



BIOLOGICAL TECHNICAL ASSESSMENT REPORT

LOS ANGELES RIVER WATERSHED FEASIBILITY STUDY

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SECTION 1.0 INTRODUCTION

This Biological Technical Assessment Report (Report) has been prepared to satisfy requirements of Waste Discharge Requirements Order No. R4-2010-0021 (WDR) adopted by the California Regional Water Quality Control Board (RWQCB), Los Angeles Region, on February 4, 2010, for the Soft-bottom Flood Control Channels Project maintained by the Los Angeles County Flood Control District (LACFCD). The WDR requires that a Feasibility Study be conducted for all watersheds containing soft-bottom channel (SBC) reaches maintained by the LACFCD. The WDR requires that the first Feasibility Study be done of the Los Angeles River Watershed. The 25¹ SBC reaches within the Los Angeles River Watershed are listed and described below in Table 1.

The purpose of the Feasibility Study is to provide an “on-going assessment of channel conditions and hydraulic capacity” in order to “determine where a potential may exist for native vegetation to remain within the soft-bottom portion of the channel or if additional hydraulic capacity is needed” (WDR, Condition 45). As required by the WDR, a Work Plan was submitted to the RWQCB that provided proposed study methods for the Feasibility Study, including an “assessment of biological functions and values of these reaches” so that “comparisons of habitat type, maturity and extent of native or invasive plants can be made between reaches” (WDR, Condition 48). The LACFCD was required to “include an assessment of the biological function and values for each reach” (WDR, Condition 50).

This Report assesses the biological function and values for each SBC reach, as required by the WDR, Condition 50. The results of this assessment are incorporated into the final recommendations identifying which SBC reaches can sustain additional vegetation and/or replacement of non-native with native vegetation, without affecting the reaches’ hydraulic capacity.

¹ It was originally believed that there were 26 soft-bottom channel reaches maintained by the LACFCD within the Los Angeles River watershed. One of those reaches, Reach 17, has since been determined to be owned, operated and maintained by the City of Glendale, as noted below. While Reach 17 is discussed in this Report it is not part of any recommendations. This report is being provided to the City of Glendale.

**TABLE 1
BIOLOGICAL TECHNICAL ASSESSMENT REPORT
26 SOFT-BOTTOM CHANNEL REACHES**

Reach No.	Reach Name	Reach Limits		Reach Length (ft)	Area (acres)
		Upstream	Downstream		
1	Bell Creek-MTD 963 M.C.I.	962 ft u/s of Highlander Road	766 ft u/s of Highlander Road	196	0.90
2	Dry Canyon (Calabasas) PD T1845	676 ft u/s of Park Ora	870 ft d/s of Park Ora	1,546	1.24
3	Santa Susana Creek M.C.I.	5,560 ft north of Devonshire Street	5,635 ft north of Devonshire Street	75	0.06
4	Browns Creek	1,895 ft u/s of Rinaldi Street	556 ft u/s of Rinaldi Street	1,243	3.00
5	Caballero Creek M.C.I. (West Fork)	890 ft u/s of Reseda Boulevard	238 ft u/s of Reseda Boulevard	652	1.30
6	Caballero Creek M.C.I. (East Fork)	588 ft u/s of Reseda Boulevard	428 ft u/s of Reseda Boulevard	160	0.35
7	Bull Creek M.C.O.	165 ft d/s of Victory Boulevard	Confluence with Los Angeles River	2,602 ¹	5.61
8	Project 470 Outlet	Havenhurst Avenue	Ventura (101) Freeway	529	0.30
9	Project 106 Outlet	400 ft d/s of Victory Boulevard	520 ft d/s of Victory Boulevard	120	0.12
10	Project No. 469	751 ft d/s of Victory Boulevard	Confluence with Los Angeles River	4,194	7.12
12	Haines Canyon M.C.O.	791 ft d/s of Wentworth Street	1,228 d/s of Wentworth Street	437	0.40
13	Project No. 5215 Unit 1	1,030 ft d/s of Foothill Boulevard	1,535 ft d/s of Foothill Boulevard	537	0.55
14	May Channel (M.C.O. into Pacoima Canyon)	3,038 ft d/s of Hubbard Street	Confluence with Pacoima Canyon Wash	690	0.63
15	Pacoima Wash	159 ft d/s of Parthenia Street	1,187 ft d/s Lanark Street	4,762	5.25
16	Verdugo Wash-Las Barras Canyon (Channel Inlet)	157 ft u/s of Confluence with Las Barras Canyon Channel	27 ft u/s of Confluence with Las Barras Canyon Channel	130	0.07
17 ²	Sheep Corral Channel	1,150 ft u/s of Forest Glen Drive	850 ft u/s of Forest Glen Drive	300	0.14
18	Engleheard Channel	800 ft u/s of Confluence with Verdugo Wash	Confluence with Verdugo Wash	800	1.10
19	Pickens Canyon	d/s edge of Panorama Drive produced	Pickens Debris Basin	2,406	3.42
20	Webber Channel (stream at private bridge)	861 ft u/s of Los Amigos Street	746 ft u/s of Los Amigos Street	115	0.13
21	Webber Channel (main channel inlet d/s bridge)	496 ft u/s of Los Amigos Street	471 ft u/s of Los Amigos Street	25	0.03

² Owned and maintained by City of Glendale.

**TABLE 1
BIOLOGICAL TECHNICAL ASSESSMENT REPORT
26 SOFT-BOTTOM CHANNEL REACHES**

Reach No.	Reach Name	Reach Limits		Reach Length (ft)	Area (acres)
		Upstream	Downstream		
22	Halls Canyon	1,370 ft u/s of Jessen Drive	Halls Canyon Debris Basin	2,290	2.63
24	Compton Creek	COE Station 199+31.00	Confluence with Los Angeles River	11,000	30.30
25	Los Angeles River	Willow Street	Pacific Coast Highway	4,800	56.20
96	PD 1591	85 ft u/s of culvert under Vicasa Drive	360 ft d/s of culvert under Vicasa Drive	320	0.92
99	Kagel Canyon	Blue Sage Drive	City of Los Angeles Boundary	4,858	1.67
100	Dry Canyon Calabasas	1,835 ft u/s of Avenue San Luis	1,775 ft u/s of Avenue San Luis	60	0.05
<p>Note: ¹ The LACFCD Maintenance Plan for Bull Creek states that maintenance work will be limited to "the first 400 feet of natural channel downstream from the concrete channel outlet," so this study is limited to that area.</p> <p>Source: LACFCD as provided in WDR Order No. R4-2010-0021.</p>					

SECTION 2.0 LITERATURE REVIEW

A literature review was conducted to review and update existing information gathered through the SBC maintenance program about plant and wildlife species that (1) have been afforded special status by State, federal, and local resource agencies and organizations and (2) have potential to occur within the Los Angeles River Watershed.

Sources reviewed include: (1) special status species lists from the California Department of Fish and Wildlife (CDFW)³; the U.S. Fish and Wildlife Service (USFWS), and the California Native Plant Society (CNPS); (2) database searches of the CDFW's California Natural Diversity Database (CNDDDB) (CDFW 2010a) and the CNPS' Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2010); see Table 2 below for the U.S. Geological Survey (USGS) quadrangles used during the searches; (3) the most recent *Federal Register* listing package and critical habitat determination for each federally listed Endangered or Threatened species potentially occurring within the Los Angeles River Watershed; (4) the CDFW Annual Report on the status of California's listed Threatened and Endangered plants and wildlife; and (5) other biological studies conducted in the Los Angeles River Watershed that were relevant to this Report, including those conducted previously by BonTerra Consulting for the LACFCD. Table 2 provides the USGS 7.5-minute quadrangles included in the database searches for the various reaches.

**TABLE 2
DATABASE SEARCH INFORMATION**

Reach Numbers	USGS 7.5-minute Quadrangles Included in Search Area
1, 3, and 4	Santa Susana, Oat Mountain, Calabasas, and Canoga Park
2, 96, and 100	Calabasas, Canoga Park, Malibu Beach, and Topanga
5, 6, 7, 8, 9, and 10	Canoga Park, Van Nuys, Topanga, and Beverly Hills
12, 13, 14, 15, and 99	San Fernando, Sunland, Van Nuys, and Burbank
16, 17, ⁴ 18, 19, 20, 21, and 22	Sunland, Condor Peak, Burbank, and Pasadena
24 and 25	Long Beach, South Gate, San Pedro, Torrance, and Inglewood
USGS: U.S. Geological Survey	

The information gathered during the literature search, including the above CNDDDB database searches was used by the biologists to develop appropriate survey methods (see Appendix A for database search results).

³ The California Department of Fish and Game changed its name to the California Department of Fish and Wildlife effective January 1, 2013.

⁴ Owned and maintained by City of Glendale.

SECTION 3.0 BIOLOGICAL SURVEYS

Biological surveys for plant and wildlife species were performed at each of the SBC reaches (see Table 1). Most of the surveys were conducted in the spring and summer seasons prior to LACFCD's annual maintenance activities, which are performed during the fall. The surveys at each of these 26 SBC reaches included mapping of vegetation types; focused searches for special status including Threatened and Endangered plant and wildlife species; and summer season bird surveys. In addition, migratory bird surveys were conducted at Compton Creek (Reach 24). The methodologies for these surveys are described below.

The survey areas for each reach included habitats within the channel and on the adjacent channel banks, generally following the descriptive information presented for all 26 SBC reaches shown above in Table 1. One exception is Bull Creek (Reach 7), for which the downstream limit is described as the confluence with the Los Angeles River. The LACFCD Maintenance Plan (February 2, 1999) approved with the original permits for the Soft-Bottom Flood Control Channels Project, states that maintenance activities in Reach 7 will be limited to "the first 400 feet of natural channel downstream from the concrete channel outlet" just downstream of Victory Boulevard (LACDPW and CDFW 1999). Reach 7 was transformed in 2008 by construction of the Bull Creek Ecosystem Restoration Project, which included this SBC reach and an additional section of Bull Creek downstream to North Balboa Boulevard within the Sepulveda Dam Recreation Area. Although the original earth-bottom invert is still present, the banks of Reach 7 are now covered by riprap. A pedestrian bridge was constructed for the Bull Creek Ecosystem Restoration Project about 350 feet (ft) downstream of the concrete channel outlet and was used as the downstream limits of Reach 7 for the surveys described in this Feasibility Study.

Vegetation Mapping Surveys

Twelve vegetation types and 5 other areas were identified during the vegetation mapping surveys of the SBC reaches described in this Report (Table 3). Mapping of the vegetation types was accomplished concurrent with the final focused plant surveys conducted in 2010 for each of these reaches. Recent aerial photographs at a scale of 1 inch = 100 feet were used to map vegetation types. Nomenclature for the vegetation types identified in these surveys generally follows the *List of Vegetation Alliances and Associations, Vegetation Classification and Mapping Program* (CDFW 2010b). The vegetation types identified in the surveys generally reflected the vegetation shown on the aerial maps along the alignment of each SBC reach. For some of the SBC reaches, particularly the wider reaches, the mapped vegetation represents the actual vegetation growing on the channel invert, but for most of the smaller SBC reaches, the mapped vegetation is of the canopies that cover the channel invert from trees either rooted outside or on the channel banks. These small reaches were mapped as southern coast live oak riparian forest (Reaches 6 and 17); disturbed southern coast live oak riparian forest (Reaches 3, 20, 21, 22, and 99); willow riparian forest (Reaches 1, 2, and 5); southern willow scrub (Reaches 6, 12, and 14); and ornamental (Reaches 2, 3, 9, 12, 18, 22, and 100). In these cases, all or most of the channel invert is regularly maintained and the mapped riparian resources are not impacted. As a result, the maintained inverts of these reaches contain only unvegetated wash, riparian herb, ruderal, open water, and developed areas. The vegetation maps for each SBC reach are included in Appendix B.

**TABLE 3
VEGETATION TYPES**

Vegetation Type	Reach Numbers
Scale Broom Scrub	13, 14, 19, 22
Disturbed Scale Broom Scrub	13, 14
Southern Coast Live Oak Riparian Forest	4, 6, 16, 17, ⁵ 96
Disturbed Southern Coast Live Oak Riparian Forest	3, 20, 21, 22, 99
Willow Riparian Forest	1, 2, 5, 96
Southern Willow Scrub	4, 6, 7, 12, 14, 25
Cattail Wetland	2, 5, 6, 10, 24, 25, 96
Cattail Wetland/Open Water	24
Disturbed Cattail Wetland	15, 25
Riparian Herb	15, 99
Ruderal	1, 2, 3, 4, 8, 10, 12, 13, 14, 15, 16, 22, 24, 25, 96, 99
Ornamental	3, 9, 12, 18, 19, 21, 22, 96, 99, 100
Non-Vegetation Type	Reach Numbers
Unvegetated Wash	12, 15, 19, 21, 22, 25
Open Water	2, 4, 5, 7, 8, 10, 12, 15, 24, 25
Disturbed Areas	4, 13, 14, 18
UngROUTED Riprap	1, 7, 10, 25
Developed Areas	2, 5, 7, 8, 10, 12, 14, 15, 18, 19, 21, 22, 24, 25, 96, 99

Descriptions of Vegetation Types

Scale broom scrub is present in SBC Reaches 13, 14, 19, and 22. This native vegetation type is dominated one or more of the following species: California sagebrush (*Artemisia californica*), scale broom (*Lepidospartum squamatum*), California buckwheat (*Eriogonum fasciculatum*), and thick-leaved yerba santa (*Eriodictyon crassifolium*). Other perennial shrubs present include white sage (*Salvia apiana*) and mule fat (*Baccharis salicifolia*). The understory is relatively open and dominated by small native annual forbs including lastarriaea (*Lastarriaea coriacea*), popcorn flower (*Cryptantha* spp.), and non-native grasses.

Disturbed scale broom scrub is present in SBC Reaches 13 and 14. This native vegetation type is in the vicinity of the scale broom scrub described above. The overstory of this vegetation type is dominated by California sagebrush, scale broom, California buckwheat, and thick-leaved yerba santa. The shrub cover is much less dense in these areas due to disturbance. The understory is dominated by non-native forbs, including black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), Italian thistle (*Carduus pycnocephalus*), and non-native grasses.

Southern coast live oak riparian forest is present in SBC Reaches 4, 6, 16, 17, and 96. This native vegetation type is dominated by dense stands of coast live oak (*Quercus agrifolia*) rooted in or adjacent to the banks of the SBC reaches. The understory is sparse, and dominated by oak seedlings, leaf litter, and native forbs, including caterpillar phacelia (*Phacelia cicutaria*).

Disturbed southern coast live oak riparian forest is present in SBC Reaches 3, 20, 21, 22, and 99. This native vegetation type is dominated by species as shown for the riparian forest described above. The understory is dominated by non-native ornamental species such as English ivy (*Hedera helix*) and ruderal species such as smilo grass (*Piptatherum miliaceum*).

⁵ Owned and maintained by City of Glendale.

Some native forbs, including branching phacelia (*Phacelia ramosissima*), are also present in the understory vegetation.

Willow riparian forest is present at SBC Reaches 1, 2, 5, and 96. This native vegetation type is dominated by Goodding's black willow (*Salix gooddingii*) and western sycamore (*Platanus racemosa*). This vegetation type varies from the southern willow scrub vegetation type in that the canopy contains larger trees (i.e., greater than 20 ft in height) and the canopy tends to be more dense. The understory is sparse and dominated by willow seedlings and saplings with the occasional mule fat distributed throughout.

Southern willow scrub is present at SBC Reaches 4, 6, 7, 12, 14, and 25. This native vegetation type is dominated by Goodding's black willow, arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and narrow-leaved willow (*Salix exigua*). This vegetation type typically consists of relatively small stands of willows. The willows are of various sizes and heights due to differing frequencies of scouring from rain events. The willows range from seedlings to trees, which are approximately 20 ft high. This vegetation type differs from the willow riparian forest vegetation type by the size of the patch; overall height of the patch; and density of the understory. The willow riparian forest described above has more than a few large willow trees in each patch; has trees over 10 ft tall; and has a denser understory. The understory in southern willow scrub varies at each SBC reach in the amount of non-native and native herbaceous species to unvegetated wash under the trees. The herbaceous species in some of the understory areas include mugwort (*Artemisia douglasiana*), knotweed (*Polygonum* spp.), and Mexican sprangletop (*Leptochloa fusca* ssp. *uninervia*).

Cattail wetland is present in SBC Reaches 2, 5, 6, 10, 24, 25, and 96. This native vegetation type is dominated by cattails (*Typha* spp.), which are emergent plants that grow in one or more feet of water. Cattails readily hybridize between the three species known to occur in California, these species include *T. angustifolia*, *T. domingensis*, and *T. latifolia*. This vegetation type is typically found in the center of the SBC reach where open water is present. This vegetation type's boundaries are constantly changing due to changes in the water levels and the rapid growth of this species. Plant species in low densities within the cattails include rush (*Juncus* spp.), sedges (*Cyperus* spp.), and water cress (*Nasturtium officinale*). Ruderal species such as the Spanish sunflower (*Pulicaria paludosa*) are also present in some of these SBC reaches.

Cattail wetland/open water is present in SBC Reach 24. This native vegetation type is similar in species composition and density to the cattail wetlands listed above. The difference between the two vegetation types is that the cattail wetlands/open water have areas of deeper water that do not contain vegetation. It was not possible to delineate the open water on the aerial photograph or visually from above due to the height of the cattails, which at the time of the surveys exceeded 10 ft.

Disturbed cattail wetland is present in SBC Reaches 15 and 25. This native vegetation type is also similar in species composition to the cattail wetlands, but at the time of the surveys, these areas appeared to be dying due to lack of water. Some of the areas are also heavily invaded with non-native herbaceous species.

Riparian herb is present in SBC Reaches 15 and 99. This vegetation type is dominated by low-growing herbaceous native and non-native species that are either rooted in the water or rooted directly adjacent to the water. The riparian herb in these SBC reaches is dominated by watercress, duckweed (*Lemna* sp.), knotweed, and Spanish sunflower.

Ruderal (weedy) areas are present in SBC Reaches 1, 2, 3, 4, 8, 10, 12, 13, 14, 15, 16, 22, 24, 25, 96, and 99. This vegetation type consists of areas that have been previously disturbed and now primarily support non-native vegetation that is well-adapted to disturbed conditions and high nitrogen soils. These areas occur adjacent to the developed areas or in the more upland areas of the SBC reaches. Species present in these areas include Russian thistle (*Salsola tragus*), black mustard, common sow thistle (*Sonchus oleraceus*), bristly ox-tongue (*Helminthotheca echioides*), and sticktight (*Bidens frondosa*).

Ornamental areas are present in SBC Reaches 3, 9, 12, 18, 19, 21, 22, 96, 99, and 100. This non-native vegetation type consists of introduced trees and shrubs planted for aesthetic purposes. A wide variety of ornamental landscaping occurs adjacent to the SBC reaches in conjunction with existing developments. Many of these ornamental species, including trees, shrubs, and ground covers, have spread into the channel reaches in varying amounts. Ornamental vegetation has formed large patches in some channel reaches. Widespread ornamental species present in these SBC reaches include gum trees (*Eucalyptus* spp.), Brazilian pepper trees (*Schinus terebinthifolius*), and acacia (*Acacia* spp.).

Unvegetated wash is present in SBC Reaches 12, 15, 19, 21, 22, and 25. Unvegetated wash is not a vegetation type, but is delineated as a mapping unit on the vegetation maps. Unvegetated wash in the SBC reaches consists of bare sand or silt that does not contain any vegetation. These areas have been scoured and are typically colonized by riparian vegetation following scouring events.

Open water is present at the time of surveys and mapped in SBC Reaches 2, 4, 5, 7, 8, 10, 12, 15, 24, and 25. Open water is not a vegetation type, but is delineated as a mapping unit on the vegetation maps. Open water typically consists of fresh water in the center of the SBC reaches that was either flowing or ponding. These areas occasionally contain a few cattails and/or duckweed.

Disturbed areas are present in SBC Reaches 4, 13, 14, and 18. This is not a vegetation type, but is delineated as a mapping unit on the vegetation maps. In these SBC reaches, it consists of dirt roads, cleared areas, and ungrouted riprap. These areas typically contain exposed soil without concrete or development and little to no vegetation.

UngROUTED Riprap is present in SBC Reaches 1, 7, 10, and 25. Both grouted riprap and riprap that is not grouted are generally mapped as developed areas on vegetation maps. UngROUTED riprap, however, can support substantial amounts of vegetation while grouted riprap typically supports very little vegetation. As a result, ungrouted riprap is delineated as a separate mapping unit on the vegetation maps for the SBC reaches. UngROUTED riprap is present on portions of the channel banks. The only vegetation present is ornamental or weedy native species that may grow in the small cracks in the concrete.

Developed areas are present in SBC Reaches 2, 5, 7, 8, 10, 12, 14, 15, 18, 19, 21, 22, 24, 25, 96, and 99. This is not a vegetation type, but is delineated as a mapping unit on the vegetation maps. These areas are man-made structures that contain little to no vegetation. Any vegetation that is present typically consists of ruderal species similar to that described above or invasive species such as fan palms (*Washingtonia* sp.), tree of heaven (*Ailanthus altissima*), and tree tobacco (*Nicotiana glauca*).

Special Status Plant Surveys

Focused surveys for special status plant species are conducted on a periodic basis for the 100 plus SBC reaches maintained by the LACFCD through the area of the District, including the Los Angeles River Watershed. These special status plant species surveys are discussed in more detail below for the SBC reaches covered by this Report.

Habitat assessments for federally and/or State-listed special status plant species were conducted for the LACFCD's SBC maintenance program in 2002. Although potentially suitable habitat for the federally and State-listed Endangered slender-horned spineflower (*Dodecahema leptoceras*) was identified at several SBC reaches—including Reaches 13 and 19 in the Los Angeles River Watershed—surveys were not conducted in 2002 due to the prevailing drought conditions. The slender-horned spineflower is an annual species that appears only after seasons with sufficient rainfall. The federally and State-listed Endangered Nevin's barberry (*Berberis nevinii*), a large and conspicuous shrub that can be identified year-round, was not present at the SBC reaches (Reaches 4, 12, 13, 14, 17, 18, 19, 20, 21, 22, and 99) that were identified as having potentially suitable habitat during the 2002 habitat assessments (BonTerra Consulting 2002). After a season of sufficient rainfall, focused surveys were conducted in 2003 for the slender-horned spineflower at all LACFCD SBC reaches with potentially suitable habitat for this species. In 2003, these reaches included four Los Angeles River Watershed SBC reaches (Reaches 12, 13, 14, and 19) identified as having potentially suitable habitat. The 2003 focused survey results for slender-horned spineflower were negative at all LACFCD SBC reaches, including the four Los Angeles River Watershed reaches, and no further surveys were recommended as long as the existing maintenance plan and associated access routes were followed (BonTerra Consulting 2003).

As part of this Report, focused surveys for special status plant species were performed in 2010 at each of the SBC reaches in the Los Angeles River Watershed by BonTerra Consulting Senior Botanists Sandra J. Leatherman and Jeff S. Crain; Senior Biologist Brian E. Daniels, Jennifer S. Pareti, Allison D. Rudalevige; and Consulting Botanist Pam DeVries. The survey dates and personnel are listed below in Table 4. Each of the SBC reaches was surveyed 3 times during 2010 (in April, May, and June), except for the Webber Channel SBC reaches (Reaches 20 and 21), which were inaccessible in May 2010 due to corrective measures taken by a private landowner to repair fire and storm damages to its property.

