salix laevigata, Populus trichocarpa

Average height of canopy (Do not include a range): 8 (meters)

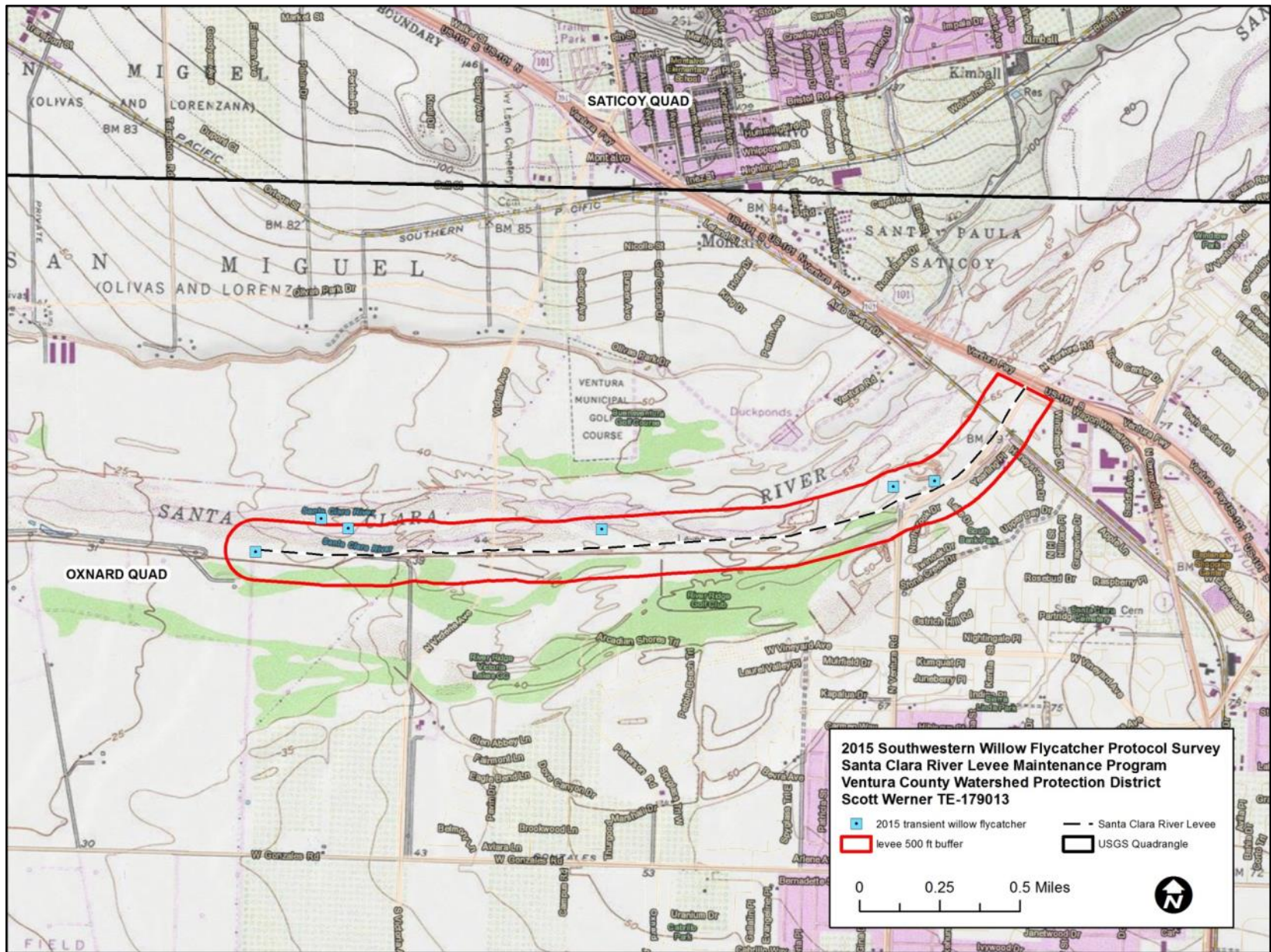
- Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;
- 2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;
- 3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features).  
Attach additional sheets if necessary.  
**Same area surveyed by same surveyor in 2013.**

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary



## **B.2 Summary of Surveys Conducted in the Study Area**

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Appendix B-2 Summary of Surveys Conducted in the Study Area

Summary of Surveys Conducted in the Study Area			
Target Species	Survey Type	Survey Dates	Results
Terrestrial Mammals, Amphibians and Reptiles	Reconnaissance-Level Surveys; Visual Surveys; Review of Scat, Tracks, Sign, Middens, and Burrows	19 February 2014 20 February 2014 21 February 2014 3 March 2014 4 March 2014 7 March 2014 18 March 2014 18 April 2014 28 May 2014	Sensitive mammals were not detected in the Study Area. However, the area is expected to support a number of special-status species.
Bats	Visual Surveys	3 March 2014 4 March 2014 18 March 2014 28 May 2014 18 April 2014	Bats were observed flying/foraging throughout the Study Area and roosting in the Victoria Avenue Bridge. Bats were not identified to species.
Least Bell's Vireo	Focused Non-Protocol and Protocol Surveys	10 – 12 April 2013 15 April 2013 23 – 27 April 2013 3 – 5 May 2013 7 May 2013 15 – 16 May 2013 18 May 2013 20 May 2013 25 May 2013 27 – 29 May 2013 6 – 7 June 2013 10 – 11 June 2013 17 – 18 June 2013 20 – 21 June 2013 27 – 28 June 2013 1 – 2 July 2013 11 – 13 July 2013 15 July 2013 19 February 2014 20 February 2014 21 February 2014 3 March 2014 4 March 2014 7 March 2014 18 March 2014 28 May 2014 27 – 28 April 2015 7 May 2015 11 – 12 May 2015 19 – 21 May 2015 29 – 30 May 2015 9 – 10 June 2015 20 June 2015	Least Bell's vireo was detected on the upper stream terrace and near the constructed rock groins within the eastern extent of the Study Area.

**Appendix B-2 Summary of Surveys Conducted in the Study Area**

Target Species	Survey Type	Survey Dates	Results
		22 - 23 June 2015 30 June 2015 2 - 3 July 2015 14 July 2015 16 - 17 July 2015	
Southwestern Willow Flycatcher	Focused Non-Protocol and Protocol Surveys	15 - 16 May 2013 18 May 2013 25 May 2013 27 - 28 May 2013 6 - 7 June 2013 10 June 2013 17 - 18 June 2013 20 June 2013 27 - 28 June 2013 1 July 2013 11 - 13 July 2013 28 May 2014 19 - 21 May 2015 29 - 30 May 2015 9 - 10 June 2-2015 20 June 2015 22 - 23 June 2015 30 June 2015 2 - 3 July 2015 14 July 2015 16 - 17 July 2015	Southwestern willow flycatcher were not detected within the Study Area.
Birds (non-protocol)	Focused Pedestrian and Acoustic	19 February 2014 20 February 2014 21 February 2014 3 March 2014 4 March 2014 7 March 2014 18 March 2014 28 May 2014 18 April 2014	A wide variety of birds were detected in the Study Area, including a variety of special-status species.
Fish	Focused Dip Net Surveys	18 April 2014	No sensitive species were detected during these surveys.
Botanical	Focused Pedestrian	20-21 February 2014 28 April 2014	No State or federally listed plants were detected during these surveys.
State and Federal Waters	Formal Delineation	19 February 2014 20 February 2014 21 February 2014 7 March 2014 18 April 2014	Portions of the Study Area were determined to support State and federal jurisdictional waters, and federal jurisdictional wetlands.

## **B.3 Wildlife Observed in the Area**

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Appendix B-3 Wildlife Observed in the Study Area

<b>Wildlife Observed in the Study Area</b>		
<b>Scientific Name</b>	<b>Common Name</b>	<b>Status</b>
<b>Invertebrates</b>		
<i>Helminthoglypta sp.</i>	Shoulderband snail	
<i>Linepithema humile*</i>	Argentine ants	
<i>Pogonomyrmex californicus</i>	Harvester ants	
<i>Procambarus clarkia*</i>	Crawfish	
<b>Fish</b>		
<i>Cyprinus carpio*</i>	Common carp	
<i>Gambusia affinis*</i>	Mosquito fish	
<b>Reptiles</b>		
<i>Actinemys pallida</i>	Western pond turtle	<b>CSC</b>
<i>Elgaira multicarinata</i>	Southern alligator lizard	
<i>Lampropeltis getula</i>	Common kingsnake	
<i>Masticophis flagellum</i>	Coachwhip	
<i>Phrynosoma blainvillei</i>	Coast horned lizard	<b>CSC</b>
<i>Pituophis catenifer</i>	Gopher snake	
<i>Sceloporus occidentalis</i>	Western fence lizard	
<i>Uta stansburiana</i>	Side-blotched lizard	
<b>Amphibians</b>		
<i>Bufo boreas</i>	Western toad	
<i>Hyla regilla</i>	Pacific treefrog	
<i>Rana catesbeiana*</i>	Bullfrog	
<i>Xenopus laevis*</i>	African clawed frog	
<b>Birds</b>		
<i>Accipiter cooperii</i>	Cooper's hawk	<b>WL</b>
<i>Agelaius phoeniceus</i>	Red-winged blackbird	
<i>Anas platyrhynchos</i>	Mallard	
<i>Aphelocoma californica</i>	Western scrub-jay	
<i>Ardea alba</i>	Great egret	
<i>Ardea herodias</i>	Great blue heron	<b>SA</b>
<i>Bubo virginianus</i>	Great-horned owl	
<i>Buteo lineatus</i>	Red-shouldered hawk	
<i>Buteo jamaicensis</i>	Red-tailed hawk	
<i>Branta canadensis</i>	Canada goose	
<i>Buteo lineatus</i>	Red-shouldered hawk	
<i>Butorides virescens</i>	Green heron	
<i>Callipepla californica</i>	California quail	
<i>Calypte anna</i>	Anna's hummingbird	
<i>Calypte costae</i>	Costa's hummingbird	<b>BCC</b>
<i>Cardellina pusilla</i>	Wilson's warbler	
<i>Carduelis psaltria</i>	Lesser goldfinch	
<i>Carpodacus mexicanus</i>	House finch	
<i>Carpodacus purpureus</i>	Purple finch	
<i>Cathartes aura</i>	Turkey vulture	
<i>Catharus guttatus</i>	Hermit thrush	
<i>Catharus ustulatus</i>	Swainson's thrush	
<i>Chamaea fasciata</i>	Wrentit	

Appendix B-3 Wildlife Observed in the Study Area

<b>Wildlife Observed in the Study Area</b>		
<b>Scientific Name</b>	<b>Common Name</b>	<b>Status</b>
<i>Charadrius vociferus</i>	Killdeer	
<i>Chordeiles acutipennis</i>	Lesser nighthawk	
<i>Circus cyaneus</i>	Northern harrier	<b>CSC</b>
<i>Colaptes auratus</i>	Northern flicker	
<i>Columba livia*</i>	Rock pigeon	
<i>Contopus sordidulus</i>	Western wood-pewee	
<i>Corvus brachyrhynchos</i>	American crow	
<i>Corvus corax</i>	Common raven	
<i>Dendroica coronata</i>	Yellow-rumped warbler	
<i>Egretta thula</i>	Snowy egret	
<i>Elanus leucurus</i>	White-tailed kite	<b>CFP</b>
<i>Empidonax difficilis</i>	Pacific-slope flycatcher	
<i>Empidonax trailii</i>	Willow flycatcher	<b>BCC, SE, ABC</b>
<i>Eremophila alpestris actia</i>	California horned lark	<b>WL</b>
<i>Falco columbarius</i>	Merlin	<b>WL</b>
<i>Falco peregrinus</i>	Peregrine falcon	<b>BCC, CFP</b>
<i>Falco sparverius</i>	American kestrel	
<i>Gallinago gallinago</i>	Common snipe	
<i>Geococcyx californianus</i>	Greater roadrunner	
<i>Geothlypis trichas</i>	Common yellowthroat	
<i>Hirundo rustica</i>	Barn swallow	
<i>Icteria virens</i>	Yellow-breasted chat	<b>CSC</b>
<i>Icterus bullockii</i>	Bullock's oriole	
<i>Icterus cucullatus</i>	Hooded oriole	
<i>Junco hyemalis</i>	Dark-eyed junco	
<i>Lanius ludovicianus</i>	Loggerhead shrike	<b>BCC, CSC</b>
<i>Larus occidentalis</i>	Western/common gull	
<i>Melospiza melodia</i>	Song sparrow	
<i>Melospiza crissalis</i>	California towhee	
<i>Mimus polyglottos</i>	Northern mockingbird	
<i>Molothrus ater*</i>	Brown-headed cowbird	
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher	
<i>Oreothlypis celata</i>	Orange-crowned warbler	
<i>Passer domesticus*</i>	House sparrow	
<i>Passerculus sandwichensis</i>	Savannah sparrow	
<i>Passerina amoena</i>	Lazuli bunting	
<i>Passerina caerulea</i>	Blue grosbeak	
<i>Petrochelidon pyrrhonota</i>	Cliff swallow	
<i>Phalacrocorax auritus</i>	Double-crested cormorant	<b>WL</b>
<i>Pheucticus melanocephalus</i>	Black-headed grosbeak	
<i>Picoides nuttallii</i>	Nuttall's woodpecker	
<i>Picoides pubescens</i>	Downy woodpecker	
<i>Pipilo maculatus</i>	Spotted towhee	
<i>Piranga ludoviciana</i>	Western tanager	
<i>Pittasoma michleri</i>	Black-crowned night heron	
<i>Poliophtila caerulea</i>	Blue-gray gnatcatcher	

Appendix B-3 Wildlife Observed in the Study Area

Wildlife Observed in the Study Area		
Scientific Name	Common Name	Status
<i>Psaltriparus minimus</i>	Bushtit	
<i>Quiscalus mexicanus</i>	Great-tailed grackle	
<i>Regulus calendula</i>	Ruby-crowned kinglet	
<i>Sayornis nigricans</i>	Black phoebe	
<i>Sayornis saya</i>	Says' Phoebe	
<i>Selasphorus sasin</i>	Allen's hummingbird	BCC, SA
<i>Setophaga coronate</i>	Yellow-rumped warbler	
<i>Setophaga townsendi</i>	Townsend's warbler	
<i>Setophaga petechial</i>	Yellow warbler	BCC,CSC
<i>Spinus psaltria</i>	Lesser goldfinch	
<i>Spinus tristis</i>	American goldfinch	
<i>Stelgidopteryx serripennis</i>	Northern rough-winged swallow	
<i>Streptopelia decaocto*</i>	Eurasian collared dove	
<i>Tachycineta bicolor</i>	Tree swallow	
<i>Thryomanes bewickii</i>	Bewick's wren	
<i>Toxostoma redivivum</i>	California thrasher	
<i>Tringa nebularia</i>	Common ground dove	
<i>Turdus migratorius</i>	American robin	
<i>Tyrannus verticalis</i>	Western kingbird	
<i>Tyrannus vociferans</i>	Cassin's kingbird	
<i>Tyto alba</i>	Barn owl	
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE, BCC, ABC
<i>Vireo gilvus</i>	Warbling vireo	
<i>Vireo huttoni</i>	Hutton's vireo	
<i>Zenaida macroura</i>	Mourning dove	
<i>Zonotrichia atricapilla</i>	Golden-crowned sparrow	
<i>Zonotrichia leucophrys</i>	White-crowned sparrow	
<b>Mammals</b>		
<i>Canis familiaris*</i>	Domestic dog	
<i>Canis latrans</i>	Coyote	
<i>Felis catus*</i>	Domestic cat	
<i>Mephitis mephitis</i>	Striped skunk	
<i>Mustela frenata</i>	Long-tailed weasel	
<i>Neopoma macrotis</i>	Big-eared woodrat	
<i>Ondatra zibethicus*</i>	Common muskrat	
<i>Otospermophilus beecheyi</i>	California ground squirrel	
<i>Procyon lotor</i>	Raccoon	
<i>Sylvilagus audubonii</i>	Desert cottontail	
<i>Thomomys bottae</i>	Botta's pocket gopher	

**Federal Rankings:**

FE = Federally Endangered  
 FT = Federally Threatened  
 FC = Federal Candidate for Listing  
 BCC = USFWS Bird of Conservation Concern

**County Rankings:**

VC = Ventura County Locally Important Species

**Other Rankings:**

ABC = American Bird Conservancy: U.S. Watch List of Birds of Conservation Concern (nesting)

**State Rankings:**

SE = State Endangered  
 ST = State Threatened  
 CFP = California Fully Protected  
 CPF = California Protected Fur-bearer  
 SA = CDFW Special Animal  
 WL = CDFW Watch List  
 CSC = California Species of Special Concern

\* = Introduced/Non-native

## **B.4 Plant Species Observed in the Study Area**

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Appendix B-4 Plant Species Observed in the Study Area

Plant Species Observed in the Study Area			
Latin Name	Common Name	Abundance / Habitat	Voucher
<b>VASCULAR PLANTS</b>			
FILICALES			
FERN FAMILY			
<i>Azolla filiculoides</i>	Pacific mosquitofern	Scarce / ponded water	5,169
CUPRESSACEAE			
CYPRESS FAMILY			
* <i>Cupressus</i> sp.	Ornamental cypress	Solitary / Eucalyptus	
AIZOACEAE			
ICEPLANT FAMILY			
* <i>Carpobrotus edulis</i>	Hottentot fig	Scarce / ruderal	5,158
ANACARDIACEAE			
CASHEW FAMILY			
<i>Malosma laurina</i>	Laurel sumac	Uncommon / uplands	
* <i>Schinus molle</i>	Peruvian ("California") pepper	Uncommon / riparian	
* <i>Schinus terebinthifolius</i>	Brazilian pepper tree	Uncommon / developed	
<i>Toxicodendron diversilobum</i>	Poison oak	Occasional / uplands	
APIACEAE			
CELERY FAMILY			
* <i>Apium graveolens</i>	Wild celery	Uncommon / riparian	
<i>Berula erecta</i>	Water parsnip	Scarce / ponded water	5,170
* <i>Conium maculatum</i>	Poison hemlock	Uncommon / throughout	
* <i>Foeniculum vulgare</i>	Fennel	Occasional / grasslands	
APOCYNACEAE			
DOGBANE FAMILY			
* <i>Araujia sericifera</i>	Bladderflower	Scarce / riparian	
* <i>Nerium oleander</i>	Ornamental oleander	Scarce / developed	
ARALIACEAE			
ARALIA FAMILY			
<i>Hedera helix</i>	English ivy	Scarce / ruderal	5,161
ASTERACEAE			
ASTER FAMILY			
<i>Ambrosia psilostachya</i>	Western ragweed	Occasional / wash	
<i>Artemisia californica</i>	California sagebrush	Occasional / uplands	
<i>Artemisia douglasiana</i>	Douglas mugwort	Uncommon / riparian	
<i>Artemisia tridentata</i>	Big sagebrush	Scarce / uplands	5,172
<i>Baccharis pilularis</i>	Coyote bush	Common / throughout	
<i>Baccharis salicifolia</i>	Mulefat	Common / riparian	
* <i>Carduus pycnocephalus</i>	Italian thistle	Uncommon / throughout	
* <i>Centaurea melitensis</i>	Tocalote	Uncommon / throughout	
* <i>Conyza bonariensis</i>	Flax-leaved horseweed	Uncommon / throughout	
* <i>Cotula australis</i>	Australian brass buttons	Uncommon / ruderal	
* <i>Cotula coronopifolia</i>	Brass buttons	Uncommon / riparian	
* <i>Delairea odorata</i> ( <i>Senecio mikanioides</i> )	Cape ivy	Locally common / riparian	5,151
<i>Euthamia occidentalis</i> ( <i>Solidago occidentalis</i> )	Western goldenrod	Scarce / riparian	
* <i>Gazania linearis</i>	Ornamental gazania	Scarce / wash	

Appendix B-4 Plant Species Observed in the Study Area

Latin Name	Common Name	Abundance / Habitat	Voucher
* <i>Glebionis coronaria</i>	Crown daisy	Uncommon / ruderal	
* <i>Gnaphalium palustre</i>	Lowland cudweed	Uncommon / riparian	
<i>Hazardia squarrosa</i>	Sawtooth goldenbush	Scarce / uplands	
* <i>Helminthotheca echioides</i>	Bristly ox-tongue	Uncommon / ruderal	
<i>Heterotheca grandiflora</i>	Telegraph weed	Uncommon / alluvial bench	
<i>Heterotheca sessiliflora</i>	Golden aster	Occasional / alluvial bench	
* <i>Lactuca serriola</i>	Prickly lettuce	Uncommon / throughout	
<i>Lepidospartum squamatum</i>	Scalebroom	Scarce / alluvial bench	
<i>Lessingia filaginifolia</i> ( <i>Corethrogyne filaginifolia</i> )	Chaparral aster	Scarce / uplands	5,163
<i>Pseudognaphalium canescens</i>	Perennial cudweed	Uncommon / uplands	
<i>Pseudognaphalium ramosissimum</i>	Pink flowered cudweed	Scarce / uplands	5,152
<i>Pseudognaphalium stramineum</i>	Cottonbatting plant	Uncommon / ruderal	
* <i>Sonchus asper</i>	Prickly sow thistle	Uncommon / ruderal	
* <i>Sonchus oleraceus</i>	Common sow thistle	Scarce / riparian	
<i>Xanthium strumarium</i>	Cocklebur	Occasional / riparian	
BRASSICACEAE	MUSTARD FAMILY		
* <i>Hirschfeldia incana</i> ( <i>Brassica geniculata</i> )	Short-pod mustard	Uncommon / throughout	
* <i>Brassica nigra</i>	Black mustard	Uncommon / ruderal	
* <i>Cardamine hirsuta</i> (?)	Hairy bittercress	Occasional / ruderal	
<i>Descurainia pinnata</i> ssp. <i>menziesii</i>	Menzies' tansy mustard	Occasional / uplands	
* <i>Lepidium didymum</i>	Lesser swine cress	Uncommon / ruderal	
* <i>Lobularia maritima</i>	Sweet alyssum	Scarce / riparian	
<i>Nasturtium officinale</i>	Watercress	Occasional / riparian	
* <i>Raphanus sativus</i>	Cultivated radish	Uncommon / ruderal	
* <i>Sisymbrium irio</i>	London rocket	Uncommon / throughout	
CACTACEAE	CACTUS FAMILY		
<i>Opuntia littoralis</i>	Coast prickly pear	Uncommon / throughout	
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY		
<i>Sambucus mexicana</i>	Mexican elderberry, blue	Occasional / throughout	
CHENOPODIACEAE	GOOSEFOOT FAMILY		
<i>Atriplex lentiformis</i>	Quailbush	Occasional / uplands	
<i>Atriplex</i> spp.	Unid. saltbush	Uncommon / ruderal	5,154
<i>Atriplex</i> spp.	Unid. saltbush	Uncommon / ruderal	5,155
* <i>Salsola tragus</i>	Russian thistle, tumbleweed	Uncommon / grasslands	
CONVOLVULACEAE	MORNING GLORY FAMILY		
<i>Calystegia macrostegia</i>	Morning glory	Occasional / uplands	

Appendix B-4 Plant Species Observed in the Study Area

Latin Name	Common Name	Abundance / Habitat	Voucher
* <i>Convolvulus arvensis</i>	Common bindweed	Occasional / grasslands	
CUCURBITACEAE	CUCUMBER FAMILY		
<i>Marah macrocarpa</i>	Wild cucumber	Occasional / uplands	
EUPHORBIACEAE	SPURGE FAMILY		
<i>Croton californicus</i>	California croton	Uncommon / alluvial bench	
* <i>Euphorbia peplus</i>	Petty spurge	Uncommon / ruderal	
* <i>Ricinus communis</i>	Castor bean	Uncommon / throughout	
FABACEAE	PEA FAMILY		
* <i>Acacia longifolia</i>	Golden wattle	Scarce / riparian	
<i>Astragalus trichopodus</i> var. <i>phoxus</i>	Santa Barbara milk vetch	Uncommon / wash	
<i>Acmispon americanus</i> ( <i>Lotus purshianus</i> )	Spanish lotus	Scarce / uplands	
<i>Acmispon glaber</i> ( <i>Lotus scoparius</i> )	Deerweed	Uncommon / uplands	
* <i>Medicago polymorpha</i>	Bur-clover	Uncommon / riparian	
* <i>Melilotus alba</i>	White sweet-clover	Occasional / riparian	
* <i>Melilotus indica</i>	Yellow sweet clover	Uncommon / riparian	
* <i>Senna artemisioides</i>	Silver senna	Scarce / ruderal	5,162
GERANIACEAE	GERANIUM FAMILY		
* <i>Erodium cicutarium</i>	Red-stemmed filaree	Uncommon / throughout	
GROSSULARIACEAE	CURRANT FAMILY		
<i>Ribes malvaceum</i>	Chaparral currant	Scarce / uplands	5,171
HYDROPHYLLACEAE	WATERLEAF FAMILY		
<i>Eriodictyon crassifolium</i> var. <i>nigrescens</i>	Thick-leaf yerba santa	Uncommon / alluvial bench	
<i>Phacelia distans</i>	Common phacelia	Occasional / uplands	
<i>Phacelia ramosissima</i>	Branching phacelia	Uncommon / uplands	
JUGLANDACEAE	WALNUT FAMILY		
** <i>Juglans californica</i>	Southern black walnut	Scarce / riparian	
LAMIACEAE	MINT FAMILY		
* <i>Marrubium vulgare</i>	Horehound	Occasional / grasslands	
<i>Salvia leucophylla</i>	Coastal purple sage	Uncommon / uplands	
<i>Salvia mellifera</i>	Black sage	Occasional / throughout	
LAURACEAE	LAUREL FAMILY		
<i>Umbellularia californica</i>	California bay	Scarce / uplands	
MALVACEAE	MALLOW FAMILY		
* <i>Lavatera cretica</i>	Cornish mallow	Uncommon / ruderal	5,150
* <i>Malva parviflora</i>	Cheeseweed	Uncommon / ruderal	
MYRTACEAE	EUCALYPTUS FAMILY		
* <i>Eucalyptus camaldulensis</i>	Red gum	Uncommon / uplands	5,167
* <i>Eucalyptus globulus</i>	Blue gum	Occasional / uplands	

Appendix B-4 Plant Species Observed in the Study Area

Latin Name	Common Name	Abundance / Habitat	Voucher
* <i>Eucalyptus nicholii</i> (?)	Narrow-Leaved Black Peppermint	Occasional / uplands	5,156
ONAGRACEAE	EVENING PRIMROSE FAMILY		
<i>Epilobium ciliatum</i>	Willow-herb	Uncommon / riparian	
<i>Ludwegia peploides</i> ssp. <i>peploides</i>	Yellow waterweed	Scarce / riparian	
<i>Oenothera elata</i> ssp. <i>hirsutissima</i>	Marsh evening primrose	Uncommon / riparian	
OXALIDACEAE	OXALIS FAMILY		
<i>Oxalis pes-caprae</i>	Bermuda buttercup	Scarce / ruderal	5,153
PLANTAGINACEAE	PLANTAIN FAMILY		
* <i>Plantago lanceolata</i>	Rib-grass	Occasional / riparian	
PLATANACEAE	SYCAMORE FAMILY		
<i>Platanus racemosa</i>	California sycamore	Occasional / riparian	
PLUMBAGINACEAE	PLUMBAGO FAMILY		
* <i>Limonium perezii</i>	Perez's sealavender	Uncommon / ruderal	
* <i>Limonium sinuatum</i>	Wavyleaf sealavender	Occasional / ruderal	
POLYGONACEAE	BUCKWHEAT FAMILY		
<i>Eriogonum fasciculatum</i>	California buckwheat	Scarce / uplands	
<i>Persicaria</i> spp.	Unid. smartweed	Uncommon / wetlands	
<i>Polygonum aviculare</i>	Prostrate knotweed	Scarce / ruderal	
* <i>Rumex</i> spp.	Unid. dock	Uncommon / riparian	
PRIMULACEAE	PRIMROSE FAMILY		
* <i>Anagallis arvensis</i>	Scarlet pimpernel	Occasional / riparian	
RHAMNACEAE	BUCKTHORN FAMILY		
<i>Ceanothus integerrimus</i>	Deer brush	Solitary / riparian	
ROSACEAE	ROSE FAMILY		
<i>Rubus ursinus</i>	California blackberry	Occasional / riparian	5,160
* <i>Rhampholepis indica</i>	Indian hawthorn	Occasional / developed	
SALICACEAE	WILLOW FAMILY		
<i>Populus fremontii</i>	Fremont cottonwood	Occasional / riparian	
<i>Populus trichocarpa</i>	Black cottonwood	Occasional / riparian	
<i>Salix exigua</i>	Sandbar willow	Occasional / riparian	
<i>Salix laevigata</i>	Red willow	Occasional / riparian	5,166
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Pacific willow	Occasional / riparian	5,165
<i>Salix lasiolepis</i>	Arroyo willow	Common / riparian	5,164
SCROPHULARIACEAE	SNAPDRAGON FAMILY		
<i>Mimulus aurantiacus</i>	Bush monkeyflower	Occasional / uplands	
* <i>Myoporum laetum</i>	Lollypop tree	Common / developed areas	5,157
<i>Scrophularia californica</i>	California figwort	Uncommon / uplands	
* <i>Veronica anagallis-aquatica</i>	Water speedwell	Occasional / riparian	
* <i>Veronica arvensis</i>	Speedwell	Occasional / wetlands	
SOLANACEAE	NIGHTSHADE FAMILY		
<i>Datura wrightii</i> ( <i>D. meteloides</i> )	Jimsonweed	Occasional / throughout	



Appendix B-4 Plant Species Observed in the Study Area

Latin Name	Common Name	Abundance / Habitat	Voucher
* <i>Nicotiana glauca</i>	Tree tobacco	Uncommon / throughout	
<i>Solanum americanum</i> ( <i>Solanum nodiflorum</i> )	White nightshade	Uncommon / oak woodland	
<i>Solanum douglasii</i>	Nightshade	Uncommon / uplands	
TROPAEOLACEAE	NASTURTIUM FAMILY		
* <i>Tropaeolum majus</i>	Garden nasturtium	Scarce / riparian	5,159
URTICACEAE	NETTLE FAMILY		
<i>Urtica dioica</i> ssp. <i>holosericea</i>	Stinging nettle	Uncommon / riparian	
VERBENACEAE	VERVAIN FAMILY		
<i>Verbena lasiostachys</i>	Western verbena	Uncommon / riparian	
CYPERACEAE	SEDGE FAMILY		
<i>Cyperus eragrostis</i>	Tall umbrella sedge	Occasional / riparian	
* <i>Cyperus involucratus</i>	Umbrella plant	Scarce / riparian	
<i>Eleocharis</i> sp.	Unid. spike-sedge	Uncommon / riparian	
<i>Scirpus acutus</i> var. <i>occidentalis</i> ( <i>Schoenoplectus acutus</i> var. <i>occidentalis</i> )	Common bulrush	Occasional / riparian	
<i>Scirpus americanus</i> ( <i>Schoenoplectus americanus</i> , <i>Scirpus olneyi</i> )	Olney's threesquare bulrush	Uncommon / riparian	
JUNCACEAE	RUSH FAMILY		
<i>Juncus torreyi</i>	Torrey's rush	Uncommon / marsh	
LEMNACEAE	DUCKWEED FAMILY		
<i>Lemna</i> sp.	Unid. duckweed	Occasional / riparian	5,168
LILIACEAE	LILY FAMILY		
* <i>Asparagus asparagoides</i>	African asparagus fern	Occasional / uplands	
* <i>Yucca</i> sp.	Ornamental yucca	Scarce / uplands	
POACEAE	GRASS FAMILY		
* <i>Agrostis viridis</i>	Water bentgrass	Occasional / riparian	4,034
* <i>Arundo donax</i>	Giant reed	Common / riparian	
* <i>Avena barbata</i>	Wild oat	Occasional / uplands	
* <i>Bromus diandrus</i>	Ripgut brome	Abundant / grasslands	
* <i>Bromus hordeaceus</i>	Soft chess	Uncommon / riparian	
* <i>Bromus madritensis</i> ssp. <i>rubens</i>	Red brome	Common / grasslands	
* <i>Hordeum murinum</i>	Hare barley	Occasional / grasslands	
* <i>Pennisetum setaceum</i>	African fountain grass	Occasional / ruderal	
* <i>Pennisetum villosum</i>	Feathertop	Scarce / ruderal	
* <i>Poa annua</i>	Annual bluegrass	Uncommon / riparian	
* <i>Polypogon monspeliensis</i>	Rabbitfoot grass	Occasional / riparian	
* <i>Stipa miliacea</i> var. <i>miliacea</i> ( <i>Piptatherum miliaceum</i> )	Smilo grass	Occasional / throughout	
TYPHACEAE	CATTAIL FAMILY		
<i>Typha domingensis</i>	Cattail	Uncommon / marshes	

**Appendix B-4 Plant Species Observed in the Study Area**

<b>Latin Name</b>	<b>Common Name</b>	<b>Abundance / Habitat</b>	<b>Voucher</b>
<i>Typha latifolia</i>	Broad-leaved cattail	Occasional / marshes	
<p>Alien species indicated by asterisk, special status species indicated by two asterisks. This list includes only species observed on the site. Others may have been overlooked or unidentifiable due to season. Plants were identified using keys, descriptions, and illustrations in Hickman (1993), Munz (1974), and Baldwin et al (2012). Taxonomy and nomenclature generally follow Baldwin et al. Vouchers, indicated by Justin M. Wood's collection numbers, will be deposited at Rancho Santa Ana Botanic Garden.</p>			

## **B.5 Sensitive Plant Species Unlikely to Occur in the Study Area**

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Alisma plantago-aquaticum</i> ( <i>A. triviale</i> )	Common water-plantain	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Allium praecox</i>	Early onion	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Allophyllum divaricatum</i>	Divaricate allophyllum	Fed: none CA: none CRPR: none VC: Yes	X		X	X	
<i>Amsinckia spectabilis</i> var. <i>spectabilis</i>	Seaside fiddleneck	Fed: none CA: none CRPR: none VC: Yes	X		X	X	
<i>Antirrhinum ovatum</i>	Oval-leaved snapdragon	Fed: none CA: S3.2 CRPR: 4.2 VC: Yes		X		X	X
<i>Aphanisma blitoides</i>	Aphanisma	Fed: none CA: S1.1 CRPR: 1B.2 VC: No	X				
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	Fed: <b>END</b> CA: <b>END</b> CRPR: 1B.1 VC: No	X		X		
<i>Astragalus whitneyi</i> var. <i>whitneyi</i>	Whitney's milk-vetch	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Atriplex coulteri</i>	Coulter's saltbush	Fed: none CA: S2.2 CRPR: 1B.2 VC: Yes	X				
<i>Atriplex pacifica</i>	Pacific saltbush	Fed: none CA: S2.2 CRPR: 1B.2 VC: Yes	X				
<i>Atriplex serenana</i> var. <i> davidsonii</i> (= <i>Atriplex davidsonii</i> )	Davidson's saltscale	Fed: none CA: S2 CRPR: 1B.2 VC: Yes	X				
<i>Atriplex watsonii</i>	Watson's saltbush	Fed: none CA: none CRPR: none VC: Yes	X				

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Baccharis salicina</i>	Emory's baccharis	Fed: none CA: none CRPR: none VC: Yes				X	X
<i>Botrychium simplex</i>	Least moonwort	Fed: none CA: none CRPR: none VC: Yes	X		X		
<i>Calochortus fimbriatus</i>	Weed's mariposa lily	Fed: none CA: S3 CRPR: 1B.2 VC: Yes			X	X	
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	Fed: none CA: S2.1 CRPR: 1B.2 VC: Yes	X		X	X	
<i>Carex pansa</i>	Sand dune sedge	Fed: none CA: none CRPR: none VC: Yes	X		X		
<i>Carex triquetra</i>	Triangular fruit sedge	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Castilleja attenuate</i> ( <i>Orthocarpus attenuates</i> )	Valley tassels	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Caulanthus inflatus</i>	Desert candle	Fed: none CA: none CRPR: none VC: Yes	X			X	
<i>Caulanthus lemmonii</i>	Lemmon jewelflower	Fed: none CA: S2.2 CRPR: 1B.2 VC: Yes	X			X	
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	Fed: none CA: S2.1 CRPR: 1B.1 VC: No	X		X		
<i>Cheilanthes newberryi</i> ( <i>Notholaena newberryi</i> )	Newberry's lipfern	Fed: none CA: none CRPR: none VC: Yes	X				
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	Salt marsh bird's beak	Fed: <b>END</b> CA: <b>END</b> CRPR: 1B.2 VC: No	X				

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Chorizanthe clevelandii</i>	Cleveland's spineflower	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Chorizanthe membranacea</i>	Pink spineflower	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Cirsium scariosum</i> var. <i>citrinum</i>	Southern meadow thistle	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Cistanthe maritima</i>	Seaside calandrinia	Fed: none CA: none CRPR: 4.2 VC: Yes		X		X	
<i>Clarkia purpurea</i> ssp. <i>viminea</i>	Purple clarkia	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Clinopodium douglasii</i>	Yerba buena	Fed: none CA: none CRPR: none VC: Yes		X		X	
<i>Collomia tinctoria</i>	Yellow staining collomia	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Cornus sericea</i> ssp. <i>sericea</i> ( <i>C. stolonifera</i> )	American dogwood	Fed: none CA: none CRPR: none VC: Yes					X
<i>Crassula aquatica</i>	Water pygmy weed	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Cryptantha torreyana</i>	Torrey's cryptantha	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Cylindropuntia californica</i> var. <i>parkeri</i>	Cane cholla	Fed: none CA: none CRPR: none VC: Yes					X
<i>Cyperus laevigatus</i>	Smooth flatsedge	Fed: none CA: none CRPR: none VC: Yes		X		X	

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Delphinium gypsophilum</i> ssp. <i>gypsophilum</i>	Gypsum larkspur	Fed: none CA: S3.2 CRPR: 4.2 VC: Yes	X				
<i>Delphinium inopinum</i>	Unexpected larkspur	Fed: none CA: S3.3 CRPR: 4.3 VC: No			X	X	
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Dune larkspur	Fed: none CA: S2.2 CRPR: 1B.2 VC: No	X	X			
<i>Delphinium umbracolorum</i>	Umbrella larkspur	Fed: none CA: S2S3.3 CRPR: 1B.3 VC: Yes			X	X	
<i>Dicentra pauciflora</i>	Few-flowered bleeding heart	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Dichondra occidentalis</i>	Western dichondra	Fed: none CA: S3.2 CRPR: 4.2 VC: No	X			X	
<i>Distichlis littoralis</i>	Shoregrass	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Dodecatheon alpinum</i>	Alpine shooting star	Fed: none CA: none CRPR: none VC: Yes	X		X	X	
<i>Downingia bella</i>	Hoover's downingia	Fed: none CA: none CRPR: none VC: Yes	X	X		X	
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	Fed: none CA: S2.1 CRPR: 1B.1 VC: No		X			
<i>Dudleya caespitosa</i>	Coast dudleya	Fed: none CA: none CRPR: none VC: Yes		X			X
<i>Dudleya verityi</i>	Verity's dudleya	Fed: THR CA: S1 CRPR: 1B.2 VC: No	X	X			

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Elatine californica</i>	California waterwort	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Eleocharis quinqueflora</i>	Few-flowered spikerush	Fed: none CA: none CRPR: none VC: Yes	X		X	X	
<i>Eleocharis rostellata</i>	Beaked spikerush	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Elodea canadensis</i>	Common waterweed	Fed: none CA: none CRPR: none VC: Yes			X	X	X
<i>Eriastrum hooveri</i>	Hoover's woollystar	Fed: none CA: S3.2 CRPR: 4.2 VC: No	X			X	
<i>Ericameria cooperi</i> var. <i>cooperi</i> ( <i>Haplopappus cooperi</i> )	Cooper's goldenbush	Fed: none CA: none CRPR: none VC: Yes	X		X	X	
<i>Ericameria parryi</i> var. <i>aspera</i>	Parry rabbitbrush	Fed: none CA: none CRPR: none VC: Yes	X	X	X		
<i>Eriodictyon traskiae</i>	Trask's yerba santa	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Eriogonum crocatum</i>	Conejo buckwheat	Fed: none CA: S2.1 CRPR: 1B.2 VC: Yes		X			X
<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	Southern alpine buckwheat	Fed: none CA: S2.3 CRPR: 1B.3 VC: Yes			X	X	X
<i>Eriogonum ordii</i>	Fort Mojave buckwheat	Fed: none CA: none CRPR: none VC: Yes	X			X	X
<i>Eriogonum wrightii</i> var. <i>membranaceum</i>	Wright's buckwheat	Fed: none CA: none CRPR: none VC: Yes	X				X



Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Erysimum insulare</i>	Island wallflower	Fed: none CA: S3.2 CRPR: 4.2 VC: Yes	X				X
<i>Galium cliftonsmithii</i>	Santa Barbara bedstraw	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes	X		X		
<i>Geranium californicum</i>	California geranium	Fed: none CA: none CRPR: none VC: Yes			X	X	X
<i>Gilia latiflora ssp. davyi</i>	Broad-flowered gilia	Fed: none CA: none CRPR: none VC: Yes			X	X	X
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	Fed: none CA: s3.2 CRPR: 4.2 VC: No	X	X			
<i>Helenium bigelovii</i>	Bigelow's sneezeweed	Fed: none CA: none CRPR: none VC: Yes	X		X		
<i>Hesperochiron californicus</i>	California hesperochiron	Fed: none CA: none CRPR: none VC: Yes			X	X	X
<i>Heuchera cespitosa</i>	Tufted alumroot	Fed: none CA: none CRPR: none VC: Yes			X	X	X
<i>Hieracium albiflorum</i>	White-flowered hawkweed	Fed: none CA: none CRPR: none VC: Yes	X		X	X	
<i>Hordeum brachyantherum ssp. brachyantherum</i>	Meadow barley	Fed: none CA: none CRPR: none VC: Yes					X
<i>Hornungia procumbens</i>	Prostrate hutchinsia	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Hulsea vestita ssp. gabrielensis</i>	San Gabriel Mountains sunflower	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes	X		X	X	

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Isoetes howellii</i>	Howell's quillwort	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Juncus macrandrus</i>	Long-anthered rush	Fed: none CA: none CRPR: none VC: Yes			X		X
<i>Juncus patens</i>	Spreading rush	Fed: none CA: none CRPR: none VC: Yes					X
<i>Lasthenia ferrisiae</i>	Ferris' goldfields	Fed: none CA: S3.2 CRPR: 4.2 VC: No	X				X
<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's goldfields	Fed: none CA: S2.1 CRPR: 1B.1 VC: Yes	X				X
<i>Lepidium dictyotum</i>	Alkali pepperwort	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Leptosyne calliopsidea</i>	Leaf-stemmed Coreopsis	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Lessingia glandulifera var. peirsonii</i>	Peirson's lessingia	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Lycium andersonii</i>	Anderson's desert-thorn	Fed: none CA: none CRPR: none VC: Yes				X	X
<i>Madia sativa</i>	Coast tarweed	Fed: none CA: none CRPR: none VC: Yes				X	
<i>Malacothrix glabrata</i>	Desert dandelion	Fed: none CA: none CRPR: none VC: Yes				X	X
<i>Malacothrix incana</i>	Dunedelion	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes	X			X	X

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Malacothrix similis</i>	Mexican malacothrix	Fed: none CA: none CRPR: 2A VC: No	X			X	
<i>Marsilea vestita</i> ssp. <i>vestita</i>	Hairy pepperwort	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Meconella denticulata</i>	Small-flowered fairy poppy	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Mirabilis multiflora</i> var. <i>pubescens</i> ( <i>M. froebellii</i> )	Desert four o'clock	Fed: none CA: none CRPR: none VC: Yes				X	X
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	White-leaf monardella	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Monardella sinuate</i> ssp. <i>sinuata</i>	Curly-leaved horsemint	Fed: none CA: S2.2 CRPR: 1B.3 VC: Yes	X		X	X	X
<i>Myosurus minimus</i>	Common mousetails	Fed: none CA: S2.2 CRPR: 3.1 VC: Yes	X				X
<i>Myrica californica</i>	California wax myrtle	Fed: none CA: none CRPR: none VC: Yes					X
<i>Navarretia ojaiensis</i>	Ojai navarretia	Fed: none CA: S1 CRPR: 1B.1 VC: No			X	X	
<i>Navarretia peninsularis</i>	Baja navarretia	Fed: none CA: S2.2 CRPR: 1B.2 VC: Yes	X			X	
<i>Nemacladus capillaries</i>	Common nemacladus	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Opuntia basilaris</i> var. <i>basilaris</i>	Beavertail cactus	Fed: none CA: none CRPR: none VC: Yes					X

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Orcuttia californica</i>	California Orcutt grass	Fed: END CA: END CRPR: 1B.2 VC: Yes	X	X			
<i>Orobanche valida</i> ssp. <i>valida</i>	Rock Creek broomrape	Fed: none CA: S1.2 CRPR: 1B.2 VC: Yes			X	X	
<i>Oxytheca caryophylloides</i>	Chickweed oxytheca	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes			X		
<i>Oxytheca parishii</i> var. <i>abramsii</i> ( <i>Acanthoscyphus parishii</i> var. <i>abramsii</i> )	Abram's oxytheca	Fed: none CA: S2.2 CRPR: 1B.2 VC: Yes			X		
<i>Oxytheca parishii</i> var. <i>parishii</i> ( <i>Acanthoscyphus parishii</i> var. <i>parishii</i> )	Parish's oxytheca	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Oxytheca trilobata</i> ( <i>Sidotheca trilobata</i> )	Three-lobed oxytheca	Fed: none CA: none CRPR: none VC: Yes			X	X	
<i>Papaver californicum</i>	Fire poppy	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Pedicularis densiflora</i>	Indian warrior	Fed: none CA: none CRPR: none VC: Yes	X		X		
<i>Pentachaeta fragilis</i>	Fragile pygmy daisy	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes		X			
<i>Perityle emoryi</i>	Emory's rock daisy	Fed: none CA: none CRPR: none VC: Yes	X				
<i>Phacelia exilis</i> ( <i>P. mohavensis</i> var. <i>exilis</i> )	Transverse Range phacelia	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes	X		X	X	
<i>Phlox austromontana</i>	Mountain phlox	Fed: none CA: none CRPR: none VC: Yes			X	X	

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Pilularia americana</i>	American pillwort	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Pinus flexilis</i>	Limber pine	Fed: none CA: none CRPR: none VC: Yes	X		X		X
<i>Pinus sabiniana</i>	Foothill pine	Fed: none CA: none CRPR: none VC: Yes					X
<i>Plagiobothrys undulates</i>	Undulate popcornflower	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Platanthera sparsiflora</i> ( <i>Habenaria sparsiflora</i> )	Sparse flowered-bog orchid	Fed: none CA: none CRPR: none VC: Yes	X	X	X		
<i>Plectritis ciliosa</i>	Petite long-spurred plectritis	Fed: none CA: none CRPR: none VC: Yes	X			X	
<i>Plectritis macrocera</i>	White plectritis	Fed: none CA: none CRPR: none VC: Yes	X			X	
<i>Polygonum polygaloides</i> ssp. <i>kelloggii</i>	Kellogg's knotweed	Fed: none CA: none CRPR: none VC: Yes			X		
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's milkwort	Fed: none CA: S3.3 CRPR: 4.3 VC: No					X
<i>Polystichum imbricans</i> ssp. <i>imbricans</i>	Narrowleaf sword fern	Fed: none CA: none CRPR: none VC: Yes		X			X
<i>Pyrola picta</i>	White-veined wintergreen	Fed: none CA: none CRPR: none VC: Yes	X		X		
<i>Quercus palmeri</i>	Palmer's oak	Fed: none CA: none CRPR: none VC: Yes					X

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Ribes amarum</i>	Bitter gooseberry	Fed: none CA: none CRPR: none VC: Yes					X
<i>Salicornia bigelovii</i>	Bigelow's pickleweed	Fed: none CA: none CRPR: none VC: Yes	X				
<i>Salvia carduacea</i>	Thistle sedge	Fed: none CA: none CRPR: none VC: Yes	X				X
<i>Salvia dorrii</i> var. <i>pilosa</i>	Hairy sage	Fed: none CA: none CRPR: none VC: Yes	X		X		X
<i>Schoenoplectus saximontanus</i> ( <i>Scirpus saximontanus</i> )	Rocky Mountain bulrush	Fed: none CA: none CRPR: none VC: Yes			X	X	X
<i>Senecio aphanactis</i>	Rayless ragwort	Fed: none CA: S2 CRPR: 2B.2 VC: Yes	X	X			
<i>Sidalcea neomexicana</i>	Salt Spring checkerbloom	Fed: none CA: S2S3 CRPR: 2.2 VC: Yes	X				X
<i>Streptanthus campestris</i>	Southern jewel-flower	Fed: none CA: S2.3 CRPR: 1B.3 VC: Yes	X		X		
<i>Suaeda esteroa</i>	Estuary seablite	Fed: none CA: S3.2 CRPR: 1B.2 VC: Yes	X				
<i>Suaeda taxifolia</i>	Woolly seablite	Fed: none CA: S2S3 CRPR: 4.2 VC: No	X	X			
<i>Syntrichopappus lemmonii</i>	Lemmon's syntrichopappus	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes	X		X		
<i>Tetrapteron palmeri</i>	Palmer primrose	Fed: none CA: none CRPR: none VC: Yes	X		X	X	

Appendix B-5 Sensitive Plant Species Unlikely to Occur in the Study Area

Taxa		Status	Suitable habitat absent	Specific edaphic conditions absent	Outside of known elevation range	Outside of known geographic distribution	Conspicuous taxa not detected during surveys
Scientific Name	Common Name						
<i>Texosporium sancti-jacobi</i>	Woven-spored lichen	Fed: none CA: S1 CRPR: none VC: No	X	X			
<i>Trichostema micranthum</i>	Small-flowered bluecurls	Fed: none CA: S3.3 CRPR: 4.3 VC: Yes	X	X	X	X	
<i>Trichostema ovatum</i>	San Joaquin bluecurls	Fed: none CA: S3.2 CRPR: 4.2 VC: Yes	X		X	X	
<i>Veratrum californicum</i> var. <i>californicum</i>	California false hellebore	Fed: none CA: none CRPR: none VC: Yes	X		X		
<i>Verbena bracteata</i>	Prostrate verbena	Fed: none CA: none CRPR: none VC: Yes	X	X			
<i>Yucca brevifolia</i>	Herbert's Joshua tree	Fed: none CA: none CRPR: none VC: Yes				X	X

## **B.6 Special-status Plant and Wildlife Descriptions**

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## Special-Status Species Accounts

### PLANTS PRESENT OR WITH A MODERATE OR HIGH POTENTIAL TO OCCUR

#### **Southern California black walnut (*Juglans californica* var. *californica*)**

*Status:* Southern California black walnut is a CRPR List 4.2 species. This species is not federally or State listed as threatened or endangered.

*General Distribution:* Southern California black walnut is endemic to southwestern California, from Santa Barbara to San Diego County, and inland to western San Bernardino and Riverside Counties.

*Distribution in the Study Area:* This species was observed at three locations near the existing levee structure within Reaches 1 and 2 of the SCR-3 Project area.

*Habitat and Habitat Associations:* Southern California black walnut occurs in riparian or upland woodlands, chaparral, coastal sage scrub, and alluvial shrublands.

*Natural History:* Quinn (1990) described southern California black walnut as a species approaching “custodial” status, which he defined as one occurring only in remnant reserve populations where their protection is an explicit management goal. CDFW (2002) considers walnut woodland a special status plant community due mainly to land use conversions, ongoing threats at the “urban interface” areas, and because little of it occurs on public lands (Stephenson and Calcarone, 1999). Southern California walnut woodland is treated as a special-status plant community due to historic and ongoing losses.

*Threats:* This species has been threatened by habitat conversion.

#### **White rabbit tobacco (*Pseudognaphalim leucocephalum*)**

*Status:* White rabbit tobacco is a CRPR List 2.2 species. This species is not federally or State listed as threatened or endangered; however it is considered a County of Ventura locally important species.

*General Distribution:* White rabbit tobacco occurs in Southern California, Arizona, New Mexico, Texas, and Mexico. In California, this species has been found in Los Angeles, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties.

*Distribution in the Study Area:* Although not observed within the SCR-3 Project areas, suitable habitat is present within Reach 4 and in adjacent areas of the Santa Clara River.

*Habitat and Habitat Associations:* White rabbit tobacco is associated with sandy or gravelly substrates in chaparral, cismontane woodland, coastal scrub, and riparian woodland. This species has been known to occur at elevations between 0 – 2100 meters AMSL.

*Natural History:* This perennial herb blooms from July – December (Prigge and Gibson, 2015).

*Threats:* There are no identified threats to this species.

## WILDLIFE PRESENT OR WITH A MODERATE OR HIGH POTENTIAL TO OCCUR

### INVERTEBRATES

**Slotted lancetooth snail (*Haplotrema caelatum*), Zaca shoulderband snail (*Helminthoglypta phlyctaena*), sage shoulderband snail (*H. salviae*), Trask shoulderband snail (*H. traskii*), Ventura shoulderband snail (*H. venturensis*), Matilija shoulderband snail (*H. willeti*)**

*Status:* The slotted lancetooth snail, Zaca shoulderband snail, sage shoulderband snail, Trask shoulderband snail, Ventura shoulderband snail, and Matilija shoulderband snail are considered County of Ventura locally important species. Additionally, the Trask shoulderband snail is considered a CDFW Special Animal. None of these taxa are federally or State listed as threatened or endangered.

*General Distribution:* All of the terrestrial snails listed above have been reported from Ventura County (Magney, 2005).

*Distribution in the Study Area:* Although there are no known records from the Study Area, the Study Area is located within the known geographic distribution for the taxa listed above (Magney, 2005). Suitable habitat occurs within the upper terrace located in Reach 4, the toes of the existing levee structures, and within the adjacent Santa Clara River.

*Habitat and Habitat Associations:* All of the taxa listed above are terrestrial and occur in a variety of habitats, including coastal sage scrub, chaparral, oak woodland, and riparian woodland.

*Natural History:* *Haplotrema* is a genus of predatory, air-breathing terrestrial snails. The shells of these snails vary in size from relatively small to medium and usually consist of a low, flattened spire and very wide umbilicus. The structure of the radula, or teeth, is unusual in this genus. The haplotrematids have fewer cusps than most snails, but they are considerably elongated (hence the name “lancetooth”), suitable for predatory behavior. The known diet of these snails consists entirely of other terrestrial mollusks (Pilsbry, 1946).

Members of the genus *Helminthoglypta* are air-breathing, terrestrial snails. Shells are relatively medium to large in size, with no apertural teeth, but usually with a reflected apertural lip. These snails possess a single dart apparatus with one stylophore (dart sac) and two mucus glands which are utilized to create love darts. Love darts, shaped in many distinctive ways which vary considerably between species, are hard, sharp, calcareous or chitinous darts that are used as part of the sequence of events during courtship before actual mating takes place.

*Threats:* There are no identified threats to these species.

### **Santa Monica Mountains timema (*Timema monikensis*)**

*Status:* The Santa Monica Mountains timema is considered a County of Ventura locally important species. This taxon is not federally or State listed as threatened or endangered.

## Appendix B-6 Special-status Plant and Wildlife Descriptions

*General Distribution:* This species is known to occur throughout the southwestern United States, including California, Utah, Arizona, and Nevada. In California, this species typically occurs in scrub habitat throughout the Transverse Ranges.

*Distribution in the Study Area:* Although there are no known records from the Study Area, the Study Area is located within the known geographic distribution for this species. Suitable habitat occurs within the upper terrace located in Reach 4 of the SCR-3 Project site, the toes of the existing levee structures, and within the adjacent Santa Clara River.

*Habitat and Habitat Associations:* The Santa Monica Mountains timema occurs in a variety of habitats where adequate food resources and egg deposit sites are present.

*Natural History:* The Santa Monica Mountains timema is a member of the order Phasmatodea, or “walking sticks.” All phasmids are relatively large, elongated insects whose bodies are often modified to resemble vegetation. Females of this order, which are usually significantly larger than males, lay eggs individually, either sticking them to vegetation or simply depositing them on the ground. Depending on the species, a single female can lay from 100 to 1200 eggs after mating. The eggs are typically camouflaged, resembling plant seeds, and may remain dormant for a full season or more before hatching. The nymphs are born already closely resembling adults. Phasmids exhibit a distinct rocking behavior in which the insects make rhythmic, repetitive side-to-side movements. These movements may function to enhance cryptis by means of resemblance to vegetation in the wind or may allow the insects to visually discriminate objects from their background by their relative positions. All phasmids are herbivorous, feeding mostly on the leaves of trees and shrubs.

*Threats:* There are no identified threats to this species.

### **Monarch butterfly (*Danaus plexippus*)**

*Status:* The monarch butterfly is a CDFW Special Animal. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.

*Distribution in the Study Area:* Although not detected, this species may occur intermittently on the Project site; suitable winter roosting habitat is available in the stands of Eucalyptus located on the SCR-3 Project site.

*Habitat and Habitat Associations:* The monarch butterfly requires roosting habitat located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.

*Natural History:* The species' distribution is controlled by the distribution of its larval host plant (i.e., various milkweeds, genus *Asclepias*). Eggs are deposited and hatch on the underside of leaves of the

milkweed plant. Upon hatching, the larva will feed upon the fine hairs on the leaves of the plant and stay on the same plant throughout its molting stages. After molting, the larva will leave the milkweed and construct its chrysalis elsewhere. However, once an adult monarch butterfly emerges from the chrysalis, it will soon return to a milkweed plant for foraging and shelter (Urquhart 1987). [USACE and CDFG, 2010]

*Threats:* Threats to this species include development and urbanization.

## FISH

### **Arroyo chub (*Gila orcuttii*)**

*Status:* The arroyo chub is a CDFW Species of Special Concern. This species is not federally or State listed as threatened or endangered.

*General Distribution:* This species occurs within the coastal streams of Ventura, Los Angeles, Orange and San Diego Counties.

*Distribution in the Study Area:* The Study Area is located within the known geographic watershed distribution for this species (CDFW, 2008). Suitable habitat occurs within the active channel(s) of the Santa Clara River when flowing or ponded water is present.

*Habitat and Habitat Associations:* The arroyo chub occurs in slow-moving or backwater sections of warm to cool streams with mud or sand substrates. Spawning occurs in pools or in quiet edge waters (Moyle *et al.*, 1995).

*Natural History:* The arroyo chub is a relatively small, short-lived member of the minnow family (Cyprinidae). This species reaches a maximum length of no more than 3.5 inches and lives no more than four years (McGinnis, 2006). The arroyo chub reaches sexual maturity at one year and spawns more or less continuously from February to August. Algae, insects, and small crustaceans comprise the primary diet of this species.

*Threats:* The primary threat to this species is water management actions leading to stream diversions, stream dewatering, flow fluctuations, and channelization (Stephenson and Calcarone, 1999).

### **Southern steelhead – southern California DPS (*Oncorhynchus mykiss*)**

*Status:* The southern California steelhead Distinct Population Segment (DPS) was listed by the NMFS as federally endangered on June 17, 1998 (63 FR 32996-32998). The most recent critical habitat was designated in September 2005. This taxon is also considered a California Species of Special Concern.

*General Distribution:* The southern California steelhead DPS occurs in coastal streams from the Santa Maria River south to the U.S.-Mexican border (NMFS, 2002). The primary drainages that support steelhead runs in this region include the Santa Maria River, Santa Ynez River, Gaviota Creek, the Ventura River, the Santa Clara River, Malibu Creek, San Mateo Creek, and Topanga Creek.

## Appendix B-6 Special-status Plant and Wildlife Descriptions

*Distribution in the Study Area:* This species was not documented within the Study Area during the recent surveys. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present).

*Habitat and Habitat Associations:* The habitat requirements for steelhead in freshwater streams are often dictated by life history stages (Cederholm and Martin, 1983; Bjornn and Reiser, 1991). During adult and juvenile migrations, adequate discharge amounts, water temperatures, and water chemistry become important habitat variables. Fluctuations of these variables can result in a delay or complete halt in the upstream migration of adults towards spawning grounds and downstream migration of juveniles towards brackish and saltwater habitats. Suitable spawning habitat requires efficient water depths and flow velocities as primary elements; however, water temperature and turbidity are also important factors. Juvenile steelhead require living space (different combinations of water depth and velocity), shelter from predators and harsh environmental conditions, food resources, and suitable water quality and quantity for growth and survival during the summer and winter months (NMFS, 2007).

*Natural History:* The southern steelhead (*Oncorhynchus mykiss*) was listed as endangered under the federal Endangered Species Act (ESA) on August 18, 1997. Southern steelhead and rainbow trout represent two life history patterns of the same species. The former represents anadromy and the latter represents freshwater residency. It is common to find populations exhibiting both life history strategies within the same river system. Fish that exhibit one life history strategy can produce offspring that exhibit the other strategy (62 FR 43937–43954).

Southern steelhead are lightly to heavily spotted with small black spots on a lighter background; the dorsal, caudal, and adipose fins have these spots as well. Juvenile and larger freshwater resident fish have a red to pink stripe down the mid-sides, hence the name for the freshwater populations. The sea run fish are larger, lack the pink stripe, and present an overall silvery appearance with a "steely" blue-grey color dorsally. The inside of the mouth is entirely white in contrast to the other Pacific salmonid species, and they have a stronger tail stock and smaller anal fin than the other native Pacific salmon. The adipose fin separates them from all other native freshwater fish in anadromous streams in coastal southern California (Moyle, 2002).

In streams, steelhead prefer habitat consisting of relatively cool, well-oxygenated water with adequate depth and cover. Temperature tolerances and preferences of steelhead vary among life stages. Eggs tend to experience mortality at temperatures in excess of 55° F (13.3° C) (McEwan and Jackson, 1996). At temperatures greater than 70° F (21.1° C), steelhead appear to have difficulty obtaining sufficient oxygen from the water (McEwan and Jackson, 1996).

*Threats:* The extensive decline of steelhead in southern California is due primarily to instream water management facilities that have resulted in inadequate flow, flow fluctuation, water diversion and extraction, blockage of migratory passageways, and desiccation of portions of rivers and streams (NMFS, 1997).

**Santa Ana sucker (*Catostomus santaanae*)**

*Status:* The Santa Ana sucker is federally listed as threatened and is a CDFW Species of Special Concern.

*General Distribution:* The Santa Ana sucker historically occurred in small, shallow, low-elevation streams in the Los Angeles, San Gabriel, and Santa Ana River systems (Swift *et al.*, 1993). They also historically occurred in the upper Santa Ana River, on Cajon and City Creeks in the foothills of the San Bernardino Mountains, and in Santiago Creek in the foothills of the Santa Ana Mountains (Moyle *et al.*, 1995). Currently, the Santa Ana sucker is restricted to 3 noncontiguous populations: the lower Big Tujunga Creek, the East, West and North Forks of the San Gabriel River and the lower and middle Santa Ana River (USFWS, 2000). Introduced populations are present in the Santa Clara River, Sespe Creek, Piru Creek, and San Francisquito Creek.

*Distribution in the Study Area:* This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula and Sespe Creeks. Currently the USFWS does not include the Santa Clara River Watershed population in the threatened listing.

*Habitat and Habitat Associations:* Santa Ana suckers typically inhabit small, shallow streams and rivers less than 23 feet (7 meters) wide where water temperature is generally below 72 ° F (22 ° C), and where currents range from swift to sluggish (USFWS, 2000).

*Natural History:* Santa Ana suckers tolerate seasonally turbid water, although they prefer clear water and are often found in pools. Santa Ana suckers change diet with age. Detritus, algae, and diatoms constitute about 98 percent of the diet of young-of-the-year fish. Older fish feed on aquatic insects, fish scales, and fish eggs (RCIP, 2002). Sexual maturity of Santa Ana suckers occurs by the first year, and they continue to spawn to age 2. Neither males nor females show spawning coloration, and the sex ratio is typically 1:1. Spawning takes place in March through early July, peaking in late May through early June. Fecundity is very high (4,000–16,000 eggs depending on the size of the female). Along with a protracted spawning period, high fecundity enables fish to quickly repopulate a stream after a severe flood event. Their life history approach includes explosive breeding and prolonged spawning, conducive to repopulating disturbed habitats (RCIP, 2002). Natural upstream and downstream movement depends on habitat conditions. Flood events contribute to dispersal of the species (RCIP, 2002).

*Threats:* The primary threats that have been identified for this species include stream diversions, stream dewatering, flow fluctuations, and non-native species introduction.

**Owens sucker (*Catostomus fumeiventris*)**

*Status:* Owens sucker is a CDFW Species of Special Concern. This species is not federally or State listed as threatened or endangered.

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*General Distribution:* This species is endemic to the Owens River watershed in southeastern California with other populations known from June Lake (in the Mono Lake Basin), the Santa Clara River (via the Owens aqueduct), and lower Sespe Creek (Moyle, 2002).

*Distribution in the Study Area:* This species was not documented in the Study Area. The Study Area is located within the known geographic watershed distribution for this species (Moyle, 2002). Suitable habitat occurs within the active channel of the Santa Clara River when flowing water is present.

*Habitat and Habitat Associations:* Owens suckers are most abundant in streams with long runs and only a few riffles and substrates of fine materials with only small amounts of gravel. This species has also adapted to living in reservoirs at various depths.

*Natural History:* This species is generally found to spawn in gravelly riffles in tributary streams or in gravelly areas of lakes or ponds. The larvae are most often found to occur within weedy edges and backwaters of streams. Owens sucker most often feeds on algae, detritus and small benthic invertebrates (Natureserve, 2015). This species has been found to hybridize with the Santa Ana sucker populations in the Santa Clara River watershed.

*Threats:* The primary threats that have been identified for this species include stream diversions, stream dewatering, flow fluctuations, and non-native species introduction.

### **Prickly sculpin (*Cottus asper*)**

*Status:* The prickly sculpin is considered a County of Ventura locally important species. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species is one of the most widely distributed freshwater fishes in California and is found throughout Pacific sloping drainages from Ventura County north to Seward, Alaska.

*Distribution in the Study Area:* Although this species does not occur in the Study Area, prickly sculpin has been recently documented along portions of the lower Santa Clara River (United Water, 2007). The Study Area is within the known geographic watershed distribution for this species (NatureServe, 2015). Suitable habitat may occur within portions of the Santa Clara River adjacent to the SCR-3 Project site when flowing water is present.

*Habitat and Habitat Associations:* Prickly sculpin occur in coastal and inland streams and sandy and rocky shores of lakes. Pools and waters of small to medium rivers with slight currents are typically preferred. This species is generally found on water body bottoms where fine materials, especially sands, dominate (Lee *et al.*, 1980). Spawning occurs in freshwater or intertidal zones that contain flat rocks and moderate currents.

*Natural History:* Prickly sculpins are members of the family Cottidae, which are scaleless, bottom-dwelling fishes with large mouths and dorsally protruding eyes. The freshwater species of sculpin in California are relatively small and occupy a bottom-invertebrate feeding niche (McGinnis, 2006). During the spring spawning season, males demonstrate territorial behavior around depressions that are constructed

underneath rocks. Females are escorted to these sites where they lay up to 11,000 eggs on the underside of the rock (McGinnis, 2006). After hatching, the fry are carried downstream and, after several weeks, they assume an adult body form and settle to the bottom. Upon approaching sexual maturity, they gradually move to preferred spawning sites (McGinnis, 2006). Prickly sculpin typically hide under suitable cover during the day. Feeding actively occurs at night on a variety of bottom-dwelling invertebrates, particularly insect larvae, but may also include salmonid eggs along upper reaches of coastal creeks and rivers (McGinnis, 2006).

*Threats:* Although the prickly sculpin is widespread throughout freshwater habitats in California, its range continues to be reduced by many small barriers placed in coastal creeks and streams. Many of these barriers, such as check dams, may pose an insignificant threat to most fish species, however, the prickly sculpin body and fin complement are not conducive to jumping. Therefore, this species is often deprived of upstream movement beyond such barriers (McGinnis, 2006).

**Partially armored threespine stickleback (*Gasterosteus aculeatus microcephalus*)**

*Status:* The partially armored threespine stickleback is considered a County of Ventura locally important species and is on the CDFW Special Animals list. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* To the north of the Los Angeles basin, this subspecies has been documented in the Santa Clara, Ventura, and Santa Ynez Rivers and in many coastal streams in Santa Barbara and San Luis Obispo County.

*Distribution in the Study Area:* This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.

*Habitat and Habitat Associations:* This freshwater subspecies prefers quiet water, such as pools with abundant aquatic vegetation, backwaters, and stream channel margins where water velocity is low (Moyle *et al.*, 1995). Partially-armored threespine stickleback are most commonly found in low-gradient streams with moderate to low flow rates, although the streams can experience flashy, high-flow events (Baskin, 1974). This subspecies spends its entire life-cycle in freshwater.

*Natural History:* Three subspecies of threespine stickleback (*G. aculeatus*) are currently recognized, including anadromous, partially armored, and unarmored. Partially armored threespine stickleback appears to differ genetically and morphologically from the anadromous and unarmored subspecies. This subspecies spawns between April and July, during which time the male establishes a territory, builds a nest, and approaches females in the vicinity. Receptive females follow the male to the nest, lay eggs, and immediately leave. The male fertilizes the eggs and then vigorously defends his territory from other sticklebacks and predators. Schooling behavior allows for improved feeding efficiency and is common within this subspecies except during breeding (Moyle, 2002). Partially-armored threespine sticklebacks feed primarily on freshwater benthic organisms or organisms that live within the vegetation. Males will also feed on eggs of other sticklebacks during the breeding season (Stephenson and Calcarone, 1999).



*Threats:* The primary threats that have been identified for this subspecies include stream diversions, stream dewatering, flow fluctuations, and channelization (Loe pers. comm., 1997; Mizuno pers. comm., 1997; in Stephenson and Calcarone, 1999).

**Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)**

*Status:* The unarmored threespine stickleback is listed as both state and federally endangered and is a California Fully Protected species.

*General Distribution:* Although originally widespread throughout the Los Angeles Basin, the unarmored threespine stickleback is currently found in few locations which are all situated outside of the Los Angeles River basin (Swift *et al.*, 1993).

*Distribution in the Study Area:* This species was not documented within the Study Area. The Study Area is outside the known geographic distribution for this species; this species is known to occur in the upper Santa Clara River watershed.

*Habitat and Habitat Associations:* Similar to other threespine stickleback species this freshwater subspecies prefers quiet water, such as pools with abundant aquatic vegetation, backwaters, and stream channel margins where water velocity is low (Moyle *et al.*, 1995). Threespine stickleback are most commonly found in low-gradient streams with moderate to low flow rates, although the streams can experience flashy, high-flow events (Baskin, 1974). This subspecies spends its entire life-cycle in freshwater.

*Natural History:* The unarmored threespine stickleback is a small territorial fish that can grow up to a maximum of approximately four inches in length (Moyle, 2002). There are numerous subspecies and morphs of threespine stickleback (*G. aculeatus*) found throughout the Northern Hemisphere, and these are thought to represent a superspecies whose ancestral form is the completely plated morph inhabiting marine waters and some freshwaters (Moyle, 2002; McPhail 2007; Östlund-Nilsson *et al.*, 2007; all as cited in USACE and CDFG, 2010). Threespine sticklebacks lack scales that are common to other fish, and they are related to pipefish and seahorses (ITIS, 2007; as cited in USACE and CDFG, 2010). Their spines and plating are thought to provide protection against piscivorous fish, such as salmonids, by disrupting the capture biomechanics of the predator's jaws, inhibiting capture, and providing increased opportunities for escape (Reimchen 1992, 2000; as cited in USACE and CDFG, 2010). Studies of threespine stickleback systematics suggest that reduction of plating is a common convergent morphological change in freshwater populations; many such populations colonized inland streams and lakes after the Pleistocene (ice-age) glacial retreat (O'Reilly *et al.*, 1993; Orti *et al.*, 1994; all as cited in USACE and CDFG, 2010). The USFWS (1985; as cited in USACE and CDFG, 2010) notes that the unarmored threespine stickleback can be found in all areas of streams, but they prefer slow-moving and standing water or locations behind obstructions, at the edge of streams, or in vegetation in faster moving water. Similar to other threespine stickleback species, male unarmored threespine sticklebacks create a nest in slow-moving water, by gluing together bits of vegetation, such as grass and sticks, using a kidney-secreted protein, and will vigorously defend the established nest territory. After egg fertilization, the male will care for and protect the eggs until the young leave. The male unarmored threespine stickleback will fan the eggs with his pectoral fins, helping to

ensure proper development of the embryos. The amount of suitable breeding habitat may be a limiting factor in the population of the unarmored threespine stickleback (Moyle, 2002; as cited in USACE and CDFG, 2010). The unarmored threespine stickleback lives for about one year, and few if any survive to breed again (USFWS, 1985; ESIS, 1998; as cited in USACE and CDFG, 2010).

*Threats:* The primary threats that have been identified for this subspecies include stream diversions, stream dewatering, flow fluctuations, and channelization (Loe pers. comm., 1997; Mizuno pers. comm., 1997; In Stephenson and Calcarone, 1999; all as cited in USACE and CDFG, 2010).

## **AMPHIBIANS**

### **Arboreal salamander (*Aneides lugubris*)**

*Status:* The arboreal salamander is considered a County of Ventura locally important species. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species occurs along the Coast Ranges from Humboldt County south to the Mexican border. Populations are also known from South Farallon, Año Nuevo, and Santa Catalina Islands, and several islands within San Francisco Bay (CDFW, 2008).

*Distribution in the Study Area:* Although there are no known records from the Study Area, the Study Area is located within the known geographic distribution for this species (CDFW, 2008). Limited suitable habitat occurs within the Study Area.

*Habitat and Habitat Associations:* The arboreal salamander occurs primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, and mixed conifer habitats. This species is also found in chaparral communities in southern California.

*Natural History:* The arboreal salamander is one of four western species of the genus *Aneides*, representing the climbing salamanders (Stebbins, 2003). Arboreal salamanders are characterized by prominent jaw muscles, particularly in males, that give the head a triangular shape. Additionally, members of this genus have developed distinct adaptations for climbing, including well-developed limbs; long, somewhat truncate toes; and, rounded, somewhat prehensile tails (Stebbins, 2003). This species is inactive during periods of cold temperatures or hot, dry weather when it will retreat to moist, natural or human-made refuges, including rodent burrows, seepages, rock fissures, mine shafts, caves, spring boxes, water tanks, and wells (CDFW, 2008). Otherwise, arboreal salamanders are nocturnally active from October to May (CDFW, 2008). Eggs are brooded in tree hollows, logs, and on the ground in summer and typically hatch from August to September (Stebbins, 2003). The primary diet of this species consists of arthropods, especially beetles, caterpillars, sow bugs, centipedes, and ants (Zweifel, 1949). Other food sources that have been noted include fungi and slender salamanders (Miller, 1944; Stebbins, 1951).

*Threats:* The major threat identified for this species is the loss of large oaks used for nesting and aestivation (NatureServe, 2015).

### **Western spadefoot (*Spea hammondi*)**

*Status:* The western spadefoot toad is a CDFW Species of Special Concern. This species is not federally or State listed as threatened or endangered.

*General Distribution:* The western spadefoot toad is endemic to California and northern Baja California. The species ranges from the north end of California's great Central Valley near Redding, south, east of the Sierras and the deserts, into northwest Baja California (Jennings and Hayes, 1994; Stebbins, 2003; all as cited in USACE and CDFG, 2010).

*Distribution in the Study Area:* There are no known records for this species in the Study Area or surrounding areas and the nearest CNDDDB record for this species occurs approximately 19 miles to the northeast in the vicinity of Happy Camp Canyon Regional Park. The Study Area is located within the known geographic distribution for this species; suitable habitat does occur within the Study Area. All areas of suitable habitat, although marginal, should be considered potentially occupied.

*Habitat and Habitat Associations:* Although the species primarily occurs in lowlands, it also occupies foothill and mountain habitats. Within its range, the western spadefoot toad occurs from sea level to 1,219 meters (4,000 feet) AMSL, but mostly at elevations below 910 meters (3,000 feet) AMSL (Stebbins, 2003; as cited in USACE and CDFG, 2010). Holland and Goodman (1998) report that riparian habitats with suitable water resources may also be used. The species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman, 1998; as cited in USACE and CDFG, 2010).

*Natural History:* The western spadefoot toad is almost completely terrestrial, remaining underground eight to 10 months of the year and entering water only to breed (Jennings and Hayes, 1994; Holland and Goodman, 1998; Storey *et al.*, 1999; all as cited in USACE and CDFG, 2010). The species aestivates in upland habitats near potential breeding sites in burrows approximately one meter in depth (Stebbins, 1972) and adults emerge from underground burrows during relatively warm rainfall events to breed. While adults typically emerge from burrows from January through March, they may also emerge in any month between October and April if rain thresholds are met (Stebbins, 1972; Morey and Guinn, 1992; Jennings and Hayes, 1994; Holland and Goodman, 1998; all as cited in USACE and CDFG, 2010).

Eggs are deposited in irregular small clusters attached to vegetation or debris (Storer, 1925; as cited in USACE and CDFG, 2010) in shallow temporary pools or sometimes ephemeral stream courses (Stebbins, 1985; Jennings and Hayes, 1994; all as cited in USACE and CDFG, 2010) and are usually hatched within six days. Complete metamorphosis can occur rapidly, within as little as three weeks (Holland and Goodman, 1998; as cited in USACE and CDFG, 2010), but may last up to 11 weeks (Burgess, 1950; Feaver, 1971; Jennings and Hayes, 1994; all as cited in USACE and CDFG, 2010).

Western spadefoot toads likely do not move far from their breeding pool during the year (Zeiner *et al.*, 1988; as cited in USACE and CDFG, 2010), and it is likely that their entire post-metamorphic home range is situated around a few pools. However, opportunistic field observations indicate that they readily move up to at least several hundred meters from breeding sites (NatureServe, 2015).

*Threats:* Loss of aquatic and adjacent upland habitats supporting the life cycle of the western spadefoot toad is a primary threat to this species, but other factors related to urban development probably are contributing to this species' decline.

## REPTILES

### **Southwestern pond turtle (*Actinemys pallida*)**

*Status:* The southwestern pond turtle is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This subspecies occurs from northwestern Baja California north through western California to the central region of the state, where it intergrades with the northwestern pond turtle (*C. m. marmorata*) (Seeliger, 1945; Bury, 1970).

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when ponded/flowing water is present).

*Habitat and Habitat Associations:* Southwestern pond turtles inhabit permanent or nearly permanent bodies of water in a wide variety of habitat types. Suitable basking sites, such as partially submerged logs, vegetation mats, or open mud banks are a required element for this subspecies.

*Natural History:* The southwestern pond turtle is a subspecies of western pond turtle (*C. marmorata*) which represent the only abundant native turtles in California. This species is thoroughly aquatic and possesses a low carapace typically olive, brown, or blackish in color (Stebbins, 2003). The subspecies usually lays a clutch of 3 to 14 eggs between April and August as females may move overland up to over 300 feet to find suitable nesting sites. Nests have been observed in many soil types from sandy to very hard and soils must be at least four inches deep for nesting (CDFW, 2008). Most activity is diurnal, but some crepuscular and nocturnal behavior has been observed (CDFW, 2008). Southwestern pond turtles feed on aquatic plants, insects, worms, fish, amphibian eggs and larvae, crayfish, and carrion (Stebbins, 2003).

*Threats:* Western pond turtles are estimated to be in decline across 75-80 percent of their range (Stebbins, 2003). The primary reason for this decline has been attributed to loss of suitable habitat associated with urbanization, agricultural activities, and flood control and water diversion projects (Jennings *et al.*, 1992).

### **Silvery legless lizard (*Anniella pulchra*)**

*Status:* The silvery legless lizard is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Silvery legless lizard occurs from Contra Costa County, California, south through the Coast, Transverse, and Peninsular Ranges; through parts of the San Joaquin Valley; and, along the western edge of the southern Sierra Nevada and western edge of the Mohave Desert (Jennings and Hayes, 1994). Its

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reported elevation range extends from sea level to approximately 5,700 feet in the Sierra Nevada foothills, but most historic localities along the central and southern California coast are below 3,500 feet (Jennings and Hayes, 1994). This fossorial species is rarely seen and it may be more abundant than it appears.

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area. The Study Area is located within the known geographic distribution for this widespread species and suitable habitat occurs throughout the Study Area. There are multiple CNDDDB records for this species approximately 2.5 miles south.

*Habitat and Habitat Associations:* The silvery legless lizard requires sandy or loose loamy soils under sparse vegetation for burrowing and is strongly associated with soils that contain high moisture content. It has been found in beaches, chaparral, and pine-oak woodland habitat and sycamore, cottonwood, or oak riparian habitat that grows on stream terraces. It is most common in coastal dune, valley-foothill, chaparral, and coastal scrub habitats (Zeiner *et al.*, 1988).

*Natural History:* The silvery legless lizard is a member of the family Anniellidae, commonly known as North American legless lizards. The silvery, gray, or beige dorsal side of this subspecies is separate from the yellow ventral side by a dark mid-dorsal line (Stebbins, 2003). Little is known about specific habitat requirements for courtship and breeding (CDFW, 2008). Breeding occurs in early spring through July. The gestation period lasts for approximately four months (Jennings and Hayes, 1994). Live young are born in September, October, or occasionally as late as November, with litter size ranging from one to four, but two is most common (Stebbins, 1954). Soil moisture is essential for the subspecies and they die if they are unable to reach a moist substrate (Stephenson and Calcarone, 1999). Silvery legless lizards have a relatively low thermal preference, allowing for active behavior on cool days, early morning, and even at night during warmer periods (Bury and Balgooyen, 1976). This subspecies typically forages at the base of shrubs or other vegetation either on the surface or just below in leaf litter or sandy soils. The diet consists of insect larvae, small adult insects, and spiders (Stebbins, 1954).

*Threats:* The subspecies has been extirpated from approximately 20 percent of its known historical range (Lind, 1998a). Potential threats to local populations may include wildfires that destroy the desert shrub with which the subspecies is associated.

### **Coastal western whiptail (*Aspidoscelis tigris stejnegeri*)**

*Status:* The coastal western whiptail is a CDFW Special Animal. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This subspecies is found in coastal southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges. Its range extends north into Ventura County and south to Baja California.

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this widespread species. Suitable habitat occurs throughout the Study Area. The CNDDDB reports an occurrence of this species approximately 6 miles north of the Study Area.

*Habitat and Habitat Associations:* The coastal western whiptail occurs in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, mixed conifer, pine-juniper, chamise-redshank chaparral, mixed chaparral, desert scrub, desert wash, alkali scrub, and annual grasslands. This species is most commonly associated with areas of dense vegetation, but are also found around sandy areas along gravelly arroyos or washes (Stebbins, 2003).

*Natural History:* The coastal western whiptail is a subspecies of the western whiptail (*A. tigris*). Members of this species are distinctly characterized by a jerking gait and nearly constant mobility when active. The reproductive season for western whiptails generally occurs between May and August; however, this may vary depending on local conditions. It has been reported that whiptails in the southern California desert regions may atypically lay more than one clutch of eggs per year (Pianka, 1970). Whiptails forage actively on the ground hunting a wide variety of ground-dwelling invertebrates, including grasshopper, ants, beetles, termites, and spiders (Stebbins, 2003). This diet may change seasonally to reflect the abundance of prey that is available (Vitt and Ohmart, 1977). Most activities occur in the morning, except on cloudy days when activities may last throughout the day (Vitt and Ohmart, 1977).

*Threats to Species:* There are no identified threats to this species.

**Coast (San Diego) horned lizard (*Phrynosoma blainvillii*)**

*Status:* The coast (San Diego) horned lizard is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The coast (San Diego) horned lizard's historic range extended from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura Counties south through the Peninsular Ranges of southern California and into Baja California, Mexico as far south as San Vicente, however, the current range is much more fragmented (Jennings and Hayes, 1994).

*Distribution in the Study Area:* A juvenile coast horned lizard was observed within the dry, sandy areas of the Santa Clara River channel, north of the weir field in Reach 2, during surveys conducted in 2013. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs within the Study Area.

*Habitat and Habitat Associations:* The coast (San Diego) horned lizard occurs in a wide variety of habitats throughout its range, though is found primarily in chaparral and mixed chaparral-coastal sage scrub, to stands of pure coastal sage scrub. It is also known to occur in riparian habitats, washes, and most desert habitats. They are occasionally locally abundant in conifer-hardwood and conifer forests. This species is most common in open, sandy areas where abundant populations of native ant species (e.g., *Pogonomyrmex* and *Messor* spp.) are present.

*Natural History:* The coast (San Diego) horned lizard is a flat bodied lizard with a wide, oval-shaped body and scattered enlarged pointed scales on the upper body and tail. Coast (San Diego) horned lizards are oviparous and lay one clutch of 6-17 (average 11-12) eggs per year from May through early July (Jennings and Hayes, 1994). Incubation occurs for two months and hatchlings first appear in late July and early August. It is surface

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active primarily from April to July. This species spends a considerable amount of time basking, either with the body buried and head exposed, or with the entire body oriented to maximize exposure to the sun. Although little is known about longevity in the wild, adults are thought to live for at least eight years (Jennings and Hayes, 1994). They primarily eat native harvester ants (*Pogonmyrmex* spp.) and do not appear to eat invasive Argentine ants that have replaced native ants in much of central and southern California. This species is an opportunistic feeder, and while harvester ants can comprise upwards of 90% of their diet, they will feed on other insect species when those species are abundant (Jennings and Hayes, 1994). Defense tactics used by this species include remaining motionless to utilize its cryptic appearance, only running for the nearest cover when disturbed or touched. Captured lizards puff up with air to appear larger, and if roughly handled, will squirt blood from a sinus in each eyelid (Jennings and Hayes, 1994).

*Threats:* Though once common throughout much of coastal and cismontane southern California, coast (San Diego) horned lizards have disappeared from much of their former range. Their population decline is mainly attributed to habitat loss due to urbanization and agricultural conversion. The introduction of non-native Argentine ants (*Iridomyrmex humilis*), which are inedible to horned lizards and tend to displace native carpenter and harvester ants, is another factor in their decline.

### **Coast patch-nosed snake (*Salvadora hexalepsis virgultea*)**

*Status:* The coast patch-nosed snake is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The coast patch-nosed snake occurs from near Creston in San Luis Obispo County south, primarily on the coastal side of the mountains, to Baja California (Jennings and Hayes, 1994).

*Distribution in the Study Area:* Although there are no known records from the Study Area, the Study Area is located within the known geographic distribution for this subspecies (CDFW, 2008). Suitable habitat occurs within the Study Area.

*Habitat and Habitat Associations:* This subspecies prefers coastal sage scrub and chaparral habitats and seems to strictly require at least a low shrub structure of minimum density (Jennings and Hays, 1994). Habitat selection is also closely linked to the presence of whiptail lizards (*Aspidoscelis* spp.), their primary prey source, and the presence of small, abandoned mammal burrows used as overwintering sites (Stephenson and Calcarone, 1999).

*Natural History:* The coast patch-nosed snake is one of five subspecies of western patch-nosed snake (*S. hexalepsis*), characterized as slim, fast, chiefly diurnal, with broad longitudinally striped patterns and generally smooth scales (Stebbins, 2003). All western patch-nosed snakes mate between April and June and typically lay one clutch of four to ten eggs (Stebbins, 2003; Stephenson and Calcarone, 1999). Hatchlings usually emerge in the late summer. Western patch-nosed snakes are normally active in spring and early summer, with the greatest activity occurring between May and June (Zeiner *et al.*, 1988). Members of the species have been observed emerging from overwintering sites in March and returning in October (Stephenson and Calcarone, 1999). However, this species may be active year-round in southern California during mild to warm years (Jennings and Hayes, 1994). The coast patch-nosed snake is diurnal, whereas in summer, activities become bimodal with a primary peak in late morning and a secondary peak

in late afternoon. This pattern is likely related to the emergence interval of whiptail lizards, a major prey source (Stephenson and Calcarone, 1999). Otherwise, patch-nosed snakes appear to be broad generalists in their diet and opportunistic predators (Stebbins, 2003).

*Threats:* It has been estimated that at least twenty percent of the habitat historically available to coast patch-nosed snakes is no longer suitable, and the actual figure may be much higher (Jennings and Hayes, 1994). The primary reason for this decline has been attributed to habitat type conversion as a result of development and repeated wildland fire (Jennings and Hayes, 1994; Loe pers. comm. [as in Stephenson and Calcarone, 1999]).

### **Two-striped garter snake (*Thamnophis hammondi*)**

*Status:* The two-striped garter snake is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species occurs along a continuous range from northern Monterey County south through the South Coast and Peninsular Ranges to Baja California. Isolated populations also occur through southern Baja California, Catalina Island, and desert regions along the Mojave and Whitewater Rivers in San Bernardino and Riverside Counties, respectively (Jennings and Hayes, 1994). This species typically occurs at elevations ranging between sea level and approximately 8,000 feet (Jennings and Hayes, 1994).

*Distribution in the Study Area:* There are no known records for this species in the Study Area; the nearest CNDDDB record for this species occurs approximately 7 miles to the north in the vicinity of the Ventura River. The Study Area is located within the known geographic distribution for this species. Pockets of suitable habitat occur within the limited perennial pool habitats in the Study Area; suitable habitat is present throughout the Santa Clara River in the Study Area when flows or ponded water is present.

*Habitat and Habitat Associations:* This species is primarily associated with aquatic habitats that border riparian vegetation and provide nearby basking sites (Jennings and Hayes, 1994). These areas typically include perennial and intermittent streams and ponds in a variety of vegetation communities, including chaparral, oak woodland, and forest habitats (Jennings and Hayes, 1994). During the winter, two-striped garter snakes will seek refuge in upland areas, such as adjacent grassland and coastal sage scrub (Rossman *et al.*, 1996).

*Natural History:* After several taxonomic revisions, two-striped garter snake has been recognized as a separate species where it had previously been considered a subspecies of the western aquatic garter snake (*T. couchii*) (Rossman and Stewart, 1987). This species is usually morphologically distinguished by the lack of a mid-dorsal stripe. Two-striped garter snakes breed from late March to early April and young are typically born between late July and August; however, some have been observed as late as November (Rossman *et al.*, 1996; Jennings and Hayes, 1994). Two-striped garter snakes hibernate during the winter months, however, they have been observed actively above ground on warm winter days (Jennings and Hayes, 1994). The mainly aquatic diet of this species consists primarily of fish, fish eggs, and tadpoles and metamorphs of toads and frogs; however, they will also consume worms and newt larvae (Jennings and Hayes, 1994).



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*Threats:* Lind (1998b) noted that quantity and quality of habitat for two-striped garter snakes is declining throughout much of its range. More than forty percent of this species' historic range has been lost (Jennings and Hayes, 1994). Primary factors for the decline of this species in southern California include habitat conversion and degradation resulting from urbanization, construction of reservoirs, and cement-lining of stream channels.

### **South coast garter snake (*Thamnophis sirtalis* ssp.)**

*Status:* The south coast garter snake is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The garter snake has the northernmost range of any reptile in North America, and is wide ranging and locally abundant. Natural history records for the south coast garter snake in California include sightings from Santa Clara River Valley (Ventura County) south to San Pasqual (San Diego County) (NatureServe, 2015). South coast garter snakes are endemic to southern California's coastal plain and found primarily between sea level and 800 meters (2,625 feet) AMSL (NatureServe, 2015). The south coast garter snake has a small range along the coast of southern California.

*Distribution in the Study Area:* There are no known records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Pockets of suitable habitat occur within the limited perennial pool habitats in the Study Area; suitable habitat is present throughout the Santa Clara River in the Study Area when flows are present. The CNDDDB reports an occurrence of this species approximately 7 miles upstream just south of the Santa Paula area.