**TABLE 4
FOCUSED PLANT SURVEY DATES AND PERSONNEL**

Reach No.	Survey 1		Survey 2		Survey 3	
	Dates	Personnel	Dates	Personnel	Dates	Personnel
1	20-Apr-10	JSC, BED	26-May-10	SJL, BED	16-Jun-10	JSC, BED
2	20-Apr-10	JSC, BED	10-May-10	SJL, PDV	23-Jun-10	JSC, BED
3	20-Apr-10	JSC, BED	26-May-10	SJL, BED	23-Jun-10	JSC, BED
4	20-Apr-10	JSC, BED	26-May-10	SJL, BED	23-Jun-10	JSC, BED
5	16-Apr-10	JSC, ADR	10-May-10	SJL, PDV	16-Jun-10	JSC, BED
6	16-Apr-10	JSC, ADR	10-May-10	SJL, PDV	16-Jun-10	JSC, BED
7	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
8	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	16-Jun-10	JSC, BED
9	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
10	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
			24-May-10	SJL, JSP		
12	16-Apr-10	SJL, PDV	24-May-10	SJL, JSP	17-Jun-10	JSC, BED

**TABLE 4
FOCUSED PLANT SURVEY DATES AND PERSONNEL**

Reach No.	Survey 1		Survey 2		Survey 3	
	Dates	Personnel	Dates	Personnel	Dates	Personnel
13	16-Apr-10	SJL, PDV	24-May-10	SJL, JSP	17-Jun-10	JSC, BED
14	16-Apr-10	SJL, PDV	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
15	22-Apr-10	JSC, BED	26-May-10	SJL, BED	28-Jun-10	SJL, BED
16	19-Apr-10	JSC, JSP	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
17 ⁶	19-Apr-10	JSC, JSP	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
18	19-Apr-10	JSC, JSP	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
19	30-Apr-10	SJL, PDV	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
20	30-Apr-10	SJL, PDV	No survey		18-Jun-10	JSC, BED
21	30-Apr-10	SJL, PDV	No survey		18-Jun-10	JSC, BED
22	30-Apr-10	SJL, PDV	24-May-10	SJL, JSP	18-Jun-10	JSC, BED
24	19-Apr-10	JSC, JSP	21-May-10	SJL, JSP	28-Jun-10	SJL, BED
	21-Apr-10	JSC, JSP				
25	21-Apr-10	JSC, JSP	21-May-10	SJL, JSP	29-Jun-10	SJL, BED
96	20-Apr-10	JSC, BED	10-May-10	SJL, PDV	16-Jun-10	JSC, BED
99	22-Apr-10	JSC, BED	26-May-10	SJL, BED	29-Jun-10	SJL, BED
100	20-Apr-10	JSC, BED	10-May-10	SJL, PDV	16-Jun-10	JSC, BED

JSC: Jeff S. Crain (BonTerra Consulting); BED: Brian E. Daniels (BonTerra Consulting); SJL: Sandy J. Leatherman (BonTerra Consulting); ADR: Allison D. Rudalevige (BonTerra Consulting); PDV: Pam DeVries (Consulting Biologist); JSP: Jennifer S. Pareti (BonTerra Consulting).

Source: BonTerra Consulting 2011b.

Of the 26 SBC reaches surveyed in this Report, Sheep Corral Channel (Reach 17) was the only one in which a special status plant species, ocellated lilies (*Lilium humboldtii* ssp. *ocellatum*), was observed. As noted above, this reach is owned by the City of Glendale, which has exclusive responsibility for its maintenance. Numerous ocellated lilies, which have a California Rare Plant Rank (CRPR) of 4, were observed on the slope directly above the right bank⁷ of Reach 17. Prior to the second survey, the vegetation within and next to Reach 17 (including the ocellated lilies observed during the first survey) was removed during fire-abatement activities conducted by an unknown entity. As a result, the ocellated lilies observed during the first survey were removed before they were able to bloom and reach maturity. During the third survey, however, blooming ocellated lilies were observed in the open space upstream of Reach 17. No other special status plant species were observed at any other SBC reaches during the surveys. The complete focused plant survey is included in Appendix C.

Special Status Wildlife Surveys

Focused surveys for special status wildlife species are conducted on a regular basis for the 100 plus SBC reaches managed by the LACFCD. Table 5 provides a summary of these surveys performed at the SBC reaches discussed in this Report. These special status wildlife species surveys are discussed in more detail below.

⁶ Owned and maintained by City of Glendale.

**TABLE 5
FOCUSED SURVEY RESULTS SUMMARY FOR WILDLIFE**

Reach Number	Reach Name	Santa Ana Sucker	Arroyo Toad	California Red-legged Frog	Southwestern Willow Flycatcher	Least Bell's Vireo
1	Bell Creek-MTD 963 M.C.I.	N/A	N/A	N/A	N/A	N/A
2	Dry Canyon (Calabasas) PD T1845	N/A	N/A	N/A	N/A	N/A
3	Santa Susana Creek M.C.I.	N/A	N/A	N/A	N/A	N/A
4	Browns Creek	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
5	Caballero Creek M.C.I. (West Fork)	N/A	N/A	N/A	N/A	N/A
6	Caballero Creek M.C.I. (East Fork)	N/A	N/A	N/A	N/A	N/A
7	Bull Creek M.C.O.	N/A	N/A	N/A	FS 2002, 2003, 2005, 2007, 2009, 2011 – Negative Results	FS 2002, 2003, 2005, 2007 – Negative Results; N/A in 2009, 2011.
8	Project 470 Outlet	N/A	N/A	N/A	N/A	N/A
9	Project 106 Outlet	N/A	N/A	N/A	N/A	N/A
10	Project No. 469	N/A	N/A	N/A	N/A	N/A
12	Haines Canyon M.C.O.	FS 2002 to Present; Negative Results 2002 to 2012	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	FS 2002, 2003, 2005, 2007, 2009, 2011 – Negative Results	FS 2002, 2003, 2005, 2007, 2009, 2011 – Negative Results.
13	Project No. 5215 Unit 1	HA 2002 to resent; Negative Results/No Focused Survey (seining) Conducted	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
14	May Channel (M.C.O. into Pacoima Canyon)	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	FS 2002, 2003, 2005, 2007, 2009, 2011 – Negative Results	FS 2002, 2003, 2005, 2007, 2009, 2011 – 1 pair in 2005; absent in 2007; 2 solitary males in 2009; 3 pairs in 2011.
15	Pacoima Wash	N/A	N/A	N/A	N/A	N/A
16	Verdugo Wash-Las Barras Canyon (Channel Inlet)	N/A	N/A	N/A	N/A	N/A

**TABLE 5
FOCUSED SURVEY RESULTS SUMMARY FOR WILDLIFE**

Reach Number	Reach Name	Santa Ana Sucker	Arroyo Toad	California Red-legged Frog	Southwestern Willow Flycatcher	Least Bell's Vireo
17 ⁸	Sheep Corral Channel	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
18	Engleheard Channel	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
19	Pickens Canyon	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
20	Webber Channel (stream at private bridge)	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
21	Webber Channel (main channel inlet d/s bridge)	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
22	Halls Canyon	N/A	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
24	Compton Creek	N/A	N/A	N/A	N/A	N/A
25	Los Angeles River	N/A	N/A	N/A	2002 FS – Negative Results; Habitat Determined to be Unsuitable/No Further Surveys Warranted	2002 FS – Negative Results; Habitat Determined to be Unsuitable/No Further Surveys Warranted
96	PD 1591	N/A	N/A	N/A	N/A	N/A
99	Kagel Canyon	FS 2002: Negative Results; Habitat Determined to be Unsuitable/No Further Surveys Warranted	N/A	2002 HA – No Suitable Habitat/No Further Surveys Warranted	N/A	N/A
100	Dry Canyon Calabasas	N/A	N/A	N/A	N/A	N/A
LEGEND: HA = Habitat Assessment Survey FS = Focused Survey N/A = Not Applicable (no suitable habitat and/or outside known range)						

⁸ Owned and maintained by City of Glendale.

As required by the regulatory permits, annual focused (pre-clearing) surveys for the State- and federally listed Endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) and federally listed Threatened Santa Ana sucker (*Catostomus santaanae*) are conducted in those SBC reaches with appropriate habitat. The unarmored threespine stickleback no longer occurs in the Los Angeles River Watershed, but the Santa Ana sucker is present in the Big Tujunga Creek drainage of the Los Angeles River Watershed. Of the 26 SBC reaches surveyed for this Report, only Haines Canyon Main Channel Outlet (Reach 12), Project No. 5215 Unit 1 (Reach 13), and Kagel Canyon (Reach 99) were identified in 2002 as having the potential to support the Santa Ana sucker (BonTerra Consulting 2002). All three of these SBC reaches are tributaries of Big Tujunga Creek. Reach 12 has contained sufficient amounts of water for focused surveys⁹ every year since 2002. The Santa Ana sucker has been absent in all surveys conducted at Reach 12 since 2002, but the arroyo chub (*Gila orcuttii*), a California Species of Special Concern, has been present since 2002. Reach 13 has not yet held sufficient enough amounts of water to be seined, but it is checked annually since there are no obstructions between it and Big Tujunga Creek (which is located less than a quarter mile to the south). A focused survey was conducted at Reach 99 in 2002, but no fish were found (BonTerra Consulting 2002). The survey found a barrier to upstream movement of fish at the intersection of Vineyard Trail and Creek Trail. Here the water in the creek enters a drain, flows through a pipe, and drops vertically about 7 ft. The fishery biologists that conducted the survey determined that no further surveys for fish were required at Reach 99 (BonTerra Consulting 2002). The most recent fish survey report prepared for the LACFCD's SBC maintenance program is included as Appendix D.

Habitat assessments were conducted in 2002 for the federally listed Endangered arroyo toad (*Anaxyrus californicus*) and federally listed Threatened California red-legged frog (*Rana draytonii*) at those LACFCD SBC reaches within the known range of the species. The arroyo toad occurs in the Santa Clara River Watershed, but not the Los Angeles River Watershed. Therefore, no habitat assessments for the arroyo toad were conducted in 2002 at any of the SBC reaches addressed in this Report. At that time, the final designation of Critical Habitat for the California red-legged frog included areas in the vicinity of Big Tujunga Creek (USFWS 2001). As a result, habitat assessments for the California red-legged frog were conducted in 2002 at Reaches 4, 12, 13, 14, 17, 18, 19, 20, 21, 22, and 99 in the general area surrounding Big Tujunga Creek. These surveys found no suitable habitat for the California red-legged frog at any of these SBC reaches and concluded that no further surveys for the species were required (BonTerra Consulting 2002). Since 2001, Los Angeles County south of Santa Clarita has been eliminated as Critical Habitat for the California red-legged frog. New Critical Habitat areas, however, were added in the southeast corner of Ventura County, abutting the Los Angeles County line west of the San Fernando Valley. These properties include Ahmanson Ranch, where a California red-legged frog population was discovered in 1999 within Las Virgenes Creek drainage. The new final designation of Critical Habitat for the Californiared-legged frog includes this Unit of Critical Habitat in Ventura County that is named "Upper Las Virgenes Canyon" (USFWS 2010). Part of this new Unit of Critical Habitat includes drainages (Bell Canyon) that are within the Los Angeles River Watershed. The Bell Creek-MTC 963 Main Channel Inlet (Reach 1) is located just over ¼ mile from the Ventura County line and is within this new Unit of Critical Habitat. Although no formal Habitat Assessment has been performed, the habitat at Reach 1 is considered unsuitable for the California red-legged frog due to the lack of deep ponding water.

⁹ If the habitat assessment determines that sufficient amounts of water are present to hold fish, then a focused survey is conducted in which the water is seined for fish.

Focused surveys for the southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell’s vireo (*Vireo bellii pusillus*), which are both State- and federally listed Endangered Species, have been conducted at those SBC reaches in the Los Angeles River Watershed that contain potentially suitable habitat for these two bird species. In 2002, surveys were conducted at Reaches 7, 12, 14, and 25. As discussed above, Bull Creek (Reach 7) was transformed in 2008 by construction of the Bull Creek Ecosystem Restoration Project. Focused surveys conducted in 2002, 2003, 2005, and 2007 at Reach 7 were negative for the southwestern willow flycatcher and least Bell’s vireo (BonTerra Consulting 2002, 2003, 2005, and 2007). Further surveys at Reach 7 have been discontinued due to lack of suitable habitat for these two species. Surveys at Haines Channel Outlet (Reach 12) since 2002 have been negative for these two species (BonTerra Consulting 2002, 2003, 2005, 2007, 2009, and 2011a). Surveys for the southwestern willow flycatcher at May Channel (Reach 14) have been negative for southwestern willow flycatcher, but the least Bell’s vireo has been present in 2005 (pair), 2009 (two solitary males), and 2011 (three pairs) (BonTerra Consulting 2002, 2003, 2005, 2007, 2009, 2011a).

Surveys at the Los Angeles River (Reach 25) were negative in 2002 and discontinued thereafter due to lack of suitable habitat. A federally funded project implemented by the U.S. Army Corps of Engineers (USACE) to increase the flood-carrying capacity of the lower Los Angeles River in 2000 resulted in the removal of most of the 9.37 acres of vegetation that had been allowed to remain since 1997 in Reach 25 by the LACFCD. The remaining willow trees are too isolated and lack the understory vegetation necessary to support breeding southwestern willow flycatchers and least Bell’s vireos. As a result, no further surveys for these two species have been performed at Reach 25 since 2002. The most recent focused survey report for the southwestern willow flycatcher and least Bell’s vireo prepared for the LACFCD’s SBC maintenance program is included as Appendix E.

Summer Season Birds Surveys

In conjunction with the plant surveys discussed above, summer season surveys for birds were conducted at each of the SBC reaches. These surveys focused not only on identifying the birds using the habitats in the SBC reaches, but also included searches for amphibians, reptiles, and mammals (Tables 6 and 7). All wildlife surveys were conducted by BonTerra Consulting Senior Biologist/Ornithologist Brian E. Daniels on the following dates: June 16, 18, 24, 28, and 29, 2010. Since these surveys were performed after the spring migration season, most of the bird species recorded can be assumed to be breeding or potentially breeding in or near the SBC reach where they were observed. There were exceptions; in particular, most of the waterbirds recorded at the Los Angeles River (Reach 25) were non-breeders summering at this location.

**TABLE 6
WILDLIFE SURVEYS
REACHES LESS THAN ONE ACRE**

	Reach Number												
	1	3	7	8	9	13	14	16	17 ¹⁰	20	21	96	100
Amphibians													
Pacific treefrog (<i>Pseudacris regilla</i>)	-	X	-	-	-	-	-	-	-	-	-	-	-
bullfrog (<i>Rana catesbeiana</i>)*	-	X	-	-	-	-	-	-	-	-	-	-	-
Reptiles													
western fence lizard (<i>Sceloporus occidentalis</i>)	X	X	-	-	-	-	-	-	-	-	-	-	-

¹⁰ Owned and maintained by City of Glendale.

**TABLE 6
WILDLIFE SURVEYS
REACHES LESS THAN ONE ACRE**

	Reach Number												
	1	3	7	8	9	13	14	16	17 ¹⁰	20	21	96	100
Birds													
mallard (<i>Anas platyrhynchos</i>)	-	-	-	-	-	-	-	-	-	-	-	-	8
killdeer (<i>Charadrius vociferus</i>)	3	-	-	-	-	-	-	-	-	-	-	-	-
mourning dove (<i>Zenaida macroura</i>)	1	-	-	-	1	-	-	-	-	1	-	2	1
Anna's hummingbird (<i>Calypte anna</i>)	-	1	-	1	-	-	-	-	-	-	-	-	1
Allen's hummingbird (<i>Selasphorus sasin</i>)	-	-	-	-	-	-	-	-	-	-	-	2	-
Nuttall's woodpecker (<i>Picoides nuttalli</i>)	-	-	-	-	-	-	-	-	1	1	-	-	-
Pacific-slope flycatcher (<i>Empidonax difficilis</i>)	-	-	-	-	-	-	-	1	1	-	1	1	-
black phoebe (<i>Sayornis nigricans</i>)	1	1	1	-	2	-	-	-	-	1	-	1	1
ash-throated flycatcher (<i>Myiarchus cinerascens</i>)	-	-	-	-	-	-	1	-	-	-	-	-	-
Hutton's vireo (<i>Vireo huttoni</i>)	-	-	-	-	-	-	-	-	1	-	-	-	-
western scrub-jay (<i>Aphelocoma californica</i>)	-	-	-	-	-	-	-	1	-	-	-	-	-
American crow (<i>Corvus brachyrhynchos</i>)	-	-	-	-	-	-	1	-	-	-	-	-	-
common raven (<i>Corvus corax</i>)	-	-	-	-	-	-	2	-	-	-	-	-	-
northern rough-winged swallow (<i>Stelgidopteryx serripennis</i>)	-	-	4	-	-	2	-	-	-	-	-	-	-
cliff swallow (<i>Petrochelidon pyrrhonota</i>)	-	-	10	-	-	-	1	-	-	-	-	-	-
barn swallow (<i>Hirundo rustica</i>)	-	-	1	6	-	-	-	-	-	-	-	2	-
oak titmouse (<i>Baeolophus inornatus</i>)	-	-	-	-	-	-	-	-	-	1	-	-	-
house wren (<i>Troglodytes aedon</i>)	-	1	-	-	-	-	-	-	-	-	-	-	-
Bewick's wren (<i>Thryomanes bewickii</i>)	-	-	-	-	-	2	1	-	-	-	2	2	-
wrentit (<i>Chamaea fasciata</i>)	-	-	-	-	-	1	-	-	1	-	1	-	-
American robin (<i>Turdus migratorius</i>)	-	-	-	-	-	-	-	-	-	-	1	-	-
northern mockingbird (<i>Mimus polyglottos</i>)	-	-	-	-	-	-	-	-	-	-	-	-	1
phainopepla (<i>Phainopepla nitens</i>)	-	-	-	-	-	1	-	-	-	-	-	-	-
common yellowthroat (<i>Geothlypis trichas</i>)	-	-	1	-	-	-	2	-	-	-	-	-	-
yellow warbler (<i>Setophaga coronata</i>)	-	-	-	-	-	-	-	-	-	-	-	1	-
spotted towhee (<i>Pipilo maculatus</i>)	-	-	-	-	-	2	1	1	2	1	2	2	-
California towhee (<i>Melospiza crissalis</i>)	-	-	-	-	-	2	2	-	1	-	1	2	-
song sparrow (<i>Melospiza melodia</i>)	-	2	1	-	-	-	3	-	-	-	-	2	-
black-headed grosbeak (<i>Pheucticus melanocephalus</i>)	-	-	-	-	-	-	-	-	-	-	-	1	-
red-winged blackbird (<i>Agelaius phoeniceus</i>)	-	-	2	-	-	-	-	-	-	-	-	-	-
hooded oriole (<i>Icterus cucullatus</i>)	-	-	-	-	-	-	-	-	1	-	-	-	-
Bullock's oriole (<i>Icterus bullockii</i>)	-	-	-	-	2	-	-	-	-	-	-	-	-
house finch (<i>Haemorhous mexicanus</i>)	2	2	-	1	3	2	10	-	2	-	-	1	-
lesser goldfinch (<i>Spinus psaltria</i>)	-	2	-	-	-	2	4	1	2	1	-	-	-
American goldfinch (<i>Spinus tristis</i>)	-	-	1	2	-	-	3	-	-	-	-	-	-
house sparrow (<i>Passer domesticus</i>) *	-	-	-	6	-	-	-	-	-	-	-	-	-
Mammals													
California ground squirrel (<i>Spermophilus beecheyi</i>)	-	X	-	-	-	-	-	-	-	-	-	-	-
X: Detected during survey; numbers of individuals present not recorded during survey													
* Introduced non-native species with established breeding population in California													
** Exotic or escaped non-native species that may or may not be breeding in California													

**TABLE 7
WILDLIFE SURVEYS
REACHES GREATER THAN ONE ACRE**

	Reach Number											
	2	4	5/6	10	12	15	18	19	22	24	25	99
Amphibians												
western toad (<i>Bufo boreas</i>)	-	-	-	-	-	X	-	-	-	-	-	-
Pacific treefrog (<i>Pseudacris regilla</i>)	X	X	X	-	-	X	-	-	-	-	-	X
Reptiles												
western fence lizard (<i>Sceloporus occidentalis</i>)	-	X	-	-	-	-	-	-	X	-	-	X
side-blotched lizard (<i>Uta stansburiana</i>)	-	X	-	-	-	-	-	-	-	-	-	-
western whiptail (<i>Aspidoscelis tigris</i>)	-	X	-	-	-	-	-	-	-	-	-	-
southern alligator lizard (<i>Elgaria multicarinata</i>)	-	X	-	-	-	-	-	-	-	-	-	-
Birds												
mallard (<i>Anas platyrhynchos</i>)	-	-	1	13	4	18	-	-	-	12	100	-
cinnamon teal (<i>Anas cyanoptera</i>)	-	-	-	-	-	-	-	-	-	5	3	-
double-crested cormorant (<i>Phalacrocorax auritus</i>)	-	-	-	-	-	-	-	-	-	-	14	-
great blue heron (<i>Ardea herodias</i>)	-	-	-	-	-	-	-	-	-	2	1	-
great egret (<i>Ardea alba</i>)	-	-	-	-	-	-	-	-	-	-	2	-
snowy egret (<i>Egretta thula</i>)	-	-	-	-	-	-	-	-	-	-	1	-
green heron (<i>Butorides virescens</i>)	-	-	-	-	-	-	-	-	-	2	1	-
black-crowned night-heron (<i>Nycticorax nycticorax</i>)	-	-	-	-	-	-	-	-	-	4	9	-
red-shouldered hawk (<i>Buteo lineatus</i>)	-	-	1	-	-	-	-	-	-	1	-	1
common gallinule (<i>Gallinula galeata</i>)	-	-	-	-	-	-	-	-	-	-	1	-
American coot (<i>Fulica americana</i>)	-	-	-	-	-	-	-	-	-	8	10	-
killdeer (<i>Charadrius vociferus</i>)	-	-	-	-	-	1	-	-	-	5	2	-
black-necked stilt (<i>Himantopus mexicanus</i>)	-	-	-	-	-	-	-	-	-	-	12	-
western gull (<i>Larus occidentalis</i>)	-	-	-	-	-	-	-	-	-	-	2	-
Caspian tern (<i>Hydroprogne caspia</i>)	-	-	-	-	-	-	-	-	-	-	3	-
Forster's tern (<i>Sterna forsteri</i>)	-	-	-	-	-	-	-	-	-	-	1	-
rock pigeon (<i>Columba livia</i>)*	-	-	-	-	-	1	-	-	-	8	1	-
Eurasian collared-dove (<i>Streptopelia decaocto</i>)*	-	-	-	-	-	-	-	-	-	4	-	-
mourning dove (<i>Zenaida macroura</i>)	2	-	-	3	2	26	-	1	2	1	-	1
white-throated swift (<i>Aeronautes saxatalis</i>)	-	20	-	-	-	-	-	-	-	-	-	-
black-chinned hummingbird (<i>Archilochus alexandri</i>)	2	-	1	-	-	-	-	-	1	-	-	-
Anna's hummingbird (<i>Calypte anna</i>)	-	-	-	2	-	-	-	-	-	-	-	1
Allen's hummingbird (<i>Selasphorus sasin</i>)	5	-	1	3	1	-	-	-	2	2	-	-
acorn woodpecker (<i>Melanerpes formicivorus</i>)	-	-	-	-	-	-	-	-	-	-	-	4
Nuttall's woodpecker (<i>Picoides nuttallii</i>)	1	1	1	-	-	-	-	-	1	-	-	1
American kestrel (<i>Falco sparverius</i>)	-	-	-	-	-	-	-	-	-	-	1	-
Pacific-slope flycatcher (<i>Empidonax difficilis</i>)	1	-	-	-	-	-	-	-	1	-	-	4
black phoebe (<i>Sayornis nigricans</i>)	-	2	1	3	2	3	1	-	1	15	1	5
Cassin's kingbird (<i>Tyrannus vociferans</i>)	-	-	-	1	-	-	-	-	-	1	-	-
western kingbird (<i>Tyrannus verticalis</i>)	-	-	1	-	-	-	-	-	-	-	-	-
Steller's jay (<i>Cyanocitta stelleri</i>)	-	-	-	-	-	-	-	-	2	-	-	-
western scrub-jay (<i>Aphelocoma californica</i>)	1	-	-	-	-	1	-	-	6	-	-	-
American crow (<i>Corvus brachyrhynchos</i>)	-	-	-	-	1	1	-	-	-	-	2	6

**TABLE 7
WILDLIFE SURVEYS
REACHES GREATER THAN ONE ACRE**

	Reach Number											
	2	4	5/6	10	12	15	18	19	22	24	25	99
northern rough-winged swallow (<i>Stelgidopteryx serripennis</i>)	-	2	-	3	8	-	-	-	-	-	16	-
cliff swallow (<i>Petrochelidon pyrrhonota</i>)	-	-	-	-	-	-	-	-	-	1	8	-
barn swallow (<i>Hirundo rustica</i>)	1	-	-	6	-	4	-	-	-	10	1	-
oak titmouse (<i>Baeolophus inornatus</i>)	-	-	1	-	-	-	-	-	2	-	-	3
bushtit (<i>Psaltriparus minimus</i>)	-	-	10	15	-	-	-	-	-	-	-	2
house wren (<i>Troglodytes aedon</i>)	-	-	-	-	-	-	-	-	1	-	-	-
Bewick's wren (<i>Thryomanes bewickii</i>)	1	-	3	-	-	-	-	-	1	-	-	1
wrentit (<i>Chamaea fasciata</i>)	-	-	-	-	-	-	-	-	4	-	-	-
American robin (<i>Turdus migratorius</i>)	-	-	-	-	-	-	-	-	2	-	-	-
northern mockingbird (<i>Mimus polyglottos</i>)	-	-	-	2	-	3	-	1	1	5	-	-
California thrasher (<i>Toxostoma redivivum</i>)	-	-	-	-	-	-	-	-	2	-	-	-
European starling (<i>Sturnus vulgaris</i>)	-	-	-	-	-	30	-	-	-	17	1	-
common yellowthroat (<i>Geothlypis trichas</i>)	2	-	-	6	1	-	-	-	-	57	11	-
yellow warbler (<i>Setophaga coronata</i>)	1	-	1	-	4	-	-	-	-	-	-	1
spotted towhee (<i>Pipilo maculatus</i>)	2	-	-	-	-	-	-	1	5	-	-	2
California towhee (<i>Melospiza crissalis</i>)	1	-	2	5	-	1	-	-	3	-	-	5
song sparrow (<i>Melospiza melodia</i>)	6	-	3	29	2	-	-	-	3	42	3	4
northern cardinal (<i>Cardinalis cardinalis</i>)**	-	-	1	-	-	-	-	-	-	-	-	-
black-headed grosbeak (<i>Pheucticus melanocephalus</i>)	-	-	-	-	-	-	-	-	1	-	-	-
red-winged blackbird (<i>Agelaius phoeniceus</i>)	-	-	-	-	-	3	-	-	-	78	14	-
brown-headed cowbird (<i>Molothrus ater</i>)	-	-	-	-	-	-	-	-	-	4	-	-
hooded oriole (<i>Icterus cucullatus</i>)	-	-	-	-	1	-	-	-	-	1	-	1
Bullock's oriole (<i>Icterus bullockii</i>)	-	-	-	-	1	-	-	-	-	-	-	-
purple finch (<i>Haemorhous purpureus</i>)	-	-	-	-	-	-	-	-	2	-	-	-
house finch (<i>Haemorhous mexicanus</i>)	1	5	3	115	2	-	1	2	3	79	21	1
lesser goldfinch (<i>Spinus psaltria</i>)	2	3	-	2	-	-	2	-	15	-	-	4
American goldfinch (<i>Spinus tristis</i>)	-	-	-	9	-	-	-	-	-	18	-	-
house sparrow (<i>Passer domesticus</i>)*	-	-	-	1	-	6	-	-	-	8	4	2
orange bishop (<i>Euplectes franciscanus</i>)**	-	-	-	2	-	-	-	-	-	11	1	-
nutmeg mannikin (<i>Lonchura punctulata</i>)**	-	-	-	-	-	-	-	-	-	23	-	-
Mammals												
desert cottontail (<i>Sylvilagus audubonii</i>)	-	X	-	X	-	-	-	-	-	X	-	-
California ground squirrel (<i>Spermophilus beecheyi</i>)	-	X	-	X	-	-	-	-	X	X	X	X
western gray squirrel (<i>Sciurus griseus</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Botta's pocket gopher (<i>Thomomys bottae</i>)	X	-	-	-	-	-	-	-	-	-	-	-
coyote (<i>Canis latrans</i>)	-	-	-	-	-	-	-	X	-	-	-	-
common raccoon (<i>Procyon lotor</i>)	-	X	-	-	-	-	-	-	-	-	-	X
X: Detected during survey; numbers of individuals present not recorded during survey												
* Introduced non-native species with established breeding population in California												
** Exotic or escaped non-native species that may or may not be breeding in California												

For about half of the SBC reaches, the survey areas were less than one acre, and those survey results are shown in Table 6. One of these smaller reaches, Haines Canyon Main Channel Outlet (Reach 12) is included in Table 7 (SBC reaches greater than one acre) because, based on the longest transect length of 110 ft used in the vegetation transects (see Table 10 below), the survey area size was 1.10 acres. In addition, the small Caballero Creek Main Channel Inlet (East Fork) (Reach 6) is contiguous with the larger Caballero Creek Main Channel Inlet (West Fork) (Reach 5), and so both have been combined and included in Table 7 as Reaches 5/6.