*Habitat and Habitat Associations:* This garter snake is generally found in areas along permanent and semi-permanent sources of water (Zeiner et al, 1988; as cited in USACE and CDFG, 2010)

*Natural History:* These diurnal snakes are most active in the early morning and late afternoon in the summer and in midday in cooler times (Zeiner *et al.*, 1988; as cited in USACE and CDFG, 2010). This garter snake forages on land and in quiet pools of water and preys on slugs, earthworms, leeches, small fish, tadpoles, insects, small mammals and birds, and lizards (Jennings and Hayes, 1994; Zeiner *et al.*, 1988; all as cited in USACE and CDFG, 2010). Garter snakes generally retreat to communal hibernation burrows in October (Jennings and Hayes, 1994; as cited in USACE and CDFG, 2010). Occasionally, on warmer winter days, the snakes will emerge from hibernation and bask in the sun. Common garter snakes of southern California in higher elevations, inland, and in colder areas hardly emerge from their hibernation (Zeiner *et al.*, 1988; as cited in USACE and CDFG, 2010). Hibernation lasts until March. Males emerge first and prepare for mating.

As of the 1990s, the south coast garter snake was extinct from 18 historical localities and endangered in 24 more (Jennings and Hayes, 1994; as cited in USACE and CDFG, 2010). In addition to the direct loss of habitat, south coast garter snakes are vulnerable to several effects related to urbanization. Development not only directly removes habitat, but urban development also may impede natural movement between habitats (Jennings and Hayes, 1994; as cited in USACE and CDFG, 2010) and habitat quality may be reduced by alteration of channel morphology (NatureServe, 2015).

*Threats:* Primary threats to this species include habitat conversion and degradation resulting from urbanization, construction of reservoirs, and cement-lining of stream channels.

## **BIRDS**

### **Cooper's hawk (*Accipiter cooperii*)**

*Status:* The Cooper's hawk is a CDFW Watch List Species that was removed from the Species of Special Concern list in 2008. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The Cooper's hawk is widespread, occurring throughout much of the United States, southern Canada, and northern Mexico. In California this species is a widespread but infrequent breeder but is not considered common at any location.

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable nesting and foraging habitat occurs throughout the Study Area.

*Habitat and Habitat Associations:* The Cooper's hawk breeds in small and large deciduous, conifer, and mixed woodlands. It also nests in pine plantations and suburban and urban environments (Curtis *et al.*, 2006). In California, this species nests predominately in oaks and pines. Cooper's hawks utilize a variety of habitat types with vegetative cover and often hunt on the edges of wooded areas (Palmer, 1988).

*Natural History:* One of three accipiter species in California, the Cooper's hawk is a medium-sized bird adapted to woodlands. This species shows a high degree of sexual dimorphism, with females generally up to one-third larger than males. Eastern and western individuals also differ in size. The Cooper's hawk generally breeds at two years of age and older and lays 3-6 eggs from early April to late May (Rosenfield and Bielefeldt, 1993). This species feeds primarily on birds (70-80 percent of the diet) (Zeiner *et al.*, 1990a).

*Threats:* Habitat destruction (including logging and development), pesticide contamination, and shooting have been identified as the primary threats to the Cooper's hawk. However, breeding populations have increased in California and expanded into urban areas and populations are considered stable (Shuford and Gardali, 2008).

### **Sharp-shinned hawk (*Accipiter striatus*)**

*Status:* The sharp-shinned hawk is a CDFW Watch List Species that was removed from the Species of Special Concern list in 2008. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species breeds from central and western Alaska and the greater portion of Canada south to central and south-central California, central Arizona, New Mexico, Texas, northern parts of the Gulf states, and into Mexico (AOU, 1998). Wintering grounds extend from the southern portions of Canada south throughout the United States and Mexico into Central America. In California, sharp-shinned hawks breed throughout the state, including the northern half of the state, and, to a lesser extent, the mountains of southern California (Small, 1994).

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*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic year-round distribution for this species. Suitable breeding habitat does not occur, however, suitable foraging habitat occurs throughout the Study Area. A review of online eBird data shows an occurrence of this species immediately north of the Study Area at the Buenaventura Golf Course.

*Habitat and Habitat Associations:* In California, this species typically nests in coniferous forests, often within riparian areas or on north-facing slopes (Stephenson and Calcarone, 1999). Where conifers are scarce, cottonwoods, poplars, and other tall riparian trees may be used for nest sites (Bent, 1937). Foraging habitat during the breeding season is essentially the same as that chosen for nesting. During the winter, however, males tend to hunt most frequently among hedgerows, field edges and other ecotonal habitats, while females typically hunt in extensive stands of forest or riparian areas (Meyer, 1987).

*Natural History:* This species is a small hawk with a pronounced size difference among males and females. Although the sexes are alike in color and pattern, the male is often substantially smaller than the female. This size difference is more evident in this species than most other hawks. The sharp-shinned hawk, which is presumed to be serially monogamous, breeds from April through August with peak breeding activity occurring between late May and July. During this period, the male exhibits undulating courtship flights teamed with high bouts of soaring and calling. Once nesting begins, the male brings food to the female and nestlings until they fledge after roughly sixty days. Fledging is timed to coincide with fledging of prey birds, providing a food supply for young, inexperienced hunters (CDFW, 2008). Although small birds comprise the primary source of food, sharp-shinned hawks also take small mammals, reptiles, amphibians, and insects.

*Threats:* The primary threat to this species is the loss of suitable habitat as a result of large stand-replacing fires.

### **Tricolored blackbird (*Agelaius tricolor*)**

*Status:* The tricolored blackbird is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species is primarily a permanent resident across its range in California and occurs throughout the Central Valley and in coastal districts from Sonoma County south to Baja California.

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Very limited suitable breeding and foraging habitat occurs throughout the Study Area. The closest CNDDDB record for this species is approximately 6 miles north. There are multiple eBird records for this species approximately 2 miles west in the general vicinity of the Santa Clara River mouth.

*Habitat and Habitat Associations:* The tricolored blackbird breeds near fresh water, preferably in emergent wetland with tall dense cattails (*Typha* spp.) or tules, but also in thickets of willows, blackberry, wild rose, and tall herbs (CDFW, 2008). This species forages primarily in grassland and cropland habitats.

*Natural History:* The tricolored blackbird is distinguishable from similar species by dark red shoulder patches with broad white tips bordering the distal side. This highly gregarious species is highly colonial and nesting areas must be large enough to support a minimum colony of roughly fifty pairs (Grinnell and Miller, 1944). Tricolored blackbirds are polygynous and during the breeding season, which typically occurs from mid-April into late July, each male may claim several mates nesting in his small territory. Foraging generally occurs in the vicinity of colony sites; however, some breeding individuals have been documented leaving nest sites as far as four miles to feed (Orians, 1961).

*Threats:* Some of the threats that have been identified for this species include loss of habitat due to draining of freshwater marshes and cowbird parasitism.

**Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)**

*Status:* The southern California rufous-crowned sparrow is a CDFW Watch List Species that was removed from the Species of Special Concern list in 2008. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Rufous-crowned sparrows are year-round residents throughout their range. Historically, four of the subspecies of rufous-crowned sparrow bred in coastal California from Mendocino County south through northwestern Baja California Norte (Thorngate and Parsons, 2005). Southern California rufous-crowned sparrows range from San Luis Obispo County south to San Diego County (Garrett and Dunn, 1981). This subspecies is increasingly restricted due to urbanization and agricultural development in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (Cornell, 2012).

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding and foraging habitat occurs within the upland terrace in the eastern extent of the Study Area.

*Habitat and Habitat Associations:* Southern California rufous-crowned sparrows typically breed in sparsely vegetated scrubland on hillsides and canyons between 60 and 1400 meters. This subspecies is often found in coastal sage scrub dominated by California sagebrush, but will also utilize coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats (Thorngate and Parsons, 2005). Southern California rufous-crowned sparrows thrive in recently burned habitats and can be found utilizing these open areas for years (Thorngate and Parsons, 2005).

*Natural History:* The southern California rufous-crowned sparrow is one of five subspecies of the rufous-crowned sparrow that occur in the United States. Twelve additional subspecies occur in Mexico (Cornell, 2012). This species nests on the ground and has a typical clutch size of three to four eggs (Thorngate and Parsons, 2005). Nests are well-hidden at the base of bushes, grass tussocks, or overhanging rock concealed by vegetation or rock (Thorngate and Parsons, 2005). This species forages at or near the ground in areas of dense grass or herbaceous cover, and is rarely observed foraging in the open. They glean insects from low shrubs, grasses, and herbaceous vegetation (Thorngate and Parsons, 2005).

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*Threats:* This subspecies is extremely sensitive to edge effects and appears to avoid small fragments of habitat in favor of large tracts away from edges (Thorngate and Parsons, 2005). Southern California rufous-crowned sparrows are threatened by urbanization and agricultural conversion of habitat (Thorngate and Parsons, 2005).

### **Great blue heron (*Ardea herodias*)**

*Status:* The great blue heron is a CDFW Special Animal. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species is fairly common all year throughout most of California. Few rookeries are found in southern California, but many are scattered throughout northern California. Knowledge of specific rookery locations is incomplete (Malette, 1972; Belluomini, 1978; Garrett and Dunn, 1981).

*Distribution in the Study Area:* This species was documented in the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable rookery habitat occurs within the western half of the Study Area.

*Habitat and Habitat Associations:* Great blue herons are most commonly found in shallow estuaries and fresh or saline emergent wetlands. However, they also can occur along riverine and rocky marine shores, in croplands, pastures, and in mountains above foothills.

*Natural History:* This species is the largest and most widespread heron in North America. Great blue herons are large, grayish birds with a long “S”-shaped neck, long legs, and a long, thick bill. They are typically distinguishable by a white crown stripe surrounded by a black plume extending from behind the eye to the back of the neck. Great blue herons usually arrive to breeding ground in February and courtship and nest building begin shortly thereafter. Breeding territories are small, usually including only the nest site and immediately surrounding areas (Cottrille and Cottrille, 1958; Mock, 1976). Secluded groves of tall trees near shallow water are preferred for nesting sites. Feeding areas can occur as far as ten miles away and may be defended vigorously, especially during the non-breeding season (Palmer, 1962; Krebs, 1974; Kushlan, 1976). Although this species will occasionally eat small rodents, amphibians, reptiles, insects, and birds, its diet is dominated by fish (nearly 75%) (Cogswell, 1977). When hunting, great blue herons stand motionless, or walk slowly, in shallow water, or less commonly, open fields and grasp prey with their bill, rarely impaling the intended target. This species typically roosts in secluded, tall trees.

*Threats:* This species is sensitive to human disturbance near nests, and probably to pesticides and herbicides in nesting and foraging areas (Jackman and Scott, 1975).

### **Burrowing owl (*Athene cunicularia*)**

*Status:* The burrowing owl is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The burrowing owl (*Athene cunicularia*) breeds from southern interior British Columbia, southern Alberta, southern Saskatchewan, and southern Manitoba, south through eastern Washington, central Oregon, and California to Baja California, east to western Minnesota, northwestern

Iowa, eastern Nebraska, central Kansas, Oklahoma, eastern Texas, and Louisiana, the southern portion of Florida, and south to central Mexico. The species is also locally distributed throughout suitable habitat in Central and South America to Tierra del Fuego, and in Cuba, Hispaniola, the northern Lesser Antilles, Bahama Islands, and in the Pacific Ocean off the west coast of Mexico (County of Riverside, 2008; as cited in USACE and CDFG, 2010). The western subspecies, western burrowing owl, occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama (County of Riverside, 2008; as cited in USACE and CDFG, 2010). The winter range of the western burrowing owl is much the same as the breeding range, except that most individuals apparently vacate the northern areas of the Great Plains and the Great Basin (County of Riverside, 2008; as cited in USACE and CDFG, 2010).

*Distribution in the Study Area:* The Study Area is located within the known geographic distribution for this species; suitable habitat occurs within limited portions of the Study Area. There is a 2002 eBird record for this species in the Santa Clara River near the Victoria Avenue Bridge in the western extent of the Study Area; the nearest CNDDDB record for this species occurs approximately 2 miles to the west near McGrath State Beach.

*Habitat and Habitat Associations:* In California, western burrowing owls are yearlong residents of flat, open, dry grassland and desert habitats at lower elevations (Bates, 2006; as cited in USACE and CDFG, 2010). They typically inhabit annual and perennial grasslands and scrublands characterized by low-growing vegetation and also may occur in areas that include trees and shrubs if the cover is less than 30% (Bates, 2006; as cited in USACE and CDFG, 2010); however, they prefer treeless grasslands. Although western burrowing owls prefer large, contiguous areas of treeless grasslands, they have also been observed in fallow agriculture fields, golf courses, cemeteries, road allowances, airports, vacant lots in residential areas and university campuses, and fairgrounds when nest burrows are present (Bates 2006; County of Riverside, 2008; as cited in USACE and CDFG, 2010). The availability of numerous small mammal burrows, such as those of California ground squirrel (*Spermophilus beecheyi*), is a major factor in determining whether an area with apparently suitable habitat supports western burrowing owls (Coulombe, 1971; as cited in USACE and CDFG, 2010).

*Natural History:* The majority of western burrowing owls that breed in Canada and the northern United States are believed to migrate south during September and October and north during March and April, and into the first week of May. These individuals winter within the breeding habitat of more southern-located populations. Thus, winter observations may include both the migrant individuals as well as the resident population (County of Riverside, 2008; as cited in USACE and CDFG, 2010). Western burrowing owls occurring in Florida are predominantly non-migratory, as are populations in southern California (Thomsen, 1971; as cited in USACE and CDFG, 2010). Western burrowing owls in northern California are believed to migrate (Coulombe, 1971; as cited in USACE and CDFG, 2010). In many parts of the United States, the western burrowing owl's breeding range has been reduced and it has been extirpated from certain areas, including western Minnesota, eastern North Dakota, Nebraska, and Oklahoma (Bates 2006; as cited in USACE and CDFG, 2010).

Western burrowing owls are opportunistic, primarily feeding on arthropods, small mammals, and birds, and often need short grass, mowed pastures, or overgrazed pastures for foraging (County of Riverside, 2008; as cited in USACE and CDFG, 2010). Western burrowing owls are primarily crepuscular in their foraging habits

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but hunting has been observed throughout the day (Thomsen 1971; Marti 1974; all as cited in USACE and CDFG, 2010). Insects are often taken during daylight, whereas small mammals are taken more often after dark (County of Riverside, 2008; as cited in USACE and CDFG, 2010).

**Threats:** Factors related to declines in western burrowing owl populations include the loss of natural habitat due to urban development and agriculture; other habitat destruction; predators, including domestic dogs; collisions with vehicles; and pesticides/poisoning of ground squirrels (Grinnell and Miller 1944; Zarn 1974; Remsen 1978; as cited in USACE and CDFG, 2010). A ranking of the most important threats to the species included loss of habitat, reduced burrow availability due to rodent control, and pesticides (James and Espie 1997; as cited in USACE and CDFG, 2010).

### **Costa's hummingbird (*Calypte costae*)**

**Status:** The Costa's hummingbird is a CDFW Special Animal. This taxon is not federally or State listed as threatened or endangered.

**General Distribution:** This species breeds in central California, southern Nevada, and southwestern Utah south to Santa Barbara Island, Baja California, and offshore islands, southern Arizona, west-central Mexico, and southwestern New Mexico. Wintering populations occur in southern California and southwestern Arizona south to Sinaloa, Mexico (Terres, 1980; AOU, 1998). Costa's hummingbird occurs as a permanent resident in Ventura County (CDFW, 2008).

**Distribution in the Study Area:** This species was documented in the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic range for this species; suitable breeding and foraging habitat occurs throughout the Study Area.

**Habitat and Habitat Associations:** Costa's hummingbird occurs in more arid habitats than other hummingbirds of California, including desert wash, desert riparian edges, coastal scrub, desert scrub, low-elevation chaparral, and palm oases. This species most commonly occurs along canyons and washes when nesting (NatureServe, 2015).

**Natural History:** Costa's hummingbird is the second smallest bird in North America, displaying an iridescent violet crown and gorget down the side of the neck and greenish sides and flanks. This species breeds from March through May in the deserts and from April through July along the coast (CDFW, 2008). As is usual in hummingbirds, all nesting activities are performed by the female. Nests are located in a wide variety of trees, cacti, shrubs, woody forbs, and sometimes vines, often in proximity to conspecific nests (Bent, 1940). Costa's hummingbird feeds on the flower nectar of various herbaceous and woody plants; however, small insects and spiders are also consumed. During the winter, exotic shrubs may become an important food source (Garrett and Dunn, 1981).

**Threats:** No persistent threats have been identified for this species.

### **Lawrence's goldfinch (*Carduelis lawrencei*)**

**Status:** Lawrence's goldfinch is a CDFW Special Animal and a USFWS Bird of Conservation Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Lawrence's goldfinch breeds from the western foothills of the Sierra Nevada and the Coast Ranges in Shasta County south to northern Baja California. The wintering range for this species extends from the coastal slope of the Coast Ranges in southern California to northern Baja California, and from the Lower Colorado River Valley in Needles, California, east to southern Texas, and south to Sonora, Mexico.

*Distribution in the Study Area:* There are multiple eBird records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding may occur when flows are present in the Santa Clara River; foraging habitat occurs throughout the Study Area.

*Habitat and Habitat Associations:* This species breeds in a variety of habitats throughout its range in southern California, including mixed conifer-oak forest, blue oak savannah, pinyon-juniper woodland, chaparral, riparian woodland, and desert oases (Garrett and Dunn, 1981; Lehman, 1994; Roberson and Tenney, 1993; Unitt, 1984). However, it prefers xeric open oak woodland bordering chaparral in the upper foothills. Arid, open woodlands with adjacent bushy areas, such as chaparral or tall weedy fields, characterize typical nesting habitat. This species is often found nesting within proximity to foraging habitat and open water (Davis, 1999).

*Natural History:* This small, conspicuous songbird reaches a height of four to five inches and possesses distinctly bright yellow coloration on its breast and wingbars; however, females are much less distinct. The breeding season for this species begins as early as late May and can last into September with peak activity occurring between late April and August. Nests are typically constructed on the outer branches of trees, particularly oaks (Grinnell and Miller, 1944). Both parents continue to provision the young for five to seven days after fledging, at which time the young join the parents on foraging bouts. Lawrence's goldfinch feeds primarily on seeds of native plant species, particularly fiddleneck (*Amsinckia* spp.) during the spring months and chamise (*Adenostoma fasciculatum*), mistletoe (*Phoradendron* spp.), coffeeberry (*Rhamnus californica*), and annual grasses during other seasons (Davis, 1999). Lawrence's goldfinches often form large flocks, particularly in winter. However, both males and females of this species will rigorously defend territories from conspecific intruders during the breeding season.

*Threats:* Recent survey data (1980-2000) indicate that there has been a substantial, but not significant, decline in populations of this species across its range. Populations in Arizona and California have been reported as significantly declining (Sauer *et al.*, 1996). However, since this species seems to be well adapted to a wide range of woodland habitats and may even thrive, to some extent, from non-intensive human disturbance that increases annual plant populations, there doesn't appear to be a significant problem with this species at this time.

#### **Northern harrier (*Circus cyaneus*)**

*Status:* The northern harrier is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.



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*General Distribution:* The northern harrier is found throughout the northern hemisphere. In North America, this species breeds from Alaska and the southern Canadian provinces south to Baja California, New Mexico, Texas, Kansas, and North Carolina (Limas, 2001).

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species; suitable breeding and foraging habitat occurs throughout the Study Area. There are multiple eBird records for this species approximately 2 miles west near the mouth of the Santa Clara River.

*Habitat and Habitat Associations:* Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, flood plains, and marshes (Macwhirter and Bildstein, 1996; as cited in USACE and CDFG, 2010). The species can also forage over coastal sage scrub or other open scrub communities.

*Natural History:* The northern harrier's owl-like facial disk and white rump patch, which is prominent in flight, distinguish this species from all other North American falconiformes (Alsop III, 2001). Many California populations, including those in Ventura County, are residents, and many migrating harriers winter in California (CPIF, 2000). The breeding season for this species typically occurs between March – July. During this period, males, and occasionally females, exhibit uniquely characteristic courtship flights consisting of a series of nose dives (Bent, 1937). The northern harrier is predominately monogamous, but polygyny occurs when prey abundance is high. Nests are built on the ground. Clutch size averages five, and incubation lasts 30-32 days with nestlings fledging at 30-35 days. Hatching occurs from April through June (CPIF, 2000). This bird relies on hearing as well as sight while hunting and primarily feeds on small mammals, but will also take reptiles, amphibians, birds, and invertebrates.

*Threats:* The primary threat to northern harriers is habitat loss through development and agricultural conversion (CPIF, 2000).

### **Yellow warbler (*Dendroica petechia brewsteri*)**

*Status:* The yellow warbler is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The breeding range for yellow warblers of the yellow group of subspecies includes the Pacific coast from the northern limits of the boreal forests in Alaska and Canada south to the southern United States and northern Baja California. The winter range extends from the coasts of northern Mexico to northern South America (Lowther *et al.*, 1999). Although this species is primarily a summer resident, some small winter populations remain in the lowlands of southern California (Garrett and Dunn, 1981).

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat occurs in the Study Area.

*Habitat and Habitat Associations:* In southern California, this species breeds in riparian woodlands situated within lowlands and canyons (Garrett and Dunn, 1981; Lehman, 1994; Roberson and Tenney, 1993; Unitt,

1984). Suitable habitat typically consists of riparian forests containing sycamores, cottonwoods, willows, and/or alders (Stephenson and Calcarone, 1999).

*Natural History:* There is a considerable morphological variation within the *D. petechia* species. Of the three recognized groups of subspecies, only the “yellow” group breeds in North America. The “yellow” group is further divided into nine subspecies, which are distinguished by slight differences in plumage color and patterns of breast streaking in males (Lowther *et al.*, 1999). Yellow warblers migrate annually between breeding grounds in North America and wintering grounds in the neotropics and are highly territorial on both breeding and wintering grounds (Lowther *et al.*, 1999). During migration, yellow warblers form flocks and will often join with flocks of other species, including warblers, vireos, and flycatchers. The primary diet of yellow warblers consists of arthropods, such as bees, wasps, caterpillars, flies, beetles, and true bugs, which are usually gleaned from leaf surfaces; however, this subspecies will occasionally sally to capture prey in flight. Males typically forage higher in trees than females (Lowther *et al.*, 1999).

*Threats:* Nest parasitism by brown-headed cowbird (*Malothrus ater*) has been implicated as a major cause of population declines of yellow warblers in southern California (Garrett and Dunn; 1981; Stephenson and Calcarone, 1999; Unitt, 1984).

#### **White-tailed kite (*Elanus leucurus*)**

*Status:* The white-tailed kite is a CDFW Fully Protected Species. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The white-tailed kite is a permanent resident in California, southern Texas, Washington, Oregon, and Florida. It also occurs as a resident from Mexico into parts of South America (Dunk, 1995). In California, this species inhabits coastal and valley lowlands and is typically found in agricultural areas. It has increased population numbers and range in recent decades (Zeiner *et al.*, 1990a).

*Distribution in the Project Areas:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and limited foraging habitat occurs in the Study Area.

*Habitat and Habitat Associations:* The white-tailed kite inhabits savanna, open woodlands, marshes, desert grasslands, partially cleared lands, and cultivated fields (Dunk, 1995). This species roosts in trees with dense canopies as well as saltgrass and Bermuda grass (Zeiner *et al.*, 1990a).

*Natural History:* The white-tailed kite is a medium-sized, long-winged raptor with red eyes. This monogamous species breeds from February to October, with peak activity occurring between May and August. Incubation is solely performed by the female; however, during incubation and the nestling period, the male feeds the female and provides her with food to feed the young (CDFW, 2008). The white-tailed kite is the only North American kite that hovers while hunting, usually less than thirty meters above the ground before descending vertically upon prey (Alsop III, 2001; Zeiner *et al.*, 1990a). This species primarily feeds on voles and other small mammals but will also take birds, insects, reptiles, and amphibians. Although white-tailed kites are non-migratory, individuals may become nomadic in response to prey availability (Zeiner *et al.*, 1990a).

*Threats:* While the white-tailed kite is reported to have increased in numbers and range over the past several decades, it is still vulnerable to habitat loss due to development.

**Southwestern willow flycatcher (*Empidonax traillii extimus*)**

*Status:* The southwestern willow flycatcher is federally and state listed as endangered.

*General Distribution:* The southwestern willow flycatcher has a known United States breeding range in six states: Arizona, New Mexico, California, southwestern Colorado, extreme southern portions of Nevada and Utah, and, possibly, western Texas. In California, its breeding range extends from the Mexican border north and inland to the City of Independence in the Owens Valley east of the Sierra Nevada, to the South Fork Kern River in the San Joaquin Valley and coastally to the Santa Ynez River in Santa Barbara County (Craig and Williams 1998; as cited in USACE and CDFG, 2010). The southwestern willow flycatcher was formerly a common summer resident throughout California, but has been extirpated from most of its historic breeding range in California.

*Distribution in the Study Area:* There are no known records for this species in the Study Area; critical habitat for this species is mapped within the Study Area. The nearest CNDDDB record for this species occurs approximately 8.5 miles upstream in the Santa Clara River near the Santa Paula area. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat occurs throughout the Study Area.

*Habitat and Habitat Associations:* The southwestern willow flycatcher is a riparian-obligate species restricted to complex streamside vegetation. Four general habitat types are used by the southwestern willow flycatcher at its breeding sites: monotypic high-elevation willow; exotic monotypes (e.g., dense stands of tamarisk (*Tamarix* spp.) or Russian olive (*Elaeagnus angustifolius*)), especially in the desert southwest; native broadleaf-dominated riparian forest; and mixed native/exotic forests (Sogge *et al.*, 1997; as cited in USACE and CDFG, 2010). Of these, native broadleaf-dominated and mixed native/exotic are the primary habitats used by southwestern willow flycatcher in California. The native broadleaf-dominated habitat is composed of a single species, such as Goodding's or other willow (*Salix* spp.) species, or a mixture of broadleaf trees and shrubs, including cottonwood (*Populus* spp.), willow, box elder (*Acer negundo*), ash (*Fraxinus* spp.), and alder (*Alnus* spp.). Stands are usually three to 15 meters (10 to 50 feet) in height and are characterized by trees of different size classes, yielding multiple layers of canopy (Sogge *et al.*, 1997; as cited in USACE and CDFG, 2010).

*Natural History:* Willow flycatchers are late spring migrants and have a breeding season of three months or less (Sedgwick 2000; as cited in USACE and CDFG, 2010). The earliest spring arrival of the willow flycatcher in southern California is typically between late April and early May. When a willow flycatcher is observed in southern California after about June 22, or if nesting activity is observed, it can be concluded that the individual is *E. t. extimus* (southwestern willow flycatcher). By this date, most migrant willow flycatchers have passed through southern California; however, migrant willow flycatchers may again be observed—virtually always away from the coast—in late July as they pass through the region heading south to their wintering area (Sogge *et al.* 1997; as cited in USACE and CDFG, 2010).

Breeding territory sizes of the southwestern willow flycatcher vary greatly in relation to population density, habitat quality, and nesting stage (USFWS 2002; as cited in USACE and CDFG, 2010). The observed range of territory sizes is 0.1 to 2.30 hectares (0.26 to 5.70 acres), with most in the range of 0.2 to 0.5 hectares (0.5 to 1.2 acres) (USFWS 2002; as cited in USACE and CDFG, 2010). Clutches of two to four eggs are laid in the third week in June, with fledglings first appearing in mid-July (Sanders and Flett 1989; as cited in USACE and CDFG, 2010). Fledglings stay close to the nest and to each other for three to five days after leaving the nest and stay in the area for a minimum of 14 to 15 days (Sogge *et al.* 1997; as cited in USACE and CDFG, 2010).

*Threats:* The decline of southwestern willow flycatchers is primarily due to loss, fragmentation, and degradation of suitable riparian habitat resulting from urbanization, recreation, water diversion and impoundments, channelization, invasive plant species, overgrazing by livestock, and conversion of riparian habitat to agricultural land (USFWS, 2002; Sedgwick, 2000; all as cited in USACE and CDFG, 2010). Channelization, bank stabilization, levees, and other flow control structures, surface water diversions, and groundwater pumping for agricultural, industrial, and municipal uses are major factors in the deterioration of suitable southwestern willow flycatcher habitat.

#### **California horned lark (*Eremophila alpestris*)**

*Status:* The California horned lark is a CDFW Watch List Species that was removed from the Species of Special Concern list in 2008. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Widespread distribution within open habitats in North America and a year-round resident of southern California.

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable foraging habitat occurs within the upland terrace in the eastern extent of the Study Area.

*Habitat and Habitat Associations:* Occurs in open habitats, forages in bare dirt in short and/or sparse grassland and areas of scattered shrubs.

*Natural History:* The California horned lark generally builds grass-lined nests within depressions on the ground. Forages for primarily insects, snails, and spiders but will adapt to grass and forb seeds depending on the season. After breeding this species often forms large flocks that forage and roost together.

*Threats:* There are no persistent threats identified for this species; however, eggs and nestlings are subject to predation from mammals and snakes due to the location of the nest on the ground.

#### **Merlin (*Falco columbarius*)**

*Status:* The merlin is a CDFW Watch List Species that was removed from the Species of Special Concern list in 2008. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* In North America, this species breeds from the northward tree limit in Alaska and Canada southward to southern Alaska, Oregon, Idaho, South Dakota, the northern Great Lakes region,

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New York, Maine, and Nova Scotia. Breeding does not occur in California; however, this species does occur in most of the western half of the state below roughly 4000 feet through the winter season (September to May) (CDFW, 2008).

*Distribution in the Study Area:* There are no known records for this species in the Study Area or surrounding areas. This species is a winter resident that does not breed in CA; the Study Area is located within the known geographic winter distribution for this species. Suitable foraging habitat occurs throughout the Study Area. There is a 2009 eBird record for this species just north of the Study Area at Buenaventura Golf Course.

*Habitat and Habitat Associations:* The merlin occurs in a wide variety of habitats, including marshes, deserts, seacoasts, open woodlands, fields, and communities in early successional stages (Garrett and Dunn, 1981).

*Natural History:* The merlin is a small, averaging twelve inches in length, member of the falcon family (Falconidae) with a long tail and long, pointed wings. This species winters in California from September to May and wanders, but does not apparently defend, foraging territories throughout the winter range (Becker and Sieg, 1987; Warkington and Oliphant, 1990; Sodhi and Oliphant, 1992). Merlins primarily prey on small birds, which are captured on the ground or in the air, after direct pursuit (CDFW, 2008). Small mammals and insects are also consumed, the latter of which may be taken while young merlins are developing their predatory skills.

*Threats:* There are no persistent threats identified for this species; however, because merlins feed primarily on birds, numbers have been likely reduced due to pesticide use.

### **Yellow-breasted chat (*Icteria virens*)**

*Status:* The yellow-breasted chat is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Although this species is a widespread summer resident in eastern North America, its distribution is much more fragmented in the west. In California, yellow-breasted chat primarily occurs in the northern portion of the state and is considered scarce in the central and southern portions.

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat exist throughout the Study Area.

*Habitat and Habitat Associations:* In southern California, this species utilizes dense riparian thickets and brushy tangles near watercourses for breeding (Garrett and Dunn, 1981). Similar habitat is used during migration (Dunn and Garrett, 1997).

*Natural History:* The yellow-breasted chat is the largest member of the warbler family (Parulidae). Its yellow throat and breast, olive underparts and white spectacles distinguish this species from other similar birds. The yellow-breasted chat breeds in April or May through August. Females initiate nest construction,

which begins shortly after pair formation, above ground in dense shrubs along a river or stream. Both parents tend to nestlings until they fledge at roughly nine days (Stephenson and Calcarone, 1999). This species feeds primarily on insects and spiders that are gleaned from the foliage of low trees and shrubs; however, berries and other fruits are also consumed (CDFW, 2008).

*Threats:* The loss and degradation of riparian habitat have resulted in a marked decline of breeding populations of yellow-breasted chat in California. Nest parasitism by brown-headed cowbird (*Molothrus ater*) has also contributed to declines (Gaines, 1974; Remsen, 1978).

**Loggerhead shrike (*Lanius ludovicianus*)**

*Status:* The loggerhead shrike is a CDFW Species of Special Concern and a USFWS Bird of Conservation Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The breeding range of the loggerhead shrike includes Alberta, Saskatchewan, and Manitoba in Canada; the majority of the United States except the Pacific Northwest; and Mexico (Yosef, 1996). This species is a common resident and winter visitor in lowlands and foothills throughout California.

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat exist throughout the Study Area.

*Habitat and Habitat Associations:* The loggerhead shrike prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. This species most often occurs in open-canopied valley foothill hardwood forests, valley-foothill hardwood-conifer forests, valley foothill riparian, pinyon-juniper woodlands, desert riparian, and Joshua tree habitats.

*Natural History:* The loggerhead shrike is a large-headed bird with a hooked beak and whitish underparts. The breeding season for this species generally begins in late January or early February, earlier than those of other sympatric passerine species, and lasts through July (Stephenson and Calcarone, 1999). Nests are typically constructed in well-concealed microsites in densely foliated trees or shrubs (Miller, 1931; Bent, 1950). Females typically feed nestlings until fledging occurs at 16 to 20 days; however, males will feed nestlings if females are absent from the nest for extended periods of time (Stephenson and Calcarone, 1999). This species preys primarily on large insects, but will also take small birds, mammals, amphibians, reptiles, fish, carrion, and various invertebrates. Loggerhead shrikes often impale their prey on barbed wire or other sharp objects.

*Threats to Species:* Breeding Bird Survey data indicate that loggerhead shrike populations are declining in most states (Sauer *et al.*, 1996). Threats include habitat loss and degradation, shooting, and pesticide and other toxic contamination.

**Osprey (*Pandion haliaetus*)**

*Status:* The osprey is a CDFW Watch List Species. This taxon is not federally or State listed as threatened or endangered.

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*General Distribution:* The osprey is one of only two wild bird species with a worldwide distribution (the other is peregrine falcon). In California, this species typically breeds in the northern part of the state from the Cascade Range south to Lake Tahoe and along the coast to Marin County (Stephenson and Calcarone, 1999). Osprey is an uncommon visitor along the coast of southern California (Zeiner *et al.*, 1990a). Although this species is almost entirely migratory across its range, some areas of southern California, including Ventura County, support year-round residents (Ferguson-Lees and Christie, 2001).

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable foraging habitat occurs throughout the Study Area. There are multiple eBird records approximately 2 miles west within the general vicinity of the Santa Clara River mouth.

*Habitat and Habitat Associations:* This species most commonly occurs along rivers, lakes, reservoirs, and sea coasts, often crossing land between bodies of water (AOU, 1998). Nests are typically found in tree snags, on cliffs, and among various manmade structures, usually near or above water.

*Natural History:* The osprey is easily distinguished by its unmarked white belly, wing shape, and flight style. This species typically breeds between late March and early June as the male arrives to breeding sites first followed by the female a few days later (Johnsgard, 1990). Nests consist of a massive accumulation of sticks and other debris and may be added to and used in successive years (Stephenson and Calcarone, 1999). A single brood of three eggs is incubated by both sexes. Ospreys hunt by initially scanning water surfaces from an elevated perch, often followed by a period of hovering, and then diving from heights of roughly 16-23 feet above the water (Stephenson and Calcarone, 1999). Prey consists almost entirely of salt or freshwater surface feeding fish; however, reptiles, sick or injured birds, crustaceans, or small mammals are sometimes taken (Ferguson-Lees and Christie, 2001).

*Threats:* Threats that have been identified for this species include disturbance from recreation and other activities near nests, development near lakes and rivers, and removal of suitable nesting sites.

*Threats:* Osprey has declined due to widespread destruction of coastal saltmarsh.

### **Allen's hummingbird (*Selasphorus sasin*)**

*Status:* The Allen's hummingbird is a CDFW Special Animal. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species is a permanent resident in Ventura County. It also occurs as a common summer resident and migrant along much of the California coast.

*Distribution in the Study Area:* This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat exist throughout the Study Area.

*Habitat and Habitat Associations:* Breeding for this species most commonly occurs in coastal scrub, valley and foothill hardwood forests, valley and foothill riparian forests, and urban habitats. Allen's hummingbird also occurs in a variety of woodland and scrub habitats as a migrant (CDFW, 2008).

*Natural History:* This species is a small hummingbird with a green back and crown and distinctive rufous markings on the flanks and tail. The Allen's hummingbird often attaches its nest to more than one lateral support on eucalyptus, juniper, willow, other trees, vines, shrubs, or ferns (CDFW, 2008). Breeding occurs from mid-February through early August with peak activity occurring in April. Large mating territories are rigorously defended as are smaller feeding territories (Legg and Pitelka, 1956). The primary diet of this species consists of nectar taken from a variety of herbaceous and woody flowering plants; however, small insects and spiders may also be consumed (CDFW, 2008).

*Threats:* No persistent threats have been identified for this species.

**Hermit warbler (*Setophaga occidentalis*)**

*Status:* The Allen's hummingbird is a CDFW Special Animal. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This species is a permanent resident in Ventura County. It also occurs as a common summer resident and migrant along much of the California coast.

*Distribution in the Study Area:* This species was documented immediately upstream of the Study Area during surveys conducted in 2013/14 and is assumed to be present in the Study Area as a migrant. The Study Area is outside the known breeding geographic distribution for this species; suitable foraging habitat occurs throughout the Study Area.

*Habitat and Habitat Associations:* Breeding for this species most commonly occurs in coastal scrub, valley and foothill hardwood forests, valley and foothill riparian forests, and urban habitats. Allen's hummingbird also occurs in a variety of woodland and scrub habitats as a migrant (CDFW, 2008).

*Natural History:* This species is a small hummingbird with a green back and crown and distinctive rufous markings on the flanks and tail. The Allen's hummingbird often attaches its nest to more than one lateral support on eucalyptus, juniper, willow, other trees, vines, shrubs, or ferns (CDFW, 2008). Breeding occurs from mid-February through early August with peak activity occurring in April. Large mating territories are rigorously defended as are smaller feeding territories (Legg and Pitelka, 1956). The primary diet of this species consists of nectar taken from a variety of herbaceous and woody flowering plants; however, small insects and spiders may also be consumed (CDFW, 2008).

**Least Bell's vireo (*Vireo bellii pusillus*)**

*Status:* The least Bell's vireo was listed as federally endangered by the USFWS on May 2, 1986 (51 FR 16474-16482). Critical habitat was designated on February 2, 1994 (59 FR 4845-4867). This taxon is also listed as State endangered and considered a USFWS Bird of Conservation Concern.



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*General Distribution:* The least Bell's vireo was historically widespread in riparian woodlands of the Central Valley and low-elevation riverine valleys of California and northern Baja California. However, over 95 percent of historic riparian habitat has been lost throughout its former range, which may have accounted for 60 to 80 percent of the original population throughout the state of California (USFWS, 1986). The current breeding distribution for this subspecies in California is restricted to Kern, San Diego, San Bernardino, Riverside, Ventura, Los Angeles, Santa Barbara, and Imperial Counties.

*Distribution in the Study Area:* This species was detected during recent focused surveys in 2013 and 2015 and during general surveys in 2014. The Study Area is located within the known geographic breeding distribution for this subspecies; suitable habitat occurs throughout the Study Area.

*Habitat and Habitat Associations:* During the breeding season, least Bell's vireo is a low-elevation riparian obligate that inhabits dense, willow-dominated habitats with lush understory vegetation and in the immediate vicinity of water. Most areas that support viable populations are in early stages of succession where most woody vegetation is between five and ten years old (Franzeb, 1989; Gray and Greaves, 1984).

*Natural History:* The least Bell's vireo is one of four recognized subspecies of Bell's vireo (*V. bellii*) and is the western-most occurring subspecies, breeding entirely within California and northern Baja California. This subspecies is a small vireo with a short, straight bill and plumage varying from drab gray to green above and white to yellow below. The breeding season for least Bell's vireo begins with males arriving at breeding sites to establish territories, typically by late March. Females settle on male territories within two days of arriving to breeding sites and courtship begins immediately, lasting for 1-2 days before a nest site is selected and both birds construct the nest. Both sexes brood and feed the young. After the breeding season is complete, the least Bell's vireo leaves its breeding range to winter in Baja California. This subspecies typically forages in riparian habitat, feeding primarily on small insects and spiders (Chapin, 1925). Feeding will also occasionally occur in oak woodlands and adjacent chaparral habitats (Salata, 1983).

*Threats:* The primary threats that have been identified for this subspecies include the loss of lowland riparian habitat and nest parasitism by the brown-headed cowbird (USFWS, 1998)

## MAMMALS

### **Pallid bat (*Antrozous pallidus*)**

*Status:* The pallid bat is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* Pallid bats have a broad geographic range, extending from southern British Columbia to central Mexico and from California east to the Midwestern United States (Harvey *et al.*, 1999). This species occurs most commonly below elevations of roughly 6,000 feet (Stephenson and Calcarone, 1999). Pallid bats are year-round residents in California (Philpott, 1997).

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited roosting habitat is present in the Study Area. Suitable foraging habitat occurs throughout the Study Area. There is a historic CNDDDB record approximately 3 miles north.

*Habitat and Habitat Associations:* Pallid bats occur in a variety of habitats, including grasslands, shrublands, woodlands, scattered desert scrub, agricultural fields, and mixed conifer forests (Barbour and Davis, 1969; Hermanson and O'Shea, 1983; Orr, 1954; Philpott, 1997). This species appears to prefer edges and open areas without trees (SNFPA, 2001). Roosting sites include rock crevices, mines, caves, tree hollows, buildings, bridges, and culverts (Hermanson and O'Shea, 1983; Tactarian, 2001).

*Natural History:* The pallid bat is a large, light-colored bat with prominent ears. This is a social species, communicating through a variety of vocalizations to indicate territorial disputes, direct individuals to roosting sites, and facilitate mother-infant relations (Nagorsen and Brigham, 1993). Pallid bat maternity colonies form in early April and may contain from 12 to 100 individuals (Zeiner *et al.*, 1990b). The diet of pallid bats primarily consist of large arthropods, including scorpions, crickets, moths, and praying mantids which are gleaned from the ground or on the surfaces of vegetation (Hermanson and O'Shea, 1983). Emergence from roosting sites typically begins thirty to sixty minutes after sunset, but can vary seasonally (Hermanson and O'Shea, 1983; Zeiner *et al.*, 1990b). Foraging is usually concentrated into two periods, with the first activity peak occurring 90-190 minutes after sunset, and the second just prior to dawn (Hermanson and O'Shea, 1983; Zeiner *et al.*, 1990b). Nagorsen and Brigham (1993) report that pallid bats will travel up to 2.5 miles between day roosts and foraging areas. Between activity periods, pallid bats may remain torpid for up to five hours (O'Shea and Vaughn, 1977). This species is known to hibernate, but will periodically arouse to forage for food and water (Philpott, 1997).

*Threats:* Some of the threats that have been associated with the decline of this species in southern California include the destruction of buildings that provide suitable roosting and maternal colony sites, eradication of roosting colonies due to public health concerns, and urban expansion (Brown-Berry, 2002). As bat species often exhibit high site fidelity to maternity roosts and are highly sensitive to disturbance at these sites, local extirpations may be attributed to roost disturbance (Hermanson and O'Shea, 1983; Orr, 1954; O'Shea and Vaughn, 1977; Philpott, 1997).

**Dulzura pocket mouse (*Chaetodipus californicus femoralis*)**

*Status:* The Dulzura pocket mouse is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This subspecies occurs in the Sierra Nevada, Coast, Transverse, and Peninsular Ranges of southern California and northern Baja California.

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable habitat occurs in discrete portions of the Study Area. The closest CNDDDB record for this species occurs approximately 8 miles north.

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*Habitat and Habitat Associations:* The Dulzura pocket mouse occurs in a wide variety of habitats, including coastal scrub, chaparral, and grasslands, but likely reaches its greatest abundance in edges between grasslands and chaparral.

*Natural History:* The Dulzura pocket mouse is a subspecies of California pocket mouse (*C. californicus*), although the taxonomy is relatively unknown. Similar to all members of the species, the Dulzura pocket mouse is a granivore, feeding mainly on the seeds of annual grasses and forbs. Leafy vegetation and insects are probably consumed seasonally (CDFW, 2008). Water is obtained metabolically from food sources. California pocket mice are nocturnally active, solitary, and display aggressive territorial behavior. Predators include coyotes, bobcats, owls, and snakes (CDFW, 2008).

*Threats:* No persistent threats have been identified for this subspecies.

### **Spotted bat (*Euderma maculatum*)**

*Status:* The spotted bat is a CDFW Species of Special Concern.

*General Distribution:* The spotted bat has been found at a small number of localities, mostly in the foothills, mountains and desert regions of southern California. [CDFW, 2000]

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding habitat may occur within the Study Area. Suitable foraging habitat occurs throughout the Study Area.

*Habitat and Habitat Associations:* Habitats occupied include arid deserts, grasslands and mixed conifer forests. Elevational range extends from below sea level in California to above 3000 m (10000 ft) in New Mexico. [CDFW, 2000]

*Natural History:* This bat prefers to roost in rock crevices but is occasionally found in caves and buildings; cliffs provide optimal roosting habitat. Moths are the principal food source of this species (CDFW, 2000). This species feeds in flight, over water, and near the ground, using echolocation to find prey and prefers sites with adequate roosting habitat, such as cliffs.

*Threats:* Threats to the spotted bat may include loss of habitat to development and the use of insecticides.

### **Western mastiff bat (*Eumops perotis californicus*)**

*Status:* The western mastiff bat is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The western mastiff bat occurs in two populations; one from the southwestern United States to central Mexico and the other from the northern and central portions of South America (Harvey *et al.*, 1999). The western or California mastiff bat subspecies primarily occurs from low to mid elevations in southern and central California southeast to Texas and south to central Mexico (Best *et al.*, 1996).

*Distribution in the Study Area:* There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Suitable roosting habitat is present within the Study Area. Suitable foraging habitat occurs throughout the Study Area. The CNDDDB reports a historic occurrence of this species approximately 7 miles north.

*Habitat and Habitat Associations:* The western mastiff bat utilizes a variety of habitat types including desert scrub, chaparral, mixed conifer forest, giant sequoia forests, and montane meadows (Philpott, 1997). In southern California, this bat typically roosts in semiarid areas with low-growing chaparral that does not obstruct cliffs or rock outcrops (Best *et al.*, 1996). Because of its large wingspan, this bat requires roosts that have at least 2 m of free space to drop from to initiate flight. These bats utilize natural crevices in granitic and sandstone cliffs as well as crevices in buildings for roosting (Best *et al.*, 1996; NatureServe, 2015).

*Natural History:* The western mastiff bat is the largest bat in the United States with a total length of 15.7 to 18.5 cm (NatureServe, 2015). This bat breeds in early spring with most births likely occurring from June through July, and females usually give birth to one offspring (NatureServe, 2015). Colonies typically consist of less than 100 individuals (NatureServe, 2015). Western mastiff bats are primarily insectivorous, and the diet contains a high proportion of moths (Philpott, 1997). Predators include peregrine falcon, American kestrel, red-tailed hawk, and barn owl (Best *et al.*, 1996).

*Threats:* Threats to the western mastiff bat include loss of habitat to development and the use of insecticides (Williams, 1986). In the southwest, loss of large open ponds used for drinking water threaten this subspecies, and activities that disturb or destroy cliff habitat (such as water impoundments, highway construction, and quarry operations) pose a threat as well (Texas Parks and Wildlife, 2009).

#### **San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)**

*Status:* The San Diego black-tailed jackrabbit is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The San Diego black-tailed jackrabbit occurs on the coastal side of the southern California mountains. This subspecies has been recorded on Mt. Pinos and well as in Ventura, Los Angeles, Orange, and San Diego Counties, and into Baja California, Mexico (Hall, 1981).

*Distribution in the Study Area:* Although not detected in the Study Area, this species is known from the Santa Clara River Valley. The Study Area is located within the known geographic distribution for this subspecies; suitable habitat is present throughout the Study Area.

*Habitat and Habitat Associations:* The black-tailed jackrabbit occurs in a variety of open habitats including grasslands, agricultural fields, or sparse coastal sage scrub (Bond, 1977).

*Natural History:* The San Diego black-tailed jackrabbit is one of 17 subspecies of *L. californicus* that occur in the western United States. The San Diego black-tailed jackrabbit and *L. c. deserticola* both occur in southern California (Hall, 1981). The length of the breeding season for the San Diego black-tailed jackrabbit depends upon the severity and length of winter, as this subspecies breeds year-round. Gestation lasts approximately 40 days, and litter size varies depending on environmental conditions (Best, 1996). San Diego black-tailed

## Appendix B-6 Special-status Plant and Wildlife Descriptions

jackrabbits feed on a wide variety of grasses, forbs, and shrubs (Zeiner *et al.*, 1990b). Predators include coyotes, hawks, owls and foxes (Best, 1996).

*Threats to Species:* Urban development and agriculture has reduced the amount of suitable habitat available to this subspecies, and has fragmented available habitat.

### **San Diego desert woodrat (*Neotoma lepida intermedia*)**

*Status:* The San Diego desert woodrat is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* This subspecies occurs in coastal California from San Luis Obispo south through the Transverse and Peninsular Ranges into Baja California.

*Distribution in the Study Area:* Although not detected in the Study Area, this species is known from the Santa Clara River Valley. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs within portions of the Study Area. The closest CNDDDB records for this species occur approximately 13 and 16 miles northwest of the Study Area.

*Habitat and Habitat Associations:* Desert woodrats inhabit Joshua tree woodlands, pinyon-juniper woodlands, mixed chaparral, sagebrush, and desert habitats (Zeiner *et al.*, 1990b). This subspecies preferentially builds nests in areas with large boulders as they presumably provide better protection from predators (Thompson, 1982; Smith 1995). Desert woodrats will actively avoid open areas that lack adequate refuge sites (Thompson, 1982).

*Natural History:* San Diego desert woodrats construct dens of sticks, yucca leaves, tin cans, and other assorted materials in the crevices between boulders (Thompson, 1982). These dens also provide shelter for a variety of other small vertebrates. Desert woodrats generally breed from late October or November through April, and females can produce up to four litters of two to four young each year (Bleich and Schwartz, 1975). This subspecies forages nocturnally and is primarily herbivorous. Desert woodrats rely on a continuous supply of green vegetation for food and water. They do not drink water but rather depend upon plants such as agave and cactus for their water needs. They can even subsist on creosote year-round (Lee, 1963; MacMillen, 1964). Predators include snakes, owls, coyotes, badgers, skunks, and ringtails (Smith, 1995).

*Threats:* Loss of habitat, especially coastal sage scrub, is an ongoing threat to this subspecies.

### **American badger (*Taxidea taxus*)**

*Status:* The American badger is a CDFW Species of Special Concern. This taxon is not federally or State listed as threatened or endangered.

*General Distribution:* The vast geographic range of the American badger extends as far north as Alberta, Canada and as far south as central Mexico (Hall, 1981). This species occurs in suitable habitat throughout California with the exceptions of the humid coastal forests of Del Norte and Humboldt Counties in the

northwest part of the state (Williams, 1986). The elevation range for this species occurs between below sea level at Death Valley to as high as the Arctic-Alpine Life Zone (Long, 1973).

*Distribution in the Study Area:* There are no known records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Suitable habitat occurs within portions of the Study Area. The CNDDDB reports multiple occurrences of this species approximately 5 miles upstream in the Santa Paula area.

*Habitat and Habitat Associations:* American badgers exploit a wide variety of open, arid habitats, but are most commonly found in grasslands, savannas, mountain meadows, and open areas of desert scrub (Stephenson and Calcarone, 1999). Basic requirements that have been identified for this species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground (Williams, 1986).

*Natural History:* American badgers are most often solitary animals that are primarily nocturnal, but have been reported occasionally foraging and dispersing during the daytime (Lindzey, 1978; Messick and Hornocker, 1981). This species is active year-round except at higher elevations and latitudes, where winter torpidity is common. During winter, individuals at lower elevations will exhibit reduced surface activity and may remain in a single burrow for days or even weeks (Long, 1973; Messick and Hornocker, 1981). This species is an opportunistic predator feeding on such prey resources as mice, chipmunks, ground squirrels, gophers, rabbits, and kangaroo rats. Reptiles, insects, birds, eggs, and carrion are also consumed (Williams, 1986; Zeiner *et al.*, 1990b). American badgers mate in the summer and early autumn with young born in March and early April (Long, 1973).

*Threats:* This species has experienced large population declines in many areas of southern California and has been steadily decreasing throughout the state over the last century (Williams, 1986). The major cause of mortality to adult badgers is vehicular accidents. Other common threats include habitat conversion to urban and agricultural uses, farming operations, shooting and trapping, poisoning, and reduction of prey base as a result of rodent control activities (Williams, 1986).

## **B.7 Jurisdictional Delineation**

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**PRELIMINARY JURISDICTIONAL WATERS/WETLANDS  
DELINEATION REPORT FOR THE SANTA CLARA RIVER  
LEVEE IMPROVEMENTS DOWNSTREAM OF UPRR (SCR-3)  
PROJECT**

*Prepared for:*

**Ventura County Watershed Protection District**  
800 S. Victoria Avenue  
Ventura, California 93009-1600



*Prepared by:*

**Aspen Environmental Group**  
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Agoura Hills, CA 91301

**October 2015**

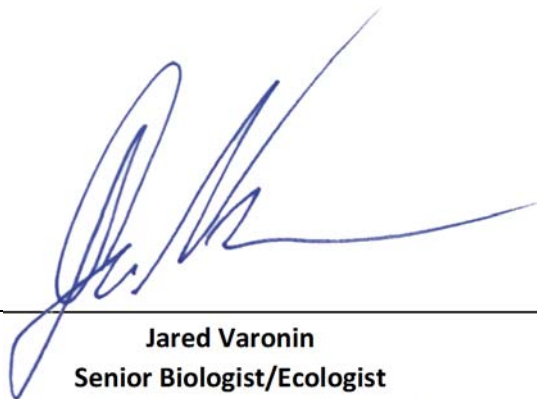
**Contract No. AE14-022**



## **Preliminary Jurisdictional Waters/Wetlands Delineation Report**

### **Santa Clara River Levee Improvements Downstream of Highway 101 (SCR-3) Project Ventura, California**

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional determination and delineation for the above-referenced project.



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**Jared Varonin**  
**Senior Biologist/Ecologist**  
**Certified Fisheries Professional**  
**Aspen Environmental Group**

**October 2015**

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## 1.0 Introduction and Location

This report presents the findings of an investigation of jurisdictional features conducted by Aspen Environmental Group (Aspen) for the Santa Clara River Levee Improvements Downstream of the Union Pacific Railroad (UPRR) Bridge (SCR-3) Project (Project). The SCR-3 Project area is located within and adjacent to the Santa Clara River in Ventura County, California (Figure 1). The Study Area extended approximately 500 feet north (northeast in some portions) and 200 feet south of the existing levee structure from Highway 101 to downstream of Victoria Avenue, for a total distance of approximately 2.2 miles (Study Area) (Figure 1, Attachment 1). The Study Area is bordered to the north by agriculture lands, light industrial facilities, and a golf course. Land uses to the south and southeast include residential communities, commercial properties, a golf course, and landfill. Highway 101 and portions of the Santa Clara River are located to the northeast. The western border consists of the Santa Clara River channel and adjacent agricultural areas.

The assessment of jurisdictional wetlands, other “waters of the U.S.,” waters of the State, and riparian habitat was conducted by Aspen Associate Biologist/Ecologist, Jared Varonin and Associate Biologist, Brady Daniels, on 19, 20, and 21 February 2014 and 7 March 2014. This assessment was conducted to determine the extent of resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Los Angeles Regional Water Quality Control Board (LARWQCB), and the California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game) that occur within the Study Area.

### 1.1 Project Description

The SCR-3 levee was originally designed to control flood flows emanating from the Santa Clara River based on the USACE calculated Standard Project Flood discharge of 225,000 cfs. Over 1,000 properties and roadways, including N. Ventura Road, located in the northern portion of the City of Oxnard are currently subject to flooding due to existing deficiencies in the SCR-3 levee. The objectives of the proposed project are described below.

- Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the NFIP and do so in a cost-effective manner prior to FEMA revision of adjacent FIRMs.
- Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event.
- Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan.

The proposed Project consists of implementing improvements to the SCR-3 levee between the northeast end of the Bailard Landfill and 40 feet northeast of the UPRR crossing, generally following the southern bank of the Santa Clara River near the City of Oxnard, California. Project improvements would occur along an approximately 2.0-mile (10,725-foot) stretch of the SCR-3 levee. For purposes of analysis, the Ventura County Watershed Protection District (VCWPD) divided the SCR-3 levee into four reaches, as follows (refer to Figure 1, Attachment 1):

- Reach 1 – Extends approximately 2,125 feet from the northeast corner of the Bailard Landfill upstream to the Coastal Landfill (just east of Victoria Avenue) (Station 128+75 to 150+00).

- Reach 2 - Extends approximately 5,200 feet along the Coastal Landfill to a point just west of N. Ventura Road (Station 150+00 to 202+00).
- Reach 3 – Extends approximately 1,550 feet from Reach 2 to the point where N. Ventura Road turns easterly and is parallel to the Santa Clara River, approximately 2,600 feet west of Highway 101 (Station 202+00 to 217+50).
- Reach 4 - Extends approximately 1,900 feet from Reach 3 (Station 217+50) upstream to the northeast side of the UPRR crossing (Station 217+50 to Station 236+50). The gap between the UPRR and the Highway 101 Bridge will be addressed by The Village Specific Plan development (Tentative Tract No. 5745 development project on the existing Wagon Wheel site).

## **1.2 Lead Agency Name and Address**

Ventura County Watershed Protection District (VCWPD)  
800 South Victoria Avenue  
Ventura, California 93009-1610

## **1.3 Contact Person and Phone Number**

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Ventura, California 93009-1610  
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## **2.0 Existing Conditions**

### **2.1 Topography and Surrounding Land Uses**

The Study Area is located in the northern portion of USGS Oxnard 7.5” quadrangle (T2N, R22W). Site elevations range from approximately 30 to 70 feet above mean sea level (MSL). Topography ranges from relatively flat river channel to short vertical slopes leading to upland and riparian terraces. The majority of the Study Area from Reach 3 to the Highway 101 Bridge is located within the banks of the Santa Clara River; the area also includes an adjacent upland terrace. A large number of homeless encampments are present within the upland terrace extending from Highway 101 west to just beyond the UPRR Bridge. The southern portions of the Study Area (200 feet south of the top of the existing levee) are located within portions of a landfill, golf course, and an agricultural area.

Agricultural land uses are prevalent along portions of the Santa Clara River Channel in this region. Agricultural lands are present to some degree along both sides of the Survey. Ventura Municipal Golf Course and River Ridge Golf Course are located north and south of the Study Area respectively. Both golf courses are adjacent to the upper banks of the Santa Clara River. Automotive dealerships and a water treatment facility are located northwest of the eastern extent of the Study Area. Commercial buildings and a residential area are located southeast of the eastern extent of the Study Area. Bailard Landfill is located within and south of the western extent of the Study Area. An active UPRR line supporting Amtrak,

Metrolink, and commercial rail uses runs parallel to Highway 101 near the upstream end of the Study Area. The UPRR Bridge coincides with the upstream project extent.

The Santa Clara River corridor through Ventura and Oxnard is a vital habitat area for resident and migratory wildlife species because it is located within a largely urbanized, agricultural or otherwise disturbed area with only limited availability of other natural areas to serve as wildlife habitat; and it functions as an east-west movement corridor for wildlife, between larger open space areas upstream and downstream from the Study Area.

Wetland and riparian habitats are relatively unique in Southern California as the contrasting lines, forms, colors, and textures between riparian areas and adjacent upland areas are visually appealing. Wetlands and riparian areas provide passive and active recreational opportunities such as sightseeing and bird/wildlife watching. The combination of these qualities provides a recreational value. The Study Area is partially accessible to the public and may provide both aesthetic and recreational value to the community.

## 2.2 Vegetation

Habitat in the Study Area includes dense riparian vegetation, broad unvegetated sand/gravel bars, and upland terraces. Riparian plant communities in the channel are dominated by stands of native willows (*Salix* spp.), cottonwood (*Populus* spp.), and occasional sycamore (*Platanus racemosa* var. *racemosa*) (See Figure 2, Attachment 1). In some locations dense thickets of invasive giant reed (*Arundo donax*) comprise the dominant vegetation. Early seral stands of arroyo willow (*S. lasiolepis*), shining (yellow) willow (*S. lucida* ssp. *lasiandra*), sandbar willow (*S. exigua*), and mulefat (*Baccharis salicifolia*) are common along the margins of the low-flow channel and adjacent braids. In many areas dense stands of non-native white sweetclover (*Melilotus albus*) with pockets of native western ragweed (*Ambrosia psilostachya* var. *californica*) cover the main low-flow channel. However, as a result of scour in early March 2014 much of this vegetation was absent during the survey. Some of the other native plant species observed included California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), and southern California locoweed (*Astragalus trichopodus*).

The stream terrace located downstream of the Highway 101 Bridge supports a mosaic of upland and riparian woodland communities (Figure 2, Attachment 1). Mature cottonwood willow riparian forest with an understory of poison oak (*Toxicodendron diversilobum*), mulefat, California sagebrush (*Artemisia californica*), and black sage (*Salvia mellifera*) transition to open grasslands and riparian scrub communities. Non-native grasslands in this area are dominated by brome grasses (*Bromus* spp.) with scattered populations of summer mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), horehound (*Marrubium vulgare*) and Russian thistle (*Salsola tragus*). In a few locations isolated California sagebrush, black sage, and saltbush (*Atriplex* spp.) are present. A Caltrans restoration site occurs near the Highway 101 Bridge and is dominated by thick stands of coyote brush (*Baccharis pilularis*) with scattered mulefat and saltbush. In some areas it appears the restoration plantings are decadent and dying. Fennel (*Foeniculum vulgare*), tocalote, and emerging sages were observed along the edge of the dirt road in this area. Honey bees (*Apis* spp.), an introduced species to the new world, were commonly observed in irrigation boxes used to support the restoration area. A large windrow of gum trees (*Eucalyptus* spp.) border Ventura Road. Scattered tree tobacco (*Nicotiana glauca*), giant reed, and castor bean (*Ricinus communis*) are present in this area to a limited degree.

In total seven riparian vegetation types were documented within the Study Area including arroyo willow thickets, shining willow thickets, Fremont cottonwood forest, black cottonwood forest, mulefat thickets,

cattail marshes, and giant reed breaks (Sawyer et al., 2009). The portions of the Study Area that in February and March 2014 appeared to have been recently scoured by flows of the Santa Clara River are discussed below but are not technically a riparian vegetation type, even though they occur in similar areas. Some of the riparian vegetation types are similar to one another in general form and function and tend to intergrade making it difficult to define the exact limits of each vegetation type. However, for the purposes of this document these communities were mapped and are discussed in detail below.

### ***Riparian Vegetation Types***

***Mulefat thickets (Baccharis salicifolia Shrubland Alliance).*** Mulefat thickets were highly variable in composition and occurred throughout the Study Area. In the more mesic habitats, this community was found to integrate with arroyo willow thickets and giant reed breaks such that species like sandbar willow, arroyo willow, and giant reed occurred in limited numbers. In the drier habitats, this community integrated with upland vegetation types that included species such as California sagebrush or coyote brush; other shrubs such as quailbush (*Atriplex lentiformis*) and black sage were also observed. Within the Study Area this community was generally observed on sandy soils in areas of river wash and onto the upland terraces on heavier loam soils. Mulefat thickets were most often found to occur in areas that have not been scoured by flood waters in at least five years; these types of areas are present throughout the Study Area. This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “mulefat scrub” as described by Holland (1986).

***Fremont cottonwood forest (Populus fremontii Forest Alliance).*** Described as a dense broadleaved, winter deciduous woodland, Fremont cottonwood forests were most often observed on the upland terraces, near mesic swales, or in small secondary channels, within the eastern portions of the Study Area (Reach 4). With Fremont cottonwood (*Populus fremontii*) as the single dominant species in the tree canopy, the understory consisted of a variety of species including various willows, coyote brush, and mulefat. This community likely occurs in close proximity to ground water but at such an elevation that it is protected from scouring floods. This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern cottonwood-willow riparian forest” as described by Holland (1986).

***Black cottonwood forest (Populus trichocarpa Forest Alliance).*** Black cottonwood forests are broadleaved, winter deciduous riparian woodlands that are very similar to Fremont cottonwood forest discussed above. This community is found only in the western half of the Study Area, just upstream from the Victoria Avenue Bridge where black cottonwood (*Populus trichocarpa*) replaces Fremont cottonwood as the dominant species in the tree canopy. The understory was generally observed to have scattered willows and a dense lower layer of Pacific poison oak and California blackberry (*Rubus ursinus*). This vegetation community is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern cottonwood-willow riparian forest” as described by Holland (1986).

***Arroyo willow thickets (Salix lasiolepis Shrubland Alliance).*** Arroyo willow thickets are dense, broadleaved, winter deciduous woodlands. This community was generally found within the sandy soils of the lower and upper terraces of the Santa Clara River floodplain throughout the Study Area. Where this community occurs in the upper terraces, it was observed to integrate with both types of the cottonwood forests identified in the Study Area. Understory species on the lower terraces included an extensive cover of giant reed and patchy areas of Pacific poison oak and California blackberry. This is an intermediate seral community that can tolerate periodic flooding (Holland, 1986). This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern willow scrub” as described by Holland (1986).

**Shining willow groves (*Salix lucida* Woodland Alliance).** Described as dense broadleaved, winter deciduous woodlands, shining willow groves were observed within the sandy soils of the Santa Clara River floodplain west of the constructed rock groins in the Study Area. This community tends to integrate with the arroyo willow thickets on the lower terraces and forms monotypic stands in the more active areas of the floodplain. Periodic scouring events that typically remove many of the annual/perennial herbaceous and shrubby species, but that do not uproot the shining willow, have resulted in the lack of developed understories in this community. This is an intermediate seral community that can tolerate periodic flooding (Holland 1986). This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern willow scrub” as described by Holland (1986).

**Giant reed breaks (*Arundo donax* Semi-Natural Herbaceous Stands).** Giant reed is an extremely invasive species non-native to southern California that forms dense monotypic stands and outcompetes most of the native species for resources. This vegetation community occurs throughout the Study Area, primarily in and adjacent to the riparian vegetation along the floodplain of the Santa Clara River; this community also occurred on the lower river terraces. In wetter areas it was over ten feet in height and in such dense stands that it likely acts as a barrier to movement for larger wildlife. In the drier portions of the Study Area the giant reed ranged from six to eight feet in height and occurred in less dense stands (as compared to those occurring in wetter areas). This vegetation community does not match any of the vegetation types described by Holland (1986).

**Cattail marshes [*Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance].** Cattails marshes were uncommon in the Study Area and were mapped at only two locations; at the north end of a constructed rock groin in Reach 3 and within a potentially jurisdictional drainage adjacent to the railroad bridge in Reach 4. In good rainfall years, when water in the Santa Clara River is more plentiful, this vegetation community would likely be more commonly observed in the Study Area. In the Study Area these isolated cattail marshes are dominated by broad-leaved cattails (*Typha latifolia*). Other species observed included bulrush (*Scirpus* spp.), sedges (*Cyperus* spp.), water parsnip (*Berula erecta*), yellow waterweed (*Ludwegia peploides* ssp. *peploides*), and dock (*Rumex* spp.). This vegetation community best matches the description of “fresh emergent wetland” described by Kramer (1988) and “freshwater marsh” by Holland (1986).

### **Upland Vegetation Types**

In the Study Area six upland vegetation types including coyote brush scrub, California sagebrush scrub, quailbush scrub, upland mustards, eucalyptus groves, and myoporum stands were observed (Sawyer et al., 2009). Each of these vegetation types is described below in detail.

**Coyote brush scrub (*Baccharis pilularis* Shrubland Alliance).** Except for a small stand in Reach 2 and Reach 3, this shrubland vegetation community was only found along the upland terrace within Reach 4 (refer to Figure 3.2-2); the community was generally observed to form thick monotypic stands of vegetation up to six feet tall. Besides the dominant coyote bush, species including mulefat, quailbush, California sagebrush, and black sage were commonly observed within the shrub layer. Understory vegetation was composed of a suite of native annual and perennial herbs as well as non-native species including brome grasses and tocalote. This community does not tolerate flooding events and is therefore not found within the more active areas of the floodplain. This vegetation best matches descriptions of “coastal scrub” by de Becker (1988) and “Venturan coastal sage scrub” by Holland (1986).

**California sagebrush scrub (*Artemisia californica* Shrubland Alliance).** With the exception of a small patch immediately east of the Victoria Avenue Bridge, this shrubland vegetation community was only

observed on the upland terrace within Reach 4. As the community name suggests it is dominated by California sagebrush and was generally found to occur in dense stands up to four feet high. Coyote brush and black sage were occasionally observed within openings in the dense stands of California sagebrush. Within the Study Area this community was observed to integrate with coyote brush scrub and quailbush scrub. This vegetation best matches descriptions of “coastal scrub” by de Becker (1988) and “Venturan coastal sage scrub” by Holland (1986).

**Quailbush scrub (*Atriplex lentiformis* Shrubland Alliance).** Occurring at only two distinct locations on the upland terrace in Reach 4, this shrubland vegetation community, while dominated by quailbush, included other species such as California sagebrush and coyote brush. This community was observed to integrate with other shrubland vegetation types mapped in the Study Area. This vegetation best matches descriptions of “coastal scrub” by de Becker (1988) and “Venturan coastal sage scrub” by Holland (1986).

**Eucalyptus groves [*Eucalyptus (globulus, camaldulensis)* Semi-Natural Woodland Stands].** Present throughout the Study Area, primarily along roads, on the River Ridge Golf Course, and in disturbed areas, eucalyptus groves are characterized by the presence of gum trees (*Eucalyptus* spp.); gum trees are a non-native species that have become naturalized in southern California. This vegetation community best matches the description of “Eucalyptus” in Pearson (1988).

**Upland mustards [*Brassica (nigra)* and Other Mustards Semi-Natural Herbaceous Stands].** The Upland mustards community was mapped at only a single location within the Study Area; a dense stand of non-native mustard (*Brassica* spp., *Hirschfeldia incana*) is growing downstream of the El Rio Drain box culvert outlet to the Santa Clara River. Flow from the El Rio Drain outlet passes through an earthen drainage channel on the upland terrace in Reach 4 before reaching the active Santa Clara River channel. Other non-native species, all non-native, observed within this community includes Italian thistle (*Carduus pycnocephalus*), Australian brass buttons (*Cotula australis*), hairy bittercress (*Cardamine hirsuta*), and speedwell (*Veronica arvensis*). This vegetation community does not match any of the vegetation types described by Holland (1986).

**Myoporum stands (*Myoporum laetum* Semi-Natural Woodland Stands).** Myoporum stands are non-native shrublands characterized by the presence of lollypop tree (*Myoporum laetum*). Lollypop tree is an invasive shrub tree that was introduced from Australia for landscape purposes and in some areas has become naturalized and spread into natural communities. It tends to either form dense monotypic stands or grows in the understory of the eucalyptus groves. Within the Study Area, it is found primarily between the existing levee access road and the River Ridge Golf Course. Several individuals were also observed in the lower terraces of the Santa Clara River, which indicates that it is beginning to naturalize in the area. This vegetation community does not match any of the vegetation types described by Holland (1986).

#### **Other Cover Types**

Other cover types present within the Study Area that do not fit into the riparian and upland categories above are discussed below.

**Sparingly vegetated sandy wash.** This cover type is used to classify frequently scoured portions of the Santa Clara River and occurs in the northern half of the Study Area within Reaches 1-3. Depending on the time of year, these areas may have dense, short-lived, patches of the non-native white sweetclover or occasional stands of native species such as young mulefat and willows. Over time, if there are multiple years with no scouring flows in the Santa Clara River, these areas may revert to mulefat thickets or arroyo willow thickets as those species grow to a larger size and increase in densities.



**Disturbed/Developed.** There are numerous disturbed and developed areas in the Study Area including flood control facilities, established roads/bridges, and residential buildings. This cover type also includes areas that are devoid of vegetation or support scattered ornamental species or low densities of weeds due to continual disturbance by vehicles, pedestrians, or other anthropogenic means. These areas generally match the description of “urban” by McBride and Reid (1988).

**Ruderal.** Ruderal vegetation communities are composed of herbaceous pioneering plant species that readily colonize open disturbed soil and thrive as a result of anthropogenic impacts. Ruderal communities are present throughout the Study Area and were dominated by tocalote, Italian thistle, red stem filaree (*Erodium cicutarium*), fennel, prickly lettuce (*Lactuca serriola*), and bur-clover (*Medicago polymorpha*). Some native species were observed in the ruderal areas but in very low densities and included species such as chaparral aster (*Corethrogyne filaginifolia*), sawtooth goldenbush (*Hazardia squarrosa*), and deerweed (*Acmispon glaber*).

**Vegetation Management Zone.** Adjacent to and on the upstream side of the railroad bridge in Reach 4 is a long strip of vegetation that appears to be regularly mowed. These areas were dominated by ruderal species and occasional emerging riparian shrubs during surveys in 2013/1014.

**Agriculture.** Near the western extent of the Study Area, south of the levee and west of Victoria Avenue, is a small area mapped as agriculture. This area was planted with an unknown row crop during surveys conducted in 2013/1014.

**Maintained Landscape.** Portions of the Study Area occurring within the River Ridge Golf (south of the existing levee structure) and south of Ventura Road along the residential development are covered in ornamental vegetation and turf grass that are regularly maintained. Dominant trees within the cover type include various non-native species such as gum trees (*Eucalyptus* spp.), pines (*Pinus* spp.), and lollypop tree (*Myoporum laetum*). Turf grasses at the golf course dominate this cover type and are composed of non-natives including bermudagrass (*Cynodon dactylon*), tall fescue (*Festuca arundinacea*), and various other species. Areas mapped as this cover type are associated with human development and may also contain paved footpaths and small water conveyance structures.

## 2.3 Climate

The climate in the Santa Clara River Watershed consists of warm, dry summers and mild, wet winters. Seventy-five percent of annual rainfall occurs from December to March. The mean seasonal precipitation varies from about eight inches in the valley floors near the eastern boundary of the basin to over 40 inches in the highest mountains in the basin; seasonal rainfall is approximately 14 inches near the coast at the river outlet into the Pacific Ocean (VCWPD, 2005). The VCWPD monitors daily precipitation at 101 stations throughout the county; many of these 101 stations are located within the Santa Clara River Watershed. Long-term monitoring data from these 101 stations show that the watersheds within the County rarely receive their average annual precipitation, but instead cycle through periods of above average rainfall to periods of drought conditions (CCWMP, 2004).

## 2.4 Hydrology and Geomorphology

The Santa Clara River system originates at Pacifico Mountain of the San Gabriel Mountains, and flows westward for approximately 84 miles to the Pacific Ocean. It drains a total area of about 1634 square miles. Ninety percent of the watershed consists of rugged mountains up to 8800 feet elevation; the remainder consists of valley floor and coastal plain (VCWPD and LACDPW, 1996). Principal tributaries of the Santa Clara River are Castaic Creek in Los Angeles County, and Piru, Sespe and Santa Paula Creeks in

Ventura County, with drainage areas of 197, 441, 269 and 42 square miles, respectively. Four major reservoirs, Lake Piru and Pyramid Lake on Piru Creek, Castaic Lake on Castaic Creek, and the Bouquet Reservoir on Bouquet Creek control about 37 percent of the watershed (VCWPD and LACDPW, 1996). [SCRPSC, 1996]

Stream flows in some portions of the river and its tributaries are seasonal and can be of high intensity during and following rainfall events. The other portions of the river have surface flows year-round. Controlled water conservation releases, wastewater effluent discharges, agricultural runoff, “rising” groundwater and other flows contribute to the year-round flow. For instance, in the Piru subbasin, under low-flow conditions, all of the streamflow of the Santa Clara River from above the confluence with Piru Creek infiltrates into the Piru basin so that there is no continuity of river flow. Flows below the confluence of the Santa Clara River and Piru Creek are partially controlled by water conservation releases of captured winter floodwaters at Lake Piru (UWCD and CLWA, 1996). The Freeman Diversion near Saticoy diverts natural runoff of the lower Santa Clara River, along with water releases from Lake Piru. [SCRPSC, 1996]

The California Department of Water Resources (DWR) delineates two groundwater basins in the Santa Clara River floodplain: Acton Valley Basin and Santa Clara River Valley Basin. Both valleys are drained by the Santa Clara River toward the Pacific Ocean to the west. The Acton Valley and Santa Clara River Valley groundwater basins are located within the Santa Clara-Calleguas surface hydrologic unit, as designated by the State Water Resources Control Board. The Santa Clara-Calleguas hydrologic unit has a drainage area of 1,760 square miles, and is the largest in the Ventura and Los Angeles counties region (RWQCB, 1994). [SCRPSC, 2005]

The Lower Santa Clara River, in which the Study Area occurs, becomes a typical braided stream, characterized by braided channels, wide floodplain, and coarser size (coarse sand to gravel) alluvial deposits. The river floodplain at the eastern boundary of the Piru groundwater subbasin is about 1,000 feet wide, and varies in width between 2,000 feet and 6,000 feet downstream to the Fillmore Fish Hatchery. The floodplain then narrows to about 1,000 feet wide just east of the City of Santa Paula. The river meanders to the south side of the valley near Peck Road due to natural structural controls (Oak Ridge Fault), and stays about 1,000 feet wide from that point to the western boundary of the Santa Paula subbasin. The floodplain below Santa Paula and across the Oxnard Plain varies in width between 1,000 and 4,000 feet. The Santa Clara River forms a coastal lagoon and an estuary at its mouth at the Pacific Ocean near the Ventura Marina and McGrath State Beach. [SCRPSC, 1996]

## 2.5 Geology

The Santa Clara River watershed is located within a geologically active area, within the San Andreas Fault system, which forms the dynamic boundary between the Pacific and North America tectonic plates. Relative motion of the plates includes strike-slip displacement (along the trend of the fault zone) and convergence (acting perpendicular to the fault zone). Convergence along the boundary has led to rapid uplift in coastal and interior mountain ranges throughout the region (Orme, 1998; Duvall et al., 2004; Blythe et al., 2000). [CSSC, 2014]

Persistent regional geologic instability since about 28 million years ago (Ma) has exposed a wide variety of highly deformed, fractured, and faulted rock types in the Santa Clara River watershed (Yeats and Rockwell, 1991; Rockwell et al., 1984; Rockwell, 1988). Igneous and metamorphic rocks, including gneiss, schist, and granite, dominate in the upper watershed to the east, while younger sedimentary and volcanic rocks are more prevalent in the lower watershed, west of the San Gabriel Fault. Fractures, deformation, and faulting contribute to high bedrock erodibility throughout the watershed. For example, the sedimentary bedrock along the mainstem valley flanks is often poorly consolidated, intensely folded, and

has steeply tilted beds, making it susceptible to landsliding (e.g., Harp and Jibson, 1996) and erosion by dry raveling (Scott and Williams 1978). Even areas underlain by granite, gneiss, and schist (which are normally thought to be relatively resistant to erosion) have been described as being highly erodible (e.g., Scott and Williams 1978; Wells et al. 1987), due to extensive deformation and fracturing. The position of unchanneled valleys, creeks, and the Santa Clara River itself are strongly influenced by geologic structure and the location of active faults. Below its confluence with Sespe Creek, the river roughly follows the axis of a west-trending synclinal valley, which is bounded by active strands of the San Cayetano Fault (Rockwell, 1988) to the north and the Oak Ridge Fault (Azor et al., 2002) to the south. [CSCC, 2014]

Intense seismic activity in the region is reflected in frequent ruptures along faults. Seven of the roughly 30 high-magnitude (MW [moment magnitude]  $\geq 6$ ) earthquakes that have shaken southern California over the past 80 years have occurred in the Transverse Ranges (numbers updated from Rockwell, 1988). Seismic shaking during the magnitude 6.7 Northridge event in 1994 triggered nearly 7,400 landslides in the watershed (Harp and Jibson, 1996), highlighting the importance of geologic factors in the production of sediment, which ultimately affects geomorphic processes in the lower river corridor. [CSCC, 2014]

## 2.6 Soils

Soils in the Study Area were dominated by a fine sandy and/or silty substrate resulting from consecutive years of heavy flooding and sediment deposition. Therefore, historic soil data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types, including where hydric soils have historically occurred, in the Study Area (2014a). Figure 3 (Attachment 1) provides a graphical depiction of the location of historic soil types identified in the Study Area.

**Table 2-1 Soil Units Occurring in the Study Area**

Map Unit Symbol	Map Unit Name	Description	Acres	% Total
CoC	Corralitos loamy sand, 0 – 2 percent slopes	An excessively drained soil that typically occurs along alluvial fans from 30 – 1,000 feet; parent material consists of stratified alluvium derived from sedimentary rock; depth to water table > 80"; not prone to flooding; loamy sand (0-18"), stratified sand to loamy sand (16-57").	14.6	7.4
MeA	Metz loamy sand, 0 – 2 percent slopes	A somewhat excessively drained soil that typically occurs along alluvial fans from 30 – 2,500 feet in elevation; parent material consists of stratified alluvium derived from sedimentary rock, depth to water table > 80"; not prone to flooding; loamy sand (0 – 7"), stratified sand to sandy loam (7 – 60").	12.3	6.2
MeC	Metz loamy sand, 2 – 9 percent slopes.	A somewhat excessively drained soil that occurs on alluvial fans at elevations between 30 – 2,500 feet; parent material consists of stratified alluvium derived from sedimentary rock; depth to water table > 80"; not prone to flooding; loamy sand (0-7"), stratified sand to sandy loam (7-60")	4.4	2.3
PxG	Pits and dumps	A well-drained soil; extremely gravelly coarse sand (0-6"), extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand (6-60")	23.0	11.6
Rw	Riverwash	A somewhat poorly drained soil that occurs in drainages; no elevation limits; parent material consists of alluvium; depth to water table approximately 0 – 60 inches; frequently flooded; sand (0-6"), stratified coarse sand to sandy loam (6-60")	80.3	40.5
Sd	Sandy alluvial land	A somewhat excessively drained soil that occurs from 30 – 1,200 feet; parent material consists of alluvium; prone to occasional flooding; loamy sand (0-12"), stratified sand to loamy sand (12-38"), stratified sand to silt loam (35-60")	63.5	32.0
<b>Total</b>			198.2	

### **3.0 Regulatory Background**

Jurisdictional waters, wetlands, and riparian habitat are regulated by the USACE, LARWQCB, and CDFW. The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA); the CDFW regulates activities under California Fish and Game Code Sections 1600-1607; and the LARWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Refer to Attachment 6 for additional details on regulatory authorities and background.

### **4.0 Waters/Wetlands Delineation**

#### **4.1 Delineation Methodology**

This section describes the methods employed by Aspen during surveys conducted in February/March 2014 to determine the extent of potentially jurisdictional wetlands and/or waters that occur in the Study Area. Prior to conducting the field assessment Aspen reviewed current and historic aerial photographs; detailed topographic maps (1-foot intervals); the Ventura County Soil Survey (NRCS); and the local and state hydric soil list to evaluate the potential active channels and wetland features that occur in the Study Area (NRCS 2014a, 2014b). During the field assessment, vegetation, hydrology, and locations of soil pits were mapped using a Trimble Juno 3B GPS unit and identified on aerial photographs (Figure 4 Attachment 1). Field maps were digitized using Global Information Technology (GIS) and total jurisdictional area for each jurisdiction was calculated. Transect locations were determined prior to conducting fieldwork, based on methods in the USACE Wetland Delineation Manual (1987), and numbered 1 – 10 starting from the downstream end of the Study Area. Transect 9 was unable to be surveyed due to impenetrable stands of giant reed and a prevalence of poison oak; attempts were made in the field to relocate this transect but were not successful due to the impenetrable vegetation.

#### ***Federal Wetlands/Waters***

Jurisdictional non-wetland “waters of the U.S.” were delineated based on the limits of the ordinary high water mark (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. Jurisdictional wetlands were delineated using a routine determination according to the methods outlined in the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) based on three wetland parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. See Tables 1 – 2 in Attachment 5 (Potential Geomorphic and Vegetative Indicators of Ordinary High Water Marks for the Arid West) for a list of key physical features for determining the OHWM identified by the arid west manual.

Pursuant to the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (USACE, 2008), the stream reach in the Study Area could be considered a problem area, due to the deposition of a large amount of sediment from annual flooding. The large amount of sediment deposition resulted in limited or no access to hydric/native soils during the delineation throughout the majority of the Study Area. Although these conditions could complicate the delineation, the 2008 Arid West Supplement provides guidance for atypical and problematic conditions. Aspen also reviewed the Ventura County Soil Survey (NRCS, 2014a) to identify historic soil types for the Study Area. Data on vegetation, hydrology, and soils were collected using the methods described in Sections 4.1.1 through 4.1.3 and recorded on Wetland Determination Data Forms (Attachment 4).

### **CDFW Jurisdictional Waters**

CDFW jurisdiction was delineated to the top of the banks of the channel and/or to the edge of the riparian canopy/riparian habitat. For portions of the Study Area, the CDFW jurisdictional boundary mirrors the OHWM. In some areas, the riparian canopy/riparian habitat extends beyond the OHWM. Therefore the total acreage of CDFW jurisdictional waters is greater than the combined acreage of federal jurisdictional waters/wetlands.

#### **4.1.1 Wetland Vegetation**

Percent cover of vegetation was visually estimated. Plant species in each stratum (tree, sapling/shrub, herb, and woody vine) were ranked according to their canopy dominance (USACE 2008). Species that contributed to a cumulative coverage total of at least 50 percent and any species that comprised at least 20 percent of the total coverage for each stratum were recorded on the Field Data Sheets (50/20 Rule). Wetland indicator status was assigned to each dominant species using the Region 0 List of Plant Species that Occur in Wetlands (Reed 1988), the California subregion of the National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary (USFWS, 1997), Wetland Plants of Specialized Habitats in the Arid West (USACE, 2007), and the Arid West Region of The National Wetland Plant List (USACE, 2012). If greater than 50 percent of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation was considered to be met (refer to Table 3, Attachment 5).

#### **4.1.2 Wetland Hydrology**

The presence of wetland hydrology was evaluated by recording the extent of observed primary and secondary indicators, as listed in Tables 4 and 5 of Attachment 5 (USACE 2008). Perennial surface water is generally not present in this section of the Santa Clara River; the Study Area occurs downstream of the Freeman Diversion which, during times when flows are present, also regulates/augments flows ultimately reaching the Study Area. Although no surface water was present, areas routinely inundated during high flow events and/or ponded as a result of rainfall that saturated the soil (both Group A [Observation of Surface Water or Saturated Soils] indicators, see Table 5 in Attachment 5) occur in portions of the site. The Arid West Supplement includes two additional indicator groups that can be utilized during dry conditions or in areas where surface water/saturated soils are not present; these are Group B (evidence of recent inundation) and Group C (evidence of recent soil saturation) (USACE, 2008). The indicators are divided into two categories (primary and secondary indicators) and presence of one primary indicator from any of the groups is considered evidence of wetland hydrology. If only secondary indicators are present, two or more must be observed to conclude presence of wetland hydrology. Indicators are intended to be one-time observations of site conditions representing evidence of wetland hydrology when hydrophytic vegetation and hydric soils are present (USACE, 2008).

#### **4.1.3 Wetland Soils**

Soil pits were first dug at a point approximately 400 feet from the top of the existing levee, along the pre-determined transects, drawn perpendicular to the top of the existing levee. Depending on the orientation of the top of the existing levee, transects extended in a relatively north/south direction. Soil pits were numbered with soil pit No. 1 being the furthest pit from the top of the existing levee and the highest number for each transect being the closest to the top of the existing levee. In addition to a number for each soil pit, the direction of the transect from soil pit No. 1 (the 500 foot distance point) to the highest numbered soil pit was noted; this resulted in all transects being walked in a general southerly direction. Therefore, the first soil pit dug on transect 1 would be numbered T1 P1S. Soil pits were also dug within the El Rio Drain and the Riverpark drain located on the upland terrace within the eastern extent of the

Study Area, and downstream of the Victoria Avenue Bridge within the western extent of the Study Area. GPS locations were taken at each soil pit location and are represented on Figure 4.

Soil pits were dug to a depth of 20 inches where possible (USACE, 2008). At each soil pit, the soil texture and color were recorded by comparison with standard plates within a Munsell soil color chart (2000). Any other indicators of hydric soils, such as redoximorphic features, buried organic matter, organic streaking, reduced soil conditions, gleyed or low-chroma soils were also recorded (refer to Tables 6 – 7, Attachment 5). Large areas of the Santa Clara River and its associated flood plain within the Study Area were dominated by fine sandy substrate. Access below this soil horizon was not possible with hand tools therefore; historic soil data from the NRCS was used to determine if and where hydric soils could occur in some locations (2014a).

## 4.2 Results

Three types of jurisdictional features were documented within the Study Area: USACE non-wetland waters, USACE jurisdictional wetlands, and CDFW State Waters (refer to Figure 5, Attachment 1). Table 4-1 and Figure 5 (Attachment 1) show locations and acreages of jurisdictional features in the Study Area. Attachment 4 contains the Wetland Determination Data Forms completed during the assessment. According to the NRCS Hydric Soils List (NRCS 2014a and 2014b), there are no mapped hydric soils in the Study Area.

**Table 4-1 – Acreage of Jurisdictional Waters, Wetlands, and CDFW Jurisdictional Habitat within the Study Area**

	USACE/LARWQCB Waters and Wetlands (Acres)		CDFW Jurisdictional Waters (Acres)
	Non-wetland Waters of U.S.	Wetlands	
<b>Total Acreage</b>	18.8	66.4	134.2

- (a) Non-wetland Waters of the United States and Non-wetland Waters of the State overlap; as such, jurisdictional acreages are not additive.
- (b) Wetlands fall under the jurisdiction of the USACE, LARWQCB, and CDFW, each with separate extents that overlap; as such, wetland acreages are not additive.

### **Federal Wetlands**

Based on Aspen’s professional opinion following an assessment of hydrology, vegetation, and soils, approximately 66.4 acres of the Study Area satisfy the criteria to be considered wetlands (USACE, 1987 and USACE, 2008). See Figure 5 (Attachment 1) for a graphical representation of this area.

The majority of the vegetation observed within the established plots at each soil pit included species that were OBL, FACW, or FAC. A complete list of species observed within the Study Area and established plots is presented below in Table 4-2. Due to the large amount of sediment present on the wetland transects, native soils (except for areas adjacent to recently active flows or ponded water) were generally not visible within the accessible soil horizon(s). The 2008 Arid West Supplement provides guidance when soils “lack hydric soil indicators due to seasonal or annual deposition of new soil material” (USACE, 2008).

Portions of the Study Area that typically act as primary low flow channels within the Santa Clara River exhibited signs of seasonal and/or annual sediment deposition as described above. These areas however do not have a dominance of hydrophytic vegetation and therefore do not meet the federal wetland criteria. Some of the secondary and tertiary channels in the Study Area, exhibiting these same signs of

seasonal and/or annual sediment deposition (but on a much smaller scale) did express a dominance of wetland vegetation and therefore met the federal wetland definition as outlined in the Arid West Supplement.