Table 6 shows a combined total of 36 bird species that were recorded at the 13 small SBC reaches, with an average of 7 species per reach. The SBC reaches with the most diverse avifauna were May Channel (Reach 14) and PD 1591 (Reach 96), where a total of 12 species each were recorded. Reach 14 consists primarily of southern willow scrub vegetation but is surrounded by the natural open spaces of Pacoima Wash, which includes a mix of coastal sage scrub, alluvial sage scrub, and disturbed/ruderal habitats. Reach 96 is dominated by willow riparian forest habitat downstream of Vicasa Drive that is surrounded by private residences with relatively large yards supporting dense and lush ornamental vegetation. The presence of Pacific-slope flycatcher (*Empidonax difficilis*) and yellow warbler (*Setophaga petechia*) during the summer season bird survey of Reach 96 indicates high quality riparian woodland. The yellow warbler is listed as a California Bird Species of Special Concern (Shuford and Gardali 2008). A more diverse assemblage of breeding birds is present at both of these SBC reaches because the adjacent habitats are of relatively high quality for birds.

For the 12 SBC reaches with areas greater than 1 acre (Table 7), a combined total of 64 bird species was recorded, with an average of 15 species per SBC reach. A brief discussion of these reaches is provided below.

**TABLE 8
SUMMER BIRD DIVERSITY AND ABUNDANCE AT THE
12 SOFT-BOTTOM CHANNEL REACHES (GREATER THAN ONE ACRE AND
RANKED HIGH TO LOW FOR BIRD DENSITY)**

Reach Number	Reach Name	Area (acres)	Total Bird Species/ Species Diversity (species per acre)	Total Bird Abundance/ Bird Density (birds per acre)
10	Project No. 469	7.12	18/2.5	220/30.9
99	Kagel Canyon	1.67	19/11.4	49/29.3
12	Haines Canyon M.C.O.	1.10	12/11.0	29/26.4
2	Dry Canyon (Calabasas) PD T1845	1.24	15/12.1	29/23.4
22	Halls Canyon	2.63	23/8.7	61/23.2
5/6	Caballero Creek M.C.I. (West and East Fork)	1.65	15/9.0	31/18.8
15	Pacoima Wash	5.25	13/2.5	98/18.7
24	Compton Creek	30.30	28/0.9	424/14.0
4	Browns Creek	3.00	6/2.0	33/11.0
25	Los Angeles River	56.20	29/0.5	247/4.4
18	Engleheard Channel	1.10	3/2.7	4/3.6
19	Pickens Canyon	3.42	4/1.2	5/1.5

The Los Angeles River (Reach 25) and Compton Creek (Reach 24) supported the greatest diversity and abundance of birds, but are also by far the two largest reaches. As illustrated by the bird count results shown in Tables 6 and 7, the larger SBC reaches generally support a greater diversity and overall number of summering birds. There are exceptions, however, such as Pickens Canyon (Reach 19), Browns Creek (Reach 4), and Engleheard Channel (Reach 18) (among the larger SBC reaches) and Reaches 14 and 96 (among the smaller reaches).

Project No. 469 (Reach 10) is located off Woodley Avenue in the Sepulveda Basin Recreation Area and, as a result, is sometimes referred to as “Woodley Channel.” The downstream end of this SBC reach is formed by its confluence with the Los Angeles River. The channel invert and banks are dominated by ruderal vegetation, but there is typically water in this SBC reach, and it is used by many birds that reside in the Sepulveda Basin. Adjacent open space areas consist of Woodley Avenue and ruderal fields to the east and the Woodley Lakes Golf Course to the west. The summer bird surveys produced the highest relative density of birds at Reach 10 and included relatively large numbers of song sparrow (*Melospiza melodia*) and house finch (*Haemorhous mexicanus*) (see Table 7).

Kagel Canyon (Reach 99) is a long and narrow SBC reach with an aging wire and pipe revetment on the steep banks. It winds through a rural residential area that has retained many of the native coast live oaks in the canyon, but generally none of the native understory vegetation that would characterize natural coast live oak habitats. The narrow invert is generally less than ten feet wide and is shaded for most of its length by coast live oaks and some ornamental trees. Surface or open water was present on the invert during the summer season bird survey. The presence of acorn woodpecker (*Melanerpes formicivorus*), Nuttall’s woodpecker (*Picoides nuttallii*), and oak titmouse (*Baeolophus inornatus*) during the survey was indicative of the dominance of coast live oaks at Reach 99. One yellow warbler detected during the survey was associated with a short stretch of Reach 99 where willows were mixed in with the coast live oaks.

The Haines Canyon Main Channel Outlet (Reach 12) is located on the south side of the alluvial sage scrub wash that contains Big Tujunga Creek. A residential area borders the concrete levee on the south side of Reach 12. Haines Canyon Creek flows westerly from the concrete box channel and passes through the Angeles National Golf Club course west of Reach 12. Near the mouth of the outlet, and connected to the grouted riprap of the left bank, are two concrete weirs, or aprons, which slow and direct high flows of water that may exit the outlet during storm events. The habitats of Reach 12 include a mix of native and ornamental species, but the southern willow scrub habitat provides suitable breeding habitat for the yellow warbler. A total of four yellow warblers were identified during the survey representing at least two breeding territories.

Dry Canyon Calabasas PD T1845 (Reach 2) is located in a residential community and is divided into two halves at the Park Ora Bridge. The half of the reach upstream of the bridge has vertical crib walls that form both banks of Reach 2. Downstream of the bridge, the left bank is a natural earthen bank that supports a mix of native and non-native vegetation, while the right bank is a continuation of the vertical crib wall. The willow riparian forest that dominates most of Reach 2 provides suitable breeding habitat for the yellow warbler, and one territorial individual was present during the surveys.

Reach 19 and Hall's Canyon (Reach 22) are situated at the base of the San Gabriel Mountains, less than ½ mile apart, and surrounded by similar residential communities. Both reaches are covered by the same maintenance plan, under which the crib structures are cleared of vegetation but the remainder of the SBC reach is allowed to support vegetation. The survey noted 23 species recorded at Reach 22 and 4 species observed at Reach 19. This disparity can be explained, in part, by the fact that the natural earthen channel banks in Reach 22 are largely covered with both native and non-native ornamental vegetation while the left (east) bank of Reach 19 is an unvegetated concrete levee. In addition, the surrounding residential vegetation at Reach 22 is diverse, with dense understory vegetation combined with a canopy of trees, while Reach 19 is surrounded by less dense understory vegetation with far fewer trees. While Reach 22 would be expected to support a higher diversity of summer birds than Reach 19, the difference (23 species to 4) is greater than would be expected. Both reaches support a mix of scrub vegetation (ornamental and native) on the channel banks (only the right bank of Reach 19), but Reach 22 supports more of it and, perhaps most importantly, is closer to an open space area that supports large amounts of native chaparral vegetation. Two bird species observed at Reach 22—the wren-tit (*Chamaea fasciata*) and California thrasher (*Toxostoma redivivum*)—are generally restricted to chaparral habitats, although the California thrasher does occupy locally some riparian habitats and is unusual in developed areas. The presence of these two species in Reach 22 is a strong indication of high quality habitat on the banks of this reach. Furthermore, the presence of Steller's jay (*Cyanocitta stelleri*), black-headed grosbeak (*Pheucticus melanocephalus*), and purple finch (*Haemorhous purpureus*) at Reach 22 indicates the woodland characteristics of this reach. The vegetation on the channel invert of both these reaches was severely impacted by debris flows in late October 2009 following the Station Fire and the diversity of birds at both reaches, especially Reach 19, was probably affected negatively.

The confluence of the West and East Forks of Caballero Creek Main Channel Inlet (Reaches 5 and 6) is located between Reseda Boulevard and the El Caballero Country Club golf course. The main channel inlet is a concrete box channel just upstream of Reseda Boulevard, where the creek becomes an underground flood-control facility. Outside the canopy of trees, the channel invert supports a bed of cattails at the confluence. The East Fork upstream supports a mix of willows, coast live oaks, and ornamental trees. Willow riparian forest habitat dominates the West Fork upstream of the confluence. One yellow warbler territory was detected during the survey. A singing male northern cardinal (*Cardinalis cardinalis*) at this location is considered to be an exotic non-native species rather than part of the introduced population in the Whittier Narrows area of east Los Angeles County.

Pacoima Wash (Reach 15) is similar to Reach 10 in that most of the birds that use it are attracted to the water. This reach is surrounded by an urban residential area with moderate amounts of ornamental vegetation. The channel invert contains a mix of disturbed cattail wetland and ruderal vegetation that is generally of poor quality for birds. The non-native European starling (*Sturnus vulgaris*) was the most numerous species using Reach 15 during the survey.

A comparison of Reaches 24 and 25 reveals that the diversity of bird life at Reach 25 is dominated by waterbirds, while landbirds dominate at Reach 24. "Waterbirds" is a general ornithological term for birds that live at least part of their life around water and either swim, dive, or wade in it. "Landbirds" refers to birds that live their life on land and only use water for drinking and bathing. Reach 25, as part of the Los Angeles River estuary, contains brackish water. Estuaries generally support a high diversity of birds. Among the 29 species observed at Reach 25 were 15 species of waterbirds including cinnamon teal (*Anas cyanoptera*) and common gallinule (*Gallinula galeata*), which are both uncommon and local in the region during the summer season. Only 7 of the 28 species observed at Reach 24 are considered to be

waterbirds. The summer bird survey of Reach 24 produced relatively high numbers of landbirds such as common yellowthroat (*Geothlypis trichas*), song sparrow, red-winged blackbird (*Agelaius phoeniceus*), and house finch (see Table 7). A total of 18 American goldfinches (*Spinus tristis*) were observed foraging in the cattails and ruderal vegetation during this survey, which was of interest as there is no nearby breeding habitat (i.e., willows¹¹). Also observed at Reach 24 were the exotic non-native orange bishop (*Euplectes franciscanus*) and nutmeg mannikin (*Lonchura punctulata*). The orange bishop nested in the cattails on the channel invert and the nutmeg mannikin nested in ornamental trees bordering Reach 24.

All vegetation is removed from Reach 4 during LACFCD's annual maintenance activities conducted during the fall, so the vegetation on the channel invert during the summer season was observed to consist of less than one year old southern willow scrub (surface water was present during survey) and ruderal vegetation. The channel banks are earthen but are relatively steep and covered with an aging rail and timber revetment. Vegetation on the banks is limited and mostly consists of ruderal and ornamental species, including a few trees. The Simi Valley Freeway crosses high over this channel reach and provides nesting opportunities for aerial specialists such as the white-throated swift (*Aeronautes saxatalis*). A flock of about 20 white-throated swifts were observed to be foraging on insects over Reach 4 during the survey. Other than the bridge, this SBC reach provides few nesting opportunities and bird activity in the summer would generally be limited to foraging birds.

Except during storm flows, Reach 18 is a dry SBC reach that supports minimal vegetation. The channel banks of this reach are earthen, relatively steep, and covered by an aging wire and pipe revetment. Vegetation on the banks is limited and primarily consists of ruderal and non-native ornamental species, but there are a few native scrub species at the downstream end, including deerweed (*Acmispon glaber*). Some large ornamental trees (primarily gum trees) and a few native coast live oaks are adjacent to this reach and cover the channel invert with their canopies. Other than the tree canopies, this reach provides few summer nesting and foraging opportunities.

Migratory Bird Surveys

Migratory bird surveys were performed before and after LACFCD's annual fall maintenance activities at Compton Creek (Reach 24). "Migratory birds" refer to those species that regularly migrate to and from distant areas where they nest and spend the winter. In North America, about 75 percent of breeding birds migrate, with the rest remaining year-round in the same general area (Sibley 2001). Peak migration periods in North America occur during the spring (April–May) and fall (September–October) seasons, but many bird migrations take place throughout the year, especially in warmer regions such as Southern California. Depending on the species, migrations occur at night (nocturnal) or during the day (diurnal) and are subject to a variety of environmental influences, particularly weather.

The migratory bird surveys were conducted by BonTerra Consulting Senior Biologist/Ornithologist Brian E. Daniels. Wilmington Drain (Reach 27) was selected as a reference location, since this SBC reach contains mature willow riparian habitats not present in Reach 24. Although Reach 27 is in the Dominguez Channel Watershed, it is less than six miles from Reach 24 and is also maintained by the LACFCD. Reach 27 extends 3,584 ft from the Harbor Freeway (Interstate 110) downstream to Pacific Coast Highway (PCH). The survey area for Reach 27 is 7.87 acres, of which approximately half is willow riparian forest habitat. Downstream of PCH, Reach 27 flows into Machado Lake, located within Ken Malloy Harbor Regional Park. Owned and operated by the City of Los Angeles, the Park is a wildlife sanctuary

¹¹ The resident subspecies *salicamans* of the American goldfinch in the region has the common name of the "willow goldfinch."

well known for the wide variety of birds it supports. Public access has been limited at Reach 27, but it is an integral part of the riparian ecosystem of Ken Malloy Harbor Regional Park and Wilmington Drain and is also a well known bird watching location.

The migratory bird survey results for Reaches 24 and 27 are shown below in Table 9. The pre-clearing surveys for both channel reaches were conducted in September 2010 during the peak of fall migration, although the survey results show relatively few species that would be considered as “transients” (a term used for migratory birds being at a location for a relatively short stay during migration). None of the 17 species observed at Reach 24 on September 15, 2010 can be considered transients, as they potentially either nested or spent the summer at or near this location (see Table 7). For example, the two red-tailed hawks (*Buteo jamaicensis*) observed foraging at Reach 24 were in juvenal plumage, indicating they were born during the 2010 breeding season and, for this species at this time and place, are birds that have dispersed from their natal territory in search of prey. For Reach 27, of the 24 species observed on September 21, 2010, only the Wilson’s warbler (*Cardellina pusilla*) and western tanager (*Piranga ludoviciana*) would be considered transients.

**TABLE 9
MIGRATORY BIRD SURVEYS**

Species	Compton Creek (Reach No. 24)		Wilmington Drain (Reach No. 27)	
	15-Sept-10	1-Dec-10	21-Sept-10	1-Dec-10
Gadwall (<i>Anas strepera</i>)	–	–	–	8
Mallard (<i>Anas platyrhynchos</i>)	–	11	12	90
Cinnamon teal (<i>Anas cyanoptera</i>)	–	12	–	–
Northern pintail (<i>Anas acuta</i>)	–	–	–	1
Pied-billed grebe (<i>Podilymbus podiceps</i>)	–	2	–	–
Great blue heron (<i>Ardea herodias</i>)	–	2	1	3
Great egret (<i>Ardea alba</i>)	1	2	–	3
Snowy egret (<i>Egretta thula</i>)	–	1	1	10
Black-crowned night-heron (<i>Nycticorax nycticorax</i>)	1	–	–	4
Red-shouldered hawk (<i>Buteo lineatus</i>)	1	2	1	1
Red-tailed hawk (<i>Buteo jamaicensis</i>)	2	–	–	–
American kestrel (<i>Falco sparverius</i>)	1	–	–	2
American coot (<i>Fulica americana</i>)	–	55	1	–
Killdeer (<i>Charadrius vociferus</i>)	–	26	–	–
Greater yellowlegs (<i>Tringa melanoleuca</i>)	–	1	–	–
Wilson’s snipe (<i>Gallinago delicata</i>)	–	22	–	–
Rock pigeon (<i>Columba livia</i>) *	1	4	15	11
Mourning dove (<i>Zenaida macroura</i>)	–	1	2	1
Anna’s hummingbird (<i>Calypte anna</i>)	–	–	3	4
Rufous/Allen’s hummingbird (<i>Selasphorus</i> sp.)	–	–	1	1
Belted kingfisher (<i>Ceryle alcyon</i>)	–	–	–	1
Black phoebe (<i>Sayornis nigricans</i>)	5	6	3	6
Say’s phoebe (<i>Sayornis saya</i>)	–	1	–	–
American crow (<i>Corvus brachyrhynchos</i>)	2	4	4	–
Common raven (<i>Corvus corax</i>)	–	2	4	4
Barn swallow (<i>Hirundo rustica</i>)	6	–	–	–
Bushtit (<i>Psaltriparus minimus</i>)	–	–	–	10

**TABLE 9
MIGRATORY BIRD SURVEYS**

Species	Compton Creek (Reach No. 24)		Wilmington Drain (Reach No. 27)	
	15-Sept-10	1-Dec-10	21-Sept-10	1-Dec-10
House wren (<i>Troglodytes aedon</i>)	–	–	–	2
Ruby-crowned kinglet (<i>Regulus calendula</i>)	–	–	–	3
Northern mockingbird (<i>Mimus polyglottos</i>)	4	2	–	–
European starling (<i>Sturnus vulgaris</i>) *	–	4	–	–
Orange-crowned warbler (<i>Oreothlypis celata</i>)	–	–	3	2
Yellow warbler (<i>Dendroica petechia</i>)	–	–	1	–
Yellow-rumped warbler (<i>Dendroica coronata</i>)	–	26	–	25
Townsend's warbler (<i>Dendroica townsendi</i>)	–	–	–	1
Common yellowthroat (<i>Geothlypis trichas</i>)	32	28	22	11
Wilson's warbler (<i>Wilsonia pusilla</i>)	–	–	1	1
California towhee (<i>Melospiza crissalis</i>)	–	–	1	2
Song sparrow (<i>Melospiza melodia</i>)	19	12	5	2
Lincoln's sparrow (<i>Melospiza lincolni</i>)	–	–	–	4
White-crowned sparrow (<i>Zonotrichia leucophrys</i>)	–	–	–	3
Western tanager (<i>Piranga ludoviciana</i>)	–	–	2	–
Blue grosbeak (<i>Passerina caerulea</i>)	–	–	2	–
Red-winged blackbird (<i>Agelaius phoeniceus</i>)	40	15	–	–
House finch (<i>Carpodacus mexicanus</i>)	25	35	13	12
Lesser goldfinch (<i>Spinus psaltria</i>)	–	–	5	–
American goldfinch (<i>Spinus tristis</i>)	1	2	–	1
House sparrow (<i>Passer domesticus</i>) *	–	3	2	–
Orange bishop (<i>Euplectes franciscanus</i>) **	7	–	–	–
Nutmeg mannikin (<i>Lonchura punctulata</i>) **	25	–	35	5
TOTAL SPECIES	17	26	24	31
TOTAL BIRD ABUNDANCE / BIRD DENSITY (bird per acre)	190 (6.3)	307 (10.1)	164 (20.8)	265 (33.7)
* Introduced Species – Non-native species that have received recognition by the California Bird Records Committee (CBRC) as having established breeding populations in California.				
** Exotic Species – Non-native species that may or may not breed in California and, if breeding, have not yet reached the population level considered necessary by the CBRC for recognition as an Introduced Species.				

As shown on Table 9, the post-clearing migratory bird survey was conducted on December 1, 2010. This survey was delayed past the peak fall migration period due to unavoidable delays in the maintenance of the channels caused by renewal of Nationwide Permit Number 31 for Maintenance of Existing Flood Control Facilities on September 7, 2010, as well as by an early and active rainy season, which further delayed LACFCD maintenance. Maintenance activities were ongoing during the December 1, 2010, survey at Reach 27, although generally confined to one area just downstream of Lomita Boulevard and were nearly complete. The December 1, 2010 post-clearing survey noted numerous migratory birds at both SBC reaches; birds present at this time are typically considered winter visitors rather than transients. Distinguishing individual birds as migrants in these results may not be possible with some species, since there may be a mix of resident and migratory birds. For example, the mallards (*Anas platyrhynchos*) observed at both channel reaches may include individuals that migrated into the region from the north, but also probably include individuals that are resident in the region and quite possibly bred at both of these SBC reaches.

Some species, particularly the waterbirds, may remain through the summer season but are rare breeders in the region. For example, the great egret (*Ardea alba*) and snowy egret (*Egretta thula*) are fairly common during summer, but their breeding only takes place at rookeries, of which there are very few in the region. Great and snowy egrets migrate, but the individuals observed at both channel reaches may represent non-breeding birds that summered rather than migrated. The following 12 species observed during the December 1, 2010 survey were considered to consist solely of migrants: gadwall (*Anas strepera*), northern pintail (*Anas acuta*), greater yellowlegs (*Tringa melanoleuca*), Wilson's snipe (*Gallinago delicata*), Say's phoebe (*Sayornis saya*), house wren (*Troglodytes aedon*), ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Dendroica coronata*), Townsend's warbler (*Dendroica townsendi*), Wilson's warbler (*Wilsonia pusilla*), Lincoln's sparrow (*Melospiza lincolni*), and white-crowned sparrow (*Zonotrichia leucophrys*). Nine of these 12 species (totaling 48 individuals) were recorded at Reach 27, and four of these species (totaling 50 individuals) were recorded at Reach 24 (see Table 9).

The most noteworthy occurrence among this list of species was the relatively high total of 22 Wilson's snipes recorded at Reach 24 on December 1, 2010. Wilson's snipe requires freshwater marsh habitats, but will also use flooded fields and ditches with sparse vegetation. Although generally considered to be a fairly common wintering species in the region, it has been declining due to loss of habitat (Unitt 2004). The overall survey totals for migratory birds at these two channel reaches are considered to be relatively low, particularly for the pre-clearing surveys, but this is not unexpected, as migratory bird surveys typically show great variety in numbers between years and on any given day.

SECTION 4.0 VEGETATION TRANSECTS

BonTerra Consulting biologists quantitatively assessed the percent cover of the vegetation within each of the SBC reaches. The quantification was accomplished by selecting transect locations that were correlated to the maps that depicted Manning's or hydraulic roughness coefficient values (*n* values) developed by LACFCD hydrologists for the reaches. Transects were conducted before and after LACFCD's annual fall season maintenance activities. Each transect was conducted perpendicular to the flow of water (i.e., across the width of each reach). Global Positioning System (GPS) points were taken at both the beginning and ending locations for each transect. The start point of each transect was generally located at the top of the bank to the right when facing upstream. For SBC reaches that had flowing water and where the water was too deep to cross, the transect was broken up into three segments: A, B, and C. The A and B segments had GPS points taken at both the beginning and ending locations of the segment, with the starting point of each segment at the water's edge in the middle of the channel then working out to the top of the bank. The A segment was to the left when facing upstream, and the B segment was to the right when facing upstream. Segment C, the width of the open water (i.e., the span of the channel that was too deep to cross), was calculated to be the distance between the starting GPS points of Segments A and B across the water.

Data were collected, using the point-intercept method, at one-foot intervals along each transect. Except for sites with high diversity of plant species, the results of the line-intercept method do not differ significantly from the point-intercept method. Since the point-intercept method is less time consuming, and flood control channels in general support relatively low diversity, the line-intercept method was selected as the most appropriate method for the vegetation transects. Table 10 below lists each reach and the distance of each transect. Data included identification and documentation of each plant species and the ground cover that occurred at one-foot intervals along each transect. Data workbooks are included as Appendix F, and the transect locations are shown on the vegetation maps of Appendix B. Non-native grass species were generally compiled together into one non-native grass category. Tree sizes were identified as mature, medium shrub, or seedling. Trees and other plants rooted on upper banks outside of the drainage were not included in the data (i.e., the tree canopy of a tree rooted outside the channel was not included¹²). Photographs were also taken from the starting and ending points of each transect or transect segment.

**TABLE 10
VEGETATION ANALYSIS TRANSECTS**

Reach No.	Transect No.	Transect Length (ft)	Reach No.	Transect No.	Transect Length (ft)	Reach No.	Transect No.	Transect Length (ft)
1	1	65	14	1	35	96	1	55
	1	85		2	45		2	55
2	2	65	15	1	85	99	1	10
	3	35		2	80		2	20
3	1	40	16	1	20		3	10
4	1	65	17 ¹³	1	30	100	1	40
	2	64	18	1	20	–	–	–
5	1	50		2	20	–	–	–
	2	50	19	1	75	–	–	–

¹² Note that this differs from the methods used to map vegetation types of the SBC reaches as tree canopies of trees rooted outside the banks of the channel were used to determine the vegetation type.

¹³ Owned and maintained by City of Glendale.

**TABLE 10
VEGETATION ANALYSIS TRANSECTS**

Reach No.	Transect No.	Transect Length (ft)	Reach No.	Transect No.	Transect Length (ft)	Reach No.	Transect No.	Transect Length (ft)
6	1	30		2	93	–	–	–
7	1	115	20	Not accessible	Not accessible	–	–	–
8	1	40	21	1	15	–	–	–
	2	50	22	1	55	–	–	–
9	1	25		2	45	–	–	–
10	1	65	24	3	45	–	–	–
	2	74		1	221	–	–	–
	3	75		2	214	–	–	–
	4	85		3	235	–	–	–
12	1	75	25	4	233	–	–	–
	2	110		1	537	–	–	–
13	1	40	25	2	520	–	–	–
	2	40		3	557	–	–	–
	3	40		4	525	–	–	–

Pre- and Post-clearing Vegetation Transects

Transect data was collected at each of the SBC reaches by BonTerra Consulting Senior Botanist Sandy Leatherman, BonTerra Consulting Botanist/Restoration Ecologist Jeff Crain, and BonTerra Consulting Biologist Jennifer Pareti on August 19, 23, 26, 27 and 31 and September 1, 9 and 16, 2010, prior to the onset of LACFCD annual maintenance activities. These are the “pre-clearing” vegetation transects shown below in Table 11.

Transect data were also collected (using the same methodology as for pre-clearing transects) after maintenance activities on December 2, 7, and 14, 2010, by Senior Botanist Sandy Leatherman, Botanist/Restoration Ecologist Jeff Crain, Biologist Jennifer Pareti, and Botanist Andrea Edwards, all of BonTerra Consulting. These transects, conducted at the same locations as the pre-clearing vegetation transects, are shown in Table 11. Because vegetation clearing occurred for different SBC reaches on different dates, a variable but generally small amount of vegetative re-growth occurred before post-clearing transect data collection was performed. If vegetation clearing did not occur, no post-clearing transect data was collected; Table 11 below indicates this with “N/A”.

**TABLE 11
TOTAL VEGETATED AND UNVEGETATED PERCENT COVER**

Reach	Transect	Pre-Vegetation Clearing			Post-Vegetation Clearing*			Vegetation Clearing Effect on Percent Cover (Post-Clearing minus Pre-Clearing)*		
		Native	Non-native	Unvegetated	Native	Non-native	Unvegetated	Native	Non-native	Unvegetated
1	1	100.0	63.1	0.0	98.5	32.3	0.0	-1.5	-30.8	0.0
2	1	97.7	60.0	0.0	9.4	64.7	25.9	-88.2	4.7	25.9
	2	66.2	69.2	0.0	46.2	20.0	36.9	-20.0	-49.2	36.9
	3	50.8	29.2	5.7	27.7	4.6	48.6	-23.1	-24.6	42.9
3	1	60.0	32.5	12.5	45.0	7.5	50.0	-15.0	-25.0	37.5
4	1	1.5	83.1	16.9	1.5	67.7	32.3	0.0	-15.4	15.4
	2	57.8	48.4	17.2	18.8	29.7	53.1	-39.1	-18.8	35.9
5	1	100.0	26.0	0.0	100.0	14.0	0.0	0.0	-12.0	0.0
	2	34.0	28.0	58.0	22.0	6.0	72.0	-12.0	-22.0	14.0
6	3	100.0	40.0	0.0	50.0	36.7	26.7	-50.0	-3.3	26.7
7	1	63.5	2.6	35.7	n/a	n/a	n/a	n/a	n/a	n/a
8	1	0.0	22.5	77.5	0.0	2.5	97.5	0.0	-20.0	20.0
	2	2.0	46.0	52.0	0.0	16.0	84.0	-2.0	-30.0	32.0
9	1	16.0	0.0	84.0	16.0	0.0	84.0	0.0	0.0	0.0
10	1	24.6	46.2	43.1	16.9	6.2	76.9	-7.7	-40.0	33.8
	2	10.8	87.8	10.8	0.0	14.9	85.1	-10.8	-73.0	74.3
	3	0.0	28.0	72.0	0.0	1.0	74.0	0.0	-27.0	2.0
	4	14.1	29.4	61.2	1.2	15.3	83.5	-12.9	-14.1	22.4
12	1	56.7	8.0	33.3	28.0	2.7	70.7	-28.7	-5.3	37.3
	2	82.7	31.8	4.6	83.6	17.3	4.6	0.9	-14.6	0.0
13	1	0.0	92.5	7.5	0.0	77.5	22.5	0.0	-15.0	15.0
	2	60.0	42.5	10.0	65.0	40.0	10.0	5.0	-2.5	0.0
	3	20.0	82.5	15.0	0.0	35.0	65.0	-20.0	-47.5	50.0
14	1	100.0	0.0	0.0	68.6	62.9	11.4	-31.4	62.9	11.4
	2	2.2	53.3	44.4	n/a	n/a	n/a	n/a	n/a	n/a
15	1	49.4	15.3	74.1	0.0	5.9	94.1	-49.4	-9.4	20.1
	2	24.0	66.0	47.5	10.0	4.0	91.3	-14.0	-62.0	43.8

**TABLE 11
TOTAL VEGETATED AND UNVEGETATED PERCENT COVER**

Reach	Transect	Pre-Vegetation Clearing			Post-Vegetation Clearing*			Vegetation Clearing Effect on Percent Cover (Post-Clearing minus Pre-Clearing)*		
		Native	Non-native	Unvegetated	Native	Non-native	Unvegetated	Native	Non-native	Unvegetated
16	1	0.0	50.0	50.0	0.0	40.0	60.0	0.0	-10.0	10.0
17 ¹⁴	1	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0
18	1	0.0	70.0	30.0	0.0	45.0	55.0	0.0	-25.0	25.0
	2	5.0	0.0	95.0	0.0	0.0	100.0	-5.0	0.0	5.0
19	1	18.7	36.0	64.0	0.0	33.3	66.7	-18.7	-2.7	2.7
	2	2.2	1.1	95.7	9.7	2.2	89.3	7.5	1.1	-6.5
21	1	0.0	13.3	86.7	0.0	0.0	100.0	0.0	-13.3	13.3
22	1	7.3	1.8	90.9	14.6	10.9	74.6	7.3	9.1	-16.4
	2	2.2	6.7	91.1	4.4	11.1	84.4	2.2	4.4	-6.7
	3	62.2	0.0	37.8	11.1	8.9	88.9	-51.1	8.9	51.1
24	1	20.3	43.6	56.4	n/a	n/a	n/a	n/a	n/a	n/a
	2	6.1	53.9	40.4	6.9	17.9	75.3	0.8	-36.0	34.9
	3	2.7	31.8	67.1	8.9	22.5	68.6	6.2	-9.3	1.5
	4	3.2	68.4	31.7	1.4	21.0	77.3	-1.8	-47.4	45.6
25	1	46.6	46.7	36.8	26.5	17.0	58.6	-20.1	-29.7	21.7
	2	19.4	34.4	51.7	n/a	n/a	n/a	n/a	n/a	n/a
	3	25.6	54.0	34.6	n/a	n/a	n/a	n/a	n/a	n/a
	4	48.9	19.1	40.0	n/a	n/a	n/a	n/a	n/a	n/a
96	1	81.8	78.2	7.3	70.9	54.6	12.7	-10.9	-23.6	5.5
	2	56.4	34.6	21.8	20.0	23.6	60.0	-36.4	-10.9	38.2
99	1	0.0	10.0	90.0	0.0	0.0	100.0	0.0	-10.0	10.0
	2	35.0	65.0	20.0	0.0	75.0	25.0	-35.0	10.0	5.0
	3	100.0	40.0	0.0	0.0	10.0	90.0	-100.0	-30.0	90.0
100	1	60.0	35.0	22.5	0.0	10.0	90.0	-60.0	-25.0	67.5
Average		35.9**	38.2**	39.6**	19.6	21.9	61.7	-16.3	-16.3	22.1

* n/a indicates that a post-clearing survey was not completed because vegetation at this transect location had not been cleared
** averages exclude pre-clearing transect data from the 6 reaches where post-clearing transects were not performed

¹⁴ Owned and maintained by City of Glendale.

Table 11 shows the results of the pre- and post-clearing transects of percent cover of native vegetation, non-native vegetation, and unvegetated areas for each of the SBC reaches. Data in Table 11 also summarize the net changes in percent cover between pre- and post-clearing transects to measure the effect of vegetation clearing on percent cover relative to native vegetation, non-native vegetation, and unvegetated areas. The combined totals of 45¹⁵ pre- and post-clearing vegetation transects on Table 11 for the SBC reaches show an average net loss of 16.3 percent cover for both native and non-native vegetation, and an average net gain of 22.1 percent cover for unvegetated areas following the 2010 clearing activities.

The overall percent cover of unvegetated areas in the SBC reaches would be expected to increase after clearing activities. Table 11 shows an average net gain of 22.1 percent cover for the SBC reaches. The post-clearing transects were conducted in early December 2010, about one month on average after completion of the LACFCD's annual fall clearing activities. Post-clearing transects performed immediately after clearing activities at each SBC reach would produce higher percentages of unvegetated areas. Regrowth is rapid, however, for most SBC reaches as winter rains generally occur not long after completion of the fall clearing activities.

¹⁵ Six of the 51 vegetation transects conducted prior to the LACFCD's fall clearing activities were not repeated during the post-clearing surveys for the following reasons: transect was placed in an area of the channel where no clearing occurs (Reach 14 – one transect), flooded conditions (Reach 24 – one transect), and LACFCD decision not to work in those areas in 2010 (Reach 25 – three transects). Furthermore, pre- and post-clearing transects were not conducted at Reach 21 due to access issues. These transects were designated as N/A on Table 11 and not used for computations.

SECTION 5.0 CRAM ANALYSIS

The California Rapid Assessment Method (CRAM) is a wetland monitoring tool that is designed to quickly evaluate the overall condition of a wetland and identify stressors that affect its condition. CRAM scores result from the evaluation of four equally-weighted attributes: (1) buffer and landscape context; (2) hydrology; (3) physical structure; and (4) biotic structure (Collins et al 2008a). A summary of the ten metrics and six sub-metrics that comprise these attributes is provided in Table 12.

**TABLE 12
SUMMARY OF CRAM ATTRIBUTES AND METRICS**

Attribute	Metric	Description	
Buffer and Landscape Context	Landscape Connectivity	Measures connectivity along the riparian corridor for wildlife movement; non-buffer land types are identified 500 meters upstream and downstream of Assessment Area	
	Buffer Condition	Combination of the three sub-metric scores described below	
	Sub-metrics	Percent of Assessment Area with Buffer	Measures percentage of Assessment Area perimeter that contains land cover types that provide a buffer
		Average Buffer Width	Measures the average width of identified buffer land types around Assessment Area
		Buffer Condition	Qualitatively evaluates buffer condition
Hydrology	Water Source	Qualitatively evaluates impacts to the extent, duration, and frequency of saturated or ponded conditions	
	Hydroperiod/Channel Stability	Qualitatively evaluates channel equilibrium, degradation, or aggradation	
	Hydrologic Connectivity	Measures the entrenchment of the channel to determine the ability for water to inundate adjacent upland areas.	
Physical Structure	Structural Patch Richness	Measures the diversity of physical riparian features that may potentially provide habitat for aquatic species (e.g. vegetated islands, pools, riffles, etc.).	
	Topographic Complexity	Qualitatively evaluates the variety of elevations (i.e. micro-topographic heterogeneity)	
Biotic Structure	Plant Community	Average of the three sub-metric scores described below	
	Sub-metrics	Number of Plant Layers	Identifies of number of plant strata
		Number of Co-dominant Species	Identifies the number of co-dominant plant species based on visual estimation
		Percent Invasive Species	Measures the percent of invasive plant species among the co-dominant species identified above
	Horizontal Interspersion	Qualitatively evaluates the variety and distribution of plant associations	
	Vertical Biotic Structure	Identifies the number and distribution of plant strata	

In 2006, the U.S. Environmental Protection Agency (USEPA) recommended a framework for comprehensive wetland monitoring to help states meet the requirements described in the Clean Water Act. This framework consists of the following three-tiered approach (USEPA 2006):

- **Level 1 assessments:** map-based inventories of wetland resources.
- **Level 2 assessments:** evaluation of general wetland condition using relatively simple field indicators.

- **Level 3 assessments:** collection of quantitative data about selected functions or beneficial uses of wetlands.

CRAM is designed as a Level 2 assessment tool that provides scientifically defensible, standardized data on the trends and condition of wetlands and on stressors that affect wetlands (Collins et al. 2008b). The ten metrics (and six sub-metrics) used in CRAM evaluations are derived from Level 3 studies that are designed to show relationships between the ecological functions of the wetlands and anthropogenic stress. Stein et al. (2009) tested the validity of the CRAM approach by correlating CRAM scores to existing monitoring and assessment data on avian diversity, benthic macroinvertebrate indices, and plant community composition. The results of this analysis indicate that rapid assessment methods, including CRAM, can provide a meaningful and reliable tool for assessing wetland conditions.

CRAM scores for each of the 4 attributes range from 25 to 100. The four attribute scores are then averaged to determine the final CRAM score for a site. The final score is a relative measurement to indicate how an individual site compares to the best achievable conditions. For example, the Southern California Coastal Water Research Project (SCCWRP 2010) performed CRAM evaluations throughout the San Gabriel River Watershed. The highest score in this study was 91, recorded in areas of the upper San Gabriel River watershed, while the lowest score was 35, recorded in the channelized mainstem of the river.

On August 17, 19, 20, 23, 25, and 30, 2010, BonTerra Consulting Restoration Ecologist David Hughes, who is certified to conduct CRAM assessments, visited each of the SBC reaches. Prior to visiting each SBC reach, one or more Assessment Areas (AA) were identified on aerial photographs, consistent with CRAM guidelines. The AA is the CRAM study area for each SBC reach; the number of AAs is dependent on the size of the area to be assessed and the variability of conditions. Generally, the minimum length of an AA is 100 meters; however, several of the SBC reaches analyzed for this study were less than 100 meters in length (Reaches 3, 6, 16, 20, 21, 96, and 100). For these reaches, the AA was shortened to the total length of each SBC reach, because areas outside the boundaries of the SBC reach were not consistent with conditions within the reach (e.g., considering an adjacent concrete-lined channel would lower the overall score). Reaches 1, 9, and 17 were also less than 100 meters in length, but the AA extended beyond the limits of these reaches because it was determined in the field that extending the AA would provide better data to evaluate the condition of the SBC reach.

Field investigations at each of these reaches consisted of performing channel measurements; visually estimating conditions; and identifying features on standardized checklists to determine scores for the following metrics and sub-metrics: buffer condition, hydroperiod/channel stability, hydrologic connectivity, structural patch richness, topographic complexity, number of plant layers, number of co-dominant species, percent invasive species, horizontal interspersions, and vertical biotic structure. The following metrics were initially analyzed in the office via aerial photo analysis with results confirmed or adjusted in the field: landscape connectivity, percent of AA with buffer, average buffer width, and water source.

All SBC reaches examined in this Report have been engineered and regularly maintained to some degree, which affects their CRAM scores. The principal stressors noted at most SBC reaches include the presence of adjacent urban residential areas (affecting the buffer and landscape context attribute); non-point source discharges and flow diversions/unnatural inflows (affecting the hydrology attribute); vegetation management and presence of trash (affecting the physical structure attribute); and tree removal/sapling removal and treatment of non-native plant species (affecting the biotic structure attribute). The banks of several SBC reaches are lined with concrete or riprap (Reaches 7, 8, 10, 15, 18, 19, 24, and 25), which significantly affects the buffer quality. The banks of Reaches 2, 4, and 99 had been altered so that they were vertical,

which negatively affects the hydrological connectivity and landscape connectivity scores. Other noted stressors include the presence of drop structures at Reaches 19 and 22.

CRAM scores for the SBC reaches range from a maximum score of 65.3 for Reach 1 to a minimum score of 38.5 for Reach 7. A summary of attribute scores and final scores for each of the SBC reaches is provided below in Table 13. Final CRAM scores are listed from high to low in Table 14. Raw CRAM scores of all of the individual metrics are provided in Appendix G.

**TABLE 13
SUMMARY OF 2010 CRAM SCORES**

Channel Reach No.	CRAM Attributes				Final Score ^a
	Buffer and Landscape Context	Hydrology	Physical Structure	Biotic Structure	
1	43.1	83.3	62.5	72.2	65.3
2	51.7	79.2	37.5	75.0	60.9^b
3	33.5	83.3	37.5	58.3	53.2
4	40.4	83.3	43.8	72.2	59.9^b
5	33.5	58.3	50.0	66.7	52.1
6	41.0	58.3	37.5	63.9	50.2
7	37.5	58.3	25.0	33.3	38.5
8	25.0	41.7	50.0	41.7	39.6
9	27.4	58.3	37.5	36.1	39.8
10	50.4	54.2	37.5	31.9	43.5^b
12	51.6	66.7	50.0	80.6	62.2
13	52.8	66.7	37.5	44.4	50.4
14	47.2	70.8	43.8	62.5	56.1^b
15	25.0	66.7	25.0	44.4	40.3^b
16	42.2	100.0	37.5	27.8	51.9
17 ¹⁶	45.4	100.0	62.5	47.2	63.8
18	27.4	75.0	37.5	63.9	50.9
19	55.2	66.7	25.0	33.3	45.0
20	55.8	58.3	37.5	38.9	47.6
21	47.9	58.3	37.5	41.7	46.3
22	89.1	66.7	37.5	66.7	65.0
24	75.0	70.9	25.0	36.1	51.7^b
25	67.7	75.1	37.5	50.0	57.5
96	43.1	66.7	37.5	63.9	52.8
99	54.2	52.8	25.0	51.9	46.0^b
100	25.0	58.3	50.0	66.7	50.0

CRAM: California Rapid Assessment Method

^a Final score is calculated as the average of the four attribute scores (refer to Appendix G for raw scores).

^b More than one Assessment Area was utilized for these channel reaches, the final score reflects the average score of the Assessment Areas.

¹⁶ Owned and maintained by City of Glendale.

**TABLE 14
2010 CRAM SCORES RANKED HIGH TO LOW**

Channel Reach No.	CRAM Attributes				Final Score ^a
	Buffer and Landscape Context	Hydrology	Physical Structure	Biotic Structure	
1	43.1	83.3	62.5	72.2	65.3
22	89.1	66.7	37.5	66.7	65.0
17 ¹⁷	45.4	100.0	62.5	47.2	63.8
12	51.6	66.7	50.0	80.6	62.2
2	51.7	79.2	37.5	75.0	60.9^b
4	40.4	83.3	43.8	72.2	59.9^b
25	67.7	75.1	37.5	50.0	57.5
14	47.2	70.8	43.8	62.5	56.1^b
3	33.5	83.3	37.5	58.3	53.2
96	43.1	66.7	37.5	63.9	52.8
5	33.5	58.3	50.0	66.7	52.1
16	42.2	100.0	37.5	27.8	51.9
24	75.0	70.9	25.0	36.1	51.7^b
18	27.4	75.0	37.5	63.9	50.9
13	52.8	66.7	37.5	44.4	50.4
6	40.1	58.3	37.5	63.9	50.2
100	25.0	58.3	50.0	66.7	50.0
20	55.8	58.3	37.5	38.9	47.6
21	47.9	58.3	37.5	41.7	46.3
99	54.2	52.8	25.0	51.9	46.0^b
19	55.2	66.7	25.0	33.3	45.0
10	50.4	54.2	37.5	31.9	43.5^b
15	25.0	66.7	25.0	44.4	40.3^b
9	27.4	58.3	37.5	36.1	39.8
8	25.0	41.7	50.0	41.7	39.6
7	37.5	58.3	25.0	33.3	38.5

^a Final score is calculated as the average of the four attribute scores.
^b More than one Assessment Area was utilized for these channel reaches, the final score reflects the average score of the Assessment Areas.

¹⁷ Owned and maintained by City of Glendale.

SECTION 6.0 RECOMMENDATIONS

In order to provide the LACFCD with recommendations for allowing additional vegetation in those SBC reaches identified by the hydraulic analysis as having sufficient flood-control capacity to allow such vegetation, BonTerra Consulting developed biological value rankings for all 26 SBC reaches. The biological value rankings are a synthesis of results from all biological surveys conducted for this Report, including the CRAM analysis. The results are presented below in Tables 15 and 16.

**TABLE 15
SUMMARY OF BIOLOGICAL VALUES**

Reach Number	Native Vegetation Types ^a	Special Status Plants	Special Status Wildlife ^b	Summer (Breeding) Birds ^c	Transects - Native Vegetation ^d	CRAM Results ^e	Final Score
1	1	–	–	–	1	1	3
2	1	–	1	1	1	1	5
3	0.5	–	–	–	1	1	2.5
4	1	–	–	–	0.5	1	2.5
5	1	–	1	1	1	1	5
6	1	–	1	1	1	0.5	4.5
7	1	–	–	–	1	0.5	2.5
8	0.5	–	–	–	0.5	0.5	1.5
9	0.5	–	–	0.5	0.5	0.5	2
10	1	–	–	–	0.5	0.5	2
12	1	–	1.5	1	1	1	5.5
13	1	–	0.5	0.5	0.5	0.5	2.5
14	1	–	1	0.5	1	1	4.5
15	0.5	–	–	0.5	0.5	0.5	2
16	1	–	–	1	0.5	1	3.5
17 ¹⁸	1	1	–	1	0.5	1	4.5
18	0.5	–	–	–	0.5	0.5	1.5
19	1	–	–	–	0.5	0.5	2
20	0.5	–	–	1	0.5	0.5	2.5
21	0.5	–	–	0.5	0.5	0.5	2
22	1	–	–	1	0.5	1	3.5
24	1	–	–	1	0.5	1	3.5
25	1	–	–	1	0.5	1	3.5
96	1	–	1	1	1	1	5
99	0.5	–	1	1	0.5	0.5	3.5
100	0.5	–	–	–	1	0.5	2

^a A score of 1 was assigned if a native vegetation type was present in the reach; score was reduced by one-half if the native vegetation type was identified as disturbed.