**Table 4-2 – Wetland Indicator Status of Species Observed Within the Study Area**

<i>Latin Name</i>	<i>Common Name</i>	Wetland Indicator Status** Region 0/California Subregion/Arid West
<b>VASCULAR PLANTS</b>		
FILICALES		
FERN FAMILIES (SEVERAL INCLUDED TOGETHER)		
<i>Azolla filiculoides</i>	Pacific mosquito fern	OBL
CUPRESSACEAE		
CYPRESS FAMILY		
∞ <i>Cupressus</i> sp.	Ornamental cypress	--
AIZOACEAE		
ICEPLANT FAMILY		
∞ <i>Carpobrotus edulis</i>	Hottentot fig	--
ANACARDIACEAE		
CASHEW FAMILY		
<i>Malosma laurina</i>	Laurel sumac	--
∞ <i>Schinus molle</i>	Peruvian ("California") pepper	--
∞ <i>Schinus terebinthifolius</i>	Brazilian pepper tree	--
<i>Toxicodendron diversilobum</i>	Poison oak	UPL
APIACEAE		
CELERY FAMILY		
∞ <i>Apium graveolens</i>	Wild celery	FACW*
<i>Berula erecta</i>	Water parsnip	OBL
∞ <i>Conium maculatum</i>	Poison hemlock	FACW
∞ <i>Foeniculum vulgare</i>	Fennel	FACU
APOCYNACEAE		
DOGBANE FAMILY		
∞ <i>Araujia sericifera</i>	Bladderflower	--
∞ <i>Nerium oleander</i>	Ornamental oleander	--
ARALIACEAE		
ARALIA FAMILY		
∞ <i>Hedera helix</i>	English ivy	--
ASTERACEAE		
ASTER FAMILY		
<i>Ambrosia psilostachya</i>	Western ragweed	FACU
<i>Artemisia californica</i>	California sagebrush	UPL
<i>Artemisia douglasiana</i>	Douglas mugwort	FAC
<i>Artemisia tridentata</i>	Big sagebrush	UPL
<i>Baccharis pilularis</i>	Coyote bush	UPL
<i>Baccharis salicifolia</i>	Mulefat	FAC
∞ <i>Carduus pycnocephalus</i>	Italian thistle	--
∞ <i>Centaurea melitensis</i>	Tocalote	UPL
∞ <i>Conyza bonariensis</i>	Flax-leaved horseweed	--
∞ <i>Cotula australis</i>	Australian brass buttons	FAC
∞ <i>Cotula coronopifolia</i>	Brass buttons	OBL
∞ <i>Delairea odorata</i>	Cape ivy	--
<i>(Senecio mikanioides)</i>		--
<i>Euthamia occidentalis</i>	Western goldenrod	FACW
<i>(Solidago occidentalis)</i>		--

<b>Latin Name</b>	<b>Common Name</b>	<b>Wetland Indicator Status** Region 0/California Subregion/Arid West</b>
∞ <i>Gazania linearis</i>	Ornamental gazania	--
∞ <i>Glebionis coronaria</i>	Crown daisy	--
∞ <i>Gnaphalium palustre</i>	Lowland cudweed	FACW
<i>Hazardia squarrosa</i>	Sawtooth goldenbush	--
∞ <i>Helminthotheca echioides</i>	Bristly ox-tongue	FACU
<i>Heterotheca grandiflora</i>	Telegraph weed	UPL
<i>Heterotheca sessiliflora</i>	Golden aster	--
∞ <i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Lepidospartum squamatum</i>	Scalebroom	FACU
<i>Lessingia filaginifolia</i>	Chaparral aster	--
( <i>Corethrogyne filaginifolia</i> )		--
<i>Pseudognaphalium canescens</i>	Perennial cudweed	FACU
<i>Pseudognaphalium ramosissimum</i>	Pink flowered cudweed	--
<i>Pseudognaphalium stramineum</i>	Cottonbatting plant	--
∞ <i>Sonchus asper</i>	Prickly sow thistle	FAC
∞ <i>Sonchus oleraceus</i>	Common sow thistle	UPL
<i>Xanthium strumarium</i>	Cocklebur	FAC
BRASSICACEAE	MUSTARD FAMILY	--
∞ <i>Brassica geniculata</i>	Short-pod mustard	--
( <i>Hirschfeldia incana</i> )		--
∞ <i>Brassica nigra</i>	Black mustard	UPL
∞ <i>Cardamine hirsuta</i> (?)	Hairy bittercress	FACU
<i>Descurainia pinnata</i> ssp. <i>menziesii</i>	Menzies' tansy mustard	UPL
∞ <i>Lepidium didymum</i>	Lesser swine cress	--
∞ <i>Lobularia maritima</i>	Sweet alyssum	--
<i>Nasturtium officinale</i>	Watercress	OBL
∞ <i>Raphanus sativus</i>	Cultivated radish	--
∞ <i>Sisymbrium irio</i>	London rocket	--
CACTACEAE	CACTUS FAMILY	
<i>Opuntia littoralis</i>	Coast prickly pear	UPL
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY	
<i>Sambucus mexicana</i>	Mexican elderberry, blue	FAC
CHENOPODIACEAE	GOOSEFOOT FAMILY	
<i>Atriplex lentiformis</i>	Quailbush	FAC
<i>Atriplex</i> sp.	Unid. saltbush	--
<i>Atriplex</i> sp.	Unid. saltbush	--
∞ <i>Salsola tragus</i>	Russian thistle, tumbleweed	FACU
CONVOLVULACEAE	MORNING GLORY FAMILY	
<i>Calystegia macrostegia</i>	Morning glory	--
∞ <i>Convolvulus arvensis</i>	Common bindweed	--
CUCURBITACEAE	CUCUMBER FAMILY	



<b>Latin Name</b>	<b>Common Name</b>	<b>Wetland Indicator Status** Region 0/California Subregion/Arid West</b>
<i>Marah macrocarpa</i>	Wild cucumber	UPL
EUPHORBIACEAE	SPURGE FAMILY	
<i>Croton californicus</i>	California croton	UPL
∞ <i>Euphorbia peplus</i>	Petty spurge	--
∞ <i>Ricinus communis</i>	Castor bean	FACU
FABACEAE	PEA FAMILY	
∞ <i>Acacia longifolia</i>	Golden wattle	--
<i>Astragalus trichopodus</i> var. <i>phoxus</i>	Santa Barbara milk vetch	--
<i>Acmispon americanus</i>	Spanish lotus	--
( <i>Lotus purshianus</i> )		--
<i>Acmispon glaber</i>	Deerweed	--
( <i>Lotus scoparius</i> )		UPL
∞ <i>Medicago polymorpha</i>	Bur-clover	FACU
∞ <i>Melilotus albus</i>	White sweet-clover	FACU
∞ <i>Melilotus indicus</i>	Yellow sweet clover	FACU
∞ <i>Senna artemisioides</i>	Silver senna	--
GERANIACEAE	GERANIUM FAMILY	
∞ <i>Erodium cicutarium</i>	Red-stemmed filaree	UPL
GROSSULARIACEAE	CURRENT FAMILY	
<i>Ribes malvaceum</i>	Chaparral currant	--
HYDROPHYLLACEAE	WATERLEAF FAMILY	
<i>Eriodictyon crassifolium</i>	Thick-leaf yerba santa	UPL
var. <i>nigrescens</i>		--
<i>Phacelia distans</i>	Common phacelia	OBL
<i>Phacelia ramosissima</i>	Branching phacelia	FACU
JUGLANDACEAE	WALNUT FAMILY	
‡ <i>Juglans californica</i>	Southern black walnut	FAC
LAMIACEAE	MINT FAMILY	
∞ <i>Marrubium vulgare</i>	Horehound	FACU
<i>Salvia leucophylla</i>	Coastal purple sage	--
<i>Salvia mellifera</i>	Black sage	UPL
LAURACEAE	LAUREL FAMILY	
<i>Umbellularia californica</i>	California bay	FAC
MALVACEAE	MALLOW FAMILY	
∞ <i>Lavatera cretica</i>	Cornish mallow	--
∞ <i>Malva parviflora</i>	Cheeseweed	--
MYRTACEAE	EUCALYPTUS FAMILY	
∞ <i>Eucalyptus camaldulensis</i>	Red gum	FAC
∞ <i>Eucalyptus globulus</i>	Blue gum	UPL
∞ <i>Eucalyptus nicholii</i> (?)	Narrow-Leaved Black Peppermint	--
ONAGRACEAE	EVENING PRIMROSE FAMILY	
<i>Epilobium ciliatum</i>	Willow-herb	FACW
<i>Ludwegia peploides</i> ssp. <i>peploides</i>	Yellow waterweed	

<b>Latin Name</b>	<b>Common Name</b>	<b>Wetland Indicator Status** Region 0/California Subregion/Arid West</b>
<i>Oenothera elata ssp. hirsutissima</i>	Marsh evening primrose	FACW
OXALIDACEAE	OXALIS FAMILY	
∞ <i>Oxalis pes-caprae</i>	Bermuda buttercup	--
PLANTAGINACEAE	PLANTAIN FAMILY	
∞ <i>Plantago lanceolata</i>	Rib-grass	FAC
PLATANACEAE	SYCAMORE FAMILY	
<i>Platanus racemosa</i>	California sycamore	FAC
PLUMBAGINACEAE	PLUMBAGO FAMILY	
∞ <i>Limonium perezii</i>	Perez's sealavender	--
∞ <i>Limonium sinuatum</i>	Wavy sealavender	FACW
POLYGONACEAE	BUCKWHEAT FAMILY	
<i>Eriogonum fasciculatum</i>	California buckwheat	UPL
<i>Persicaria sp.</i>	Unid. smartweed	OBL
<i>Polygonum aviculare</i>	Prostrate knotweed	FACW
∞ <i>Rumex sp.</i>	Unid. dock	FAC/FACW
PRIMULACEAE	PRIMROSE FAMILY	
∞ <i>Anagallis arvensis</i>	Scarlet pimpernel	FAC
RHAMNACEAE	BUCKTHORN FAMILY	
<i>Ceanothus integerrimus</i>	Deer brush	--
ROSACEAE	ROSE FAMILY	
<i>Rubus ursinus</i>	California blackberry	FACU
∞ <i>Rhaphiolepis indica</i>	Indian hawthorn	--
SALICACEAE	WILLOW FAMILY	
<i>Populus fremontii</i>	Fremont cottonwood	FACW
<i>Populus trichocarpa</i>	Black cottonwood	--
<i>Salix exigua</i>	Sandbar willow	FACW
<i>Salix laevigata</i>	Red willow	FACW
<i>Salix lasiandra</i>	Shining willow (Yellow willow)	FACW
<i>Salix lasiolepis</i>	Arroyo willow	FACW
SCROPHULARIACEAE	SNAPDRAGON FAMILY	
<i>Mimulus aurantiacus</i>	Bush monkeyflower	UPL
∞ <i>Myoporum laetum</i>	Lollypop tree	FACU
<i>Scrophularia californica</i>	California figwort	FAC
∞ <i>Veronica anagallis-aquatica</i>	Water speedwell	OBL
∞ <i>Veronica arvensis</i>	Speedwell	FACU
SOLANACEAE	NIGHTSHADE FAMILY	
<i>Datura wrightii (D. meteloides)</i>	Jimsonweed	--
∞ <i>Nicotiana glauca</i>	Tree tobacco	FAC
<i>Solanum americanum</i>	White nightshade	FACU
<i>(Solanum nodiflorum)</i>		--
<i>Solanum douglasii</i>	Nightshade	FAC
TROPAEOLACEAE	NASTURTIUM FAMILY	
∞ <i>Tropaeolum majus</i>	Garden nasturtium	UPL

Latin Name	Common Name	Wetland Indicator Status** Region 0/California Subregion/Arid West
URTICACEAE	NETTLE FAMILY	
<i>Urtica dioica</i> ssp. <i>holosericea</i>	Stinging nettle	FAC
VERBENACEAE	VERVAIN FAMILY	
<i>Verbena lasiostachys</i>	Western verbena	FAC
CYPERACEAE	SEDGE FAMILY	
<i>Cyperus eragrostis</i>	Tall umbrella sedge	FACW
∞ <i>Cyperus involucratus</i>	Umbrella plant	FACW
<i>Eleocharis</i> sp.	Unid. spike-sedge	FACW/OBL?
<i>Scirpus acutus</i> var. <i>occidentalis</i>	Common bulrush	OBL
( <i>Schoenoplectus acutus</i> var. <i>occidentalis</i> )		
<i>Scirpus americanus</i>	Olney's threesquare bulrush	OBL
( <i>Schoenoplectus americanus</i> , <i>Scirpus olneyi</i> )		
JUNCACEAE	RUSH FAMILY	
<i>Juncus torreyi</i>	Torrey's rush	FACW
LEMNACEAE	DUCKWEED FAMILY	
<i>Lemna</i> sp.	Unid. duckweed	OBL
LILIACEAE	LILY FAMILY	
∞ <i>Asparagus asparagoides</i>	African asparagus fern	--
∞ <i>Yucca</i> sp.	Ornamental yucca	--
POACEAE	GRASS FAMILY	
∞ <i>Agrostis viridis</i>	Water bentgrass	--
∞ <i>Arundo donax</i>	Giant reed	FACW
∞ <i>Avena barbata</i>	Wild oat	UPL
∞ <i>Bromus diandrus</i>	Ripgut brome	UPL
∞ <i>Bromus hordeaceus</i>	Soft chess	--
∞ <i>Bromus madritensis</i>	Red brome	--
ssp. <i>rubens</i>		
∞ <i>Hordeum murinum</i>	Hare barley	--
∞ <i>Pennisetum setaceum</i>	African fountain grass	UPL
∞ <i>Pennisetum villosum</i>	Feathertop	--
∞ <i>Poa annua</i>	Annual bluegrass	FACW-
∞ <i>Polypogon monspeliensis</i>	Rabbitfoot grass	FACW
∞ <i>Stipa miliacea</i> var. <i>miliacea</i>	Smilo grass	--
( <i>Piptatherum miliaceum</i> )		
TYPHACEAE	CATTAIL FAMILY	
<i>Typha domingensis</i>	Cattail	OBL
<i>Typha latifolia</i>	Broad-leaved cattail	OBL
∞ = Alien species ‡ = Special-status species † = limited ecological information is available		
* An asterisk following a regional indicator identifies uncertain designations based on limited information from which to determine the indicator status		
** = Wetland Indicator Status (Reed, 1988; USFWS, 1997; USACE, 2007; USACE, 2012)		
-- A wetland indicator status has not been assigned to these species.		
Plant taxonomy and nomenclature generally follow USDA (2012). This list includes only species observed within the plots established as part of the wetlands/waters delineation. Others may have been overlooked or unidentifiable due to season (many plants are identifiable only in spring). Plants were identified using keys, descriptions, and illustrations in Baldwin et al. (2002), and Munz (1974). Taxonomy and nomenclature generally follow Baldwin.		

A review of historic aerial photography (2003 – 2013) was conducted to assist in mapping the maximum extent of inundation across the Study Area. For the purposes of this delineation, inundated areas are defined as those areas experiencing ponded or flowing water of any duration. In some cases, mapping of the maximum extent of inundation resulted in a few of the sample areas, noted as having a primary indicator of hydrology in the field (with the assumption of inundation), not meeting the wetland hydrology requirements. In many cases, it was difficult to identify one or more primary indicators of hydrology along the delineation transects. While conducting the delineation, in areas where secondary indicators of hydrology and hydrophytic vegetation were present, historic aerial photos were consulted to determine the extent of inundation within a specific sampling area; where applicable, aerial evidence of inundation was used as a primary indicator of hydrology. With no wetland hydrology present, according to guidance provided in the 2008 Arid West Supplement, cases in which soils “lack hydric soil indicators due to seasonal or annual deposition of new soil material” was no longer applicable (USACE, 2008). These areas, while not jurisdictional wetlands, do meet the requirements for jurisdictional waters (see below).

Portions of the Study Area, within the main low-flow channel, were found to be dominated by the non-native and invasive white sweetclover; this species has a wetland indicator status of FACU+. The lack of high flow events within the Santa Clara River in 2012 and 2013, providing an absence of scour events, is the primary reason for the persistence of the white sweet clover in these areas. Areas north of the constructed groins and bendway weirs within the upstream portion of the Study Area, but south of the main low-flow channel, were disturbed as part of the groin/bendway weir installation and subsequent restoration activities. These areas are being allowed to revegetate naturally; most of these areas were bare or sparsely vegetated during the surveys. A review of historic aerial photography shows that prior to the groin and bendway weir construction activities, these areas comprised a combination of wetland and non-wetland vegetation.

### ***Federal Non-Wetland Waters***

Approximately 18.8 acres of the Study Area meet the definition of “waters of the United States” as outlined in 33 CFR Part 328 (Figure 5, Attachment 1). This assessment is based on Aspen’s professional opinion following an assessment of hydrology and the limits of the OHWM as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetation and soils characteristics noted during the field surveys, Some of the key hydrology indicators, (See Tables 1 – 2 in Attachment 5 for additional information) that were noted during the delineation included:

- A16 – Desiccation/mud-cracks
- B2 – Active floodplain
- B3 – Benches: low, mid, most prominent
- B11 – Silt deposits
- B13 – Drift (organic debris, larger than twigs)
- D1 – Herbaceous marsh species
- D5 – Perennial herbs, hydromesic clonals
- F15/18 – Upland Species

Due to the broad nature of the flood plain throughout a large portion of the Study Area, the OHWM was determined, in most cases, to occur some distance away from the main low-flow channel (no flow was

present during the survey events). A review of historic aerial photography (2003 – 2013) identified drainage patterns not easily discernible from the ground.

The upstream portion of the Study Area was found to contain no federally jurisdictional wetlands or “waters of the United States” (with the exception of the El Rio and Riverpark drains). The upstream portion of the Study Area remained atop the upland terrace; steep banks, 6 – 8 feet tall, form the outer boundary of the upper terrace outside of the Study Area. Federal non-wetland “waters of the U.S.” were generally limited to the main low flow channels of the Santa Clara River and areas north of the installed groins and hardened ramp. While the areas between and adjacent to the groins were determined to be jurisdictional wetlands (see above), portions along the toe of the levee are kept free of vegetation and don’t meet the hydrophytic vegetation requirement. The area between the last two downstream groins (and the area on the downstream end of the last groin) has been graded in such a manner as to direct flows away from the levee structure. While these areas may experience temporary inundation during extreme events, they will not allow for a long enough period of inundation to form wetland soil characteristics.

### ***CDFW Waters***

Based on Aspen’s professional opinion following an assessment of hydrology, presence of bed and bank, and extent of riparian vegetation, approximately 134.2 acres of the Study Area meet the definition of CDFW jurisdictional waters as outlined in Sections 1600-1616 of the CDFW Code (Figure 5, Attachment 1).

## **5.0 Summary and Conclusions**

The Study Area supports CDFW jurisdictional waters, USACE jurisdictional wetlands, and USACE non-wetland waters. The Santa Clara River was not actively flowing during the delineation; portions of the Study Area supported a dense canopy of riparian vegetation. The remainder of the Study Area was composed of a mixture of partially vegetated sand bars, riparian vegetation, open sandy benches/terraces, upland habitat, and ruderal/disturbed (golf course) areas. Portions of the Study Area that support hydrophytic vegetation, show evidence of wetland hydrology, and contain hydric soils were identified as jurisdictional wetlands (66.4 acres). Areas not meeting the hydrophytic vegetation and/or hydric soils criteria for wetlands but where evidence of hydrology and/or a discernible OHWM was visible were mapped as jurisdictional non-wetland “waters of the United States” (18.8 acres). Using a combination of vegetation mapping and bed/bank delineation and field observations, 134.2 acres of CDFW jurisdictional waters were identified within the Study Area.

The conclusions presented above represent Aspen’s professional opinion based on their knowledge and experience with the USACE and CDFW, including their regulatory guidance documents and manuals. However, the USACE and CDFW have final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries.

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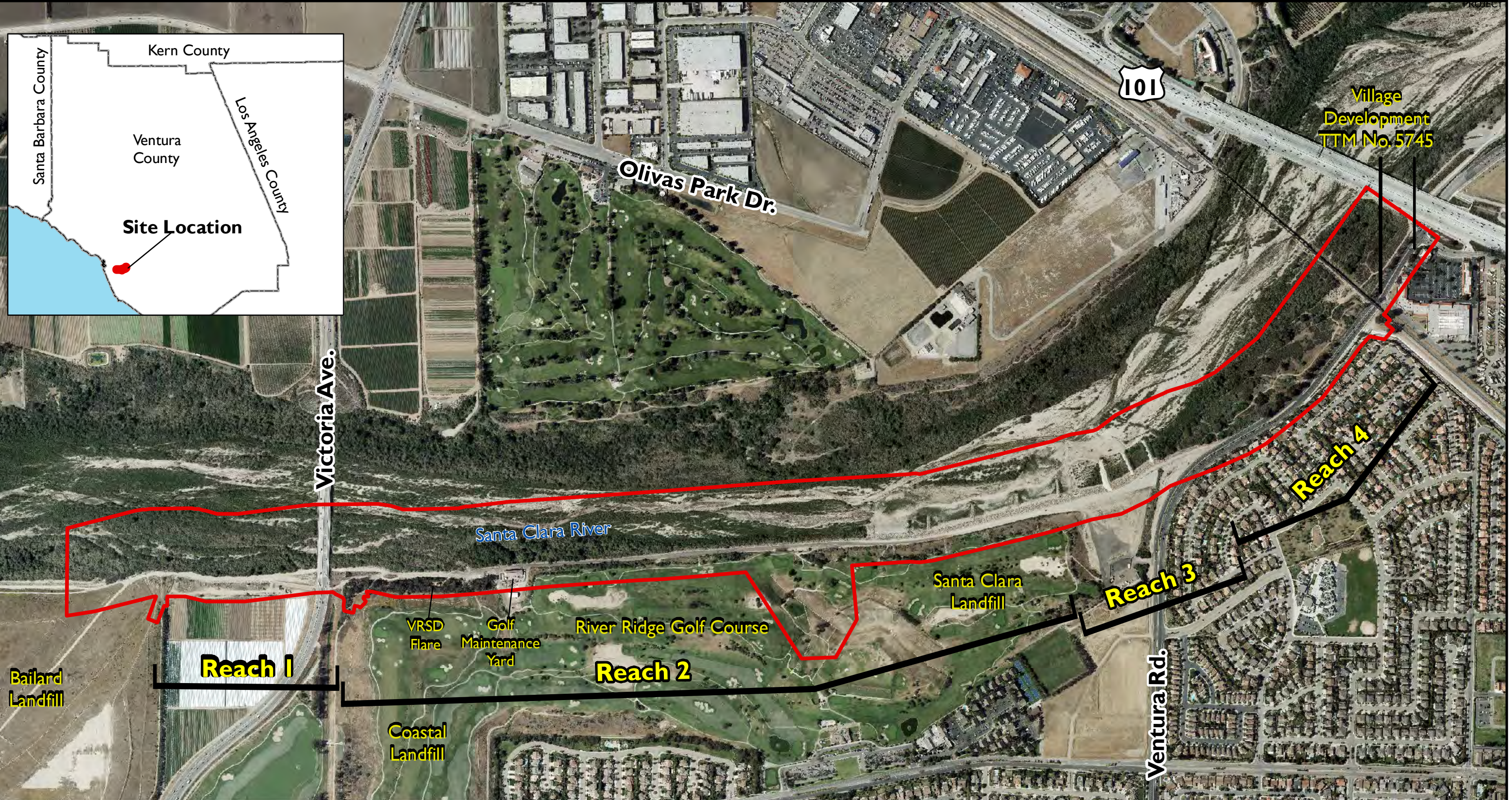
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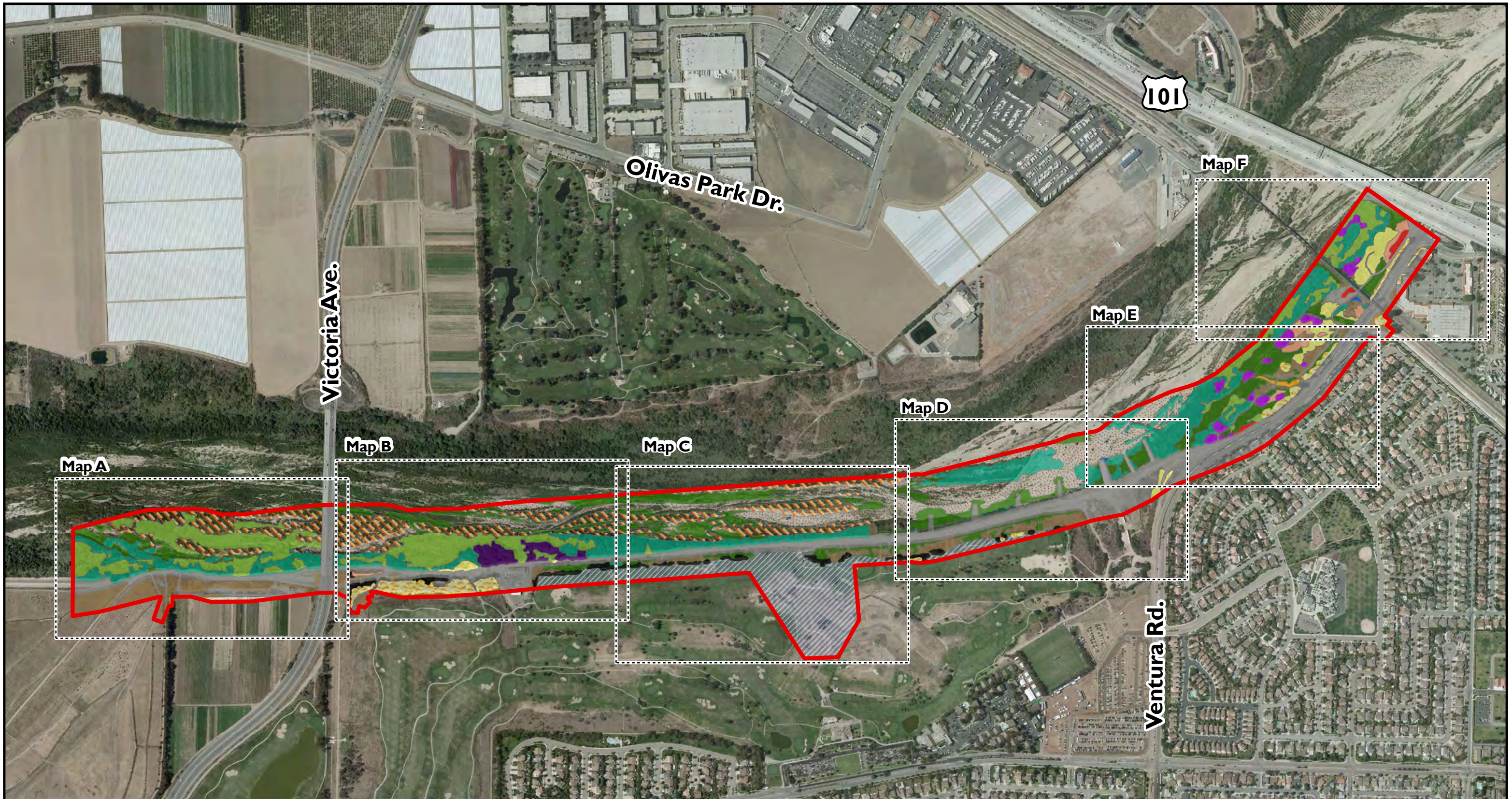
# **Attachment 1 - Figures**




**Figure 1**  
**Study Area**  
**Santa Clara River Levee**

0 750 1,500 Feet

Study Area





0 750 1,500  
Feet

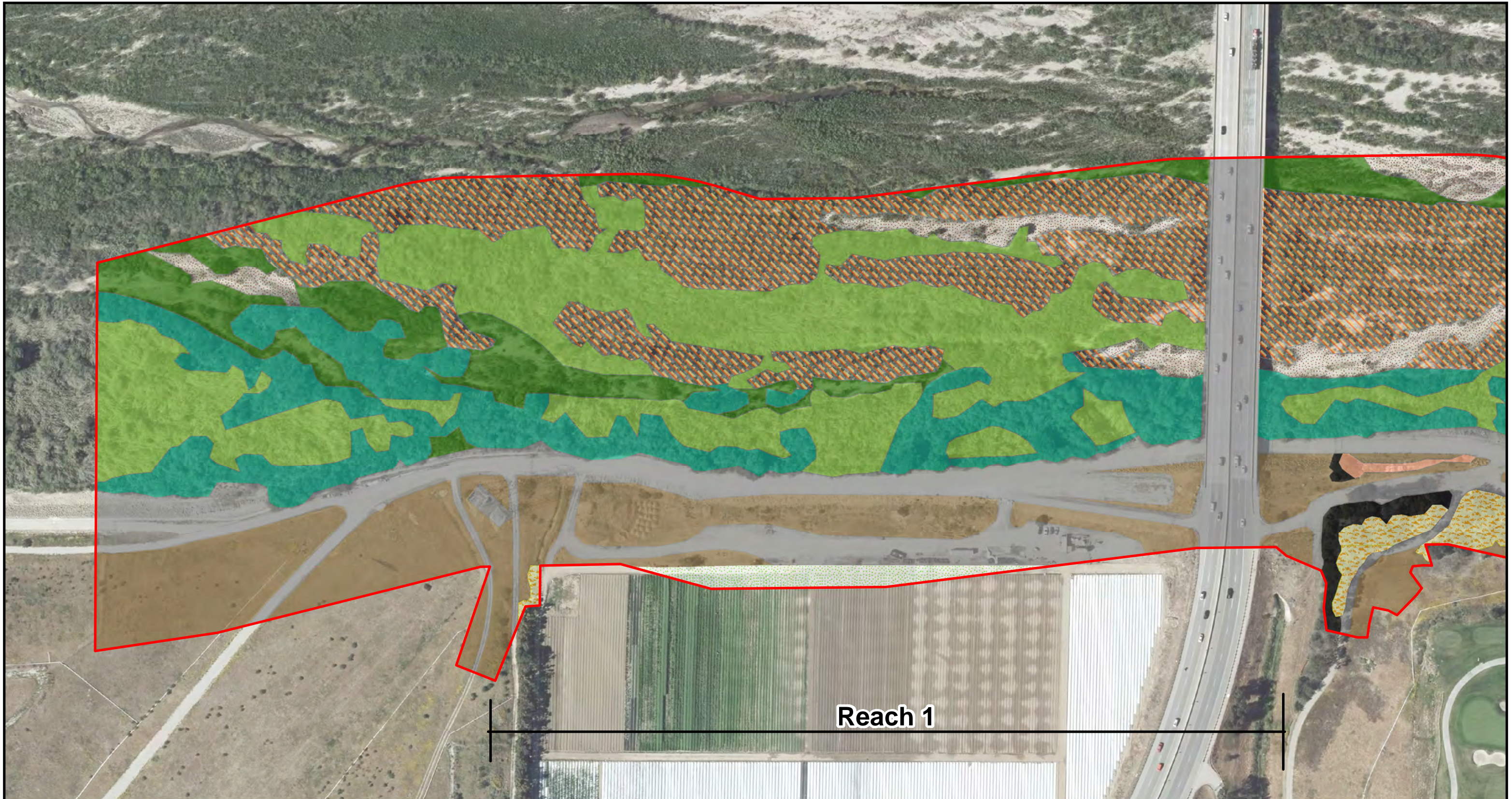
**Study Area**


**Vegetation/Cover Type**

<span style="background-color: #d9ead3; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Agriculture	<span style="background-color: #5bc0de; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Cattail marsh	<span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Giant reed breaks	<span style="background-color: #c6e0b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Ruderal
<span style="background-color: #4db6ac; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Arroyo Willow Thickets	<span style="background-color: #fff176; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Coyotebush scrub	<span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Maintained Landscape	<span style="background-color: #f4cccc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Shining willow thicket
<span style="background-color: #9932cc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Black cottonwood forest	<span style="background-color: #cccccc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Developed	<span style="background-color: #6aa84f; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Mulefat thickets	<span style="background-color: #f4cccc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Sparsely vegetated sandy wash
<span style="background-color: #ffcc99; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> California sagebrush scrub	<span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Eucalyptus grove	<span style="background-color: #333333; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Myoporium stands	<span style="background-color: #ffcc00; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Upland mustards
	<span style="background-color: #cc00ff; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Fremont cottonwood forest	<span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Quailbush scrub	<span style="background-color: #a6c9ec; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Vegetation management zone

**Figure 2**  
**Vegetation and Cover Types**

**Santa Clara River Levee**  
**Overview Map**





0 200 400  
Feet

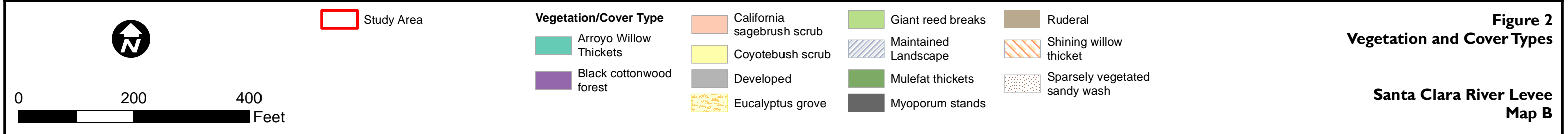
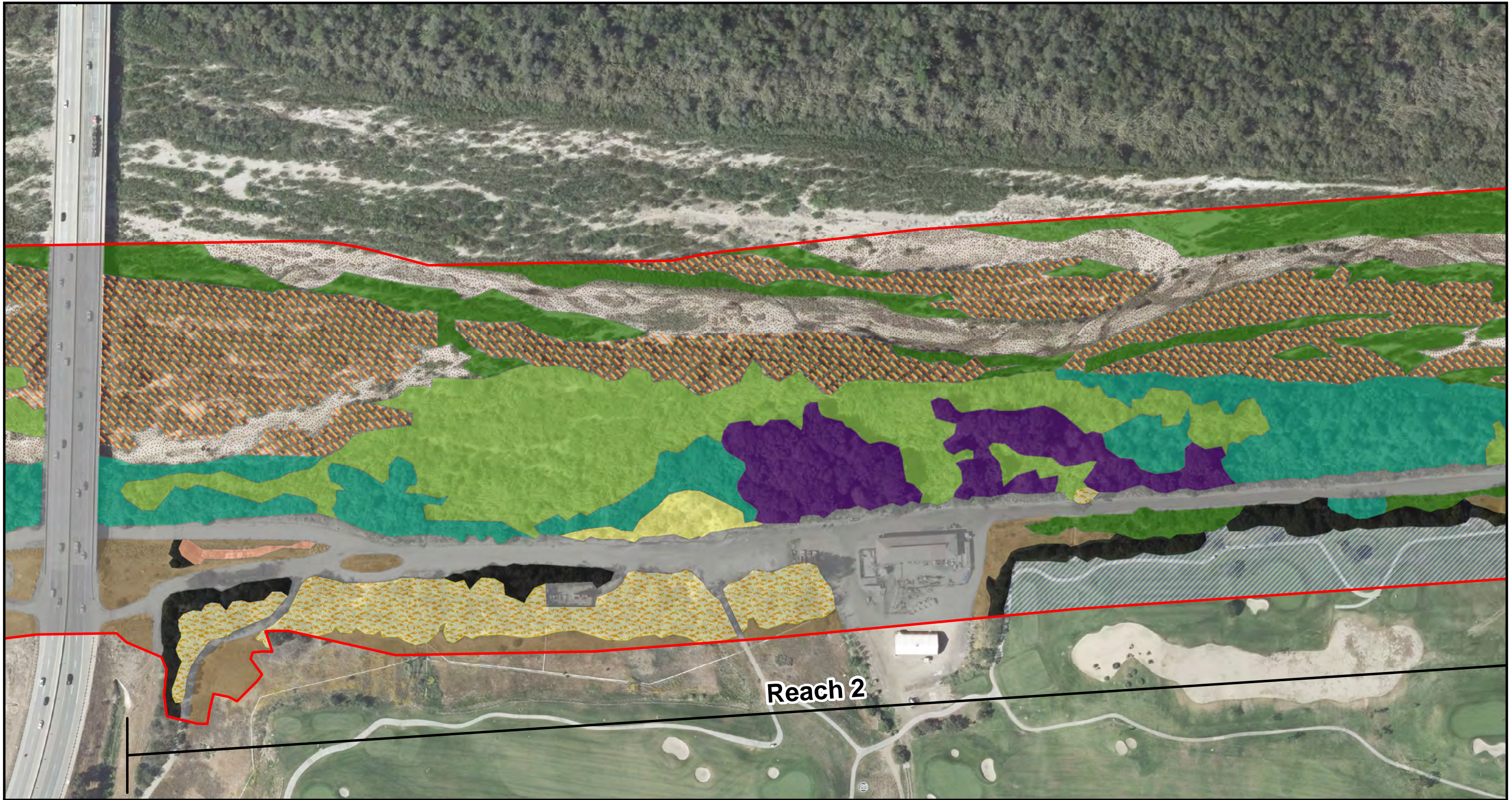
Study Area

**Vegetation/Cover Type**

<span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid black; border-style: dotted;"></span> Agriculture	<span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc;"></span> California sagebrush scrub	<span style="display: inline-block; width: 15px; height: 10px; background-color: #c6e0b4;"></span> Giant reed breaks	<span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #ffcc00 2px, #ffcc00 4px); border: 1px solid black;"></span> Shining willow thicket
<span style="display: inline-block; width: 15px; height: 10px; background-color: #a6c9ec;"></span> Arroyo Willow Thickets	<span style="display: inline-block; width: 15px; height: 10px; background-color: #cccccc;"></span> Developed	<span style="display: inline-block; width: 15px; height: 10px; background-color: #4daf4a;"></span> Mulefat thickets	<span style="display: inline-block; width: 15px; height: 10px; background: radial-gradient(circle, #ccc 1px, transparent 1px); background-size: 4px 4px; border: 1px solid black;"></span> Sparsely vegetated sandy wash
	<span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, #ffcc00 2px, #ffcc00 4px); border: 1px solid black;"></span> Eucalyptus grove	<span style="display: inline-block; width: 15px; height: 10px; background-color: #333333;"></span> Myoporium stands	
	<span style="display: inline-block; width: 15px; height: 10px; background-color: #996633;"></span> Ruderal		

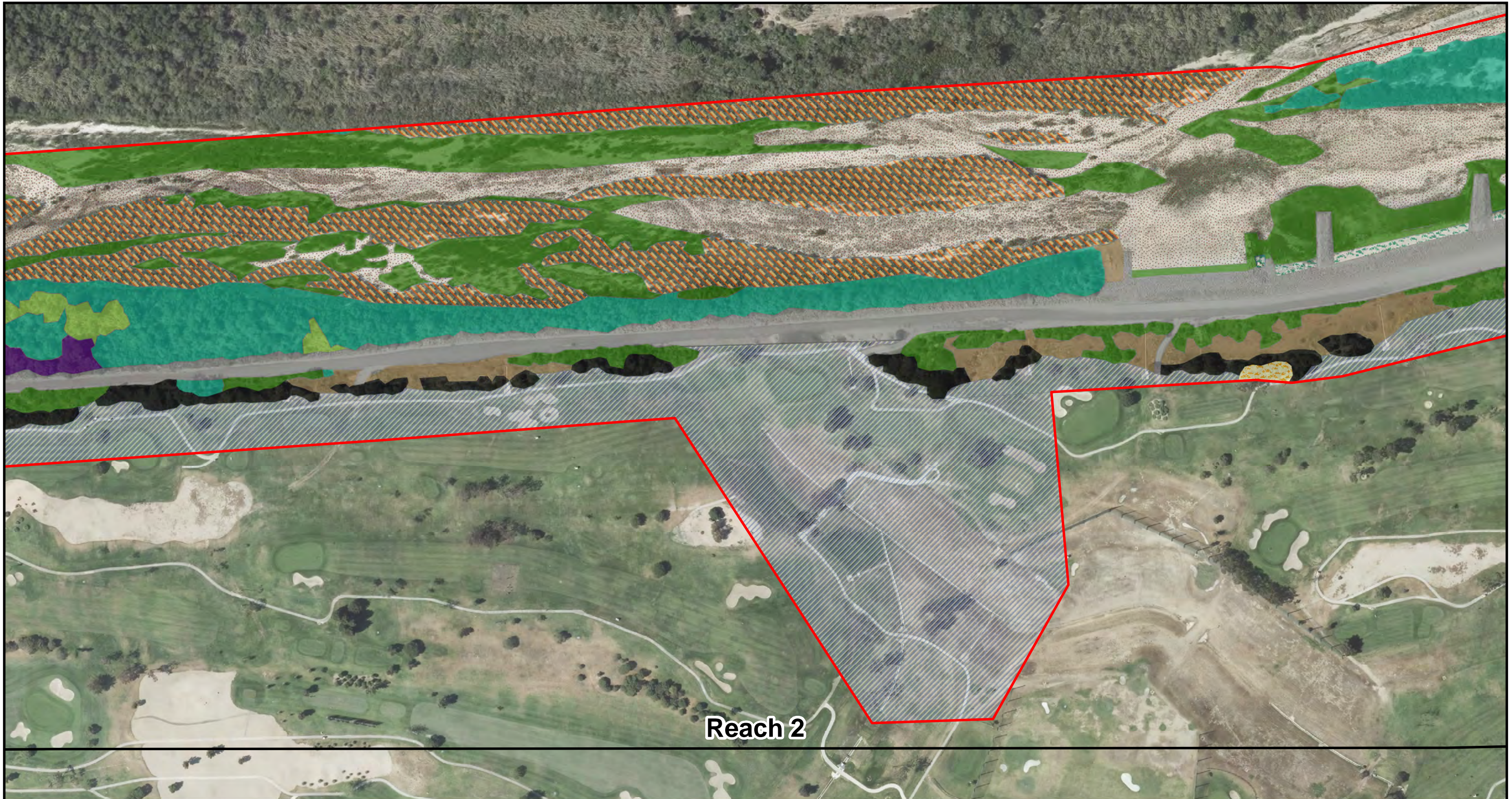
**Figure 2**  
**Vegetation and Cover Types**


**Santa Clara River Levee**  
**Map A**



**Figure 2**  
**Vegetation and Cover Types**

**Santa Clara River Levee**  
**Map B**





0 250 500 Feet


Study Area

**Vegetation/Cover Type**

<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: teal; margin-right: 5px;"></span> Arroyo Willow Thickets</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: purple; margin-right: 5px;"></span> Black cottonwood forest</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; margin-right: 5px;"></span> Mulefat thickets</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: darkgrey; margin-right: 5px;"></span> Myoporum stands</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: brown; margin-right: 5px;"></span> Ruderal</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Shining willow thicket</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: grey; margin-right: 5px;"></span> Developed</li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, yellow 2px, yellow 4px); margin-right: 5px;"></span> Eucalyptus grove</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; margin-right: 5px;"></span> Giant reed breaks</li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); margin-right: 5px;"></span> Maintained Landscape</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background: radial-gradient(circle, black 1px, transparent 1px); background-size: 4px 4px; margin-right: 5px;"></span> Sparsely vegetated sandy wash</li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, blue 2px, blue 4px); margin-right: 5px;"></span> Vegetation management zone</li> </ul>
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**Figure 2**  
**Vegetation and Cover Types**  
 Santa Clara River Levee  
 Map C





0 200 400 Feet

Study Area

**Vegetation/Cover Type**


<span style="display: inline-block; width: 15px; height: 10px; background-color: #4db6ac;"></span> Arroyo Willow Thickets	<span style="display: inline-block; width: 15px; height: 10px; background-color: #e0e0e0;"></span> Developed	<span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #ccc 2px, #ccc 4px);"></span> Maintained Landscape	<span style="display: inline-block; width: 15px; height: 10px; background-color: #ffcc00;"></span> Shining willow thicket
<span style="display: inline-block; width: 15px; height: 10px; background-color: #2196f3;"></span> Cattail marsh	<span style="display: inline-block; width: 15px; height: 10px; background-color: #ffeb3b;"></span> Eucalyptus grove	<span style="display: inline-block; width: 15px; height: 10px; background-color: #4caf50;"></span> Mulefat thickets	<span style="display: inline-block; width: 15px; height: 10px; background-color: #e0e0e0; border: 1px dotted black;"></span> Sparsely vegetated sandy wash
<span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00;"></span> Coyotebush scrub	<span style="display: inline-block; width: 15px; height: 10px; background-color: #9c27b0;"></span> Fremont cottonwood forest	<span style="display: inline-block; width: 15px; height: 10px; background-color: #333333;"></span> Myoporium stands	<span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, #ccc 2px, #ccc 4px);"></span> Vegetation management zone
<span style="display: inline-block; width: 15px; height: 10px; background-color: #8bc34a;"></span> Giant reed breaks	<span style="display: inline-block; width: 15px; height: 10px; background-color: #a1887f;"></span> Ruderal		