^b A score of 1 was assigned if a special status species has been located in the reach during focused surveys; a one-half score was assigned for those reaches with continued potential for special status species but focused surveys have not yet had positive results for that species (Santa Ana sucker at Reach 13); a score of 1 was also assigned to this column if a special status species was located in the reach during the summer breeding bird surveys conducted for this FS (i.e., yellow warbler) with one exception – a score of 1 was already existing for Reach 12 due to presence of arroyo chub identified during focused fish surveys and so an additional half-point was assigned to this column for the yellow warblers identified in this reach during the summer season bird surveys.

¹⁸ Owned and maintained by City of Glendale.

**TABLE 15
SUMMARY OF BIOLOGICAL VALUES**

Reach Number	Native Vegetation Types ^a	Special Status Plants	Special Status Wildlife ^b	Summer (Breeding) Birds ^c	Transects - Native Vegetation ^d	CRAM Results ^e	Final Score
^c A score of 1 was assigned if more than one of the following bird species considered to be uncommon and/or local and/or declining breeding species in the lowlands of the Los Angeles River Watershed were detected during this survey: cinnamon teal, green heron, common gallinule, black-chinned hummingbird, acorn woodpecker, pacific-slope flycatcher, ash-throated flycatcher, hutton's vireo, oak titmouse, yellow warbler, black-headed grosbeak, and Bullock's oriole. ^d A score of 1 was assigned if the pre-clearing transects produced greater than 50% native vegetation on average for the reach. ^e A score of 1 was assigned to the 13 reaches with highest CRAM scores; a score of one-half was assigned to the 13 reaches with the lowest CRAM scores.							

**TABLE 16
BIOLOGICAL VALUE SCORES RANKED HIGH TO LOW**

Reach Number	Native Vegetation Types	Special Status Plants	Special Status Wildlife	Summer (Breeding) Birds	Transects Native Vegetation	CRAM Results	Final Score ^a
12	1	–	1.5	1	1	1	5.5
2	1	–	1	1	1	1	5
96	1	–	1	1	1	1	5
5	1	–	1	1	1	1	5
17 ¹⁹	1	1	–	1	0.5	1	4.5
14	1	–	1	0.5	1	1	4.5
6	1	–	1	1	1	0.5	4.5
22	1	–	–	1	0.5	1	3.5
16	1	–	–	1	0.5	1	3.5
25	1	–	–	1	0.5	1	3.5
24	1	–	–	1	0.5	1	3.5
99	0.5	–	1	1	0.5	0.5	3.5
1	1	–	–	–	1	1	3
4	1	–	–	–	0.5	1	2.5
3	0.5	–	–	–	1	1	2.5
13	1	–	0.5	0.5	0.5	0.5	2.5
20	0.5	–	–	1	0.5	0.5	2.5
7	1	–	–	–	1	0.5	2.5
100	0.5	–	–	–	1	0.5	2
21	0.5	–	–	0.5	0.5	0.5	2
19	1	–	–	–	0.5	0.5	2
10	1	–	–	–	0.5	0.5	2
15	0.5	–	–	0.5	0.5	0.5	2
9	0.5	–	–	0.5	0.5	0.5	2
18	0.5	–	–	–	0.5	0.5	1.5
8	0.5	–	–	–	0.5	0.5	1.5

^a Final scores of equal value were sorted from high to low based on their final CRAM score (see Table 14). For example, Reaches 2 and 96 have equal biological value scores of 5, but Reach 2 was ranked higher than Reach 5 as it had a final CRAM score of 60.9 compared to 52.8 for Reach 96.

Table 16 shows a strong correlation between higher CRAM scores and higher Biological Value scores. Caballero Creek Main Channel Inlet (East Fork) (Reach 6) is ranked in the lower half of CRAM scores (see Table 14), but is ranked No. 7 in Table 16 in large part because it is contiguous with the larger Caballero Creek Main Channel Inlet (West Fork) (Reach 5) and the

¹⁹ Owned and maintained by City of Glendale.

confluence of these two creeks was surveyed as one reach (see Table 7) for the summer season bird surveys. Reach 6 benefited from the shared survey results with Reach 5.

As noted in the Hydraulic Analysis Technical Assessment Report prepared by the LACFCD, 17 SBC reaches, some of which already are being cleared of vegetation, were found to lack sufficient hydraulic capacity to support additional vegetation. No recommendations for additional vegetation were therefore made for these reaches (2, 3, 4, 5, 6, 8, 10, 12, 13, 14, 15, 16, 18, 24, 96, 99, 100). The LACFCD requested that BonTerra Consulting develop recommendations for additional vegetation for the remaining 7 SBC Reaches (1, 9, 19, 20, 21, 22, and 25). Reach 7 was eliminated due to concerns about West Nile Virus issues. The recommendations for these SBC Reaches, following review by LACFCD channel maintenance personnel, are provided below as Exhibit 1. Note that they are presented in order according to their ranked biological value from high to low (see Table 16).

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²⁰ The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) effective January 1, 2013.

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Reach 22

Except for on the crib structures, allow native shrubs (but not trees) to grow on the invert of the entire channel reach. Selectively protect native shrubs by removing non-native vegetation. Native trees will not be allowed to mature on the channel invert.



Vegetation Types

-  scale broom scrub
-  disturbed scale broom scrub
-  southern coast live oak riparian forest
-  disturbed southern coast live oak riparian forest
-  willow riparian forest

-  southern willow scrub
-  cattail wetland
-  cattail wetland/open water
-  disturbed cattail wetland
-  riparian herb
-  ruderal

-  ornamental
-  unvegetated wash
-  open water
-  disturbed
-  ungrouted riprap
-  developed

Recommendations - Reach 22

Los Angeles River Watershed Feasibility Study

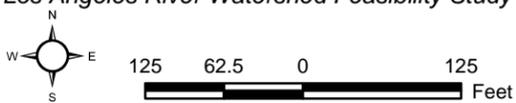


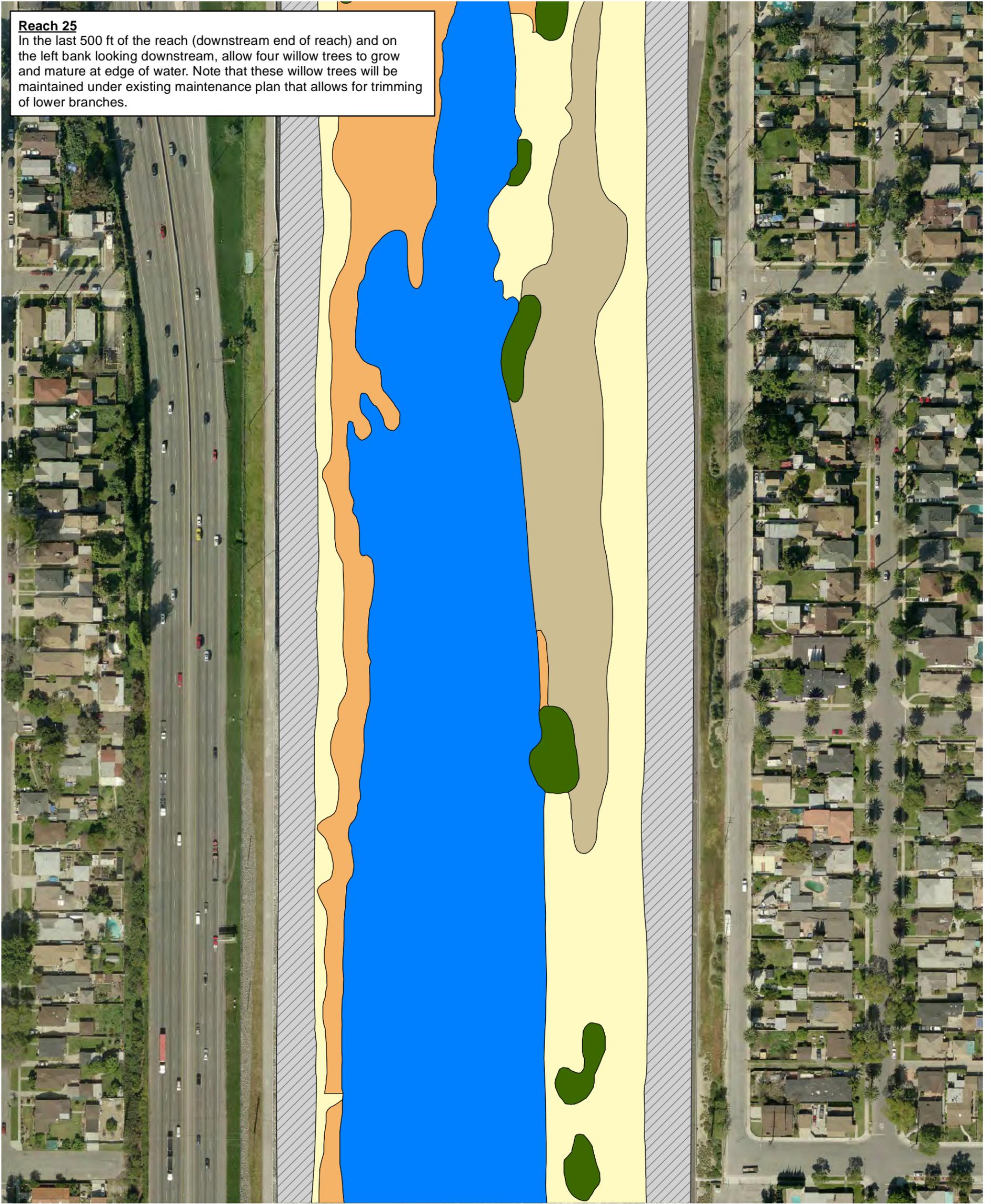
Exhibit 1A



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Reach 25

In the last 500 ft of the reach (downstream end of reach) and on the left bank looking downstream, allow four willow trees to grow and mature at edge of water. Note that these willow trees will be maintained under existing maintenance plan that allows for trimming of lower branches.



Vegetation Types

- scale broom scrub
- disturbed scale broom scrub
- southern coast live oak riparian forest
- disturbed southern coast live oak riparian forest
- willow riparian forest

- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- ungrouted riprap
- developed

Recommendations – Reach 25

Los Angeles River Watershed Feasibility Study

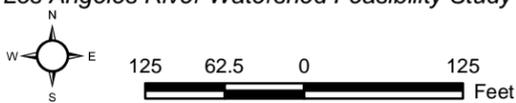


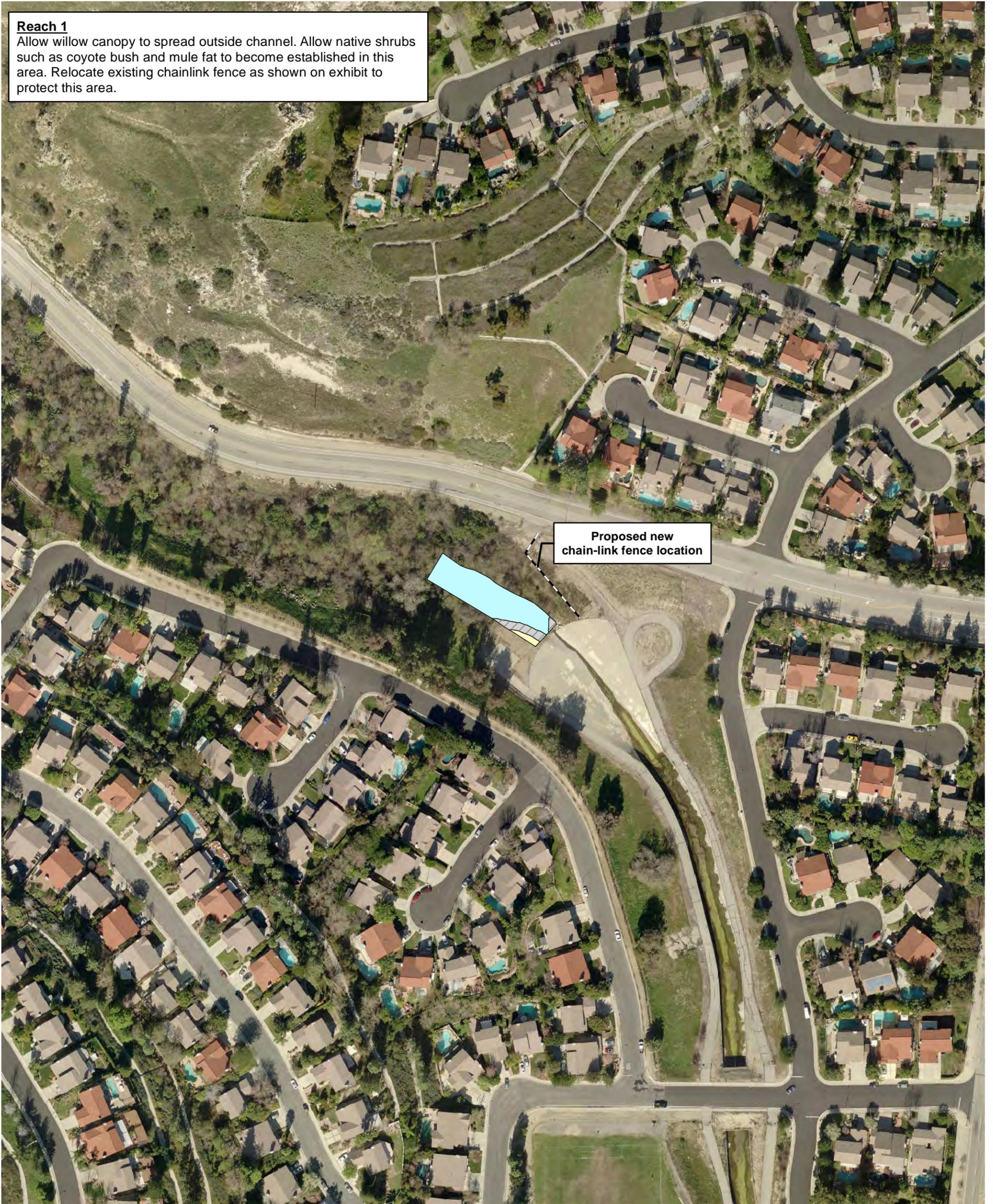
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Reach 1

Allow willow canopy to spread outside channel. Allow native shrubs such as coyote bush and mule fat to become established in this area. Relocate existing chainlink fence as shown on exhibit to protect this area.



Vegetation Types

-  scale broom scrub
-  disturbed scale broom scrub
-  southern coast live oak riparian forest
-  disturbed southern coast live oak riparian forest
-  willow riparian forest

-  southern willow scrub
-  cattail wetland
-  cattail wetland/open water
-  disturbed cattail wetland
-  riparian herb
-  ruderal

-  ornamental
-  unvegetated wash
-  open water
-  disturbed
-  ungrouted riprap
-  developed

Recommendations - Reach 1

Los Angeles River Watershed Feasibility Study

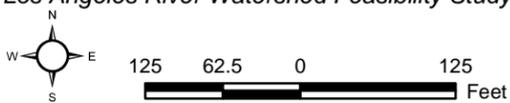


Exhibit 1C



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Reach 20

Allow native herbaceous and shrub species to grow on right bank looking downstream. Selectively remove non-native species from right bank. Do not allow oaks or other additional trees to grow on the banks.

Reach 21

Allow native herbaceous and shrub species to grow on left bank looking downstream underneath the coast live oak woodland. Selectively remove non-native ground cover species (e.g. ivy) from left bank. Do not allow additional oaks or other trees to grow on the banks.



Vegetation Types

-  scale broom scrub
-  disturbed scale broom scrub
-  southern coast live oak riparian forest
-  disturbed southern coast live oak riparian forest
-  willow riparian forest

-  southern willow scrub
-  cattail wetland
-  cattail wetland/open water
-  disturbed cattail wetland
-  riparian herb
-  ruderal

-  ornamental
-  unvegetated wash
-  open water
-  disturbed
-  ungrouted riprap
-  developed

Recommendations – Reaches 20 and 21

Los Angeles River Watershed Feasibility Study

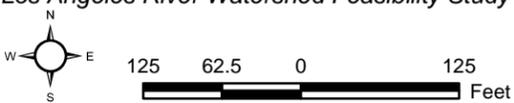


Exhibit 1D



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Reach 19

Except for on the crib structures, allow native shrubs to grow on the invert of the channel reach from the upstream end to the pedestrian bridge at Mountain Ave. Selectively protect native shrubs by removing non-native vegetation. Native trees will not be allowed to grow in the invert.



Vegetation Types

-  scale broom scrub
-  disturbed scale broom scrub
-  southern coast live oak riparian forest
-  disturbed southern coast live oak riparian forest
-  willow riparian forest

-  southern willow scrub
-  cattail wetland
-  cattail wetland/open water
-  disturbed cattail wetland
-  riparian herb
-  ruderal

-  ornamental
-  unvegetated wash
-  open water
-  disturbed
-  ungrouted riprap
-  developed

Recommendations - Reach 19

Los Angeles River Watershed Feasibility Study

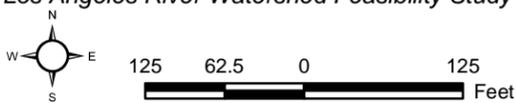


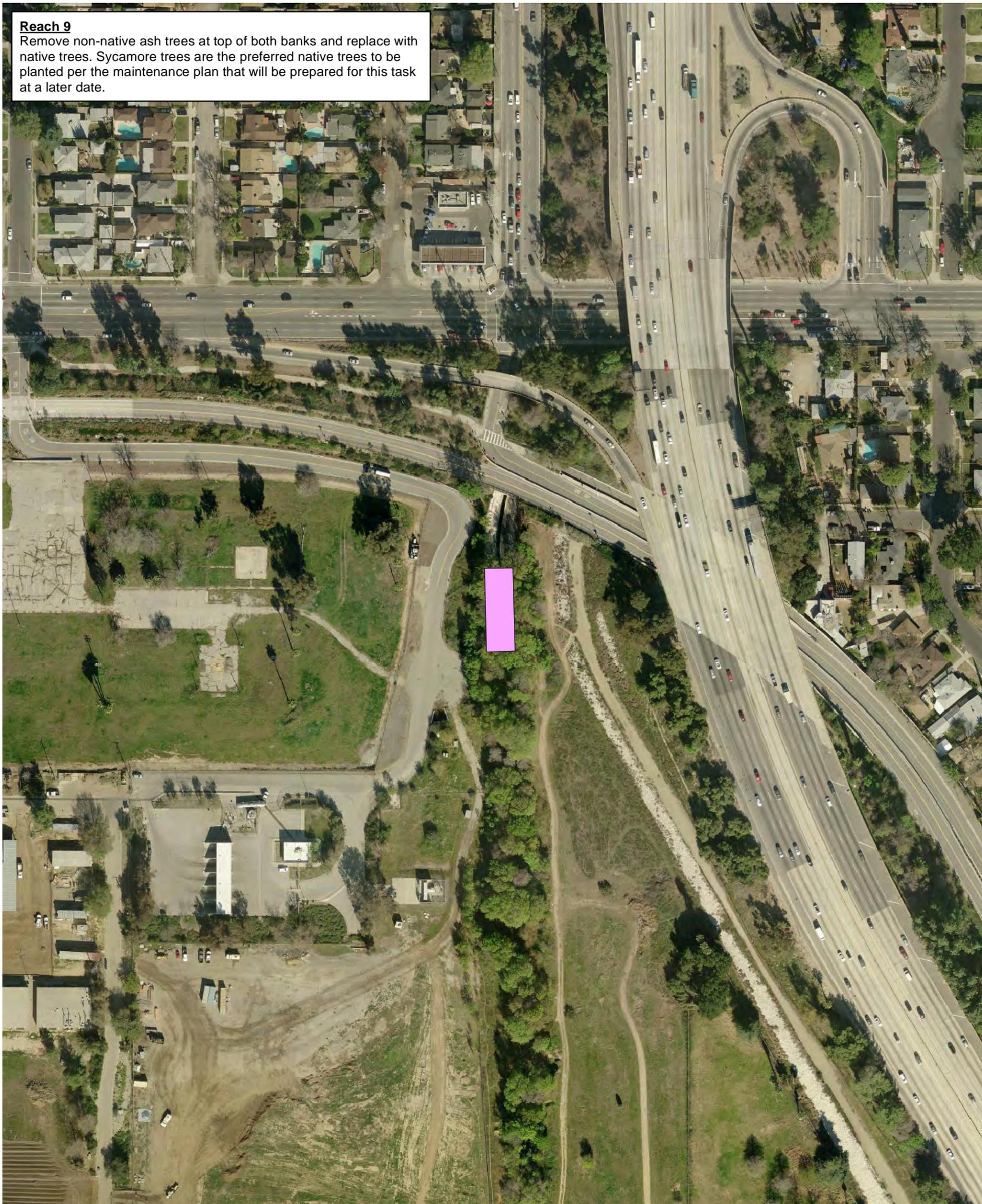
Exhibit 1E



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Reach 9

Remove non-native ash trees at top of both banks and replace with native trees. Sycamore trees are the preferred native trees to be planted per the maintenance plan that will be prepared for this task at a later date.



Vegetation Types

-  scale broom scrub
-  disturbed scale broom scrub
-  southern coast live oak riparian forest
-  disturbed southern coast live oak riparian forest
-  willow riparian forest

-  southern willow scrub
-  cattail wetland
-  cattail wetland/open water
-  disturbed cattail wetland
-  riparian herb
-  ruderal

-  ornamental
-  unvegetated wash
-  open water
-  disturbed
-  ungrouted riprap
-  developed

Recommendations – Reach 9

Los Angeles River Watershed Feasibility Study

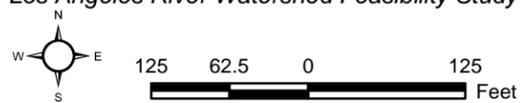


Exhibit 1F



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APPENDIX A

CALIFORNIA NATURAL DIVERSITY DATABASE SEARCH RESULTS

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Astragalus brauntonii</i> Braunton's milk-vetch	PDFAB0F1G0	Endangered		G2	S2.1	1B.1
2 <i>California macrophylla</i> round-leaved filaree	PDGER01070			G3	S3.1	1B.1
3 <i>Calochortus clavatus var. gracilis</i> slender mariposa-lily	PMLIL0D096			G4T1	S1.1?	1B.2
4 <i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150			G3	S3.2	1B.2
5 <i>Chorizanthe parryi var. fernandina</i> San Fernando Valley spineflower	PDPGN040J1	Candidate	Endangered	G2T1	S1.1	1B.1
6 <i>Deinandra minthornii</i> Santa Susana tarplant	PDAST4R0J0		Rare	G2	S2.2	1B.2
7 <i>Dodecahema leptoceras</i> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
8 <i>Dudleya blochmaniae ssp. blochmaniae</i> Blochman's dudleya	PDCRA04051			G2T2	S2.1	1B.1
9 <i>Dudleya multicaulis</i> many-stemmed dudleya	PDCRA040H0			G2	S2	1B.2
10 <i>Harpagonella palmeri</i> Palmer's grapplinghook	PDBOR0H010			G4	S3.2	4.2
11 <i>Nolina cismontana</i> Peninsular nolina	PMAGA080E0			G2	S2	1B.2
12 <i>Orcuttia californica</i> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G2	S2.1	1B.1

CNPS Inventory of Rare and Endangered Plants

Leaches: 1, 3, + 4

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<input type="checkbox"/>	<input type="checkbox"/>	<u>Deinandra minthornii</u>	Santa Susana tarplant	Asteraceae	List 1B.2
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<input type="checkbox"/>	<input type="checkbox"/>	<u>Pseudognaphalium leucocephalum</u>	white rabbit-tobacco	Asteraceae	List 2.2