**Figure 2**  
**Vegetation and Cover Types**

**Santa Clara River Levee**  
**Map D**







0 200 400 Feet

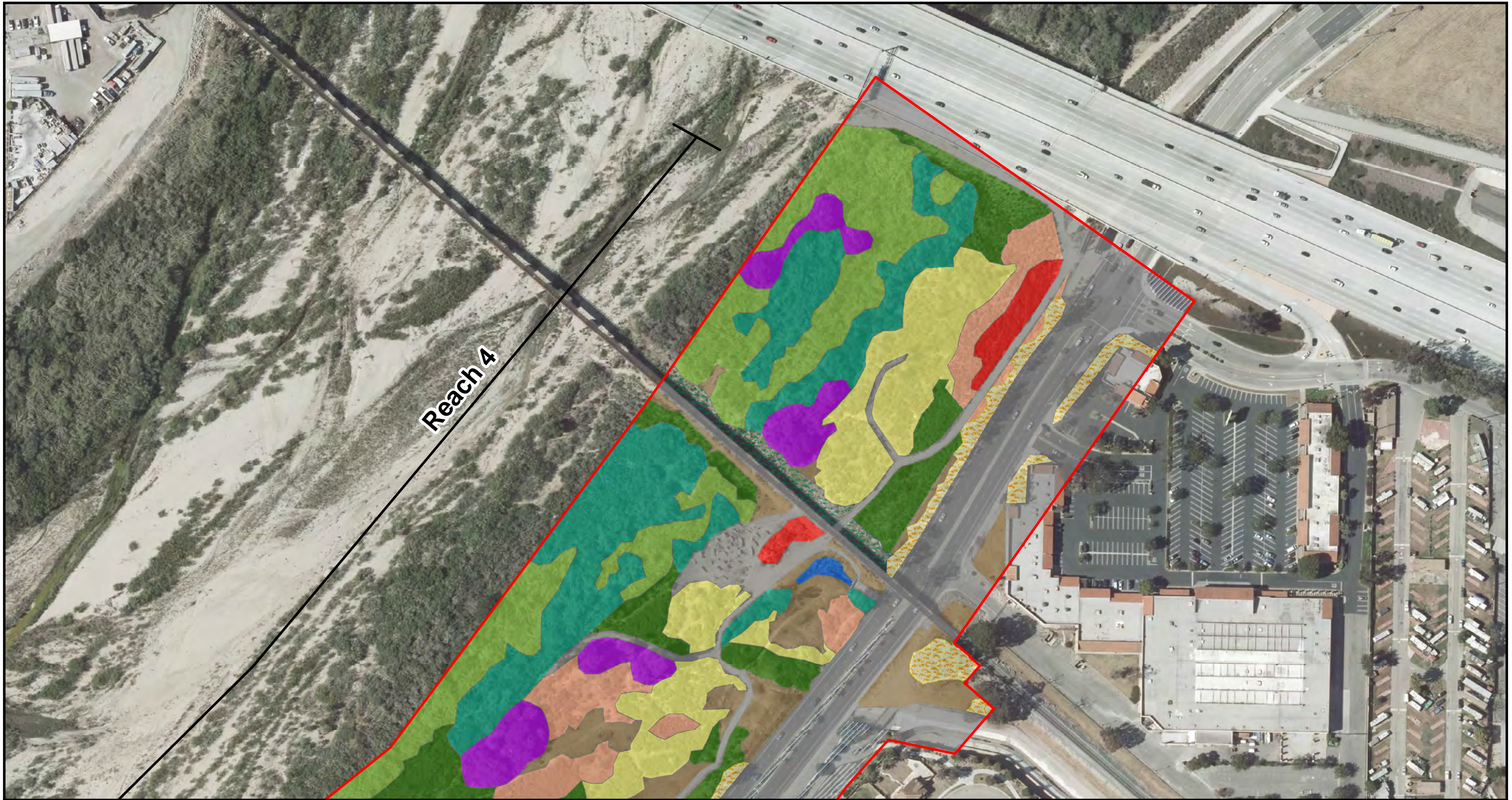
Study Area


**Vegetation/Cover Type**

- Arroyo Willow Thickets
- California sagebrush scrub
- Cattail marsh
- Coyotebush scrub
- Developed
- Eucalyptus grove
- Fremont cottonwood forest
- Giant reed breaks
- Maintained Landscape
- Mulefat thickets
- Quailbush scrub
- Ruderal
- Sparsely vegetated sandy wash
- Upland mustards
- Vegetation management zone

**Figure 2**  
**Vegetation and Cover Types**

**Santa Clara River Levee**  
**Map E**





0 200 400 Feet

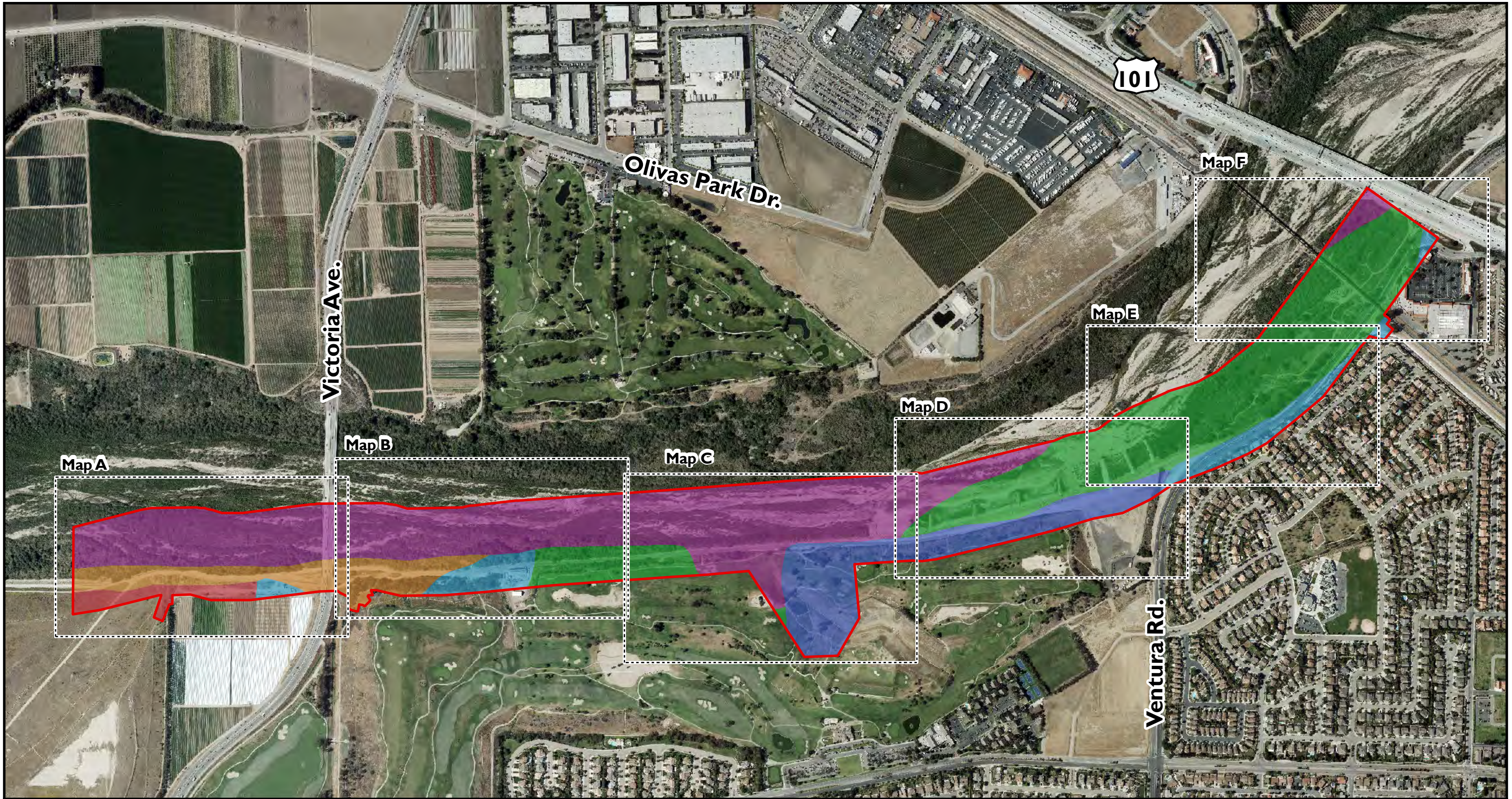
Study Area

**Vegetation/Cover Type**

<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4db6ac; border: 1px solid black; margin-right: 5px;"></span> Arroyo Willow Thickets</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffcc80; border: 1px solid black; margin-right: 5px;"></span> California sagebrush scrub</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #42a5f5; border: 1px solid black; margin-right: 5px;"></span> Cattail marsh</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Coyotebush scrub</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #cccccc; border: 1px solid black; margin-right: 5px;"></span> Developed</li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #ffeb3b 2px, #ffeb3b 4px); border: 1px solid black; margin-right: 5px;"></span> Eucalyptus grove</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e91e63; border: 1px solid black; margin-right: 5px;"></span> Fremont cottonwood forest</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8bc34a; border: 1px solid black; margin-right: 5px;"></span> Giant reed breaks</li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, #bdbdbd 2px, #bdbdbd 4px); border: 1px solid black; margin-right: 5px;"></span> Maintained Landscape</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #4caf50; border: 1px solid black; margin-right: 5px;"></span> Mulefat thickets</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f44336; border: 1px solid black; margin-right: 5px;"></span> Quailbush scrub</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #a1887f; border: 1px solid black; margin-right: 5px;"></span> Ruderal</li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, #4db6ac 2px, #4db6ac 4px); border: 1px solid black; margin-right: 5px;"></span> Vegetation management zone</li> </ul>
--	---	--	---


**Figure 2**  
**Vegetation and Cover Types**

**Santa Clara River Levee**  
**Map F**










0 750 1,500  
Feet

 Study Area

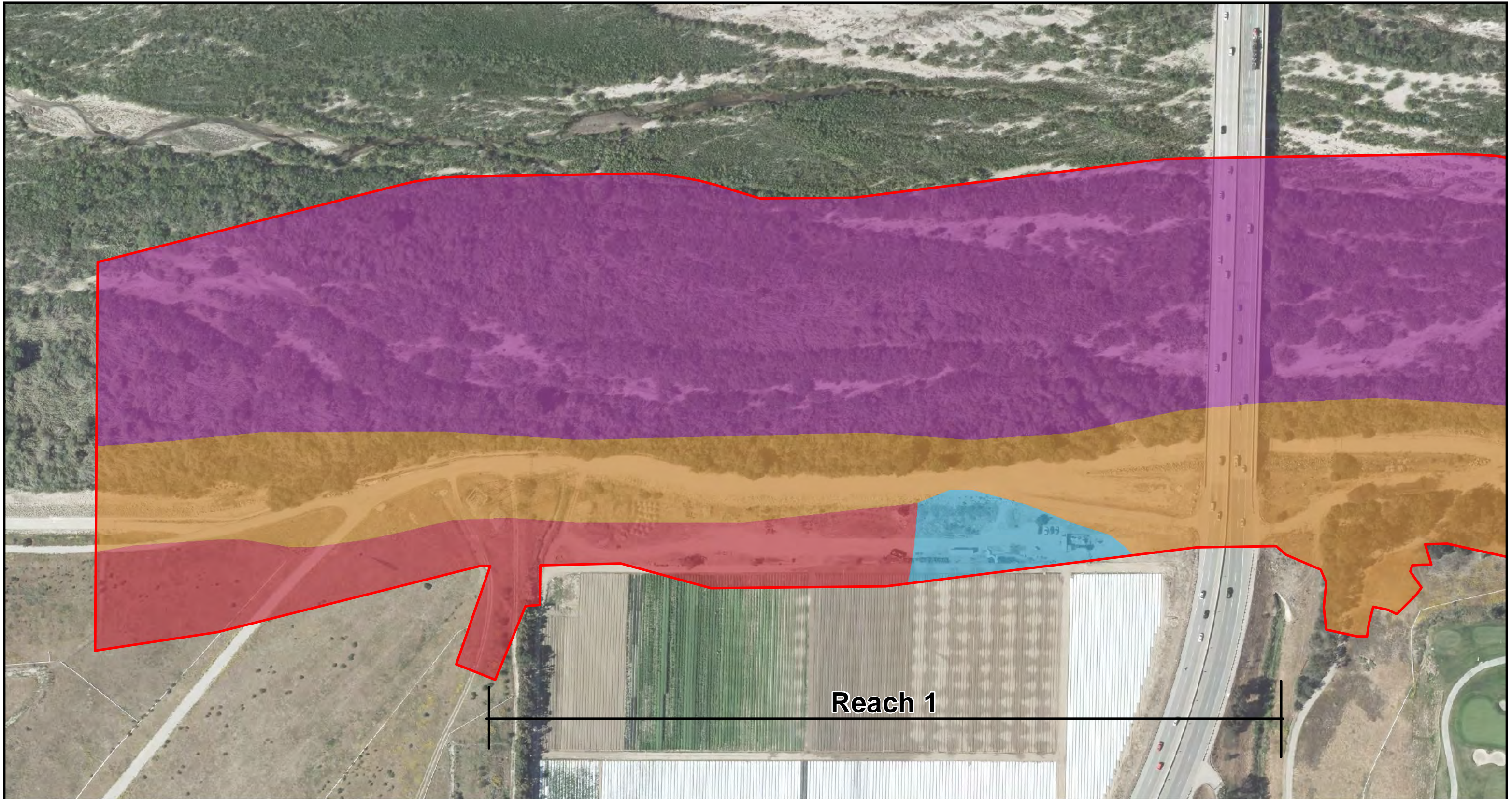
**\* Soil Types**

 CoC	 MeC	 Rw
 MeA	 PxG	 Sd

**Figure 3**  
Soils

**Santa Clara River Levee  
Overview Map**

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report



Reach 1



0 200 400 Feet

Study Area

Soil Type \*  
CoC MeC  
MeA Rw

Figure 3  
Soils

Santa Clara River Levee  
Map A

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report



0 200 400  
Feet

 Study Area

Soil Type \*


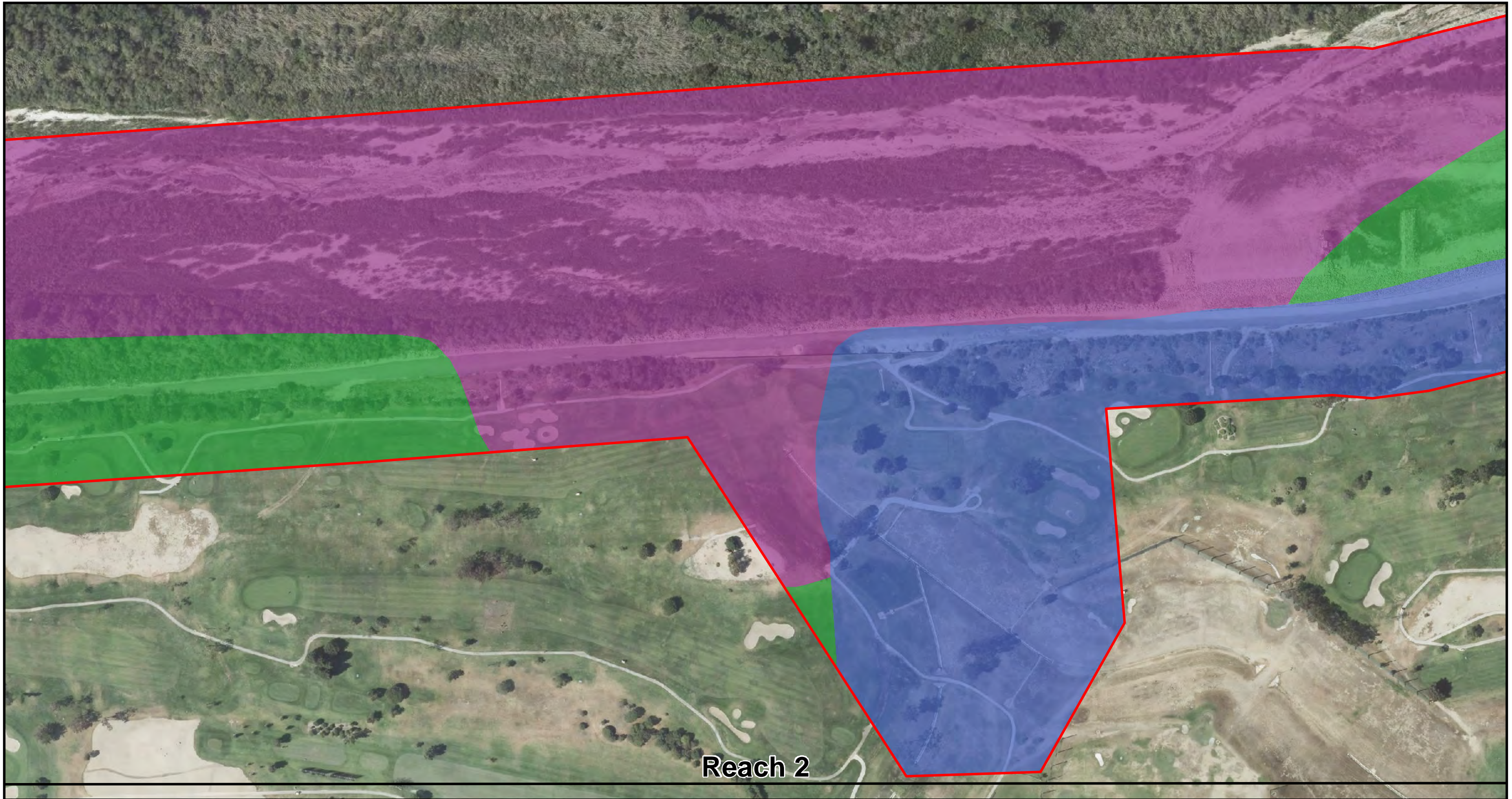
 CoC	 Rw
 MeA	 Sd

Figure 3  
Soils

Santa Clara River Levee  
Map B

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report



Reach 2



0 230 460  
Feet

Study Area

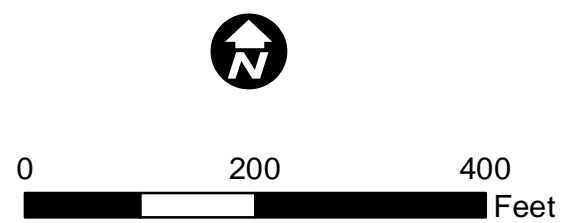
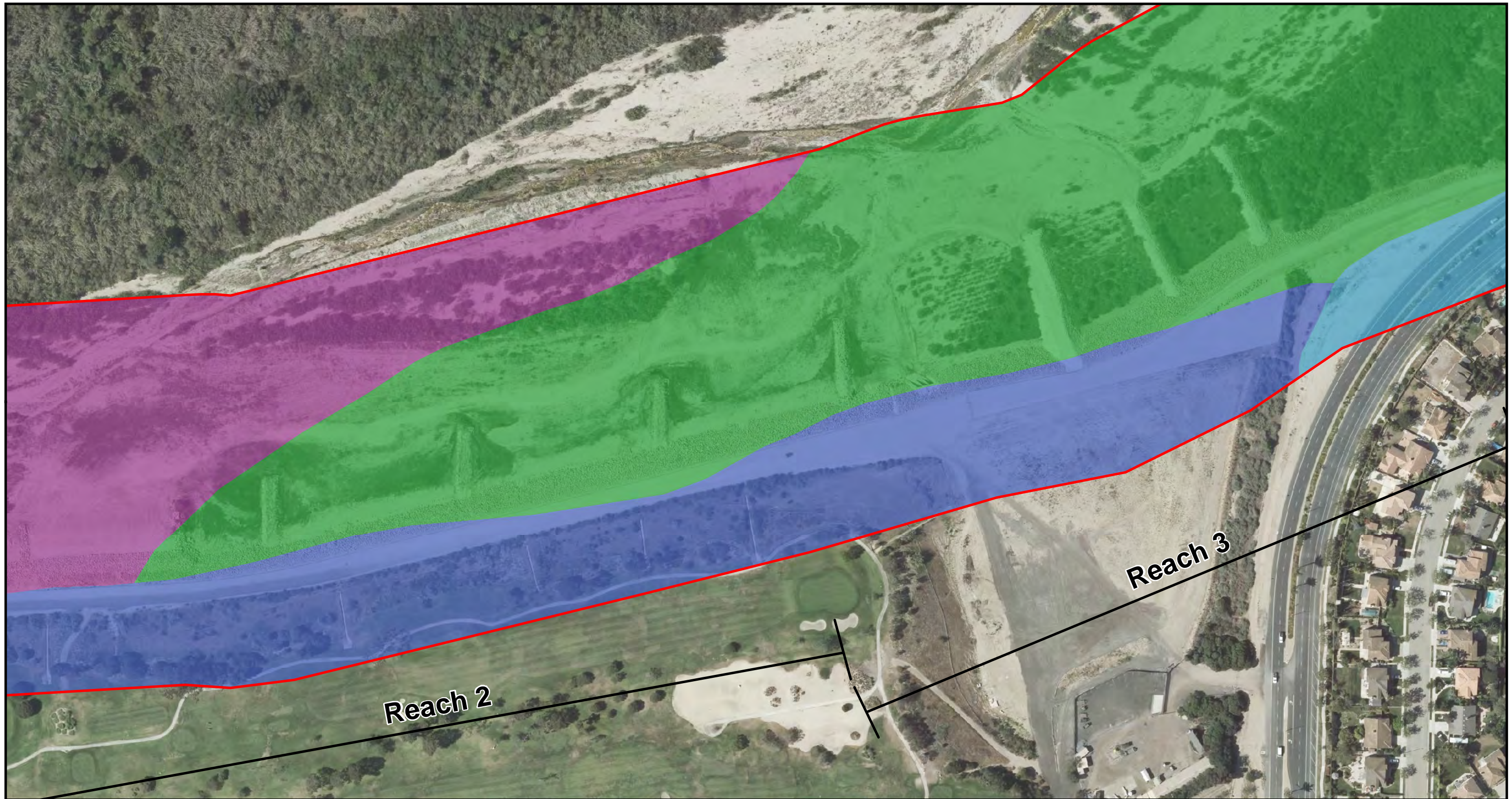
Soil Type \*

PxG Sd  
Rw





Figure 3  
Soils

Santa Clara River Levee  
Map C

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report



 Study Area

**Soil Type \***  
 MeA  Rw  
 PxG  Sd

**Figure 3**  
**Soils**

**Santa Clara River Levee**  
**Map D**

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report



0 200 400  
Feet

Study Area

Soil Type \*

MeA Sd  
PxG

Figure 3  
Soils

Santa Clara River Levee  
Map E

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report





0 200 400  
Feet

Study Area

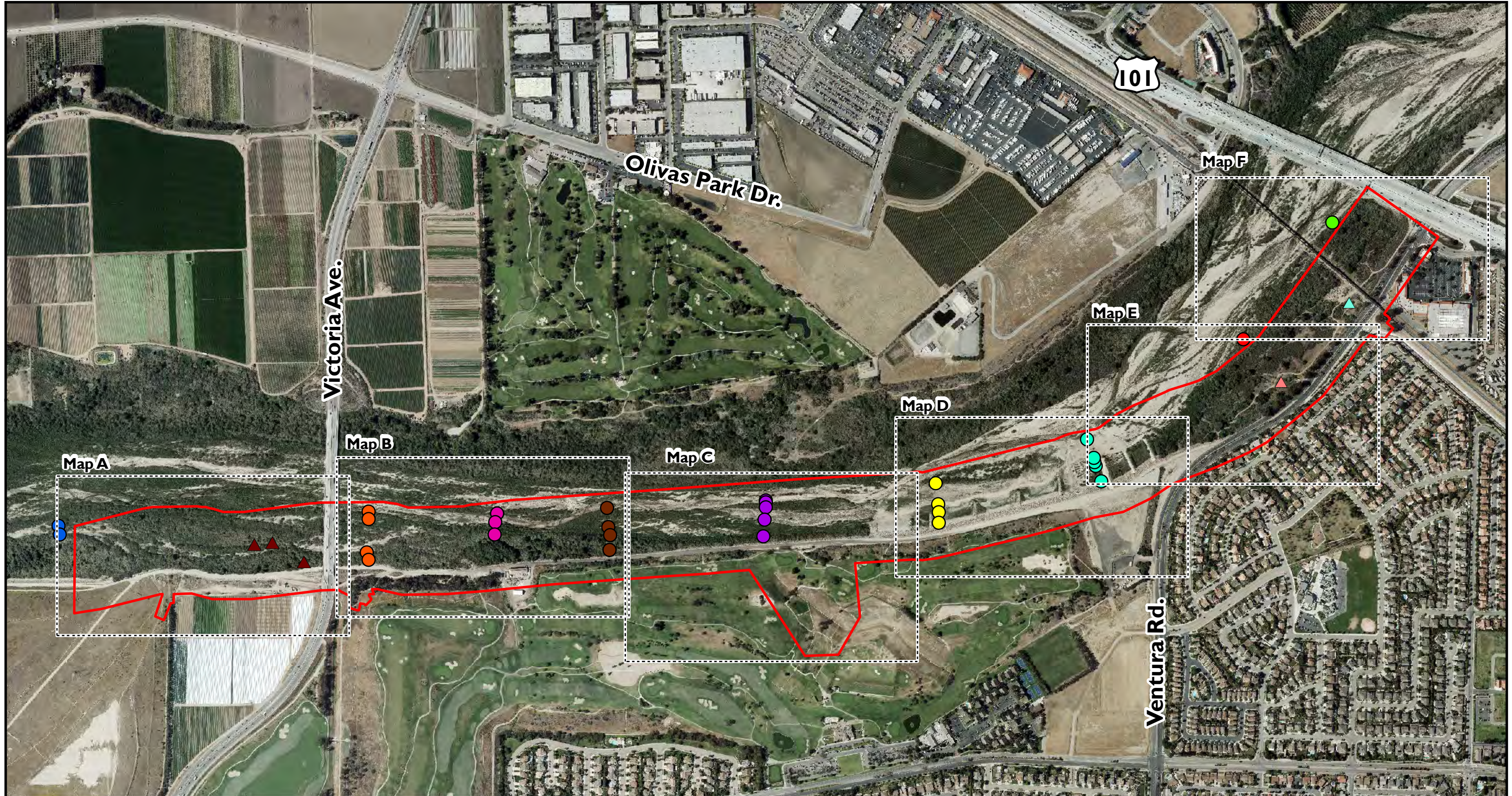
Soil Type \*


MeA Sd  
Rw

Figure 3  
Soils

Santa Clara River Levee  
Map F

\* Detailed soil descriptions are located in Section 2.0 of the Delineation Report





0 750 1,500  
Feet

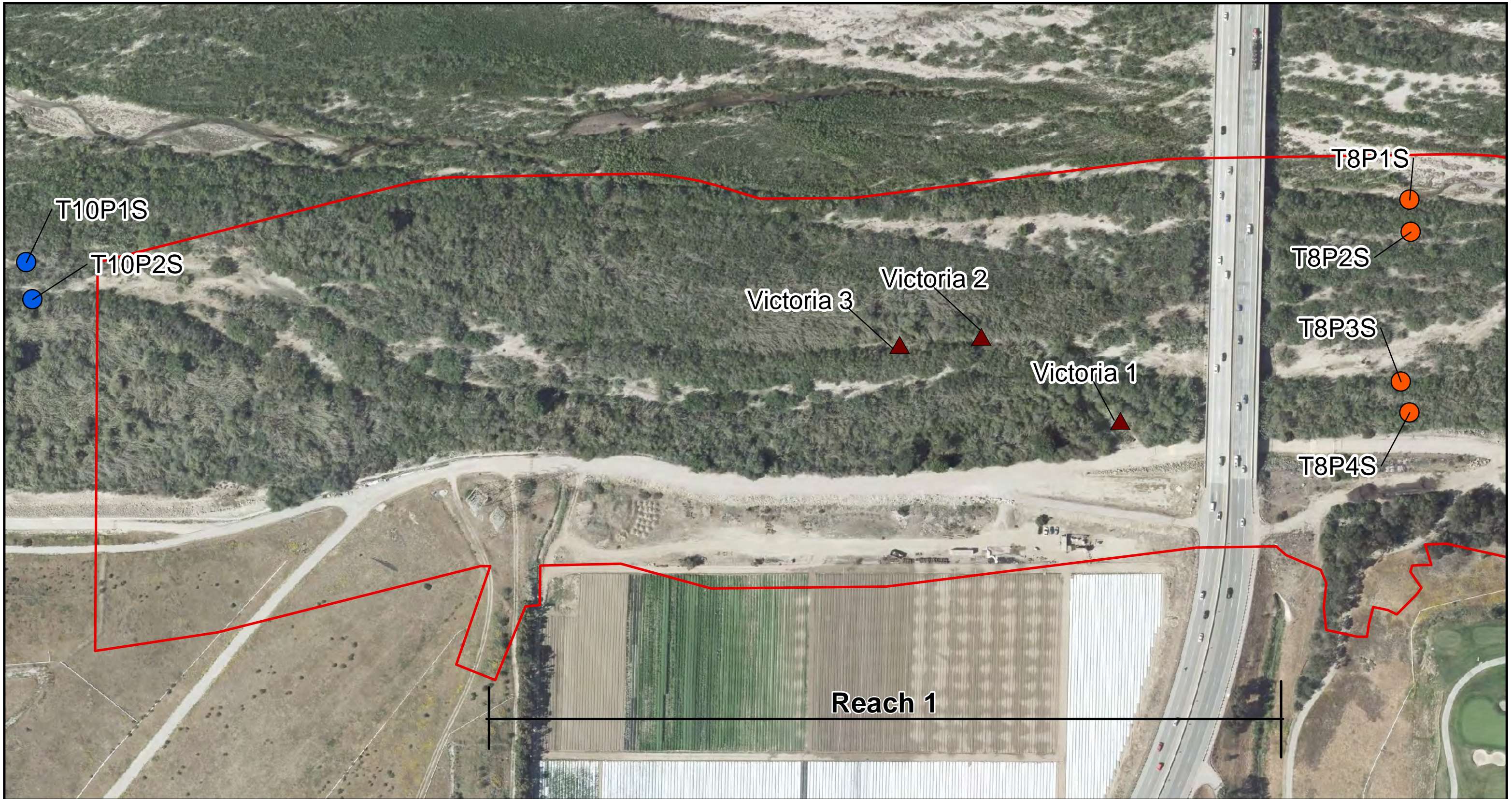
Study Area

**Transect**

● 1	● 4	● 7	▲ El Rio
● 2	● 5	● 8	▲ Riverpark
● 3	● 6	● 10	▲ Victoria

**Figure 4**  
Soil Pits

**Santa Clara River Levee**  
Overview Map




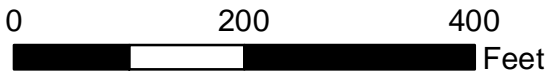













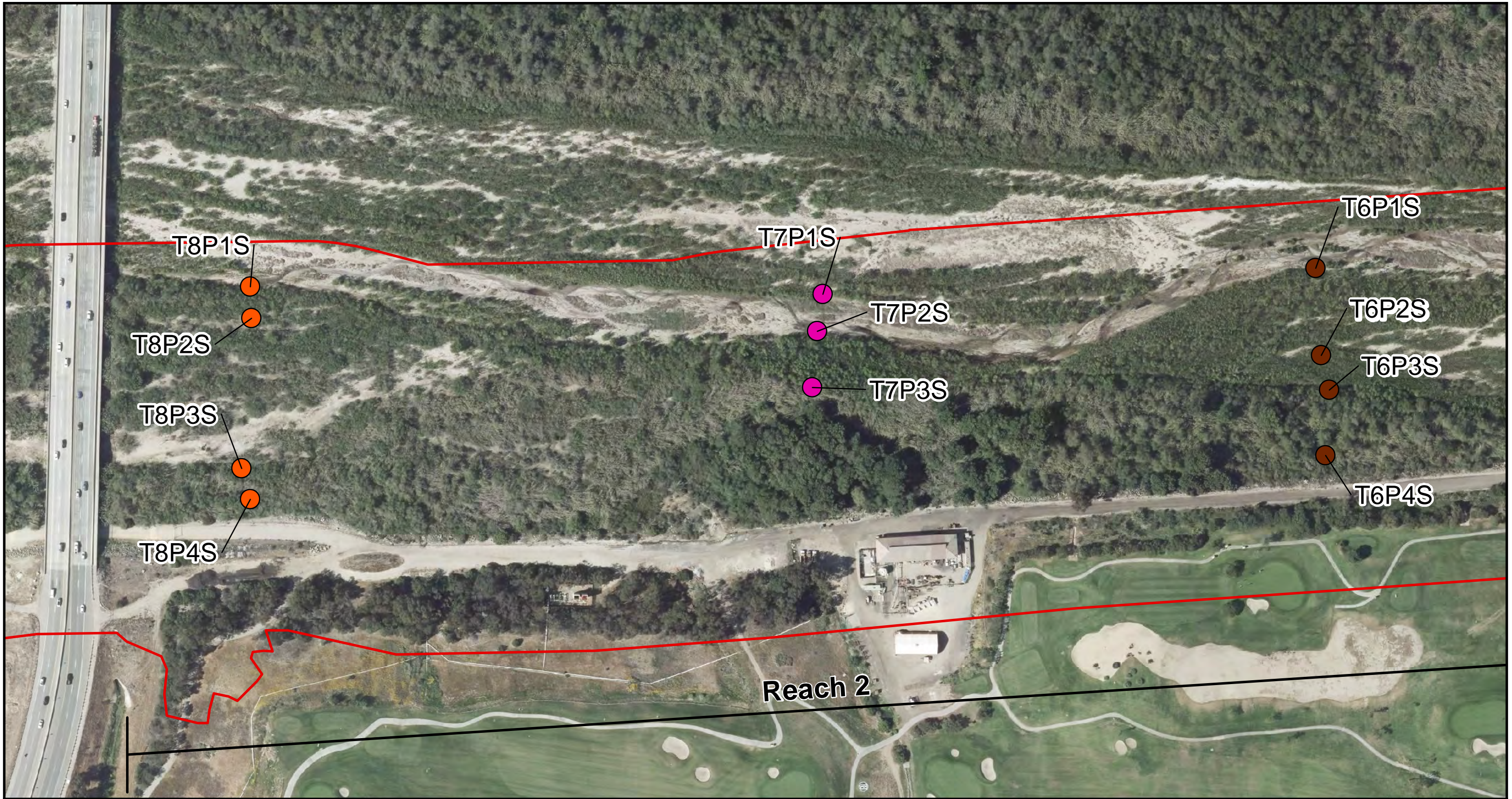

 	 Study Area	<b>Transect</b>			 El Rio  Riverpark  Victoria	
		 1	 4	 7		
		 2	 5	 8		
		 3	 6	 10		

Figure 4  
Soil Pits

Santa Clara River Levee  
Map A





0 200 400  
Feet

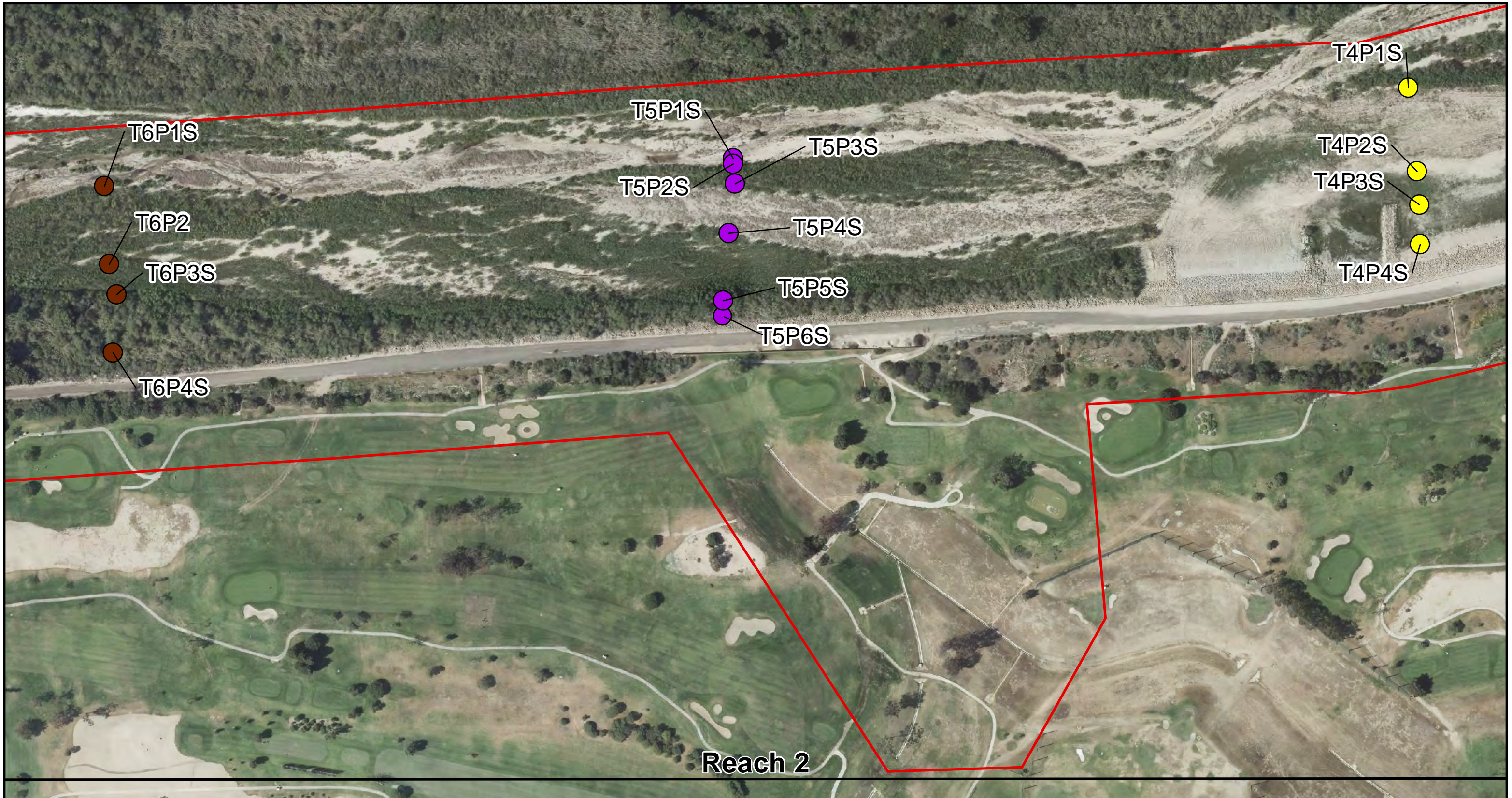
Study Area


**Transect**

<span style="color: green;">●</span> 1	<span style="color: yellow;">●</span> 4	<span style="color: magenta;">●</span> 7	<span style="color: red;">▲</span> El Rio
<span style="color: orange;">●</span> 2	<span style="color: purple;">●</span> 5	<span style="color: brown;">●</span> 8	<span style="color: cyan;">▲</span> Riverpark
<span style="color: teal;">●</span> 3	<span style="color: blue;">●</span> 6	<span style="color: blue;">●</span> 10	<span style="color: darkred;">▲</span> Victoria

**Figure 4**  
Soil Pits

Santa Clara River Levee  
Map B





0 230 460  
Feet

Study Area

**Transect**

<span style="color: green;">●</span> 1	<span style="color: yellow;">●</span> 4	<span style="color: magenta;">●</span> 7	<span style="color: red;">▲</span> El Rio
<span style="color: red;">●</span> 2	<span style="color: purple;">●</span> 5	<span style="color: orange;">●</span> 8	<span style="color: cyan;">▲</span> Riverpark
<span style="color: cyan;">●</span> 3	<span style="color: brown;">●</span> 6	<span style="color: blue;">●</span> 10	<span style="color: darkred;">▲</span> Victoria

**Figure 4**  
Soil Pits

**Santa Clara River Levee**  
Map C




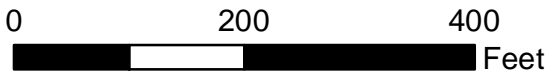














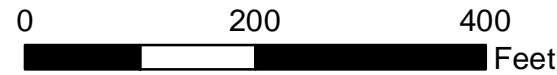













 	 Study Area	<b>Transect</b>			 El Rio  Riverpark  Victoria	
		 1	 4	 7		
		 2	 5	 8		
		 3	 6	 10		

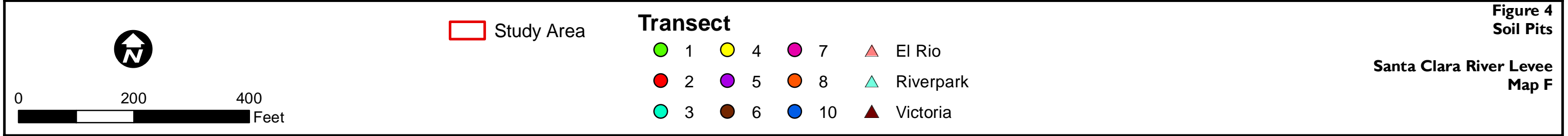
Figure 4  
Soil Pits

Santa Clara River Levee  
Map D

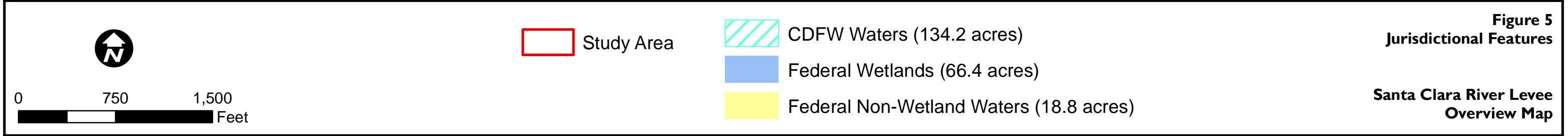
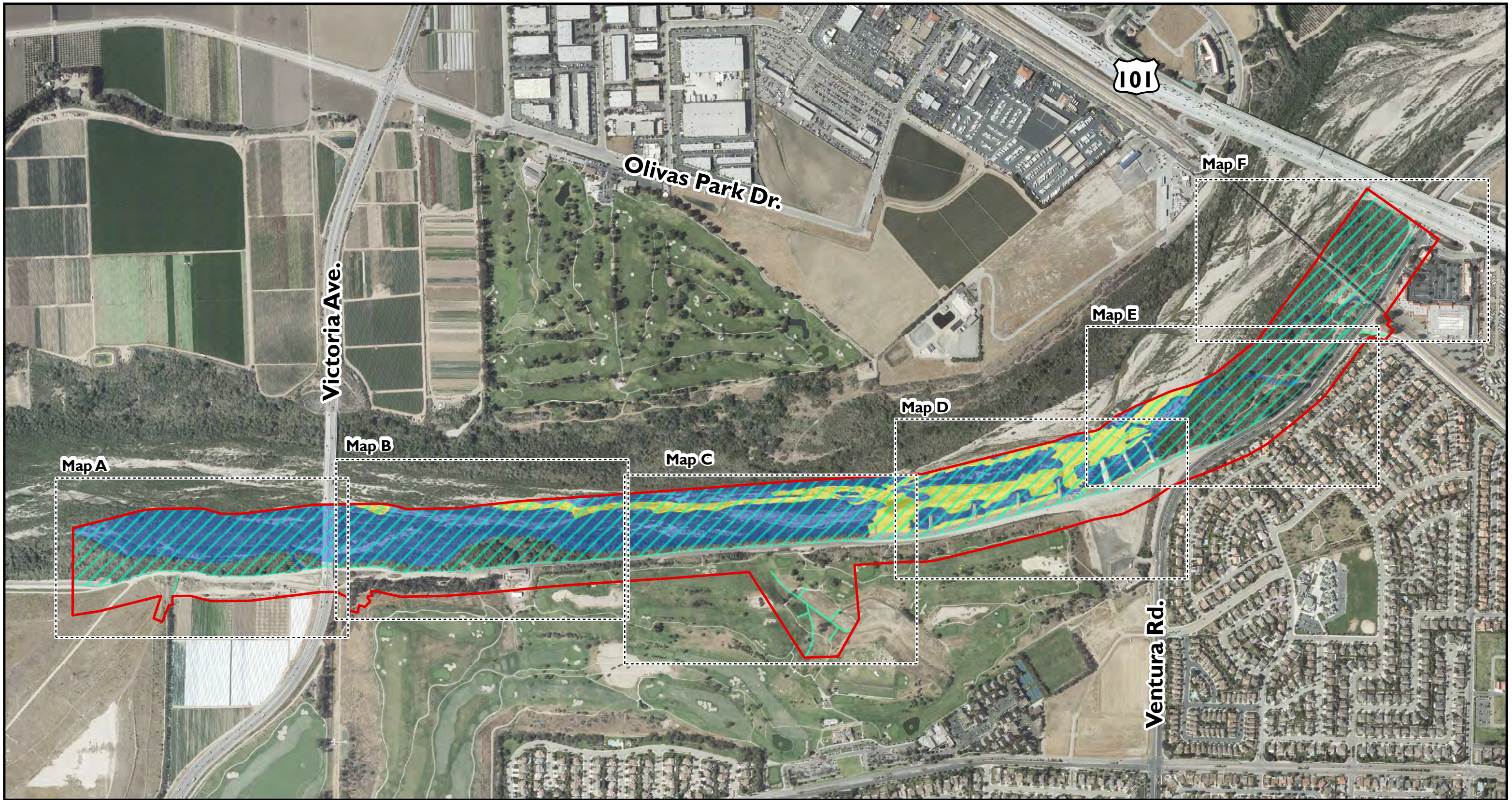


 	 Study Area	<b>Transect</b>			 El Rio  Riverpark  Victoria	
		 1	 4	 7		
		 2	 5	 8		
		 3	 6	 10		

**Figure 4**  
**Soil Pits**  
 Santa Clara River Levee  
 Map E

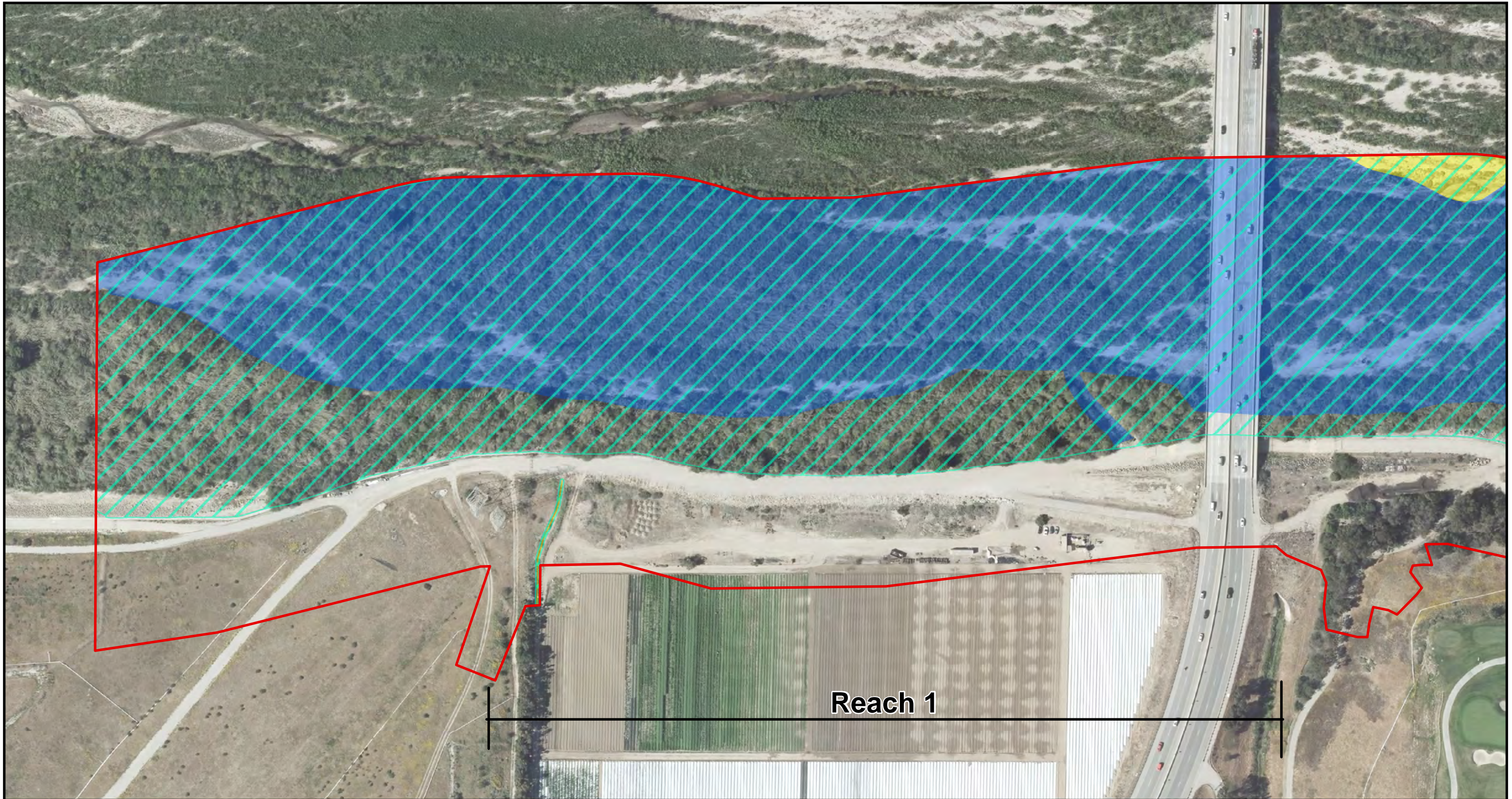






**Figure 5**  
**Jurisdictional Features**

**Santa Clara River Levee**  
**Overview Map**



Reach 1



Study Area

CDFW Waters

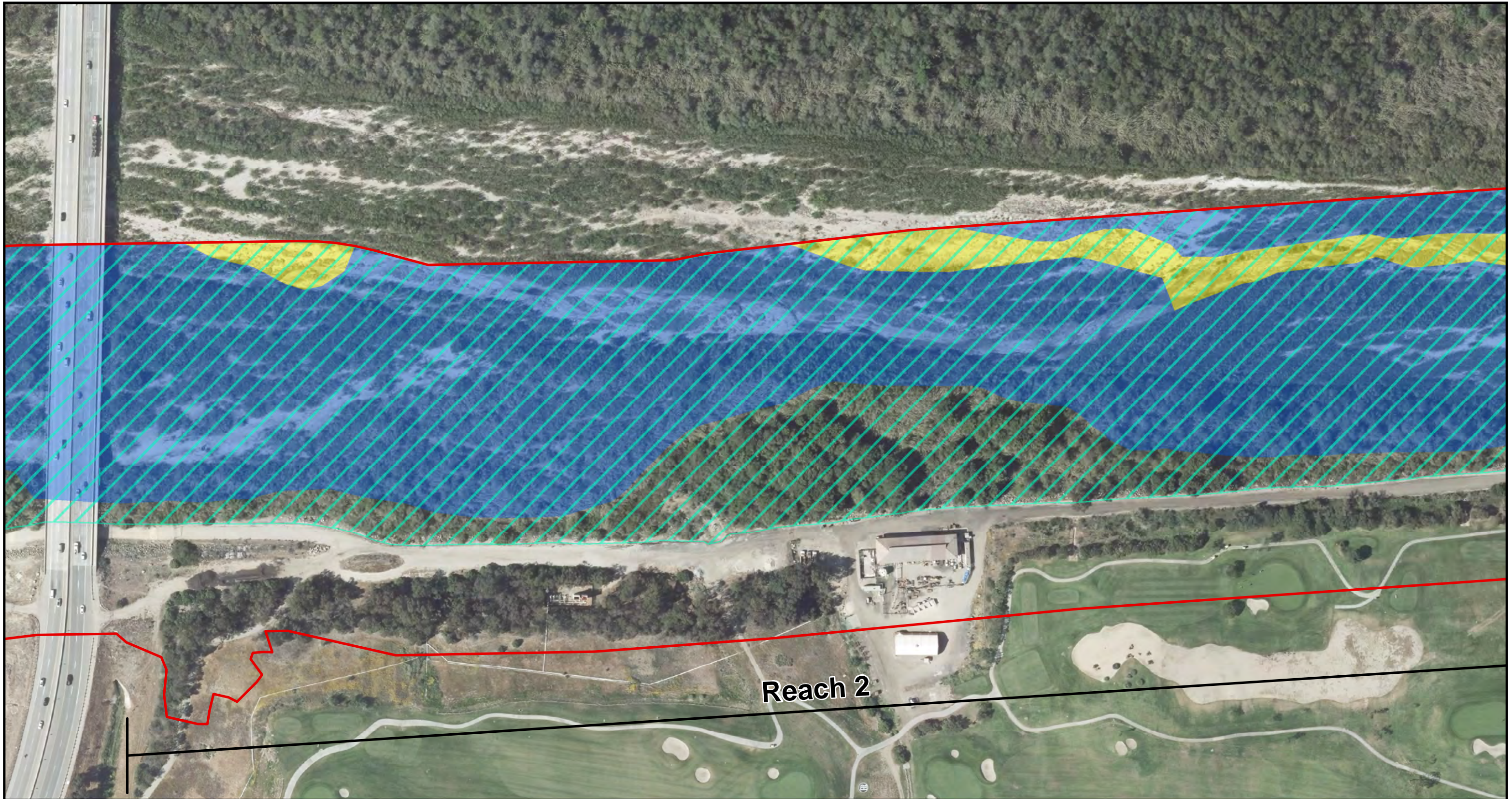
Federal Non-Wetland Waters

Federal Wetlands

0 200 400 Feet

Figure 5  
Jurisdictional Features

Santa Clara River Levee  
Map A



0 200 400  
Feet

 Study Area

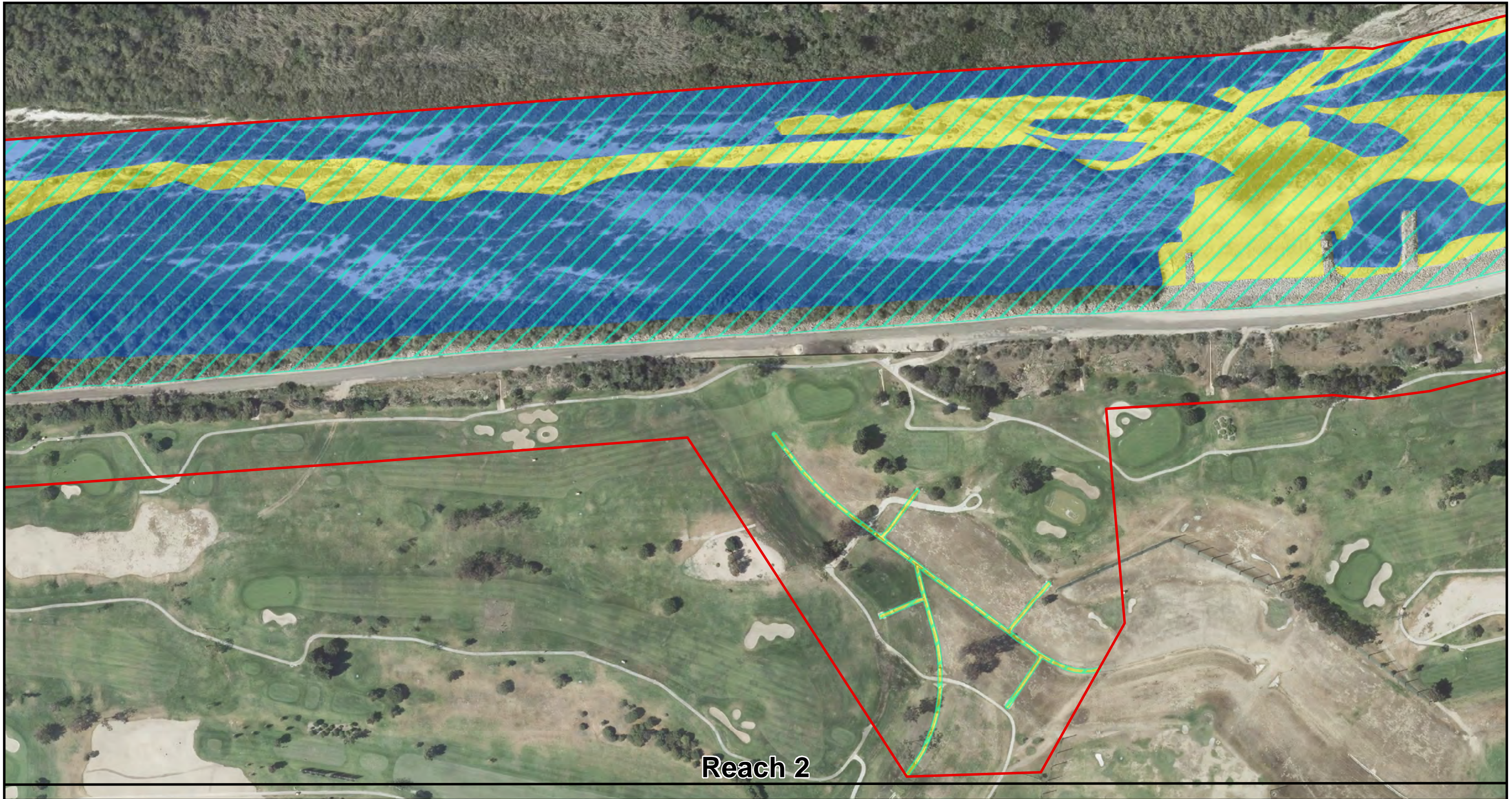
 CDFW Waters

 Federal Non-Wetland Waters

 Federal Wetlands

**Figure 5**  
**Jurisdictional Features**

**Santa Clara River Levee**  
**Map B**



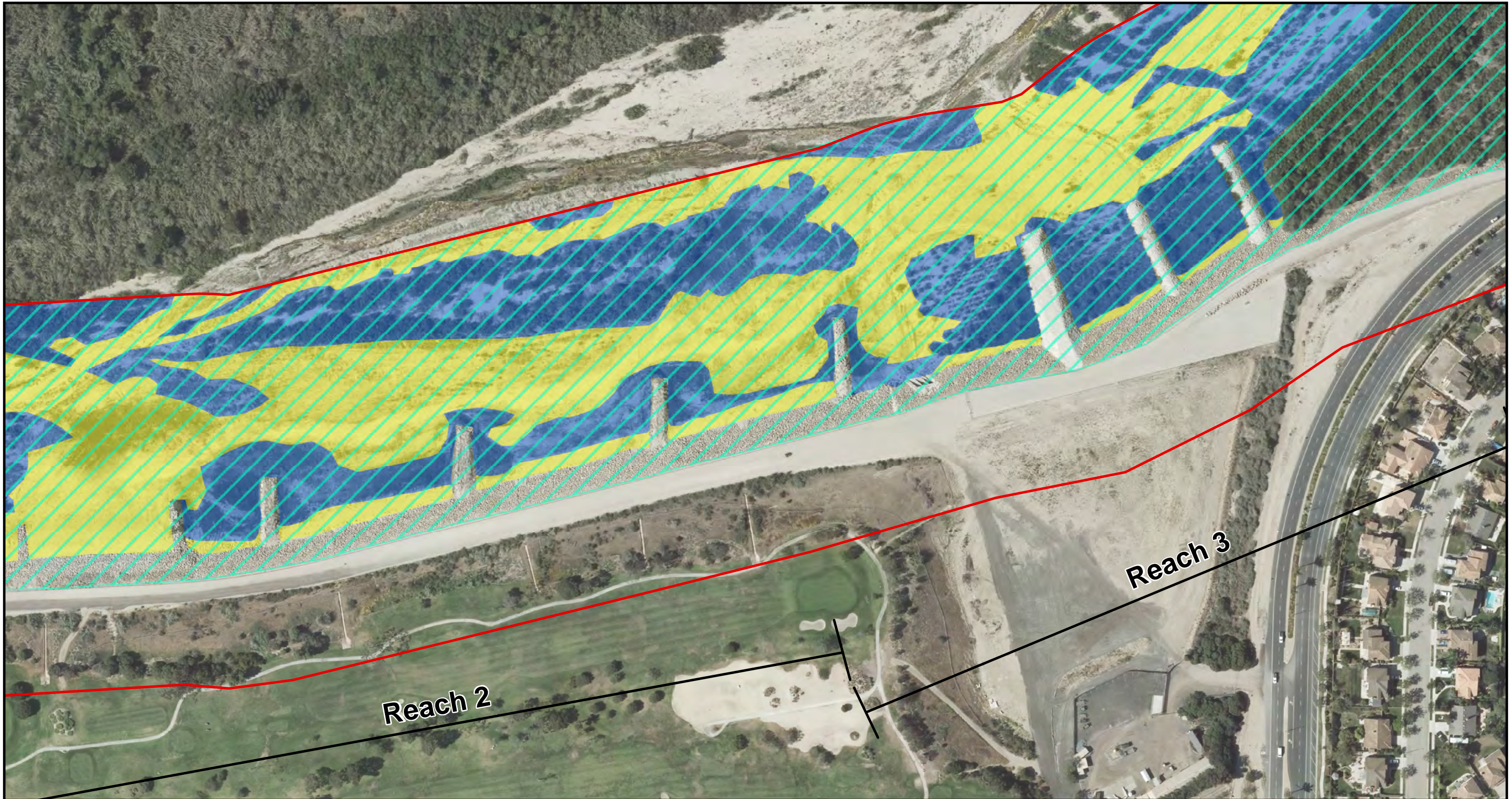
0 250 500 Feet

Study Area

- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

**Figure 5**  
**Jurisdictional Features**

**Santa Clara River Levee**  
**Map C**



Reach 2

Reach 3

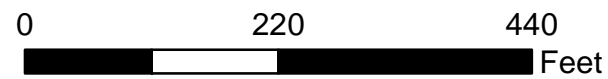
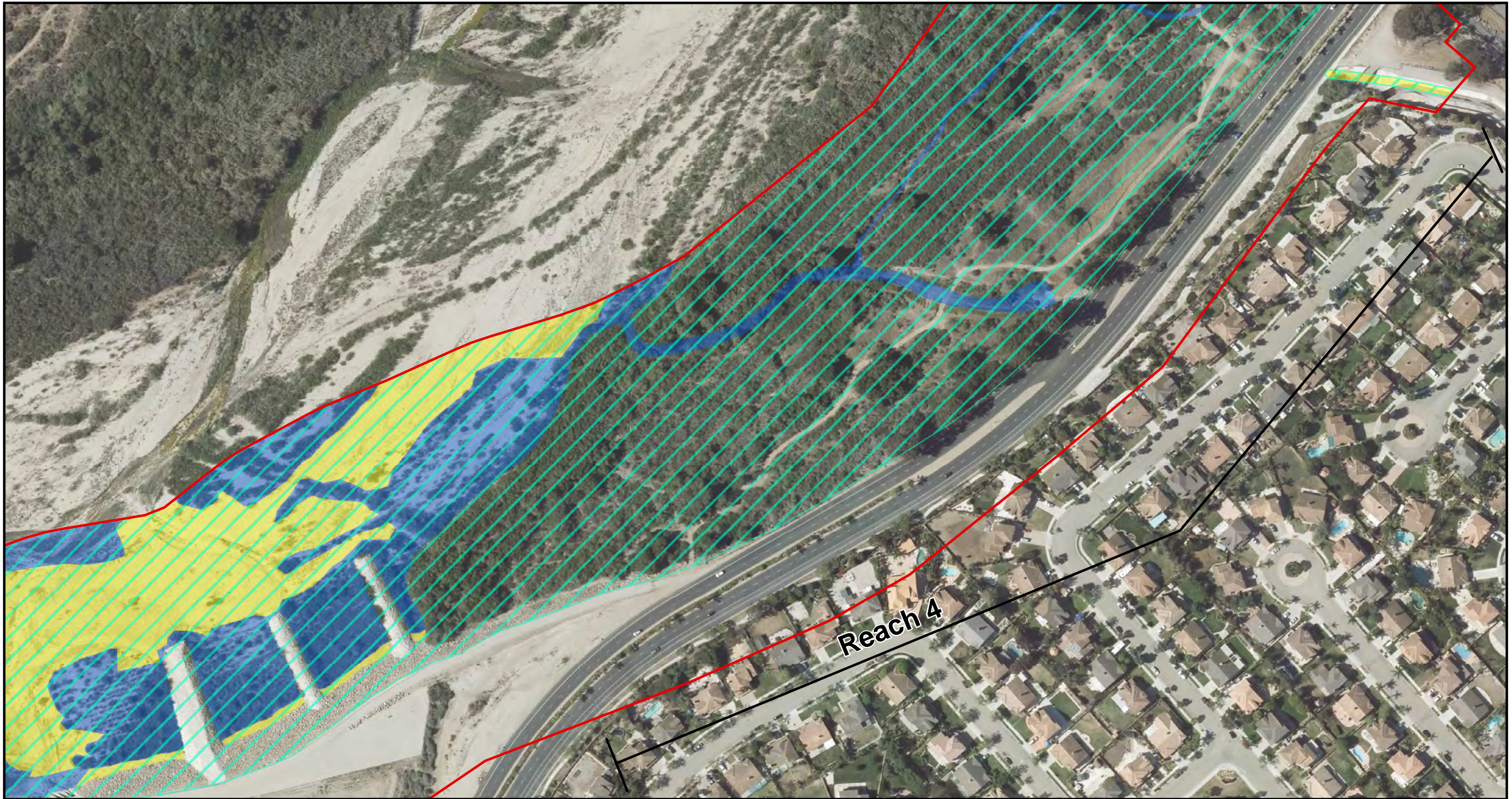


0 220 440 Feet

Study Area


- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

**Figure 5**  
**Jurisdictional Features**  
**Santa Clara River Levee**  
**Map D**



 Study Area

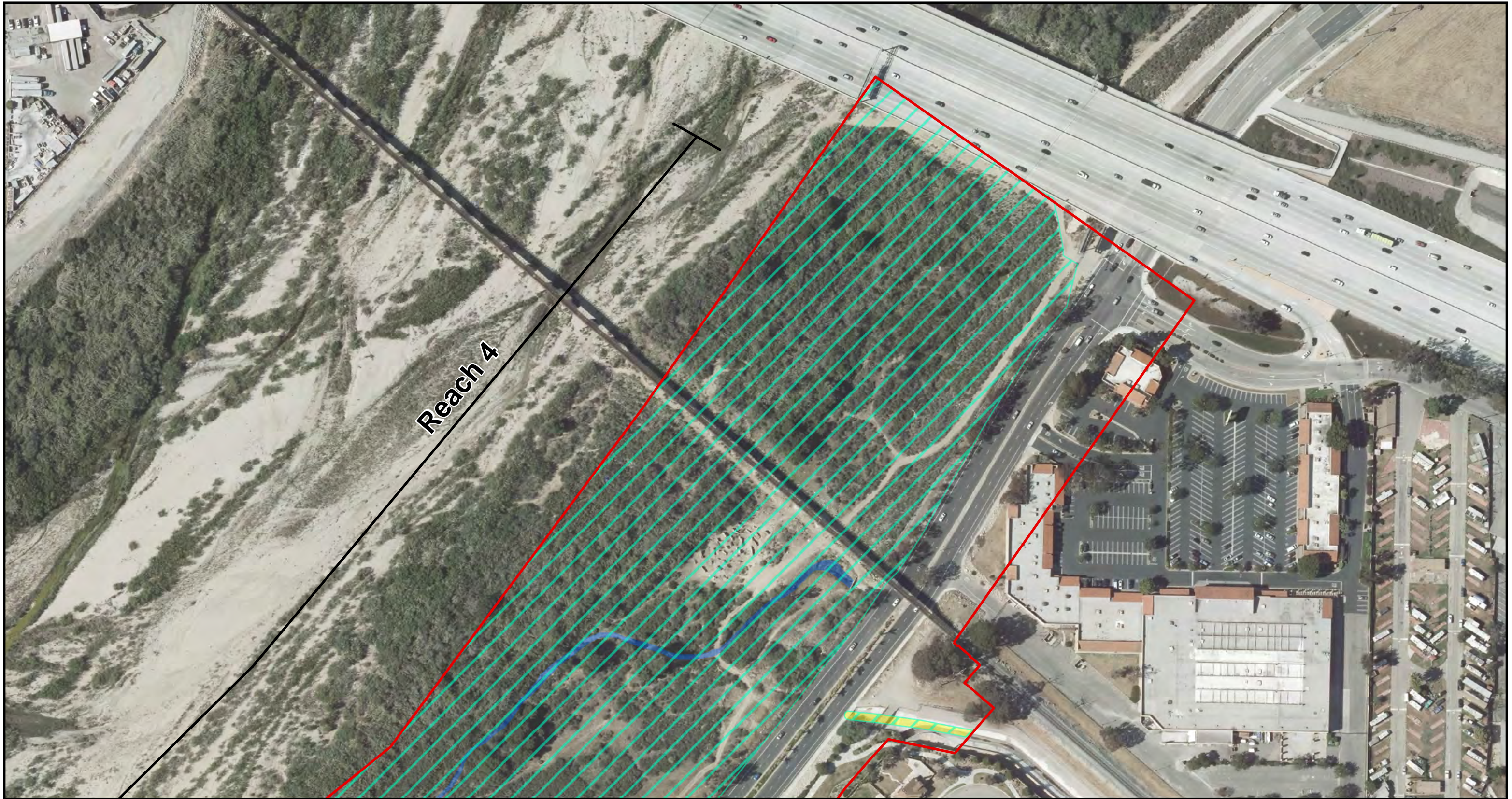
 CDFW Waters

 Federal Non-Wetland Waters

 Federal Wetlands

**Figure 5**  
**Jurisdictional Features**


**Santa Clara River Levee**  
**Map E**



0 220 440 Feet

 Study Area

 CDFW Waters

 Federal Non-Wetland Waters

 Federal Wetlands

**Figure 5**  
**Jurisdictional Features**

**Santa Clara River Levee**  
**Map F**





## **Attachment 2 – Representative Site Photos**



**Photo 1 - View of cracked soils near T4 P3S. This soil pit is adjacent to the downstream-most bendway weir constructed by the District in 2012. The bendway weirs are designed to slow river flows, encourage deposition between pairs of weirs, and promote scouring and pond formation at their tips. The weirs are encased in sheetpile driven approximately 35 feet deep, and thus also encourage groundwater to rise toward the ground surface along their upstream edge.**



**Photo 2 - View of T6 P3S; it was determined that this soil pit occurred in a wetland. For additional information refer to the data sheets in Attachment 4.**



**Photo 3 - View looking southwest from T7 P1S; it was determined that this soil pit occurred in a wetland. For additional information refer to the data sheets in Attachment 4.**



**Photo 4 - View of T5 P6S; it was determined that this soil pit occurred in a wetland. For additional information refer to the data sheets in Attachment 4.**



**Photo 5 – View looking south at the vertical bank leading to an upland terrace approximately 6 to 8 feet high from T1 P1S.**



**Photo 6 - View looking south, near soil pit El Rio 1, toward the outlet of the culvert under Ventura Road into the El Rio Drainage Channel.**



**Photo 7 - View looking upstream (east) at the Riverpark Drainage Channel near soil pit Riverpark 1.**





**Photo 8 - View looking upstream (southeast) at the Victoria Drainage Channel from a point just south of soil pit Victoria 1.**



**Photo 9 - View of soil pit Victoria 3; it was determined that this soil pit occurred in a wetland. For additional information refer to the data sheets in Attachment 4.**

## **Attachment 3 – Excerpts from Local Soil Survey Lists**

## Description of Corralitos

### Setting

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Stratified alluvium derived from sedimentary rock

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively drained  
*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:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.2 inches)

### Interpretive groups

*Farmland classification:* Farmland of statewide importance  
*Land capability classification (irrigated):* 3s  
*Land capability (nonirrigated):* 4e  
*Hydrologic Soil Group:* A

### Typical profile

*0 to 18 inches:* Loamy sand  
*18 to 57 inches:* Stratified sand to loamy sand

## Minor Components

### Metz

*Percent of map unit:* 5 percent

### Pico

*Percent of map unit:* 5 percent

### Sandy alluvial land

*Percent of map unit:* 5 percent

## CoC—Corralitos loamy sand, 2 to 9 percent slopes

### Map Unit Setting

*Elevation:* 30 to 1,000 feet  
*Mean annual precipitation:* 12 to 30 inches  
*Mean annual air temperature:* 57 to 61 degrees F  
*Frost-free period:* 280 to 330 days

**Map Unit Composition**

*Corralitos and similar soils:* 85 percent  
*Minor components:* 15 percent

**Description of Corralitos**

**Setting**

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Stratified alluvium derived from sedimentary rock

**Properties and qualities**

*Slope:* 2 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively drained  
*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:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Low (about 4.2 inches)

**Interpretive groups**

*Farmland classification:* Farmland of statewide importance  
*Land capability classification (irrigated):* 3s  
*Land capability (nonirrigated):* 4e  
*Hydrologic Soil Group:* A

**Typical profile**

*0 to 18 inches:* Loamy sand  
*18 to 57 inches:* Stratified sand to loamy sand

**Minor Components**

**Metz**

*Percent of map unit:* 8 percent

**Pico**

*Percent of map unit:* 7 percent

**CrC—Cortina stony sandy loam, 2 to 9 percent slopes**

**Map Unit Setting**

*Elevation:* 30 to 2,400 feet  
*Mean annual precipitation:* 12 to 40 inches  
*Mean annual air temperature:* 61 to 63 degrees F  
*Frost-free period:* 250 to 300 days

**Typical profile**

*0 to 7 inches:* Loamy fine sand  
*7 to 60 inches:* Stratified sand to sandy loam

**Minor Components**

**Anacapa**

*Percent of map unit:* 4 percent

**Corralitos**

*Percent of map unit:* 4 percent

**Pico**

*Percent of map unit:* 3 percent

**Metz, loamy sand**

*Percent of map unit:* 2 percent

**MeA—Metz loamy sand, 0 to 2 percent slopes**

**Map Unit Setting**

*Elevation:* 30 to 2,500 feet  
*Mean annual precipitation:* 20 inches  
*Mean annual air temperature:* 57 to 61 degrees F  
*Frost-free period:* 200 to 340 days

**Map Unit Composition**

*Metz and similar soils:* 85 percent  
*Minor components:* 15 percent

**Description of Metz**

**Setting**

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Stratified alluvium derived from sedimentary rock

**Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat excessively drained  
*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:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 5.3 inches)

## Custom Soil Resource Report

### Interpretive groups

*Farmland classification:* Prime farmland if irrigated

*Land capability classification (irrigated):* 3s

*Land capability (nonirrigated):* 3s

*Hydrologic Soil Group:* A

### Typical profile

*0 to 7 inches:* Loamy sand

*7 to 60 inches:* Stratified sand to sandy loam

### Minor Components

#### Anacapa

*Percent of map unit:* 4 percent

#### Corralitos

*Percent of map unit:* 4 percent

#### Pico

*Percent of map unit:* 3 percent

#### Hueneme

*Percent of map unit:* 2 percent

#### Metz, loamy substratum

*Percent of map unit:* 2 percent

## MeC—Metz loamy sand, 2 to 9 percent slopes

### Map Unit Setting

*Elevation:* 30 to 2,500 feet

*Mean annual precipitation:* 20 inches

*Mean annual air temperature:* 57 to 61 degrees F

*Frost-free period:* 200 to 340 days

### Map Unit Composition

*Metz and similar soils:* 85 percent

*Minor components:* 15 percent

### Description of Metz

#### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Stratified alluvium derived from sedimentary rock

#### Properties and qualities

*Slope:* 2 to 9 percent

*Depth to restrictive feature:* More than 80 inches

## Custom Soil Resource Report

*Drainage class:* Somewhat excessively drained  
*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:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 2.0 mmhos/cm)  
*Available water capacity:* Low (about 5.3 inches)

### Interpretive groups

*Farmland classification:* Prime farmland if irrigated  
*Land capability classification (irrigated):* 3e  
*Land capability (nonirrigated):* 3e  
*Hydrologic Soil Group:* A

### Typical profile

*0 to 7 inches:* Loamy sand  
*7 to 60 inches:* Stratified sand to sandy loam

### Minor Components

#### Corralitos

*Percent of map unit:* 5 percent

#### Cortina

*Percent of map unit:* 4 percent

#### Anacapa

*Percent of map unit:* 4 percent

#### Pico

*Percent of map unit:* 2 percent

## MfA—Metz loamy sand, loamy substratum, 0 to 2 percent slope s

### Map Unit Setting

*Elevation:* 30 to 2,500 feet  
*Mean annual precipitation:* 20 inches  
*Mean annual air temperature:* 57 to 61 degrees F  
*Frost-free period:* 200 to 340 days

### Map Unit Composition

*Metz and similar soils:* 85 percent  
*Minor components:* 15 percent

### Description of Metz

#### Setting

*Landform:* Alluvial fans  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear



## Description of Pico

### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Shoulder, backslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from sedimentary rock

### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*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:* Rare

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 5 percent

*Maximum salinity:* Nonsaline (0.0 to 2.0 mmhos/cm)

*Available water capacity:* Low (about 5.2 inches)

### Interpretive groups

*Farmland classification:* Farmland of statewide importance

*Land capability classification (irrigated):* 3s

*Land capability (nonirrigated):* 3s

*Hydrologic Soil Group:* A

### Typical profile

*0 to 14 inches:* Loam

*14 to 30 inches:* Stratified sandy loam to loam

*30 to 60 inches:* Stratified gravelly sand to stony sand

## Minor Components

### Anacapa

*Percent of map unit:* 4 percent

### Metz

*Percent of map unit:* 4 percent

### Sorrento

*Percent of map unit:* 4 percent

### Pico

*Percent of map unit:* 3 percent

## PxG—Pits and dumps

### Map Unit Composition

*Dumps:* 40 percent

*Pits and dumps:* 40 percent

*Minor components: 20 percent*

**Description of Pits And Dumps**

**Interpretive groups**

*Farmland classification: Not prime farmland*

*Land capability (nonirrigated): 8*

**Typical profile**

*0 to 6 inches: Extremely gravelly coarse sand*

*6 to 60 inches: Extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand*

**Description of Dumps**

**Setting**

*Down-slope shape: Linear*

*Across-slope shape: Linear*

**Interpretive groups**

*Farmland classification: Not prime farmland*

*Land capability (nonirrigated): 8*

**Typical profile**

*0 to 60 inches: Variable*

**Minor Components**

**Sandy alluvial land**

*Percent of map unit: 5 percent*

**Igneous rockland**

*Percent of map unit: 5 percent*

**Sedimentary rock land**

*Percent of map unit: 5 percent*

**Riverwash**

*Percent of map unit: 5 percent*

**RcC—Rincon silty clay loam, 2 to 9 percent slopes**

**Map Unit Setting**

*Elevation: 20 to 2,000 feet*

*Mean annual precipitation: 12 to 20 inches*

*Mean annual air temperature: 59 to 61 degrees F*

*Frost-free period: 250 to 300 days*

**Map Unit Composition**

*Rincon and similar soils: 85 percent*

*Minor components: 15 percent*

## Custom Soil Resource Report

*4 to 19 inches: Sandy clay*

*19 to 60 inches: Stratified sandy loam to sandy clay loam*

### Minor Components

#### **Azule**

*Percent of map unit: 5 percent*

#### **Huerhuero**

*Percent of map unit: 5 percent*

#### **Soper**

*Percent of map unit: 3 percent*

#### **San benito**

*Percent of map unit: 2 percent*

## Rw—Riverwash

### Map Unit Composition

*Riverwash: 90 percent*

*Minor components: 10 percent*

### Description of Riverwash

#### **Setting**

*Landform: Drainageways*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Alluvium*

#### **Properties and qualities**

*Slope: 0 to 5 percent*

*Drainage class: Somewhat poorly drained*

*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 60 inches*

*Frequency of flooding: Frequent*

*Available water capacity: Very low (about 2.9 inches)*

#### **Interpretive groups**

*Farmland classification: Not prime farmland*

*Land capability (nonirrigated): 8*

#### **Typical profile**

*0 to 6 inches: Sand*

*6 to 60 inches: Stratified coarse sand to sandy loam*

### Minor Components

#### **Sandy alluvial land**

*Percent of map unit: 3 percent*

**Corralitos**

*Percent of map unit: 3 percent*

**Cortina**

*Percent of map unit: 2 percent*

**Metz**

*Percent of map unit: 2 percent*

**SaA—Salinas clay loam, 0 to 2 percent slopes**

**Map Unit Setting**

*Elevation: 2,000 feet*

*Mean annual precipitation: 12 to 20 inches*

*Mean annual air temperature: 61 to 64 degrees F*

*Frost-free period: 300 to 350 days*

**Map Unit Composition**

*Salinas and similar soils: 85 percent*

*Minor components: 15 percent*

**Description of Salinas**

**Setting**

*Landform: Alluvial fans*

*Landform position (two-dimensional): Shoulder, backslope*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Alluvium derived from sedimentary rock*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*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 content: 10 percent*

*Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: High (about 10.9 inches)*

**Interpretive groups**

*Farmland classification: Prime farmland if irrigated*

*Land capability classification (irrigated): 1*

*Land capability (nonirrigated): 3c*

*Hydrologic Soil Group: C*

**Typical profile**

*0 to 26 inches: Clay loam*

*26 to 45 inches: Silty clay loam*

**Minor Components**

**Gazos**

*Percent of map unit: 3 percent*

**Nacimiento**

*Percent of map unit: 3 percent*

**Badland**

*Percent of map unit: 3 percent*

**Castaic**

*Percent of map unit: 3 percent*

**Saugus**

*Percent of map unit: 3 percent*

**Sd—Sandy alluvial land**

**Map Unit Setting**

*Elevation: 30 to 1,200 feet*

*Mean annual precipitation: 12 to 20 inches*

*Mean annual air temperature: 57 degrees F*

**Map Unit Composition**

*Sandy alluvial land: 90 percent*

*Minor components: 10 percent*

**Description of Sandy Alluvial Land**

**Setting**

*Landform: Flood plains*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Alluvium*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Drainage class: Somewhat excessively drained*

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

*Frequency of flooding: Occasional*

*Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)*

*Available water capacity: Low (about 4.7 inches)*

**Interpretive groups**

*Farmland classification: Not prime farmland*

*Land capability (nonirrigated): 4w*

**Typical profile**

*0 to 12 inches: Loamy sand*

*12 to 38 inches: Stratified sand to loamy sand*

*38 to 60 inches: Stratified sand to silt loam*

**Minor Components**

**Corralitos**

*Percent of map unit: 3 percent*

**Cortina**

*Percent of map unit: 3 percent*

**Riverwash**

*Percent of map unit: 2 percent*

**Metz**

*Percent of map unit: 2 percent*

**SeE—Santa Lucia shaly silty clay loam, 15 to 30 percent slopes**

**Map Unit Setting**

*Elevation: 100 to 3,000 feet*

*Mean annual precipitation: 12 to 30 inches*

*Mean annual air temperature: 55 to 61 degrees F*

*Frost-free period: 200 to 350 days*

**Map Unit Composition**

*Santa lucia and similar soils: 85 percent*

*Minor components: 15 percent*

**Description of Santa Lucia**

**Setting**

*Landform: Hills*

*Landform position (two-dimensional): Backslope*

*Landform position (three-dimensional): Side slope*

*Down-slope shape: Concave*

*Across-slope shape: Concave*

*Parent material: Residuum weathered from shale*

**Properties and qualities**

*Slope: 15 to 30 percent*

*Depth to restrictive feature: 20 to 40 inches to lithic bedrock*

*Drainage class: Well drained*

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

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Available water capacity: Low (about 3.8 inches)*

**Interpretive groups**

*Farmland classification: Farmland of local importance*

*Land capability classification (irrigated): 4e*

*Land capability (nonirrigated): 4e*

*Hydrologic Soil Group: C*

## **Attachment 4 – Field Data Sheets**

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T1\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel/Toe of Terrace Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.241324 Long: -119.189961 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug adjacent to the toe of an upland terrace (approximately 6 - 8 feet high)</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Salix lasiolepis</u>	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <u>Baccharis salicifolia</u>	15	Yes	FAC	Total Number of Dominant Species Across All Strata:	3 (B)
3. <u>Arundo donax</u>	10	Yes	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 45 %				Total % Cover of: _____ Multiply by: _____	
<u>Sapling/Shrub Stratum</u>				OBL species	x 1 = 0
1. _____	0			FACW species	30 x 2 = 60
2. _____				FAC species	15 x 3 = 45
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	45 (A) 105 (B)
Total Cover: 0 %				Prevalence Index = B/A = 2.33	
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 0 %					
<u>Woody Vine Stratum</u>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum <u>90 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: Location is south of main low-flow channel (dry during survey). Small amount of leaf litter present.



**SOIL**

Sampling Point: T1\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-18	10YR 4/1						Sand	

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

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Unable to obtain a depth that encountered native soils; access was limited due to the presence of reoccurring sediment deposits.	

**HYDROLOGY**

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

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T2\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel/Toe of Terrace Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.238731 Long: -119.192293 Datum: NAD1983  
 Soil Map Unit Name: Sandy alluvial land NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug adjacent to the toe of an upland terrace (approximately 6 - 8 feet high)</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiolepis</i>	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <i>Arundo donax</i>	40	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____					
Total Cover:			80 %		
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <i>Arundo donax</i>	20	Yes	FACW	Total % Cover of: _____ Multiply by: _____	
2. <i>Toxicodendron diversilobum</i>	10	No	UPL	OBL species	x 1 = 0
3. _____				FACW species	100 x 2 = 200
4. _____				FAC species	x 3 = 0
5. _____				FACU species	x 4 = 0
Total Cover:			30 %	UPL species	10 x 5 = 50
				Column Totals:	110 (A) 250 (B)
				Prevalence Index = B/A = 2.27	
Herb Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum				<b>Hydrophytic Vegetation Present?</b>	
1. _____	0			Yes <input checked="" type="radio"/> No <input type="radio"/>	
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: Location is south of main low-flow channel (dry during survey). Moderate amount of leaf litter present.

**SOIL**

Sampling Point: T2\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-24	10YR 3/1						Silty Clay	

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

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Unable to obtain a depth that encountered native soils; access was limited due to the presence of reoccurring sediment deposits.	

**HYDROLOGY**

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

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T3\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.236481 Long: -119.196411 Datum: NAD1983  
 Soil Map Unit Name: Sandy alluvial land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Soil pit dug within a sandy area just south of the low-flow channel (dry during survey); this area was inundated in April 2011. Material from the construction of the adjacent groins was pushed into this area as part of the construction activities.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	0			Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 % (A/B)
4. _____					
Total Cover: 0 %					
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <i>Baccharis salicifolia</i>	10	Yes	FAC	Total % Cover of:	Multiply by:
2. <i>Melilotus alba</i>	15	Yes	FACU	OBL species	x 1 = 0
3. _____				FACW species	x 2 = 0
4. _____				FAC species	10 x 3 = 30
5. _____				FACU species	15 x 4 = 60
Total Cover: 25 %				UPL species	x 5 = 0
Herb Stratum				Column Totals:	25 (A) 90 (B)
1. _____	0			Prevalence Index = B/A = 3.60	
2. _____				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover: 0 %					
Woody Vine Stratum				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum <u>90 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: Material from the construction of the adjacent groins was pushed into this area as part of the construction activities. A review of aerials from previous years shows this area was likely alluvial scrub.

**SOIL**

Sampling Point: T3\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-12	10YR 4/1					Sand	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup> Location: PL=Pore Lining, RC=Root Channel, M=Matrix.							
<sup>3</sup> Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.							
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>				<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b>			
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)			<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)						
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)						
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)						
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)						
<input type="checkbox"/> Sandy Gleyed Matrix (S4)						<sup>4</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present.	
<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____				<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>			
Remarks: Unable to obtain a depth that encountered native soils; access was limited due to the presence of reoccurring sediment deposits.							

**HYDROLOGY**

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

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T3\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.236074 Long: -119.196226 Datum: NAD1983  
 Soil Map Unit Name: Sandy alluvial land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Soil pit dug within a sandy area just south an earthen access road to the groin and associated restoration areas.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Salix lasiolepis</u>	15	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover:	15 %																																			
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">0</td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">15</td> <td>x 2 =</td> <td align="center">30</td> </tr> <tr> <td>FAC species</td> <td align="center">10</td> <td>x 3 =</td> <td align="center">30</td> </tr> <tr> <td>FACU species</td> <td align="center">0</td> <td>x 4 =</td> <td align="center">0</td> </tr> <tr> <td>UPL species</td> <td align="center">0</td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">25</td> <td>(A)</td> <td align="center">60 (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.40</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	15	x 2 =	30	FAC species	10	x 3 =	30	FACU species	0	x 4 =	0	UPL species	0	x 5 =	0	Column Totals:	25	(A)	60 (B)	Prevalence Index = B/A = <u>2.40</u>			
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	15	x 2 =	30																																	
FAC species	10	x 3 =	30																																	
FACU species	0	x 4 =	0																																	
UPL species	0	x 5 =	0																																	
Column Totals:	25	(A)	60 (B)																																	
Prevalence Index = B/A = <u>2.40</u>																																				
1. <u>Baccharis salicifolia</u>	10	Yes	FAC																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover:	10 %																																			
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1.	0																																			
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover:	0 %																																			
<b>Woody Vine Stratum</b>																																				
1.	0																																			
2.																																				
Total Cover:	0 %																																			
% Bare Ground in Herb Stratum <u>95 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																				

Remarks: Planting of willows in the general area of this soil pit, as part of a mitigation effort, were completed in February of 2007.

**SOIL**

Sampling Point: T3\_P2S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 4/2						Sand	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to obtain a depth that encountered native soils; access was limited due to the presence of reoccurring sediment deposits.

**HYDROLOGY**

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of recent and historic aerials show this area has in some years been inundated and densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T3\_P3S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel (between groins) Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235975 Long: -119.196205 Datum: NAD1983  
 Soil Map Unit Name: Sandy alluvial land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Soil pit dug within a sandy area just south an earthen access road to the groin and associated restoration areas. This area was restored/revegetated in 2006/2007</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Baccharis salicifolia</u>	45	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>45 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td align="center">x 2 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>45</u></td> <td align="center">x 3 =</td> <td align="center"><u>135</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td align="center">x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>45</u></td> <td align="center">(A)</td> <td align="center"><u>135</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>45</u>	x 3 =	<u>135</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>45</u>	(A)	<u>135</u> (B)	Prevalence Index = B/A = <u>3.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>0</u>	x 2 =	<u>0</u>																																	
FAC species	<u>45</u>	x 3 =	<u>135</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>45</u>	(A)	<u>135</u> (B)																																	
Prevalence Index = B/A = <u>3.00</u>																																				
<u>Sapling/Shrub Stratum</u>																																				
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>0 %</u>																																				
<u>Herb Stratum</u>																																				
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>0 %</u>																																				
<u>Woody Vine Stratum</u>																																				
1. _____	0																																			
2. _____																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>90 %</u> % Cover of Biotic Crust <u>0 %</u>																																				

**Hydrophytic Vegetation Indicators:**

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

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

**Hydrophytic Vegetation Present?** Yes  No

Remarks: This area has undergone restoration activities.



**SOIL**

Sampling Point: T3\_P3S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-17	10YR 4/3						Sand	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to obtain a depth that encountered native soils; access was limited due to the presence of reoccurring sediment deposits.

**HYDROLOGY**

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of recent and historic aerials show this area has in some years been inundated and densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T3\_P4S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel (between groins) Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235889 Long: -119.196171 Datum: NAD1983  
 Soil Map Unit Name: Sandy alluvial land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug just south an earthen access road to the groin and associated restoration areas. This area was restored/revegetated in 2006/2007</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Baccharis salicifolia</i>	40	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <i>Salix lasiolepis</i>	15	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
4. _____					
Total Cover:			55 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Baccharis salicifolia</i>	15	Yes	FAC		
2. _____				OBL species	x 1 = 0
3. _____				FACW species	15 x 2 = 30
4. _____				FAC species	55 x 3 = 165
5. _____				FACU species	x 4 = 0
Total Cover:			15 %	UPL species	x 5 = 0
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals:	70 (A) 195 (B)
1. _____	0			Prevalence Index = B/A = 2.79	
2. _____				<b>Hydrophytic Vegetation Indicators:</b>	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was densely vegetated and was inundated/scoured during large storm events. This area has undergone restoration activities. Small amount of leaf litter around pit area.

**SOIL**

Sampling Point: T3\_P4S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 3/2						Sandy Clay	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of recent and historic aerials show this area has in some years been inundated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T3\_P5S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel (between groins) Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235562 Long: -119.196025 Datum: NAD1983  
 Soil Map Unit Name: Sandy alluvial land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug adjacent to toe of existing levee and west of a hardened ramp. This area was restored/revegetated in 2006/2007</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Baccharis salicifolia</u>	50	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>50 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>  </u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>  </u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>50</u></td> <td>x 3 =</td> <td align="center"><u>150</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>  </u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>  </u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>50</u></td> <td>(A)</td> <td align="center"><u>150</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>  </u>	x 1 =	<u>0</u>	FACW species	<u>  </u>	x 2 =	<u>0</u>	FAC species	<u>50</u>	x 3 =	<u>150</u>	FACU species	<u>  </u>	x 4 =	<u>0</u>	UPL species	<u>  </u>	x 5 =	<u>0</u>	Column Totals:	<u>50</u>	(A)	<u>150</u> (B)	Prevalence Index = B/A = <u>3.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>  </u>	x 1 =	<u>0</u>																																	
FACW species	<u>  </u>	x 2 =	<u>0</u>																																	
FAC species	<u>50</u>	x 3 =	<u>150</u>																																	
FACU species	<u>  </u>	x 4 =	<u>0</u>																																	
UPL species	<u>  </u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>50</u>	(A)	<u>150</u> (B)																																	
Prevalence Index = B/A = <u>3.00</u>																																				
<u>Sapling/Shrub Stratum</u>																																				
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>0 %</u>																																				
<u>Herb Stratum</u>																																				
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>0 %</u>																																				
<u>Woody Vine Stratum</u>																																				
1. _____	0																																			
2. _____																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>90 %</u> % Cover of Biotic Crust <u>0 %</u>																																				
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																				

Remarks: A review of aerials from previous years shows this area was densely vegetated and was inundated/scoured during large storm events. This area has undergone restoration activities.