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Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Astragalus brauntonii</i> Braunton's milk-vetch	PDFAB0F1G0	Endangered		G2	S2.1	1B.1
2 <i>Astragalus pycnostachyus var. lanosissimus</i> Ventura Marsh milk-vetch	PDFAB0F7B1	Endangered	Endangered	G2T1	S1.1	1B.1
3 <i>Astragalus tener var. titi</i> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G1T1	S1.1	1B.1
4 <i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0			G2	S2.2	1B.2
5 <i>Atriplex parishii</i> Parish's brittle-scale	PDCHE041D0			G1G2	S1.1	1B.1
6 <i>Baccharis malibuensis</i> Malibu baccharis	PDAST0W0W0			G1	S1.1	1B.1
7 <i>California macrophylla</i> round-leaved filaree	PDGER01070			G3	S3.1	1B.1
8 <i>Calochortus clavatus var. gracilis</i> slender mariposa-lily	PMLIL0D096			G4T1	S1.1?	1B.2
9 <i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150			G3	S3.2	1B.2
10 <i>Centromadia parryi ssp. australis</i> southern tarplant	PDAST4R0P4			G4T2	S2.1	1B.1
11 <i>Chorizanthe parryi var. fernandina</i> San Fernando Valley spineflower	PDPGN040J1	Candidate	Endangered	G2T1	S1.1	1B.1
12 <i>Cordylanthus maritimus ssp. maritimus</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T2	S2.1	1B.2
13 <i>Deinandra minthornii</i> Santa Susana tarplant	PDAST4R0J0		Rare	G2	S2.2	1B.2
14 <i>Dithyrea maritima</i> beach spectaclepod	PDBRA10020		Threatened	G2	S2.1	1B.1
15 <i>Dudleya blochmaniae ssp. blochmaniae</i> Blochman's dudleya	PDCRA04051			G2T2	S2.1	1B.1
16 <i>Dudleya cymosa ssp. marcescens</i> marcescent dudleya	PDCRA040A3	Threatened	Rare	G5T2	S2.2	1B.2
17 <i>Dudleya cymosa ssp. ovatifolia</i> Santa Monica dudleya	PDCRA040A5	Threatened		G5T2	S2.2	1B.2
18 <i>Dudleya multicaulis</i> many-stemmed dudleya	PDCRA040H0			G2	S2	1B.2
19 <i>Nama stenocarpum</i> mud nama	PDHYD0A0H0			G4G5	S1S2	2.2
20 <i>Nolina cismontana</i> Peninsular nolina	PMAGA080E0			G2	S2	1B.2
21 <i>Pentachaeta lyonii</i> Lyon's pentachaeta	PDAST6X060	Endangered	Endangered	G2	S2	1B.1
22 <i>Sidalcea neomexicana</i> Salt Spring checkerbloom	PDMAL110J0			G4?	S2S3	2.2

CNPS Inventory of Rare and Endangered Plants *Reaches: 2, 96, + 100*

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<input type="checkbox"/>	<input checked="" type="checkbox"/>	Deinandra minthornii <input type="checkbox"/>	Santa Susana tarplant	Asteraceae	List 1B.2
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DELETE unchecked items check all check none

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Astragalus brauntonii</i> Braunton's milk-vetch	PDFAB0F1G0	Endangered		G2	S2.1	1B.1
2 <i>Astragalus pycnostachyus var. lanosissimus</i> Ventura Marsh milk-vetch	PDFAB0F7B1	Endangered	Endangered	G2T1	S1.1	1B.1
3 <i>Astragalus tener var. titi</i> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G1T1	S1.1	1B.1
4 <i>Atriplex parishii</i> Parish's brittle-scale	PDCHE041D0			G1G2	S1.1	1B.1
5 <i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150			G3	S3.2	1B.2
6 <i>Centromadia parryi ssp. australis</i> southern tarplant	PDAST4R0P4			G4T2	S2.1	1B.1
7 <i>Chorizanthe parryi var. fernandina</i> San Fernando Valley spineflower	PDPGN040J1	Candidate	Endangered	G2T1	S1.1	1B.1
8 <i>Cordylanthus maritimus ssp. maritimus</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T2	S2.1	1B.2
9 <i>Deinandra minthornii</i> Santa Susana tarplant	PDAST4R0J0		Rare	G2	S2.2	1B.2
10 <i>Dithyrea maritima</i> beach spectaclepod	PDBRA10020		Threatened	G2	S2.1	1B.1
11 <i>Dudleya blochmaniae ssp. blochmaniae</i> Blochman's dudleya	PDCRA04051			G2T2	S2.1	1B.1
12 <i>Dudleya cymosa ssp. ovatifolia</i> Santa Monica dudleya	PDCRA040A5	Threatened		G5T2	S2.2	1B.2
13 <i>Horkelia cuneata ssp. puberula</i> mesa horkelia	PDR0S0W045			G4T2	S2.1	1B.1
14 <i>Malacothamnus davidsonii</i> Davidson's bush-mallow	PDMAL0Q040			G1	S1.1	1B.2
15 <i>Nama stenocarpum</i> mud nama	PDHYD0A0H0			G4G5	S1S2	2.2
16 <i>Sidalcea neomexicana</i> Salt Spring checkerbloom	PDMAL110J0			G4?	S2S3	2.2

CNPS Inventory of Rare and Endangered Plants

Reaches: 5, 6, + 8
7, 9, + 10

Status: Plant Press Manager window with 17 items - Thu, Apr. 15, 2010 20:19 c

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items check all check none

open	save	scientific	common	family	CNPS
<input type="checkbox"/>	<input type="checkbox"/>	Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Astragalus pycnostachyus var. lanosissimus	Ventura marsh milk-vetch	Fabaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Astragalus tener var. titi	coastal dunes milk-vetch	Fabaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Atriplex parishii	Parish's brittlescale	Chenopodiaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Calochortus plummerae	Plummer's mariposa lily	Liliaceae	List 1B.2
<input type="checkbox"/>	<input type="checkbox"/>	Camissonia lewisii	Lewis' evening-primrose	Onagraceae	List 3
<input type="checkbox"/>	<input type="checkbox"/>	Centromadia parryi ssp. australis	southern tarplant	Asteraceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	Polygonaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Cordylanthus maritimus ssp. maritimus	salt marsh bird's-beak	Scrophulariaceae	List 1B.2
<input type="checkbox"/>	<input type="checkbox"/>	Deinandra minthornii	Santa Susana tarplant	Asteraceae	List 1B.2
<input type="checkbox"/>	<input type="checkbox"/>	Dithyrea maritima	beach spectaclepod	Brassicaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Dudleya cymosa ssp. ovatifolia	Santa Monica dudleya	Crassulaceae	List 1B.2
<input type="checkbox"/>	<input type="checkbox"/>	Dudleya multicaulis	many-stemmed dudleya	Crassulaceae	List 1B.2
<input type="checkbox"/>	<input type="checkbox"/>	Horkelia cuneata ssp. puberula	mesa horkelia	Rosaceae	List 1B.1
<input type="checkbox"/>	<input type="checkbox"/>	Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	List 1B.2
<input type="checkbox"/>	<input type="checkbox"/>	Nama stenocarpum	mud nama	Hydrophyllaceae	List 2.2
<input type="checkbox"/>	<input type="checkbox"/>	Sidalcea neomexicana	salt spring checkerbloom	Malvaceae	List 2.2

DELETE unchecked items check all check none

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Atriplex parishii</i> Parish's brittle-scale	PDCHE041D0			G1G2	S1.1	1B.1
2 <i>Berberis nevinii</i> Nevin's barberry	PDBER060A0	Endangered	Endangered	G2	S2.2	1B.1
3 <i>California macrophylla</i> round-leaved filaree	PDGER01070			G3	S3.1	1B.1
4 <i>Calochortus clavatus var. gracilis</i> slender mariposa-lily	PMLIL0D096			G4T1	S1.1?	1B.2
5 <i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150			G3	S3.2	1B.2
6 <i>Centromadia parryi ssp. australis</i> southern tarplant	PDAST4R0P4			G4T2	S2.1	1B.1
7 <i>Chorizanthe parryi var. fernandina</i> San Fernando Valley spineflower	PDPGN040J1	Candidate	Endangered	G2T1	S1.1	1B.1
8 <i>Dodecahema leptoceras</i> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
9 <i>Dudleya multicaulis</i> many-stemmed dudleya	PDCRA040H0			G2	S2	1B.2
10 <i>Harpagonella palmeri</i> Palmer's grapplinghook	PDBOR0H010			G4	S3.2	4.2
11 <i>Horkelia cuneata ssp. puberula</i> mesa horkelia	PDR0S0W045			G4T2	S2.1	1B.1
12 <i>Malacothamnus davidsonii</i> Davidson's bush-mallow	PDMAL0Q040			G1	S1.1	1B.2
13 <i>Orcuttia californica</i> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G2	S2.1	1B.1
14 <i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	PDAST440C0			G4	S2S3.2	2.2
15 <i>Symphotrichum greatae</i> Greata's aster	PDASTE80U0			G2	S2.3	1B.3

CNPS Inventory of Rare and Endangered Plants

Reaches: 12, 13, +14
15 + 99

Status: Plant Press Manager window with 15 items - Thu, Apr. 15, 2010 20:22 c

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items

open	save	scientific	common	family	CNPS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Astragalus brauntonii</u> <input type="checkbox"/>	Braunton's milk-vetch	Fabaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Atriplex parishii</u> <input type="checkbox"/>	Parish's brittlescale	Chenopodiaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Berberis nevinii</u> <input type="checkbox"/>	Nevin's barberry	Berberidaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>California macrophylla</u> <input type="checkbox"/>	round-leaved filaree	Geraniaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Calochortus clavatus var. gracilis</u> <input type="checkbox"/>	slender mariposa lily	Liliaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Calochortus plummerae</u> <input type="checkbox"/>	Plummer's mariposa lily	Liliaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Camissonia lewisii</u> <input type="checkbox"/>	Lewis' evening-primrose	Onagraceae	List 3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Centromadia parryi ssp. australis</u> <input type="checkbox"/>	southern tarplant	Asteraceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Chorizanthe parryi var. fernandina</u> <input type="checkbox"/>	San Fernando Valley spineflower	Polygonaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Dodecahema leptoceras</u> <input type="checkbox"/>	slender-horned spineflower	Polygonaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Horkelia cuneata ssp. puberula</u> <input type="checkbox"/>	mesa horkelia	Rosaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Linanthus concinnus</u> <input type="checkbox"/>	San Gabriel linanthus	Polemoniaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Malacothamnus davidsonii</u> <input type="checkbox"/>	Davidson's bush-mallow	Malvaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Pseudognaphalium leucocephalum</u>	white rabbit-tobacco	Asteraceae	List 2.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Symphotrichum greatae</u> <input type="checkbox"/>	Greata's aster	Asteraceae	List 1B.3

DELETE unchecked items

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Atriplex parishii</i> Parish's brittle-scale	PDCHE041D0			G1G2	S1.1	1B.1
2 <i>Berberis nevinii</i> Nevin's barberry	PDBER060A0	Endangered	Endangered	G2	S2.2	1B.1
3 <i>California macrophylla</i> round-leaved filaree	PDGER01070			G3	S3.1	1B.1
4 <i>Calochortus clavatus var. gracilis</i> slender mariposa-lily	PMLIL0D096			G4T1	S1.1?	1B.2
5 <i>Calochortus plummerae</i> Plummer's mariposa-lily	PMLIL0D150			G3	S3.2	1B.2
6 <i>Castilleja gleasonii</i> Mt. Gleason paintbrush	PDSCR0D140		Rare	G2Q	S2.2	1B.2
7 <i>Centromadia parryi ssp. australis</i> southern tarplant	PDAST4R0P4			G4T2	S2.1	1B.1
8 <i>Chorizanthe parryi var. fernandina</i> San Fernando Valley spineflower	PDPGN040J1	Candidate	Endangered	G2T1	S1.1	1B.1
9 <i>Chorizanthe parryi var. parryi</i> Parry's spineflower	PDPGN040J2			G3T2	S2	1B.1
10 <i>Dodecahema leptoceras</i> slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
11 <i>Dudleya multicaulis</i> many-stemmed dudleya	PDCRA040H0			G2	S2	1B.2
12 <i>Helianthus nuttallii ssp. parishii</i> Los Angeles sunflower	PDAST4N102			G5TH	SH	1A
13 <i>Horkelia cuneata ssp. puberula</i> mesa horkelia	PDROS0W045			G4T2	S2.1	1B.1
14 <i>Imperata brevifolia</i> California satintail	PMPOA3D020			G2	S2.1	2.1
15 <i>Linanthus orcuttii</i> Orcutt's linanthus	PDPLM090X0			G4	S2.3	1B.3
16 <i>Malacothamnus davidsonii</i> Davidson's bush-mallow	PDMAL0Q040			G1	S1.1	1B.2
17 <i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	PDAST440C0			G4	S2S3.2	2.2
18 <i>Ribes divaricatum var. parishii</i> Parish's gooseberry	PDGRO020F3			G4TH	SH	1A
19 <i>Symphotrichum greatae</i> Greata's aster	PDASTE80U0			G2	S2.3	1B.3

CNPS Inventory of Rare and Endangered Plants

Reaches: 16, 17, + 18
19, 20, 21, + 22

Status: Plant Press Manager window with 21 items - Thu, Apr. 15, 2010 20:25 c

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items check all check none

open	save	scientific	common	family	CNPS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Atriplex parishii</u>	Parish's brittle-scale	Chenopodiaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Berberis nevini</u>	Nevin's barberry	Berberidaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>California macrophylla</u>	round-leaved filaree	Geraniaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Calochortus clavatus</u> var. <u>gracilis</u>	slender mariposa lily	Liliaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Calochortus plummerae</u>	Plummer's mariposa lily	Liliaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Camissonia lewisii</u>	Lewis' evening-primrose	Onagraceae	List 3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Castilleja gleasonii</u>	Mt. Gleason paintbrush	Scrophulariaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Centromadia parryi</u> ssp. <u>australis</u>	southern tarplant	Asteraceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Chorizanthe parryi</u> var. <u>fernandina</u>	San Fernando Valley spineflower	Polygonaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Chorizanthe parryi</u> var. <u>parryi</u>	Parry's spineflower	Polygonaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Dodecagema leptoceras</u>	slender-horned spineflower	Polygonaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Helianthus nuttallii</u> ssp. <u>parishii</u>	Los Angeles sunflower	Asteraceae	List 1A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Horkelia cuneata</u> ssp. <u>puberula</u>	mesa horkelia	Rosaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Imperata brevifolia</u>	California satintail	Poaceae	List 2.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Lasthenia glabrata</u> ssp. <u>coulteri</u>	Coulter's goldfields	Asteraceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Linanthus concinnus</u>	San Gabriel linanthus	Polemoniaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Linanthus orcuttii</u>	Orcutt's linanthus	Polemoniaceae	List 1B.3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Malacothamnus davidsonii</u>	Davidson's bush-mallow	Malvaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Pseudognaphalium leucocephalum</u>	white rabbit-tobacco	Asteraceae	List 2.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Ribes divaricatum</u> var. <u>parishii</u>	Parish's gooseberry	Grossulariaceae	List 1A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Symphotrichum greatae</u>	Greata's aster	Asteraceae	List 1B.3

DELETE unchecked items check all check none

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Aphanisma blitoides</i> aphanisma	PDCHE02010			G2	S1.1	1B.2
2 <i>Astragalus tener</i> var. <i>titi</i> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G1T1	S1.1	1B.1
3 <i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0			G2	S2.2	1B.2
4 <i>Atriplex pacifica</i> South Coast saltscale	PDCHE041C0			G3G4	S2.2	1B.2
5 <i>Atriplex parishii</i> Parish's brittlescale	PDCHE041D0			G1G2	S1.1	1B.1
6 <i>Atriplex serenana</i> var. <i> davidsonii</i> Davidson's saltscale	PDCHE041T1			G5T2?	S2?	1B.2
7 <i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	PDAST4R0P4			G4T2	S2.1	1B.1
8 <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T2	S2.1	1B.2
9 <i>Crossosoma californicum</i> Catalina crossosoma	PDCRO02020			G3	S3.2	1B.2
10 <i>Dudleya virens</i> ssp. <i>insularis</i> island green dudleya	PDCRA040S2			G2T2	S2.2	1B.2
11 <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	PDAST5L0A1			G4T3	S2.1	1B.1
12 <i>Lycium brevipes</i> var. <i>hassei</i> Santa Catalina Island desert-thorn	PDSOL0G0N0			G1Q	S1.1	1B.1
13 <i>Navarretia fossalis</i> Moran's nosegay	PDPLM0C080	Threatened		G1	S1	1B.1
14 <i>Navarretia prostrata</i> prostrate vernal pool navarretia	PDPLM0C0Q0			G2?	S2.1?	1B.1
15 <i>Nemacaulis denudata</i> var. <i>denudata</i> coast woolly-heads	PDPGN0G011			G3G4T3?	S2.2	1B.2
16 <i>Orcuttia californica</i> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G2	S2.1	1B.1
17 <i>Pentachaeta lyonii</i> Lyon's pentachaeta	PDAST6X060	Endangered	Endangered	G2	S2	1B.1
18 <i>Phacelia stellaris</i> Brand's star phacelia	PDHYD0C510	Candidate		G2?	S1	1B.1
19 <i>Suaeda esteroa</i> estuary seablite	PDCHE0P0D0			G4	S3.2	1B.2
20 <i>Symphotrichum defoliatum</i> San Bernardino aster	PDASTE80C0			G3	S3.2	1B.2

CNPS Inventory of Rare and Endangered Plants

Reaches: 24+25

Status: Plant Press Manager window with 21 items - Thu, Apr. 15, 2010 20:27 c

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items check all check none

open	save	scientific	common	family	CNPS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Aphanisma blitoides	aphanisma	Chenopodiaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Astragalus tener var. titi	coastal dunes milk-vetch	Fabaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Atriplex pacifica	South Coast saltscale	Chenopodiaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Atriplex parishii	Parish's brittlescale	Chenopodiaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Atriplex serenana var. davidsonii	Davidson's saltscale	Chenopodiaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Camissonia lewisii	Lewis' evening-primrose	Onagraceae	List 3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Centromadia parryi ssp. australis	southern tarplant	Asteraceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cordylanthus maritimus ssp. maritimus	salt marsh bird's-beak	Scrophulariaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Crossosoma californicum	Catalina crossosoma	Crossosomataceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dudleya virens ssp. insularis	island green dudleya	Crassulaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Asteraceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lycium brevipes var. hassei	Santa Catalina Island desert-thorn	Solanaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Navarretia fossalis	Moran's navarretia	Polemoniaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Nemacaulis denudata var. denudata	coast woolly-heads	Polygonaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Orcuttia californica	California Orcutt grass	Poaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Pentachaeta lyonii	Lyon's pentachaeta	Asteraceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phacelia stellaris	Brand's star phacelia	Hydrophyllaceae	List 1B.1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Suaeda esteroa	estuary seablite	Chenopodiaceae	List 1B.2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Symphyotrichum defoliatum	San Bernardino aster	Asteraceae	List 1B.2

DELETE unchecked items check all check none

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Actinemys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
2 <i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3 <i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091			G5T2T4	S2S3	
4 <i>Anaxyrus californicus</i> arroyo toad	AAABB01230	Endangered		G2G3	S2S3	SC
5 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
6 <i>Aquila chrysaetos</i> golden eagle	ABNKC22010			G5	S3	
7 <i>Athene cunicularia</i> burrowing owl	ABNSB10010			G4	S2	SC
8 <i>Danaus plexippus</i> monarch butterfly	IILEPP2010			G5	S3	
9 <i>Eumops perotis californicus</i> western mastiff bat	AMACD02011			G5T4	S3?	SC
10 <i>Macrotus californicus</i> California leaf-nosed bat	AMACB01010			G4	S2S3	SC
11 <i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041			G5T3?	S3?	SC
12 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
13 <i>Polioptila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened		G3T2	S2	SC
14 <i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
15 <i>Socalchemmis gertschi</i> Gertsch's socialchemmis spider	ILARAU7010			G1	S1	
16 <i>Spea hammondii</i> western spadefoot	AAABF02020			G3	S3	SC
17 <i>Thamnophis hammondii</i> two-striped garter snake	ARADB36160			G3	S2	SC

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Actinemys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
2 <i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3 <i>Aglaothorax longipennis</i> Santa Monica shieldback katydid	IIORT32020			G1G2	S1S2	
4 <i>Anaxyrus californicus</i> arroyo toad	AAABB01230	Endangered		G2G3	S2S3	SC
5 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
6 <i>Aquila chrysaetos</i> golden eagle	ABNKC22010			G5	S3	
7 <i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143			G5T3T4	S2S3	
8 <i>Athene cunicularia</i> burrowing owl	ABNSB10010			G4	S2	SC
9 <i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	IICOL02101			G5T2	S1	
10 <i>Coelus globosus</i> globose dune beetle	IICOL4A010			G1	S1	
11 <i>Danaus plexippus</i> monarch butterfly	IILEPP2010			G5	S3	
12 <i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	ARADB10015			G5T2T3	S2?	
13 <i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered		G3	S2S3	SC
14 <i>Euderma maculatum</i> spotted bat	AMACC07010			G4	S2S3	SC
15 <i>Eumops perotis californicus</i> western mastiff bat	AMACD02011			G5T4	S3?	SC
16 <i>Gila orcuttii</i> arroyo chub	AFCJB13120			G2	S2	SC
17 <i>Lampropeltis zonata (pulchra)</i> California mountain kingsnake (San Diego population)	ARADB19063			G4G5	S1S2	SC
18 <i>Lasiurus blossevillii</i> western red bat	AMACC05060			G5	S3?	SC
19 <i>Macrotus californicus</i> California leaf-nosed bat	AMACB01010			G4	S2S3	SC
20 <i>Myotis ciliolabrum</i> western small-footed myotis	AMACC01140			G5	S2S3	
21 <i>Myotis yumanensis</i> Yuma myotis	AMACC01020			G5	S4?	
22 <i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041			G5T3?	S3?	SC
23 <i>Oncorhynchus mykiss irideus</i> southern steelhead - southern California ESU	AFCHA0209J	Endangered		G5T2Q	S2	SC

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
25 <i>Polioptila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened		G3T2	S2	SC
26 <i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
27 <i>Socalchemmis gertschi</i> Gertsch's socalchemmis spider	ILARAU7010			G1	S1	

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Actinemys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
2 <i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3 <i>Aglaothorax longipennis</i> Santa Monica shieldback katydid	IIORT32020			G1G2	S1S2	
4 <i>Anaxyrus californicus</i> arroyo toad	AAABB01230	Endangered		G2G3	S2S3	SC
5 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
6 <i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143			G5T3T4	S2S3	
7 <i>Carolella busckana</i> Busck's gallmoth	IILEM2X090			G1G3	SH	
8 <i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	IICOL02101			G5T2	S1	
9 <i>Coelus globosus</i> globose dune beetle	IICOL4A010			G1	S1	
10 <i>Danaus plexippus</i> monarch butterfly	IILEPP2010			G5	S3	
11 <i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	ARADB10015			G5T2T3	S2?	
12 <i>Eumops perotis californicus</i> western mastiff bat	AMACD02011			G5T4	S3?	SC
13 <i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010			G5	S3S4	
14 <i>Lasiurus cinereus</i> hoary bat	AMACC05030			G5	S4?	
15 <i>Microtus californicus stephensi</i> south coast marsh vole	AMAFF11035			G5T1T2	S1S2	SC
16 <i>Oncorhynchus mykiss irideus</i> southern steelhead - southern California ESU	AFCHA0209J	Endangered		G5T2Q	S2	SC
17 <i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	AMAFD01041			G5T1T2	S1S2	SC
18 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
19 <i>Polioptila californica californica</i> coastal California gnatcatcher	ABPB08081	Threatened		G3T2	S2	SC
20 <i>Socalchemmis gertschi</i> Gertsch's socialchemmis spider	ILARAU7010			G1	S1	
21 <i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

California Department of Fish and Game

Natural Diversity Database

Selected Elements by Scientific Name - Portrait

CoLADPW J138 - Wildlife for Reaches 12, 13, 14, 15, and 99 - San Fernando, Sunland, Van Nuys, and Burbank quads

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Actinemys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
2 <i>Anniella pulchra pulchra</i> silvery legless lizard	ARACC01012			G3G4T3T4 Q	S3	SC
3 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
4 <i>Aspidoscelis hyperythra</i> orangethroat whiptail	ARACJ02060			G5	S2	SC
5 <i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143			G5T3T4	S2S3	
6 <i>Athene cunicularia</i> burrowing owl	ABNSB10010			G4	S2	SC
7 <i>Catostomus santaanae</i> Santa Ana sucker	AFCJC02190	Threatened		G1	S1	SC
8 <i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
9 <i>Empidonax traillii extimus</i> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T1T2	S1	
10 <i>Eumops perotis californicus</i> western mastiff bat	AMACD02011			G5T4	S3?	SC
11 <i>Gila orcuttii</i> arroyo chub	AFCJB13120			G2	S2	SC
12 <i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010			G5	S3S4	
13 <i>Lasiurus cinereus</i> hoary bat	AMACC05030			G5	S4?	
14 <i>Lasiurus xanthinus</i> western yellow bat	AMACC05070			G5	S3	SC
15 <i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	AMAEB03051			G5T3?	S3?	SC
16 <i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041			G5T3?	S3?	SC
17 <i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020			G5	S2	SC
18 <i>Onychomys torridus ramona</i> southern grasshopper mouse	AMAFF06022			G5T3?	S3?	SC
19 <i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	AMAFD01041			G5T1T2	S1S2	SC
20 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
21 <i>Polioptila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened		G3T2	S2	SC
22 <i>Rana muscosa</i> Sierra Madre yellow-legged frog	AAABH01330	Endangered		G1	S1	SC
23 <i>Rhinichthys osculus ssp. 3</i> Santa Ana speckled dace	AFCJB3705K			G5T1	S1	SC