**SOIL**

Sampling Point: T3\_P5S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 3/2						Sandy Clay	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present? Yes  No**

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated and was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T4\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235012 Long: -119.200436 Datum: NAD1983  
 Soil Map Unit Name: Sandy Alluvial Land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Soil pit dug within a sandy area just south of the low-flow channel (dry during survey). This area was inundated in December 2005 and April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix lasiolepis</i>	45	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover: <u>45 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>        </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>45</u></td> <td align="center">x 2 =</td> <td align="center"><u>90</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>10</u></td> <td align="center">x 3 =</td> <td align="center"><u>30</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>10</u></td> <td align="center">x 4 =</td> <td align="center"><u>40</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>        </u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>65</u></td> <td align="center">(A)</td> <td align="center"><u>160</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.46</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>        </u>	x 1 =	<u>0</u>	FACW species	<u>45</u>	x 2 =	<u>90</u>	FAC species	<u>10</u>	x 3 =	<u>30</u>	FACU species	<u>10</u>	x 4 =	<u>40</u>	UPL species	<u>        </u>	x 5 =	<u>0</u>	Column Totals:	<u>65</u>	(A)	<u>160</u> (B)	Prevalence Index = B/A = <u>2.46</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>        </u>	x 1 =	<u>0</u>																																	
FACW species	<u>45</u>	x 2 =	<u>90</u>																																	
FAC species	<u>10</u>	x 3 =	<u>30</u>																																	
FACU species	<u>10</u>	x 4 =	<u>40</u>																																	
UPL species	<u>        </u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>65</u>	(A)	<u>160</u> (B)																																	
Prevalence Index = B/A = <u>2.46</u>																																				
<b>Sapling/Shrub Stratum</b>																																				
1. <i>Atriplex lentiformis</i>	10	Yes	FAC																																	
2. <i>Melilotus alba</i>	10	Yes	FACU																																	
3.																																				
4.																																				
5.																																				
Total Cover: <u>20 %</u>																																				
<b>Herb Stratum</b>																																				
1.	0																																			
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover: <u>0 %</u>																																				
<b>Woody Vine Stratum</b>																																				
1.	0																																			
2.																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>90 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																				

Remarks: A review of aerials from previous years shows this area was inundated/scoured during large storm events.

**SOIL**

Sampling Point: T4\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 4/3						Silty Sand	

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

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

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

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

Remarks: A review of aerials from previous years shows this area has previously been inundated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T4\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235012 Long: -119.200436 Datum: NAD1983  
 Soil Map Unit Name: Sandy Alluvial Land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Soil pit dug within a sandy area just south an earthen access road. This area was inundated in December 2005 and April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>																																		
1. <u>Salix lasiolepis</u>	5	No	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)																																	
2.				Total Number of Dominant Species Across All Strata:	1 (B)																																	
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)																																	
4.																																						
Total Cover:			5 %																																			
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">5</td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">45</td> <td>x 2 =</td> <td align="center">90</td> </tr> <tr> <td>FAC species</td> <td align="center">5</td> <td>x 3 =</td> <td align="center">15</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td align="center">0</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">50</td> <td>(A)</td> <td align="center">105 (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A =</td> <td align="center">2.10</td> </tr> </table>		Total % Cover of:		Multiply by:		OBL species	5	x 1 =	0	FACW species	45	x 2 =	90	FAC species	5	x 3 =	15	FACU species		x 4 =	0	UPL species		x 5 =	0	Column Totals:	50	(A)	105 (B)	Prevalence Index = B/A =				2.10
Total % Cover of:		Multiply by:																																				
OBL species	5	x 1 =	0																																			
FACW species	45	x 2 =	90																																			
FAC species	5	x 3 =	15																																			
FACU species		x 4 =	0																																			
UPL species		x 5 =	0																																			
Column Totals:	50	(A)	105 (B)																																			
Prevalence Index = B/A =				2.10																																		
1. <u>Baccharis salicifolia</u>	5	No	FAC																																			
2.																																						
3.																																						
4.																																						
5.																																						
Total Cover:			5 %																																			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																		
1. <u>Gnaphalium palustre</u>	40	Yes	FACW																																			
2.																																						
3.																																						
4.																																						
5.																																						
6.																																						
7.																																						
8.																																						
Total Cover:			40 %																																			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																		
1.	0																																					
2.																																						
Total Cover:			0 %																																			
% Bare Ground in Herb Stratum <u>20 %</u>		% Cover of Biotic Crust <u>0 %</u>																																				

Remarks: A review of aerials from previous years was inundated/scoured during large storm events.



**SOIL**

Sampling Point: T4\_P2S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 4/2						Sand	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<b>Indicators for Problematic Hydric Soils:<sup>4</sup></b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: Unable to obtain a depth that encountered native soils; access was limited due to the presence of reoccurring sediment deposits.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

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

**Field Observations:**

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

**Wetland Hydrology Present?** Yes  No

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T4\_P3S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234827 Long: -119.200327 Datum: NAD1983  
 Soil Map Unit Name: Sandy Alluvial Land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Soil pit dug within a sandy area just south an earthen access road to the groin and associated restoration areas. Material from the construction of the adjacent groins was pushed into this area as part of the construction activities; this area was inundated in April 2011.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	0			Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
4. _____					
Total Cover: 0 %					
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <i>Baccharis salicifolia</i>	30	Yes	FAC	Total % Cover of:	Multiply by:
2. <i>Salix lasiolepis</i>	20	Yes	FACW	OBL species	x 1 = 0
3. _____				FACW species	20 x 2 = 40
4. _____				FAC species	30 x 3 = 90
5. _____				FACU species	x 4 = 0
Total Cover: 50 %				UPL species	x 5 = 0
Herb Stratum				Column Totals:	50 (A) 130 (B)
1. _____	0			Prevalence Index = B/A = 2.60	
2. _____				<b>Hydrophytic Vegetation Indicators:</b>	
3. _____				<input checked="" type="checkbox"/> Dominance Test is >50%	
4. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
5. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
8. _____					
Total Cover: 0 %					
Woody Vine Stratum				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum <u>35 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was inundated/scoured during large storm events.

**SOIL**

Sampling Point: T4\_P3S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10YR 3/2						Silty Clay	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

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

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

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

Remarks: A review of aerials from previous years shows this area has previously been inundated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T4\_P4S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234606 Long: -119.200317 Datum: NAD1983  
 Soil Map Unit Name: Sandy Alluvial Land NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug approximately 30 feet north of the toe of existing levee between to constructed weirs. This area was inundated in April 2011. Restoration related to the construction of the weirs occurred in 2012.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	0			Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____					
Total Cover: 0 %					
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. <i>Baccharis salicifolia</i>	10	Yes	FAC	Total % Cover of:	Multiply by:
2. <i>Salix lasiolepis</i>	30	Yes	FACW	OBL species	x 1 = 0
3. _____				FACW species	30 x 2 = 60
4. _____				FAC species	10 x 3 = 30
5. _____				FACU species	x 4 = 0
Total Cover: 40 %				UPL species	x 5 = 0
Herb Stratum				Column Totals:	40 (A) 90 (B)
1. _____	0			Prevalence Index = B/A = 2.25	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover: 0 %					
Woody Vine Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
Total Cover: 0 %				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
% Bare Ground in Herb Stratum <u>15 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was inundated/scoured during large storm events. This area was revegetated in 2012.

**SOIL**

Sampling Point: T4\_P4S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/2						Silty Sand	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T5\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235012 Long: -119.200436 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within the general area of the main low-flow channel (dry during survey). This area was inundated in April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiandra</i>	25	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2. <i>Baccharis salicifolia</i>	5	No	FAC	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 % (A/B)
4. _____					
Total Cover:			30 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Melilotus alba</i>	20	Yes	FACU		
2. _____				OBL species	x 1 = 0
3. _____				FACW species	25 x 2 = 50
4. _____				FAC species	5 x 3 = 15
5. _____				FACU species	20 x 4 = 80
Total Cover:			20 %	UPL species	x 5 = 0
				Column Totals:	50 (A) 145 (B)
				Prevalence Index = B/A = 2.90	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0				
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>10 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events.

**SOIL**

Sampling Point: T5\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10YR 4/1						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).	

**HYDROLOGY**

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

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T5\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.235009 Long: -119.204916 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug just south of the main low-flow channel (dry during survey) on the north side of a raised vegetated bar. This area was inundated in April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Salix lasiandra</u>	50	Yes	OBL	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>50 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">50</td> <td>x 1 =</td> <td align="center">50</td> </tr> <tr> <td>FACW species</td> <td></td> <td>x 2 =</td> <td align="center">0</td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> <td align="center">0</td> </tr> <tr> <td>FACU species</td> <td align="center">20</td> <td>x 4 =</td> <td align="center">80</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">70</td> <td>(A)</td> <td align="center">130 (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A =</td> <td></td> <td align="center">1.86</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	50	x 1 =	50	FACW species		x 2 =	0	FAC species		x 3 =	0	FACU species	20	x 4 =	80	UPL species		x 5 =	0	Column Totals:	70	(A)	130 (B)	Prevalence Index = B/A =			1.86
Total % Cover of:		Multiply by:																																		
OBL species	50	x 1 =	50																																	
FACW species		x 2 =	0																																	
FAC species		x 3 =	0																																	
FACU species	20	x 4 =	80																																	
UPL species		x 5 =	0																																	
Column Totals:	70	(A)	130 (B)																																	
Prevalence Index = B/A =			1.86																																	
<u>Sapling/Shrub Stratum</u>																																				
1. <u>Melilotus alba</u>	20	Yes	FACU																																	
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>20 %</u>																																				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>0 %</u>																																				
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																
1. _____	0																																			
2. _____																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>75 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Moderate amounts of leaf litter were noted.



**SOIL**

Sampling Point: T5\_P2S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 2/1						Sandy Clay	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of sediment deposits and tree roots. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated and at times was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T5\_P3S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234904 Long: -119.204905 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Soil pit dug just south of the main low-flow channel (dry during survey) on the south side of a raised vegetated bar. This area was inundated in April 2011.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiolepis</i>	50	Yes	OBL	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2.				Total Number of Dominant Species Across All Strata:	3 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7 % (A/B)
4.					
Total Cover:			50 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Melilotus alba</i>	45	Yes	FACU		
2. <i>Baccharis salicifolia</i>	15	Yes	FAC	OBL species	50 x 1 = 50
3.				FACW species	x 2 = 0
4.				FAC species	15 x 3 = 45
5.				FACU species	45 x 4 = 180
				UPL species	x 5 = 0
Total Cover:			60 %	Column Totals:	110 (A) 275 (B)
				Prevalence Index = B/A = 2.50	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1.	0				
2.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3.				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
4.					
5.					
6.					
7.					
8.					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1.	0				
2.					
Total Cover:			0 %		
% Bare Ground in Herb Stratum		55 %	% Cover of Biotic Crust		0 %

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Significant amounts of leaf litter were noted.

**SOIL**

Sampling Point: T5\_P3S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-24	10YR 4/2						Silty Sand	

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

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

<b>Restrictive Layer (if present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).	

**HYDROLOGY**

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

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T5\_P4S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234631 Long: -119.204940 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Soil pit dug approximately half way between the main low-flow channel (dry during survey) and the existing levee. This area was inundated in April 2011.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix lasiolepis</i>	30	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover:	30 %																																			
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">30</td> <td>x 2 =</td> <td align="center">60</td> </tr> <tr> <td>FAC species</td> <td align="center">45</td> <td>x 3 =</td> <td align="center">135</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td align="center">0</td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">75</td> <td>(A)</td> <td align="center">195 (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A =</td> <td></td> <td align="center">2.60</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species		x 1 =	0	FACW species	30	x 2 =	60	FAC species	45	x 3 =	135	FACU species		x 4 =	0	UPL species		x 5 =	0	Column Totals:	75	(A)	195 (B)	Prevalence Index = B/A =			2.60
Total % Cover of:		Multiply by:																																		
OBL species		x 1 =	0																																	
FACW species	30	x 2 =	60																																	
FAC species	45	x 3 =	135																																	
FACU species		x 4 =	0																																	
UPL species		x 5 =	0																																	
Column Totals:	75	(A)	195 (B)																																	
Prevalence Index = B/A =			2.60																																	
1. <i>Baccharis salicifolia</i>	45	Yes	FAC																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover:	45 %																																			
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1.	0																																			
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover:	0 %																																			
<b>Woody Vine Stratum</b>																																				
1.	0																																			
2.																																				
Total Cover:	0 %																																			
% Bare Ground in Herb Stratum <u>90 %</u>	% Cover of Biotic Crust <u>0 %</u>																																			

**Hydrophytic Vegetation Present?** Yes  No

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Small amounts of leaf litter were noted.

**SOIL**

Sampling Point: T5\_P4S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 3/1						Sandy Clay	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated and at times was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T5\_P5S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234257 Long: -119.204972 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug just north of the toe of a terrace leading to the existing levee structure. This area was inundated in December 2005/January 2006.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix lasiolepis</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)
2. _____				
3. _____				
4. _____				
Total Cover: <u>90 %</u>				
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>90</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>2.00</u>
1. _____	<u>0</u>			
2. _____				
3. _____				
4. _____				
Total Cover: <u>0 %</u>				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
1. _____	<u>0</u>			
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
Total Cover: <u>0 %</u>				
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	<u>0</u>			
2. _____				
Total Cover: <u>0 %</u>				
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>0 %</u>		

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Significant amounts of leaf litter were noted.

**SOIL**

Sampling Point: T5\_P5S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10YR 3/2						Silty Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

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

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

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

Remarks: A review of aerials from previous years shows this area has previously been inundated and at times was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T5\_P6S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234171 Long: -119.204978 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug at the toe of a 6 foot tall terrace leading to the existing levee structure. A drain from the golf course to the south empties just southeast of this pit.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Salix lasiolepis</u>	35	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. <u>Arundo donax</u>	40	Yes	FACW	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 75 %				Total % Cover of:	Multiply by:
<u>Sapling/Shrub Stratum</u>				OBL species	x 1 = 0
1. _____	0			FACW species	75 x 2 = 150
2. _____				FAC species	x 3 = 0
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	75 (A) 150 (B)
Total Cover: 0 %				Prevalence Index = B/A =	2.00
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 0 %					
<u>Woody Vine Stratum</u>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum	0 %	% Cover of Biotic Crust	0 %		

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows. Significant amounts of leaf litter were noted.



**SOIL**

Sampling Point: T5\_P6S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 2/1						Silty Sand	
20-24	GLE Y1 2.5/1						Silty Sand	

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

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

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

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

Remarks:

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T6\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234845 Long: -119.209121 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within the general area of the main low-flow channel (dry during survey) adjacent to a vegetated bar. This area was inundated in April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Salix lasiandra</u>	35	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. <u>Arundo donax</u>	40	Yes	FACW	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 75 %				Total % Cover of:	Multiply by:
<b>Sapling/Shrub Stratum</b>				OBL species	x 1 = 0
1. _____	0			FACW species	75 x 2 = 150
2. _____				FAC species	x 3 = 0
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	75 (A) 150 (B)
Total Cover: 0 %				Prevalence Index = B/A =	2.00
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 0 %					
<b>Woody Vine Stratum</b>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum	20 %	% Cover of Biotic Crust	0 %		

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Moderate amount of leaf litter present.

**SOIL**

Sampling Point: T6\_P1S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10YR 4/1						Sand	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated and at times was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T6\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234417 Long: -119.209089 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug south of the main low-flow channel (dry during survey). This area was inundated in April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Populus fremontii</i>	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <i>Salix lasiolepis</i>	35	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
4. _____					
Total Cover:			55 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Populus fremontii</i>	15	Yes	FACW		
2. _____				OBL species	x 1 = 0
3. _____				FACW species	70 x 2 = 140
4. _____				FAC species	x 3 = 0
5. _____				FACU species	x 4 = 0
Total Cover:			15 %	UPL species	x 5 = 0
				Column Totals:	70 (A) 140 (B)
				Prevalence Index = B/A = 2.00	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0				
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>25 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Moderate amount of leaf litter present.

**SOIL**

Sampling Point: T6\_P2S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10YR 3/2						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has previously been inundated and at times was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T6\_P3S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234246 Long: -119.209027 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug south of the main low-flow channel within a dry braid (dry during survey). This area has been documented as inundated during significant storm events.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Populus fremontii</u>	15	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2. <u>Salix lasiolepis</u>	25	Yes	FACW																																	
3. <u>Salix laevigata</u>	15	Yes	FACW																																	
4. _____																																				
Total Cover: <u>55 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>  </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>65</u></td> <td align="center">x 2 =</td> <td align="center"><u>130</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>  </u></td> <td align="center">x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>  </u></td> <td align="center">x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>  </u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>65</u></td> <td align="center">(A)</td> <td align="center"><u>130</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>  </u>	x 1 =	<u>0</u>	FACW species	<u>65</u>	x 2 =	<u>130</u>	FAC species	<u>  </u>	x 3 =	<u>0</u>	FACU species	<u>  </u>	x 4 =	<u>0</u>	UPL species	<u>  </u>	x 5 =	<u>0</u>	Column Totals:	<u>65</u>	(A)	<u>130</u> (B)	Prevalence Index = B/A = <u>2.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>  </u>	x 1 =	<u>0</u>																																	
FACW species	<u>65</u>	x 2 =	<u>130</u>																																	
FAC species	<u>  </u>	x 3 =	<u>0</u>																																	
FACU species	<u>  </u>	x 4 =	<u>0</u>																																	
UPL species	<u>  </u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>65</u>	(A)	<u>130</u> (B)																																	
Prevalence Index = B/A = <u>2.00</u>																																				
<u>Sapling/Shrub Stratum</u>																																				
1. <u>Populus fremontii</u>	10	Yes	FACW																																	
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>10 %</u>																																				
<u>Herb Stratum</u>																																				
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>0 %</u>																																				
<u>Woody Vine Stratum</u>																																				
1. _____	0																																			
2. _____																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>25 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																				

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows and/or was inundated and scoured during large storm events. Small amount of leaf litter present.

**SOIL**

Sampling Point: T6\_P3S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	7.5 YR 5/1						Clay Loam	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): 24
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aerials from previous years shows this area has previously been inundated and at times was densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T6\_P4S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.233923 Long: -119.209044 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Sample location near the toe of the existing levee and adjacent to an 8ft vertical terrace.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Arundo donax</u>	70	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. <u>Salix lasiolepis</u>	30	Yes	FACW	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 100%				Total % Cover of: _____ Multiply by: _____	
<u>Sapling/Shrub Stratum</u>				OBL species	x 1 = 0
1. _____	0			FACW species	100 x 2 = 200
2. _____				FAC species	x 3 = 0
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	100 (A) 200 (B)
Total Cover: 0 %				Prevalence Index = B/A = 2.00	
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 0 %					
<u>Woody Vine Stratum</u>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum <u>20 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was densely vegetated and was dominated by willows/arundo. Moderate amount of leaf litter present.



**SOIL**

Sampling Point: T6\_P4S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
n/a	n/a							

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to dig a soil pit due to the dense, impenetrable stand of arundo.

**HYDROLOGY**

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aerials from previous years shows this area has generally been densely vegetated. Evidence of low flows through this area was present. .

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T7\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234689 Long: -119.212053 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Soil pit was dug north of and adjacent to the main low-flow channel (dry during survey). This area was inundated in April 2011.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiandra</i>	25	Yes	OBL	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. <i>Salix laevigata</i>	25	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7 % (A/B)
4. _____					
Total Cover:			50 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Melilotus alba</i>	50	Yes	FACU		
2. _____				OBL species	25 x 1 = 25
3. _____				FACW species	25 x 2 = 50
4. _____				FAC species	x 3 = 0
5. _____				FACU species	50 x 4 = 200
Total Cover:			50 %	UPL species	x 5 = 0
				Column Totals:	100 (A) 275 (B)
				Prevalence Index = B/A = 2.75	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0				
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area was inundated and densely vegetated (dominated by willows). Small amount of leaf litter present.

**SOIL**

Sampling Point: T7\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-22	10 YR 4/1						Sand	
22-24	GLE Y1 5/N						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has been inundated and densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T7\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234502 Long: -119.212082 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug south of and adjacent to the main low-flow channel (dry during survey). This area was inundated in April 2011.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiolepis</i>	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2.				Total Number of Dominant Species Across All Strata:	3 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7 % (A/B)
4.					
Total Cover:			40 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Melilotus alba</i>	10	Yes	FACU	Total % Cover of:	
2. <i>Typha latifolia</i>	35	Yes	OBL	OBL species	35 x 1 = 35
3.				FACW species	40 x 2 = 80
4.				FAC species	x 3 = 0
5.				FACU species	10 x 4 = 40
				UPL species	x 5 = 0
Total Cover:			45 %	Column Totals:	85 (A) 155 (B)
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index = B/A = 1.82	
1.	0			<b>Hydrophytic Vegetation Indicators:</b>	
2.				<input checked="" type="checkbox"/> Dominance Test is >50%	
3.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
4.				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5.				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
6.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
7.				<b>Hydrophytic Vegetation Present?</b>	
8.				Yes <input checked="" type="radio"/> No <input type="radio"/>	
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
1.	0				
2.					
Total Cover:			0 %		
% Bare Ground in Herb Stratum			50 %	% Cover of Biotic Crust	
				0 %	

Remarks: A review of aerials from previous years shows this area was inundated and densely vegetated (dominated by willows). Small amount of leaf litter present.

**SOIL**

Sampling Point: T7\_P2S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-22	10 YR 4/2						Sand	
22-24	GLE Y1 2.5/N						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

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

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

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

Remarks: A review of aerials from previous years shows this area has been inundated and densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 19 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T7\_P3S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234221 Long: -119.212106 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug at the toe of an 8ft vertical terrace. This area was nearly inundated in 2005.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Salix lasiolepis</i>	30	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2. <i>Arundo donax</i>	20	Yes	FACW																																	
3.																																				
4.																																				
Total Cover: <u>50 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>  </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>70</u></td> <td align="center">x 2 =</td> <td align="center"><u>140</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>  </u></td> <td align="center">x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>  </u></td> <td align="center">x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>  </u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>70</u></td> <td align="center">(A)</td> <td align="center"><u>140</u> (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A =</td> <td align="center" colspan="2"><u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>  </u>	x 1 =	<u>0</u>	FACW species	<u>70</u>	x 2 =	<u>140</u>	FAC species	<u>  </u>	x 3 =	<u>0</u>	FACU species	<u>  </u>	x 4 =	<u>0</u>	UPL species	<u>  </u>	x 5 =	<u>0</u>	Column Totals:	<u>70</u>	(A)	<u>140</u> (B)	Prevalence Index = B/A =		<u>2.00</u>	
Total % Cover of:		Multiply by:																																		
OBL species	<u>  </u>	x 1 =	<u>0</u>																																	
FACW species	<u>70</u>	x 2 =	<u>140</u>																																	
FAC species	<u>  </u>	x 3 =	<u>0</u>																																	
FACU species	<u>  </u>	x 4 =	<u>0</u>																																	
UPL species	<u>  </u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>70</u>	(A)	<u>140</u> (B)																																	
Prevalence Index = B/A =		<u>2.00</u>																																		
<u>Sapling/Shrub Stratum</u>																																				
1. <i>Arundo donax</i>	20	Yes	FACW																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover: <u>20 %</u>																																				
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1.	0																																			
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover: <u>0 %</u>																																				
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																
1.	0																																			
2.																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>10 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		

Remarks: A review of aerials from previous years shows this area as densely vegetated (dominated by willows). Large amount of leaf litter present.

**SOIL**

Sampling Point: T7\_P3S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10 YR 3/1						Silty Sand	
6-20	GLE Y1 2.5/N						Silty Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has historically been densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 20 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T8\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234694 Long: -119.215458 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Soil pit was dug south of and adjacent to the main low-flow channel (dry during survey) and a vegetated bar. This area was inundated in April 2011.	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiandra</i>	50	Yes	OBL	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2.				Total Number of Dominant Species Across All Strata:	2 (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 % (A/B)
4.					
Total Cover:			50 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Melilotus alba</i>	10	Yes	FACU		
2.				OBL species	50 x 1 = 50
3.				FACW species	x 2 = 0
4.				FAC species	x 3 = 0
5.				FACU species	10 x 4 = 40
				UPL species	x 5 = 0
Total Cover:			10 %	Column Totals:	60 (A) 90 (B)
				Prevalence Index = B/A =	1.50
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1.	0				
2.					
3.					
4.					
5.					
6.					
7.					
8.					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1.	0				
2.					
Total Cover:			0 %		
% Bare Ground in Herb Stratum		50 %	% Cover of Biotic Crust		0 %

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

Remarks: A review of aerials from previous years shows this area was inundated and densely vegetated (dominated by willows). Moderate amount of leaf litter present.



**SOIL**

Sampling Point: T8\_P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-22	10 YR 5/1						Sand	
22-24	10 YR 2/1						Sand	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): 24
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aeriels from previous years shows this area has been inundated and densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 20 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T8\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234535 Long: -119.215449 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug south of the main low-flow channel (dry during survey) and a vegetated bar.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiolepis</i>	15	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <i>Arundo donax</i>	40	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 55 %				Total % Cover of:	Multiply by:
<b>Sapling/Shrub Stratum</b>				OBL species	x 1 = 0
1. <i>Arundo donax</i>	25	Yes	FACW	FACW species	80 x 2 = 160
2. _____				FAC species	x 3 = 0
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	80 (A) 160 (B)
Total Cover: 25 %				Prevalence Index = B/A =	2.00
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 0 %					
<b>Woody Vine Stratum</b>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area has been densely vegetated (dominated by willows). Small amount of leaf litter present.

**SOIL**

Sampling Point: T8\_P2S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-22	10 YR 4/2						Silt	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aerials from previous years shows this area has been densely vegetated. During high flow events small braids flow through the general area of this soil pit.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 20 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T8\_P3S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.233790 Long: -119.215497 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug at the transition from arundo dominated to willow dominated near the existing levee structure.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiolepis</i>	50	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. <i>Arundo donax</i>	35	Yes	FACW	Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 85 %				Total % Cover of:	Multiply by:
<b>Sapling/Shrub Stratum</b>				OBL species	x 1 = 0
1. _____	0			FACW species	85 x 2 = 170
2. _____				FAC species	x 3 = 0
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
5. _____				Column Totals:	85 (A) 170 (B)
Total Cover: 0 %				Prevalence Index = B/A = 2.00	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 0 %					
<b>Woody Vine Stratum</b>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum	10 %	% Cover of Biotic Crust	0 %		

Remarks: A review of aerials from previous years shows this area has been densely vegetated (dominated by willows). Large amount of leaf litter present.

**SOIL**

Sampling Point: T8\_P3S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Texture <sup>3</sup>	Remarks	
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			Loc <sup>2</sup>
0-22	10 YR 4/1					Silt		

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

Remarks: A review of aerials from previous years shows this area has been densely vegetated. During high flow events small braids flow through the general area of this soil pit.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 20 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: SCR3\_T8\_P4S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.233640 Long: -119.215439 Datum: NAD1983  
 Soil Map Unit Name: Corralitos loamy sand, 0-2 percent slopes NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug at the toe of a terrace/slope leading to the existing levee structure.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Salix lasiolepis</u>	45	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. <u>Plantanus racemosa</u>	5	No	FAC	Total Number of Dominant Species Across All Strata:	2 (B)
3. <u>Arundo donax</u>	30	Yes	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____					
Total Cover:			80 %		
Sapling/Shrub Stratum				<b>Prevalence Index worksheet:</b>	
1. _____	0			Total % Cover of:	Multiply by:
2. _____				OBL species	x 1 = 0
3. _____				FACW species	75 x 2 = 150
4. _____				FAC species	5 x 3 = 15
5. _____				FACU species	x 4 = 0
Total Cover:			0 %	UPL species	x 5 = 0
Herb Stratum				Column Totals:	80 (A) 165 (B)
1. _____	0			Prevalence Index = B/A = 2.06	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum				<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
Total Cover:			0 %	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
% Bare Ground in Herb Stratum			10 %	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
% Cover of Biotic Crust			0 %	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
				<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="radio"/> No <input type="radio"/>

Remarks: A review of aerials from previous years shows this area has been densely vegetated (dominated by willows). Large amount of water stained leaf litter present.

**SOIL**

Sampling Point: SCR3\_T8

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10 YR 5/3						Silt	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aerials from previous years shows this area has been densely vegetated.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 20 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T10\_P1S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234298 Long: -119.223684 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug south of the main low-flow channel (dry during survey). Multiple small secondary/tertiary channels were visible within the general area of the soil pit.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <i>Salix lasiolepis</i>	35	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <i>Arundo donax</i>	15	Yes	FACW	Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	75.0 % (A/B)
4. _____					
Total Cover:			50 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <i>Baccharis pilularis</i>	20	Yes	UPL		
2. <i>Salix lasiolepis</i>	20	Yes	FACW	OBL species	x 1 = 0
3. _____				FACW species	70 x 2 = 140
4. _____				FAC species	x 3 = 0
5. _____				FACU species	x 4 = 0
Total Cover:			40 %	UPL species	20 x 5 = 100
				Column Totals:	90 (A) 240 (B)
				Prevalence Index = B/A = 2.67	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0				
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>60 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: A review of aerials from previous years shows this area has generally been densely vegetated (dominated by willows). Small amount of leaf litter present.



**SOIL**

Sampling Point: T10\_P1S

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-22	10 YR 4/2						Sand	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: A review of aerials from previous years shows this area has densely vegetated and supports small braided secondary/tertiary channels during high flow events.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 20 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: T10\_P2S  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.234124 Long: -119.223633 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit was dug south of the main low-flow channel (dry during survey) at the toe of a nearly vertical 6ft bank leading to a stream terrace. Multiple small secondary/tertiary channels were visible within the general area of the soil pit.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Salix lasiolepis</u>	65	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover:	65 %																																			
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">65</td> <td>x 2 =</td> <td align="center">130</td> </tr> <tr> <td>FAC species</td> <td></td> <td>x 3 =</td> <td align="center">0</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td align="center">0</td> </tr> <tr> <td>UPL species</td> <td align="center">5</td> <td>x 5 =</td> <td align="center">25</td> </tr> <tr> <td>Column Totals:</td> <td align="center">70</td> <td>(A)</td> <td align="center">155 (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A =</td> <td></td> <td align="center">2.21</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species		x 1 =	0	FACW species	65	x 2 =	130	FAC species		x 3 =	0	FACU species		x 4 =	0	UPL species	5	x 5 =	25	Column Totals:	70	(A)	155 (B)	Prevalence Index = B/A =			2.21
Total % Cover of:		Multiply by:																																		
OBL species		x 1 =	0																																	
FACW species	65	x 2 =	130																																	
FAC species		x 3 =	0																																	
FACU species		x 4 =	0																																	
UPL species	5	x 5 =	25																																	
Column Totals:	70	(A)	155 (B)																																	
Prevalence Index = B/A =			2.21																																	
1. <u>Baccharis pilularis</u>	5	No	UPL																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover:	5 %																																			
<u>Herb Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																
1.																																				
2.																																				
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover:	0 %																																			
<u>Woody Vine Stratum</u>																																				
1.																																				
2.																																				
Total Cover:	0 %																																			
% Bare Ground in Herb Stratum <u>45 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																				

Remarks: A review of aerials from previous years shows this area has generally been densely vegetated (dominated by willows). Water stained leaf litter present.

**SOIL**

Sampling Point: T10\_P2S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-24	10 YR 4/2						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

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

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

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

Remarks: A review of aerials from previous years shows this area has densely vegetated and supports small braided secondary/tertiary channels during high flow events.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: Vict\_1  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.233584 Long: -119.217168 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested/Shrub Wetland

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within the Victoria Drainage Channel approximately 75 feet from the end of the box culvert.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Arundo donax</u>	50	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
Total Cover: <u>50 %</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>  </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>50</u></td> <td align="center">x 2 =</td> <td align="center"><u>100</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>  </u></td> <td align="center">x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>30</u></td> <td align="center">x 4 =</td> <td align="center"><u>120</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>10</u></td> <td align="center">x 5 =</td> <td align="center"><u>50</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>90</u></td> <td align="center">(A)</td> <td align="center"><u>270</u> (B)</td> </tr> <tr> <td align="center" colspan="3">Prevalence Index = B/A =</td> <td align="center"><u>3.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>  </u>	x 1 =	<u>0</u>	FACW species	<u>50</u>	x 2 =	<u>100</u>	FAC species	<u>  </u>	x 3 =	<u>0</u>	FACU species	<u>30</u>	x 4 =	<u>120</u>	UPL species	<u>10</u>	x 5 =	<u>50</u>	Column Totals:	<u>90</u>	(A)	<u>270</u> (B)	Prevalence Index = B/A =			<u>3.00</u>
Total % Cover of:		Multiply by:																																		
OBL species	<u>  </u>	x 1 =	<u>0</u>																																	
FACW species	<u>50</u>	x 2 =	<u>100</u>																																	
FAC species	<u>  </u>	x 3 =	<u>0</u>																																	
FACU species	<u>30</u>	x 4 =	<u>120</u>																																	
UPL species	<u>10</u>	x 5 =	<u>50</u>																																	
Column Totals:	<u>90</u>	(A)	<u>270</u> (B)																																	
Prevalence Index = B/A =			<u>3.00</u>																																	
<b>Sapling/Shrub Stratum</b>																																				
1. _____	0																																			
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u>0 %</u>																																				
<b>Herb Stratum</b>																																				
1. <u>Brassica nigra</u>	10	No	UPL																																	
2. <u>Helminthoteca echioides</u>	30	Yes	FACU																																	
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>40 %</u>																																				
<b>Woody Vine Stratum</b>																																				
1. _____	0																																			
2. _____																																				
Total Cover: <u>0 %</u>																																				
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>																																		
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																																				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.																																				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																																				

Remarks: This area is inundated during storm events and generally has shallow standing water for long periods. Duckweed (Lemna sp.) was present within the standing water in the channel, outside of the plot area for the herb stratum.

**SOIL**

Sampling Point: Vict\_1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-22	10YR 3/1						Sandy Clay	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

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

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	
Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches):    22	
Saturation Present? (includes capillary fringe)    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	

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

Remarks: This drainage channel generally contains shallow standing water for long periods after storm events.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: Vict 2  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.233987 Long: -119.217998 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within a small floodplain channel. The channel elevation increases by approximately 3 feet in this general area and heads to the west.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Arroyo willow</u>	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <u>Arundo donax</u>	50	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____					
Total Cover:			90 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <u>Baccharis salicifolia</u>	50	Yes	FAC	Total % Cover of:	Multiply by:
2. _____				OBL species	x 1 = 0
3. _____				FACW species	90 x 2 = 180
4. _____				FAC species	50 x 3 = 150
5. _____				FACU species	x 4 = 0
Total Cover:			50 %	UPL species	x 5 = 0
				Column Totals:	140 (A) 330 (B)
				Prevalence Index = B/A = 2.36	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0			<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b>	
1. _____	0			Yes <input checked="" type="radio"/> No <input type="radio"/>	
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>90 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: This area is inundated during storm events and appears to hold water for short periods of time.

**SOIL**

Sampling Point: Vict 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 2/1						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: This drainage channel generally contains shallow standing water for short periods after storm events.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: Vict 3  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.233954 Long: -119.218476 Datum: NAD1983  
 Soil Map Unit Name: Riverwash NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within a small floodplain channel. A 6ft bank was present along the south bank of channel.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Arroyo willow</u>	30	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	3 (A)
2. <u>Arundo donax</u>	30	Yes	FACW	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____					
Total Cover:			60 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>	
1. <u>Baccharis salicifolia</u>	40	Yes	FAC		
2. _____				OBL species	x 1 = 0
3. _____				FACW species	60 x 2 = 120
4. _____				FAC species	40 x 3 = 120
5. _____				FACU species	x 4 = 0
Total Cover:			40 %	UPL species	x 5 = 0
				Column Totals:	100 (A) 240 (B)
				Prevalence Index = B/A = 2.40	
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>	
1. _____	0				
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover:			0 %		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
1. _____	0				
2. _____					
Total Cover:			0 %		
% Bare Ground in Herb Stratum <u>100%</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: This area is inundated during storm events and appears to hold water for short periods of time.



**SOIL**

Sampling Point: Vict 3

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-20	10YR 2/1						Sandy Silt	

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

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

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: This drainage channel generally contains shallow standing water for short periods after storm events.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: EIRio\_1  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.237821 Long: -119.191285 Datum: NAD1983  
 Soil Map Unit Name: Sandy Alluvial Land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within the El Rio Drainage Channel approximately 140 feet from the culvert under Ventura Road.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	0			Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____				Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 0 %				Total % Cover of: _____ Multiply by: _____	
<b>Sapling/Shrub Stratum</b>				OBL species	x 1 = 0
1. _____	0			FACW species	x 2 = 0
2. _____				FAC species	x 3 = 0
3. _____				FACU species	25 x 4 = 100
4. _____				UPL species	40 x 5 = 200
5. _____				Column Totals:	65 (A) 300 (B)
Total Cover: 0 %				Prevalence Index = B/A = 4.62	
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b>	
1. <i>Erodium cicutarium</i>	10	Yes	UPL	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. <i>Brassica geniculata</i>	30	Yes	Not Listed	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
3. <i>Cardamine hirsuta</i>	15	Yes	FACU	<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
4. <i>Veronica arvensis</i>	10	Yes	FACU	<input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
5. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
6. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: 65 %					
<b>Woody Vine Stratum</b>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum <u>10 %</u>		% Cover of Biotic Crust <u>0 %</u>			

Remarks: This area is inundated during storm events but the water recedes quickly. This area is also a maintained channel; maintenance includes vegetation management. Without maintenance the channel would likely accumulate sediment and allow for the persistence of wetland indicator species. The species observed are most often associated with disturbed areas.

**SOIL**

Sampling Point: ElRio\_1

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-26	10YR 2/1						Sand	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

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

**Wetland Hydrology Present?**    Yes     No

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

Remarks: This area is inundated for short periods of time during storm events. If the channel were left unmaintained it is likely that sediment would accumulate and promote wetland characteristics. Areas downstream of this pit exhibit wetland vegetation, hydrogen sulfide soils, and oxidized rhizospheres.

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

Project/Site: SCR3 Levee Improvement Project City/County: Oxnard/Ventura County Sampling Date: 21 Feb 2014  
 Applicant/Owner: Ventura County Watershed Protection District State: CA Sampling Point: RiverP\_1  
 Investigator(s): Jared Varonin, Brady Daniels Section, Township, Range: T2N, R22W  
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): none Slope (%): n/a  
 Subregion (LRR): C - Mediterranean California Lat: 34.239574 Long: -119.189509 Datum: NAD1983  
 Soil Map Unit Name: Sandy Alluvial Land NWI classification: Riverine

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: <u>Soil pit dug within the Riverpark Drainage Channel approximately 125 feet from the culvert under Ventura Road.</u>	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Salix lasiolepis</u>	40	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	4 (A)
2. _____				Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
4. _____				<b>Prevalence Index worksheet:</b>	
Total Cover: 40 %				Total % Cover of:	Multiply by:
<u>Sapling/Shrub Stratum</u>				OBL species	x 1 = 0
1. _____	0			FACW species	80 x 2 = 160
2. _____				FAC species	10 x 3 = 30
3. _____				FACU species	x 4 = 0
4. _____				UPL species	x 5 = 0
Total Cover: 0 %				Column Totals:	90 (A) 190 (B)
<u>Herb Stratum</u>				Prevalence Index = B/A = 2.11	
1. <u>Polypogon monspeliensis</u>	15	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b>	
2. <u>Cyperus eragrostis</u>	25	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
3. <u>Rumex crispus</u>	10	Yes	FAC	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
4. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
6. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
7. _____					
8. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Total Cover: 50 %					
<u>Woody Vine Stratum</u>					
1. _____	0				
2. _____					
Total Cover: 0 %					
% Bare Ground in Herb Stratum	30 %	% Cover of Biotic Crust	0 %		

Remarks: This area is inundated during storm events and generally has shallow standing water for long periods.

**SOIL**

Sampling Point: RiverP\_1

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR 2/1						Sand	
4-18	GLE Y1 2.5/N						Sandy Clay	

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

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks: Unable to encounter native soils; access was limited due to the presence of reoccurring sediment deposits. Lack of hydric soil indicators likely due to seasonal/annual deposition of new material. Conditions meet the requirements to be considered hydric as described in the 2008 Arid West Supplement (Vegetated Sand and Gravel Bars within Floodplains).

**HYDROLOGY**

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

**Field Observations:**

Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Depth (inches): _____
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): 16
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches): 16

**Wetland Hydrology Present?**    Yes     No

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

Remarks: This drainage channel generally contains shallow standing water for long periods after storm events.

# **Attachment 5 – Federal Non-Wetland/Wetland Waters Indicator Information**

**Table 1. Potential Geomorphic Indicators of Ordinary High Water Marks for the Arid West**

(A) Below OHW	(B) At OHW	(C) Above OHW
1. In-stream dunes	1. Valley flat	1. Desert pavement
2. Crested ripples	2. Active floodplain	2. Rock varnish
3. Flaser bedding	3. Benches: low, mid, most prominent	3. Clast weathering
4. Harrow marks	4. Highest surface of channel bars	4. Salt splitting
5. Gravel sheets to rippled sands	5. Top of point bars	5. Carbonate etching
6. Meander bars	6. Break in bank slope	6. Depositional topography
7. Sand tongues	7. Upper limit of sand-sized particles	7. Caliche rubble
8. Muddy point bars	8. Change in particle size distribution	8. Soil development
9. Long gravel bars	9. Staining of rocks	9. Surface color/tone
10. Cobble bars behind obstructions	10. Exposed root hairs below intact soil layer	10. Drainage development
11. Scour holes downstream of obstructions	11. Silt deposits	11. Surface relief
12. Obstacle marks	12. Litter (organic debris, small twigs and leaves)	12. Surface rounding
13. Stepped-bed morphology in gravel	13. Drift (organic debris, larger than twigs)	
14. Narrow berms and levees		
15. Streaming lineations		
16. Desiccation/mud cracks		
17. Armored mud balls		
18. Knick Points		

**Table 2. Potential Vegetation Indicators of Ordinary High Water Marks for the Arid West**

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian Indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation annual herbs, hydromesic ruderals 6. ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominant 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

**Table 3. Summary of Wetland Indicator Status**

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability of 67–99%)
Facultative	FAC	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34–66%)
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability >99%)
Non-Indicator	NI	No indicator status has been assigned

Source: Reed, 1988; USFWS, 1997; USACE, 2012.

**Table 4. Wetland Hydrology Indicators\***

Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	Local Soil Survey Data

\*Table adapted from 1987 USACE Manual and Related Guidance Documents.

**Table 5. Wetland Hydrology Indicators for the Arid West\***

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
<b>Group A – Observation of Surface Water or Saturated Soils</b>		
A1 – Surface Water	X	
A2 – High Water Table	X	
A3 – Saturation	X	
<b>Group B – Evidence of Recent Inundation</b>		
B1 – Water Marks	X (Non-riverine)	X (Riverine)
B2 – Sediment Deposits	X (Non-riverine)	X (Riverine)
B3 – Drift Deposits	X (Non-riverine)	X (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 – Water-Stained Leaves	X	
B10 – Drainage	X	X
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	
<b>Group C – Evidence of Current or Recent Soil Saturation</b>		
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	



**Table 5. Wetland Hydrology Indicators for the Arid West\***

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
C4 – Presence of Reduced Iron	X	
C6 – Recent Iron Reduction in Tilled Soils	X	
C7 – Thin Muck Surface	X	
C8 – Crayfish Burrows		X
C9 – Saturation Visible on Aerial Imagery		X
Group D – Evidence from other Site Conditions or Data		
D3 – Shallow Aquitard		X
D5 – FAC-Neutral Test		X

\*Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

**Table 6. Field Indicators of Hydric Soil Conditions\***

1. Indicators of Historical Hydric Soil Conditions	2. Indicators of Current Hydric Soil Conditions
a. Histosols	a. Aquic or peraquic moisture regime (inundation and/or soil saturation for *7 continuous days)
b. Histic epipedons;	b. Reducing soil conditions (inundation and/or soil saturation for *7 continuous days)
c. Soil colors (e.g., gleyed or low-chroma colors, soils with bright mottles (Redoximorphic features) and/or depleted soil matrix	c. Sulfidic material (rotten egg smell)
d. High organic content in surface of sandy soils	
e. Organic streaking in sandy soils	
f. Iron and manganese concretions	
g. Soil listed on county hydric soils list	

\*Table adapted from 1987 USACE Manual and Related Guidance Documents.

**Table 7. Hydric Soil Indicators for the Arid West\***

All Soils	Hydric Soil Indicators		Hydric Soil Indicators for Problem Soils**
	Sandy Soils	Loamy and Clay Soils	
A1 – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Verti
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material
A5 – Stratified Layers	—	F7 – Depleted Dark Surface	Other (See Section 5 of Regional Supplement, Version 2.0)
A9 – 1 cm Muck	—	F8 – Redox Depressions	—
A11 – Depleted Below Dark Surface	—	F9 – Vernal Pools	—
A12 – Thick Dark Surface	—	—	—

\* Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

\*\* Indicators of hydrophytic vegetation and wetland hydrology must be present

# **Attachment 6 – Regulatory Background Information**

## **Regulatory Background Information**

### **Section 404 of the Clean Water Act (CWA)**

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within “waters of the U.S.” (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The USACE has adopted several revisions to their regulations in order to more clearly define “waters of the U.S.” Until the beginning of 2001, “waters of the U.S.” included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable “waters of the U.S.”

The jurisdictional extent of USACE regulation changed with the 2001 SWANCC (Solid Waste Agency of Northern Cook County) ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

### **Section 401 of the CWA**

Section 401 of the CWA requires that any applicant for a Federal permit for activities that involve a discharge to ‘waters of the State,’ shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete CEQA document (e.g., Initial Study/Mitigated Negative Declaration).

### **Section 1602 of the California Fish and Game Code**

Section 1602 of the California Fish and Game Code requires any person, State or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW will determine if the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. A completed CEQA document must be submitted to CDFW before a SAA will be issued.