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Spea hammondi</i> western spadefoot	AAABF02020			G3	S3	SC
25 <i>Taxidea taxus</i> American badger	AMAJF04010			G5	S4	SC
26 <i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

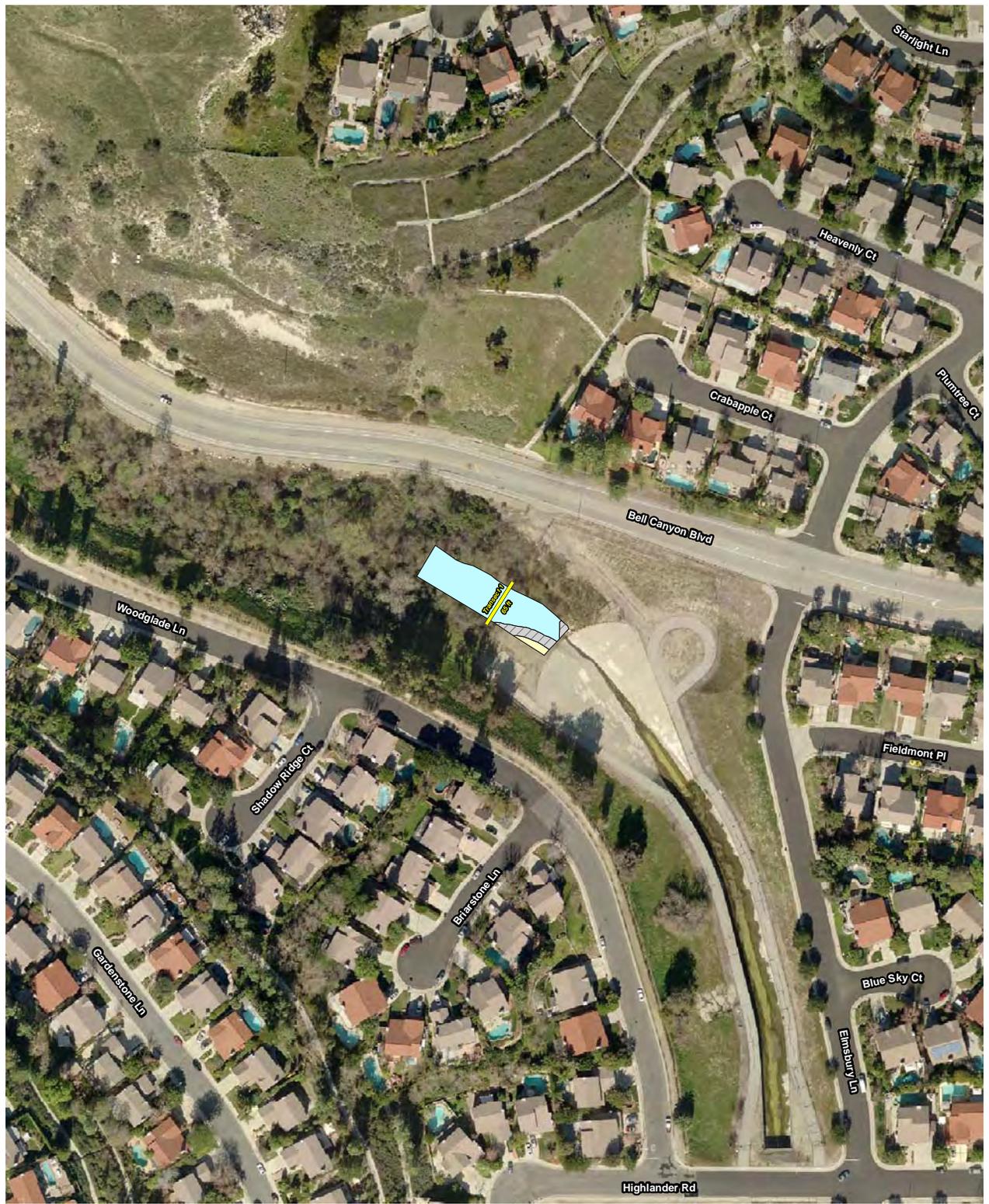
Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Actinemys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
2 <i>Anniella pulchra pulchra</i> silvery legless lizard	ARACC01012			G3G4T3T4 Q	S3	SC
3 <i>Antrozous pallidus</i> pallid bat	AMACC10010			G5	S3	SC
4 <i>Aspidoscelis hyperythra</i> orangethroat whiptail	ARACJ02060			G5	S2	SC
5 <i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143			G5T3T4	S2S3	
6 <i>Athene cunicularia</i> burrowing owl	ABNSB10010			G4	S2	SC
7 <i>Catostomus santaanae</i> Santa Ana sucker	AFCJC02190	Threatened		G1	S1	SC
8 <i>Empidonax traillii extimus</i> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T1T2	S1	
9 <i>Eumops perotis californicus</i> western mastiff bat	AMACD02011			G5T4	S3?	SC
10 <i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	unknown code...	G4T3	S2	
11 <i>Gila orcuttii</i> arroyo chub	AFCJB13120			G2	S2	SC
12 <i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010			G5	S3S4	
13 <i>Lasiurus cinereus</i> hoary bat	AMACC05030			G5	S4?	
14 <i>Lasiurus xanthinus</i> western yellow bat	AMACC05070			G5	S3	SC
15 <i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	AMAEB03051			G5T3?	S3?	SC
16 <i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041			G5T3?	S3?	SC
17 <i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020			G5	S2	SC
18 <i>Onychomys torridus ramona</i> southern grasshopper mouse	AMAFF06022			G5T3?	S3?	SC
19 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
20 <i>Polioptila californica californica</i> coastal California gnatcatcher	ABPB08081	Threatened		G3T2	S2	SC
21 <i>Rana muscosa</i> Sierra Madre yellow-legged frog	AAABH01330	Endangered		G1	S1	SC
22 <i>Rhinichthys osculus ssp. 3</i> Santa Ana speckled dace	AFCJB3705K			G5T1	S1	SC
23 <i>Taricha torosa torosa</i> Coast Range newt	AAAAF02032			G5T4	S4	SC

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Taxidea taxus</i> American badger	AMAJF04010			G5	S4	SC

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020			G2G3	S2	SC
2 <i>Athene cunicularia</i> burrowing owl	ABNSB10010			G4	S2	SC
3 <i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	IICOL02101			G5T2	S1	
4 <i>Cicindela latesignata latesignata</i> western beach tiger beetle	IICOL02113			G4T1T2	S1	
5 <i>Danaus plexippus</i> monarch butterfly	IILEPP2010			G5	S3	
6 <i>Empidonax traillii extimus</i> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T1T2	S1	
7 <i>Eumops perotis californicus</i> western mastiff bat	AMACD02011			G5T4	S3?	SC
8 <i>Gila bicolor mohavensis</i> Mohave tui chub	AFCJB1303H	Endangered	Endangered	G4T1	S1	
9 <i>Glaucopsyche lygdamus palosverdesensis</i> Palos Verdes blue butterfly	IILEPG402A	Endangered		G5T1	S1	
10 <i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010			G5	S3S4	
11 <i>Microtus californicus stephensi</i> south coast marsh vole	AMAFF11035			G5T1T2	S1S2	SC
12 <i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041			G5T3?	S3?	SC
13 <i>Nyctinomops femorosaccus</i> pocketed free-tailed bat	AMACD04010			G4	S2S3	SC
14 <i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020			G5	S2	SC
15 <i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	unknown code...	G4T3	S1S2	
16 <i>Perognathus longimembris pacificus</i> Pacific pocket mouse	AMAFD01042	Endangered		G5T1	S1	SC
17 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
18 <i>Polioptila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened		G3T2	S2	SC
19 <i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2S3	
20 <i>Taxidea taxus</i> American badger	AMAJF04010			G5	S4	SC
21 <i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040			G2G3	S2S3	

APPENDIX B

SOFT-BOTTOM CHANNEL MAPS OF VEGETATION TYPES



—	Transects	■	southern willow scrub	■	unvegetated wash
■	Vegetation Types	■	cattail wetland	■	open water
■	scale broom scrub	■	cattail wetland/open water	■	disturbed
■	disturbed scale broom scrub	■	disturbed cattail wetland	■	ungrouted riprap
■	southern coast live oak riparian forest	■	riparian herb	■	developed
■	disturbed southern coast live oak riparian forest	■	ruderal		
■	willow riparian forest	■	ornamental		

Vegetation Types - Reach 1

Los Angeles River Watershed Feasibility Study



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—	Transects	■	southern willow scrub	■	unvegetated wash
■	Vegetation Types	■	cattail wetland	■	open water
■	scale broom scrub	■	cattail wetland/open water	■	disturbed
■	disturbed scale broom scrub	■	disturbed cattail wetland	■	ungrouted riprap
■	southern coast live oak riparian forest	■	riparian herb	■	developed
■	disturbed southern coast live oak riparian forest	■	ruderal		
■	willow riparian forest	■	ornamental		

Vegetation Types - Reach 2

Los Angeles River Watershed Feasibility Study



Appendix B-2

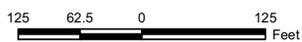




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| <ul style="list-style-type: none"> Transects Vegetation Types scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest | <ul style="list-style-type: none"> southern willow scrub cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental | <ul style="list-style-type: none"> unvegetated wash open water disturbed ungrouted riprap developed |
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Vegetation Types - Reach 3

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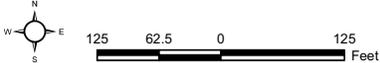
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 4

Los Angeles River Watershed Feasibility Study

Appendix B-4



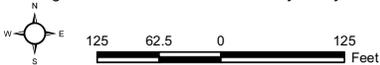


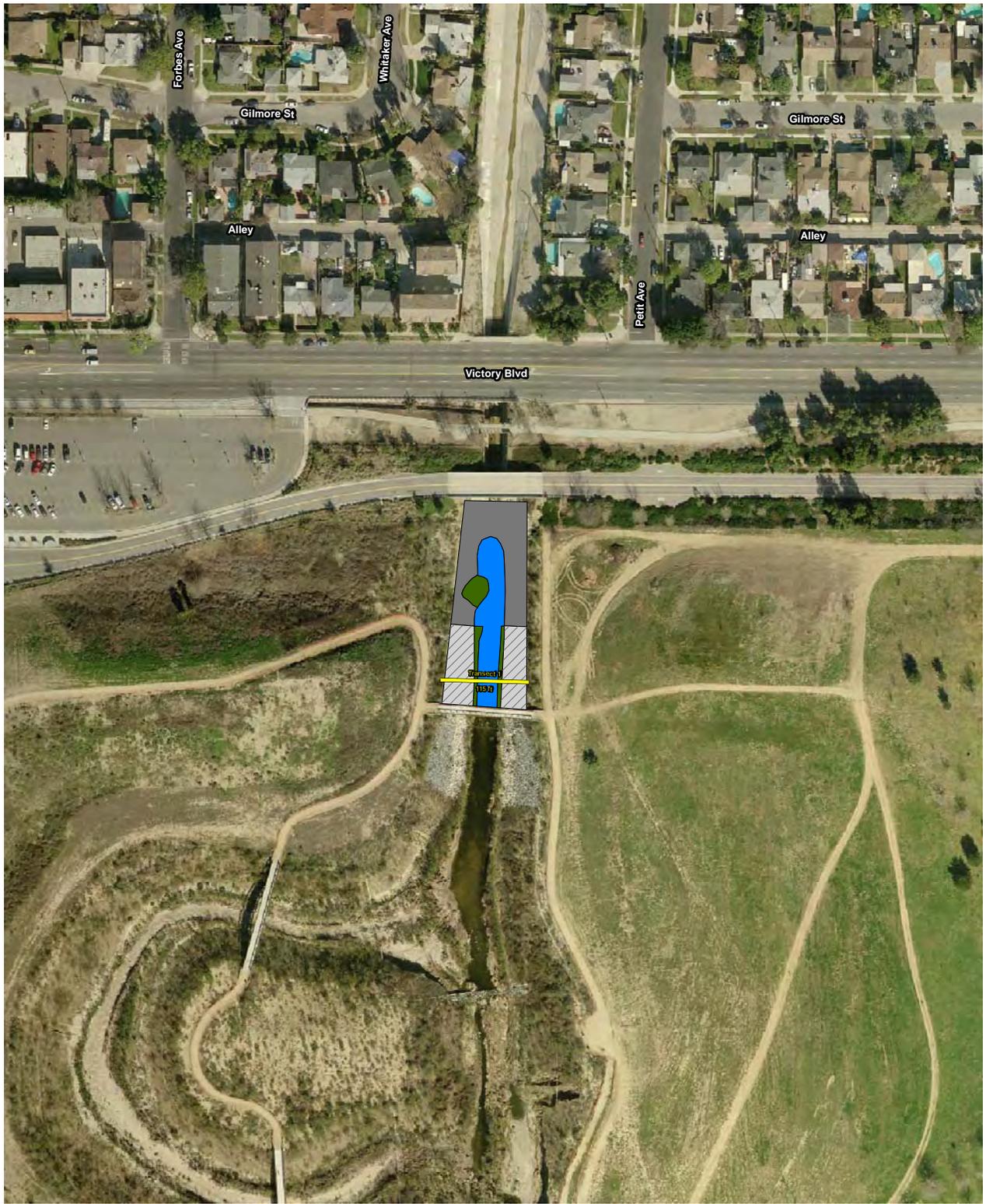
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reaches 5 and 6

Los Angeles River Watershed Feasibility Study





Transects

Vegetation Types

scale broom scrub

disturbed scale broom scrub

southern coast live oak riparian forest

disturbed southern coast live oak riparian forest

willow riparian forest

southern willow scrub

cattail wetland

cattail wetland/open water

disturbed cattail wetland

riparian herb

ruderal

ornamental

unvegetated wash

open water

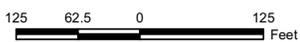
disturbed

ungrouted riprap

developed

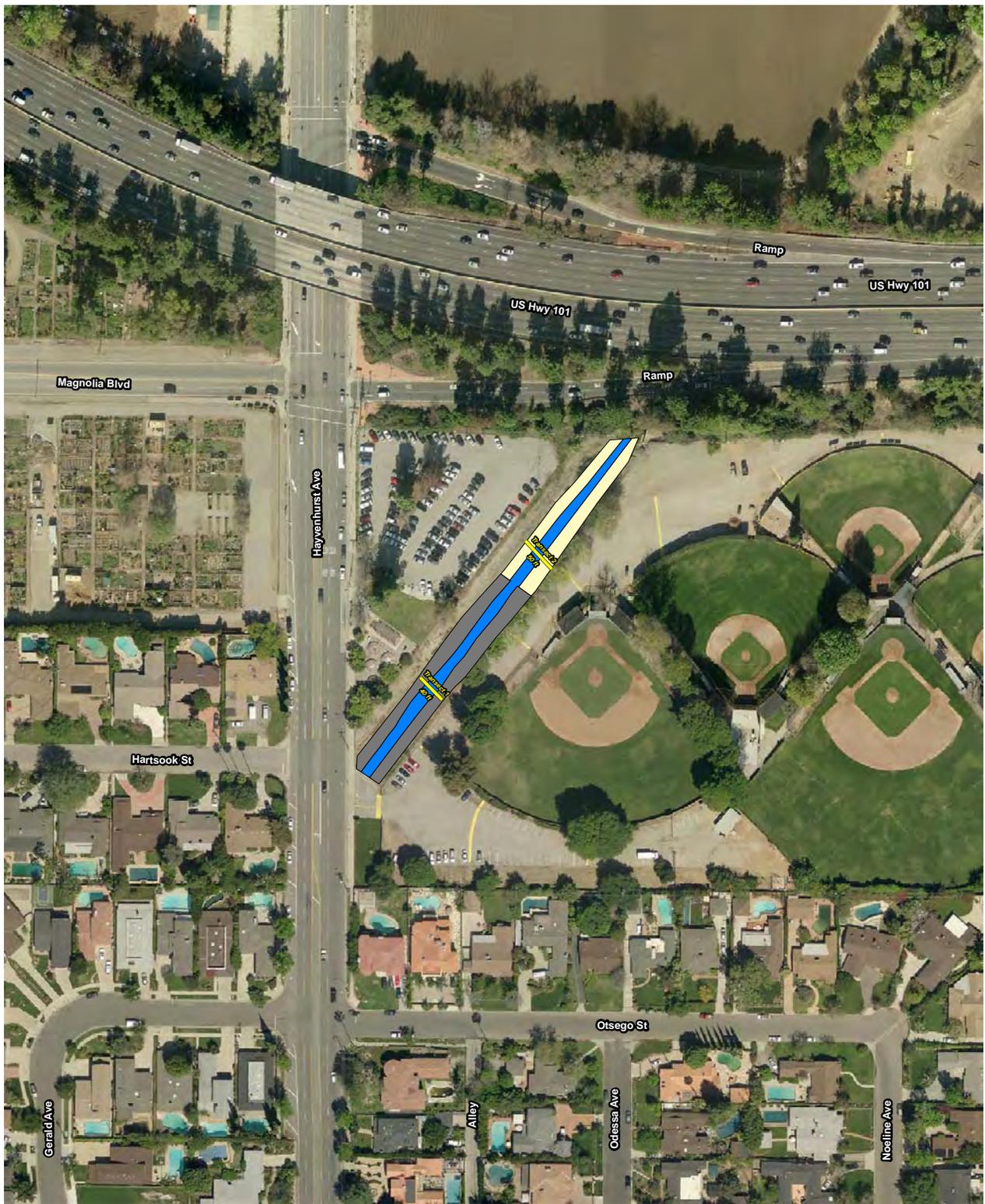
Vegetation Types - Reach 7

Los Angeles River Watershed Feasibility Study



Appendix B-6





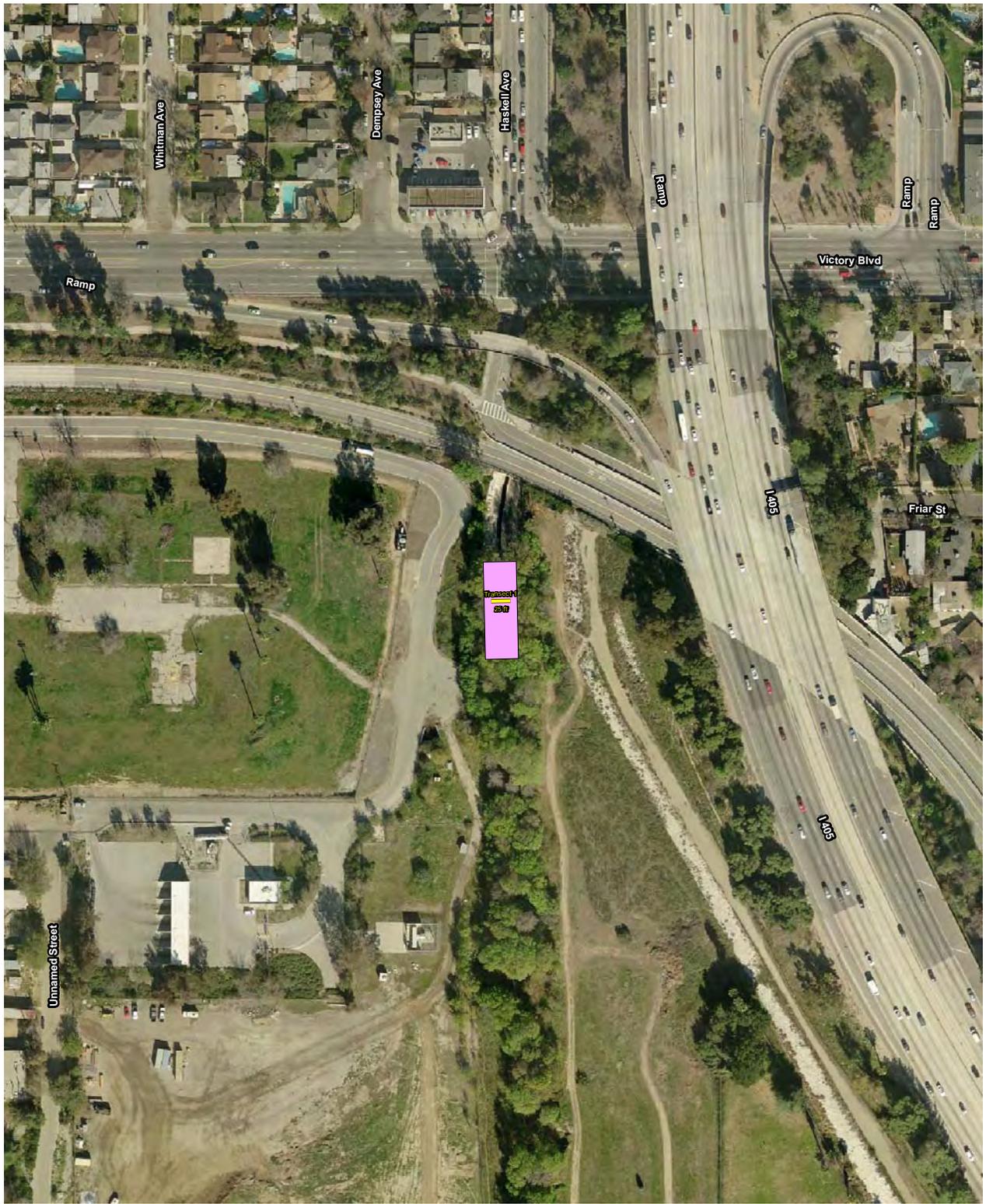
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 8

Los Angeles River Watershed Feasibility Study





Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 9

Los Angeles River Watershed Feasibility Study





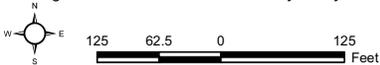
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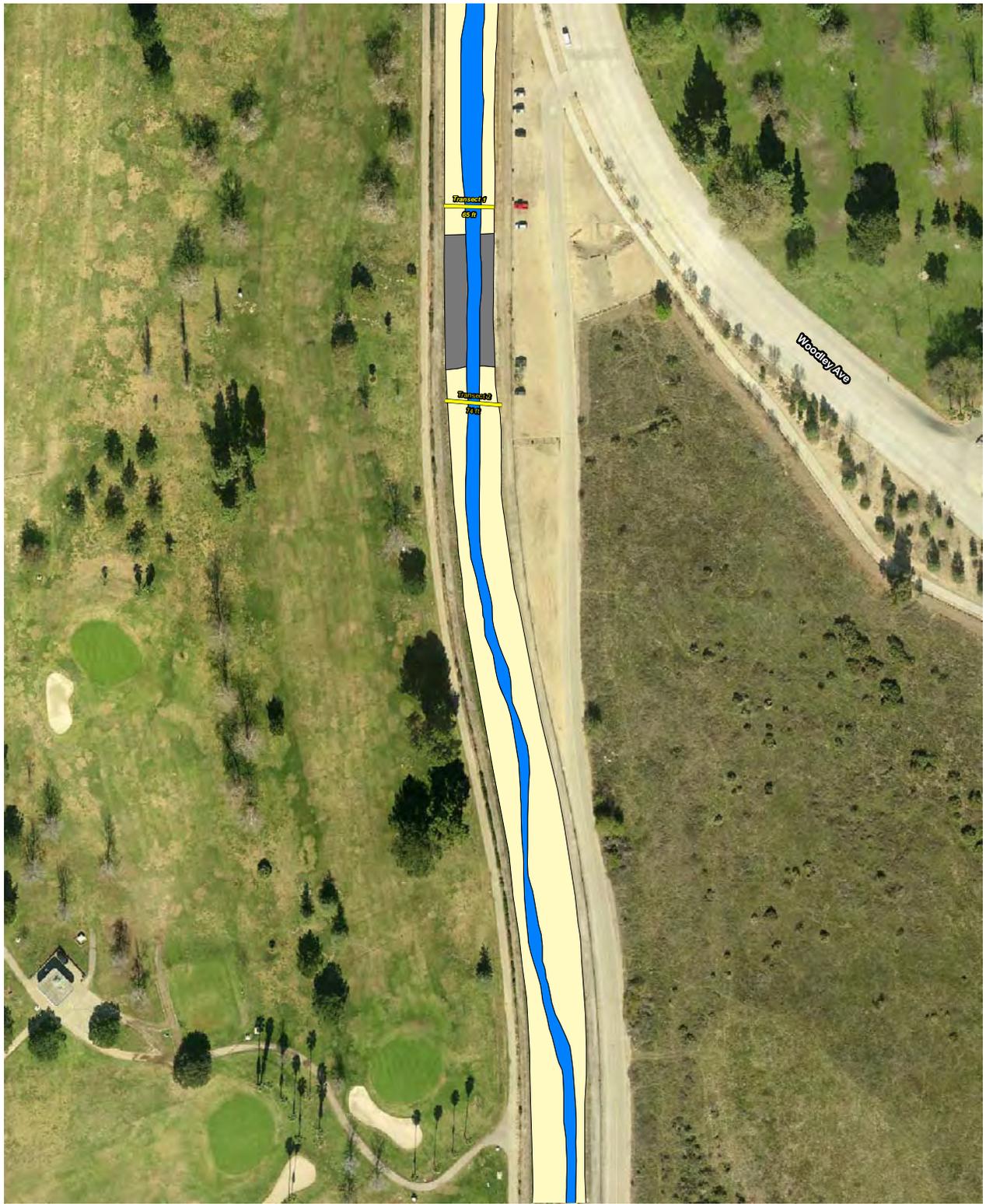
Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 10

Los Angeles River Watershed Feasibility Study

Appendix B-9



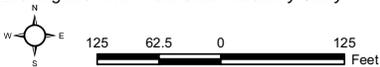


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|--|--|---|
| <ul style="list-style-type: none"> Transects Vegetation Types scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest | <ul style="list-style-type: none"> southern willow scrub cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental | <ul style="list-style-type: none"> unvegetated wash open water disturbed ungrouted riprap developed |
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Vegetation Types - Reach 10

Los Angeles River Watershed Feasibility Study

Appendix B-10





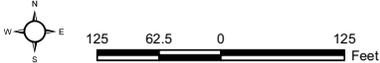
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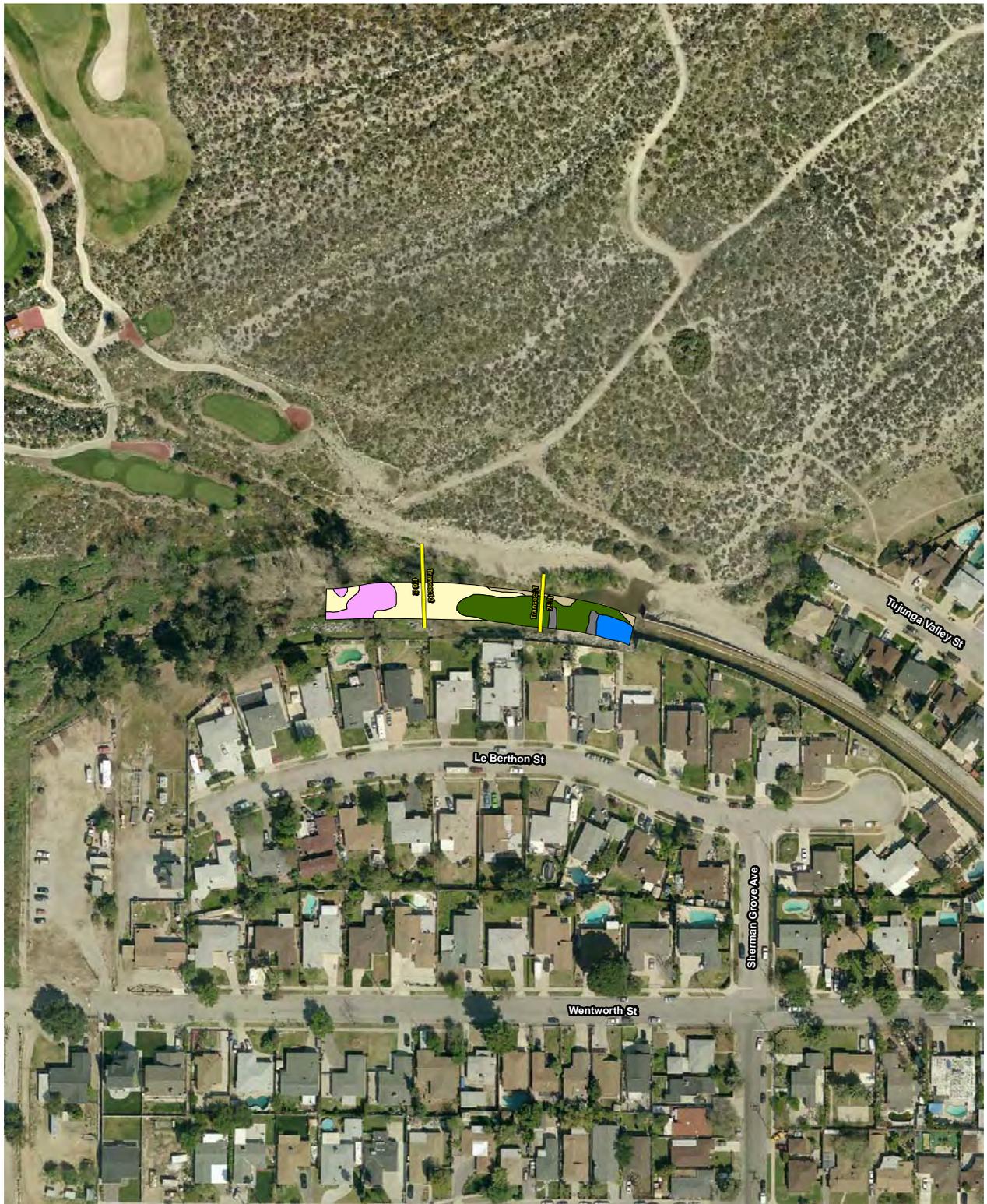
Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 10

Los Angeles River Watershed Feasibility Study

Appendix B-11



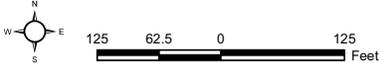


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 12

Los Angeles River Watershed Feasibility Study



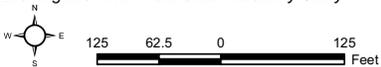


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|---|----------------------------|------------------|
| Transects | southern willow scrub | unvegetated wash |
| Vegetation Types | cattail wetland | open water |
| scale broom scrub | cattail wetland/open water | disturbed |
| disturbed scale broom scrub | disturbed cattail wetland | ungrouted riprap |
| southern coast live oak riparian forest | riparian herb | developed |
| disturbed southern coast live oak riparian forest | ruderal | |
| willow riparian forest | ornamental | |

Vegetation Types - Reach 13

Los Angeles River Watershed Feasibility Study

Appendix B-13



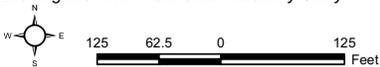


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|---|----------------------------|------------------|
| Transects | southern willow scrub | unvegetated wash |
| Vegetation Types | cattail wetland | open water |
| scale broom scrub | cattail wetland/open water | disturbed |
| disturbed scale broom scrub | disturbed cattail wetland | ungrouted riprap |
| southern coast live oak riparian forest | riparian herb | developed |
| disturbed southern coast live oak riparian forest | ruderal | |
| willow riparian forest | ornamental | |

Vegetation Types - Reach 14

Los Angeles River Watershed Feasibility Study

Appendix B-14



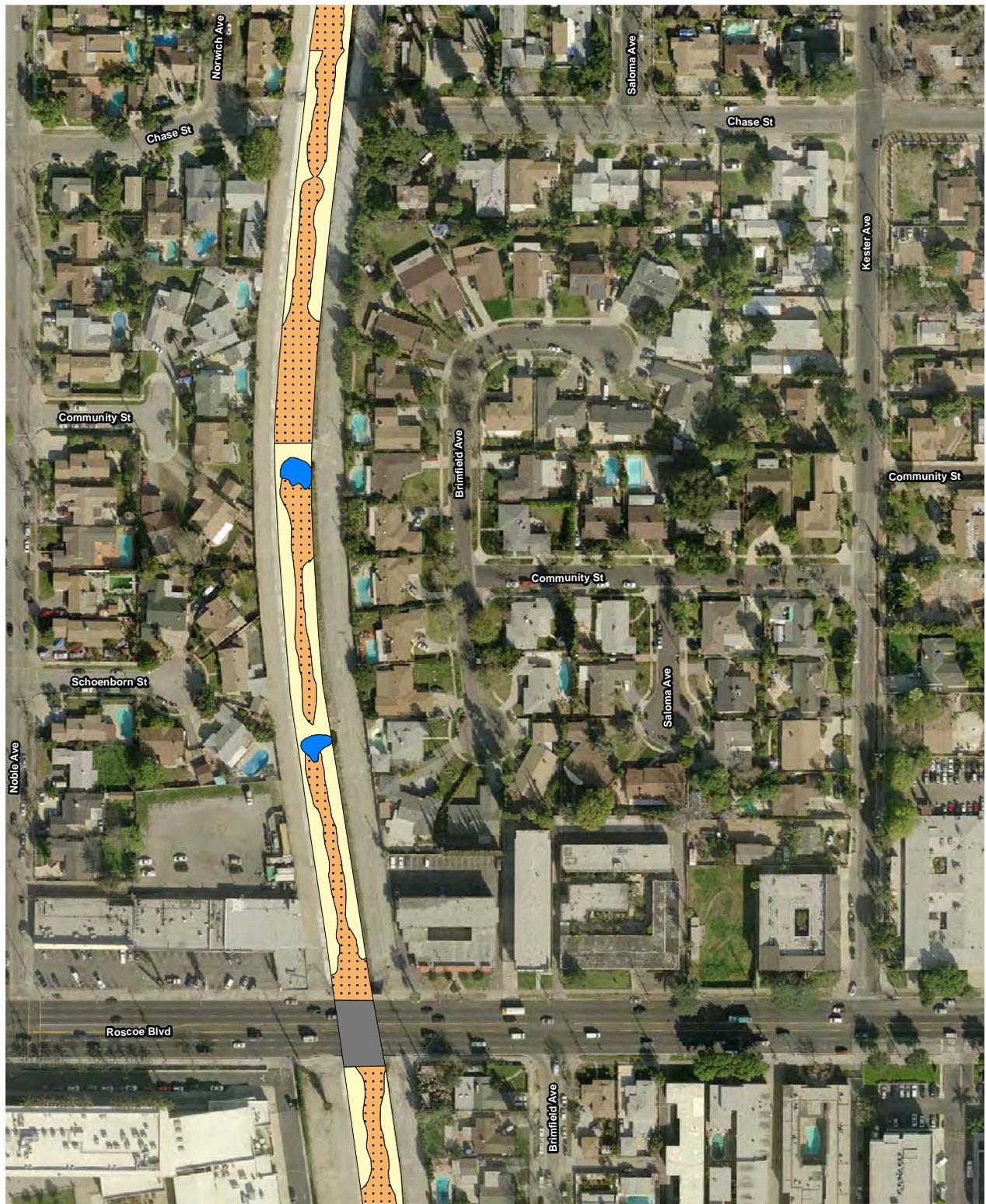


—	Transects	■	southern willow scrub	■	unvegetated wash
■	Vegetation Types	■	cattail wetland	■	open water
■	scale broom scrub	■	cattail wetland/open water	■	disturbed
■	disturbed scale broom scrub	■	disturbed cattail wetland	■	ungrouted riprap
■	southern coast live oak riparian forest	■	riparian herb	■	developed
■	disturbed southern coast live oak riparian forest	■	ruderal		
■	willow riparian forest	■	ornamental		

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study

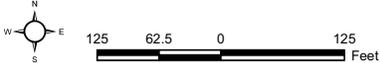




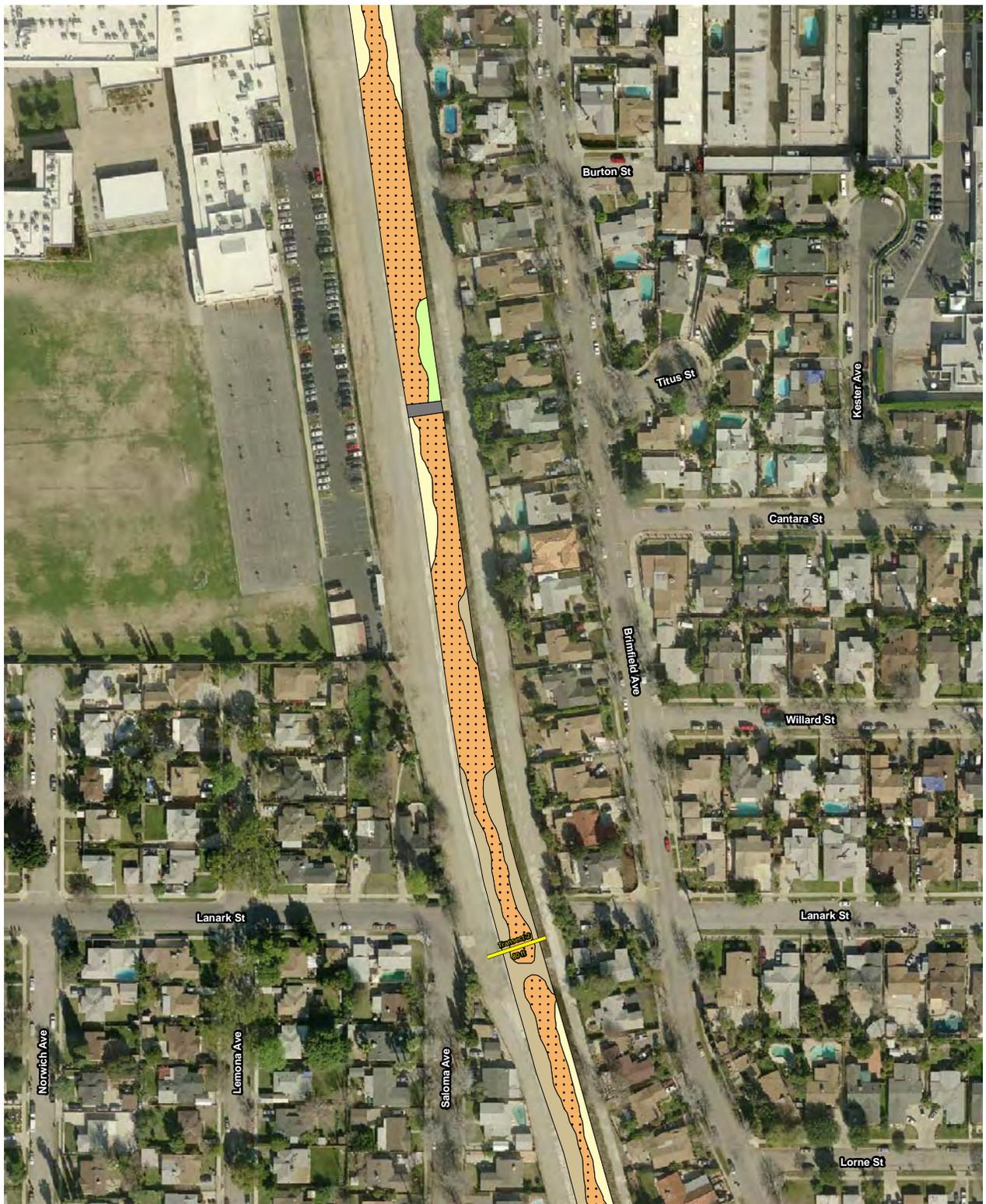
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Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study



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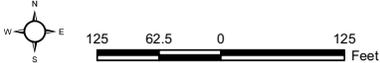


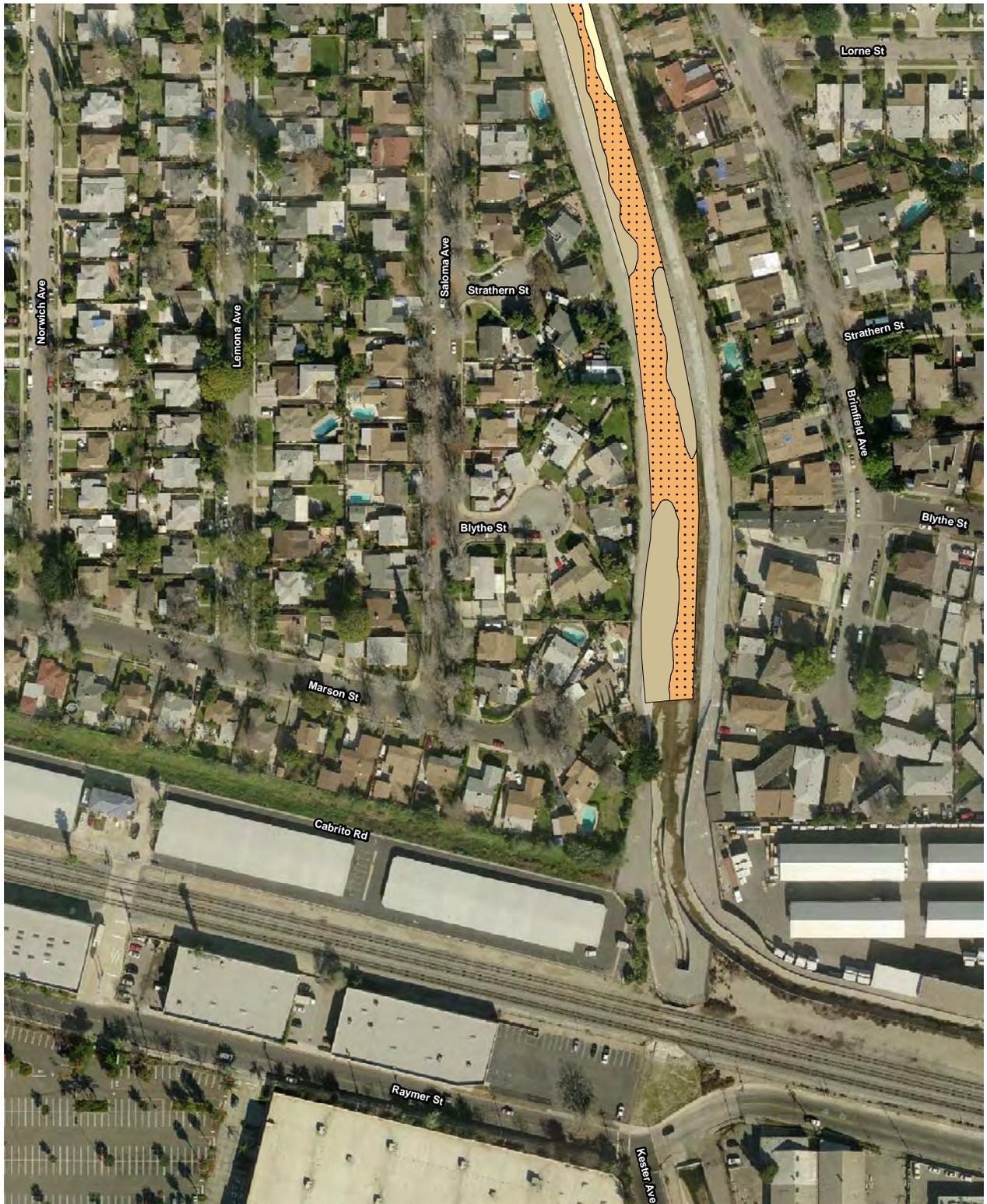
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study



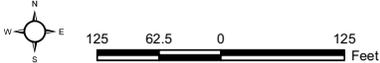


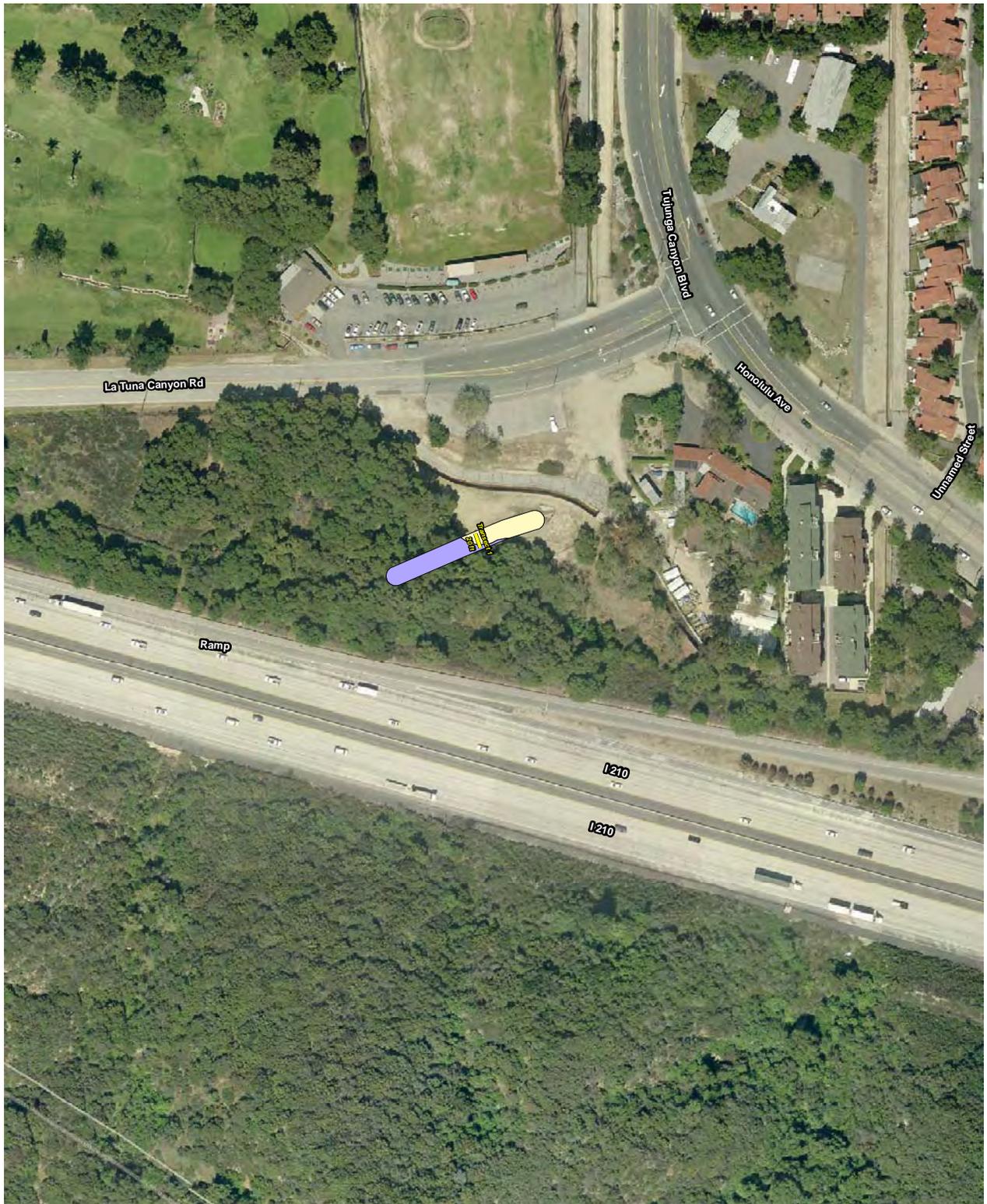
Vegetation Types		Vegetation Types		Vegetation Types	
	Transects		southern willow scrub		unvegetated wash
	scale broom scrub		cattail wetland		open water
	disturbed scale broom scrub		cattail wetland/open water		disturbed
	southern coast live oak riparian forest		disturbed cattail wetland		ungrouted riprap
	disturbed southern coast live oak riparian forest		riparian herb		developed
	willow riparian forest		ruderal		
			ornamental		

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study

Appendix B-18



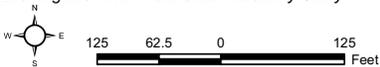


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 16

Los Angeles River Watershed Feasibility Study



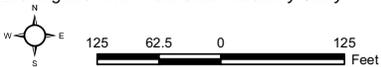


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 17

Los Angeles River Watershed Feasibility Study



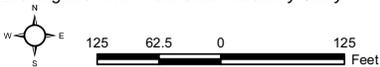


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| <ul style="list-style-type: none"> — Transects Vegetation Types ■ scale broom scrub ■ disturbed scale broom scrub ■ southern coast live oak riparian forest ■ disturbed southern coast live oak riparian forest ■ willow riparian forest | <ul style="list-style-type: none"> ■ southern willow scrub ■ cattail wetland ■ cattail wetland/open water ■ disturbed cattail wetland ■ riparian herb ■ ruderal ■ ornamental | <ul style="list-style-type: none"> ■ unvegetated wash ■ open water ■ disturbed ■ ungrouted riprap ■ developed |
|--|--|---|

Vegetation Types - Reach 18

Los Angeles River Watershed Feasibility Study

Appendix B-21



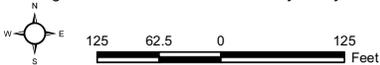


- | | | |
|---|----------------------------|------------------|
| Transects | southern willow scrub | unvegetated wash |
| Vegetation Types | cattail wetland | open water |
| scale broom scrub | cattail wetland/open water | disturbed |
| disturbed scale broom scrub | disturbed cattail wetland | ungrouted riprap |
| southern coast live oak riparian forest | riparian herb | developed |
| disturbed southern coast live oak riparian forest | ruderal | |
| willow riparian forest | ornamental | |

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Vegetation Types - Reach 19

Los Angeles River Watershed Feasibility Study



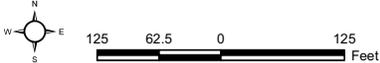


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 19

Los Angeles River Watershed Feasibility Study

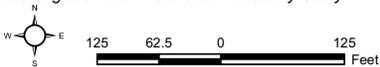




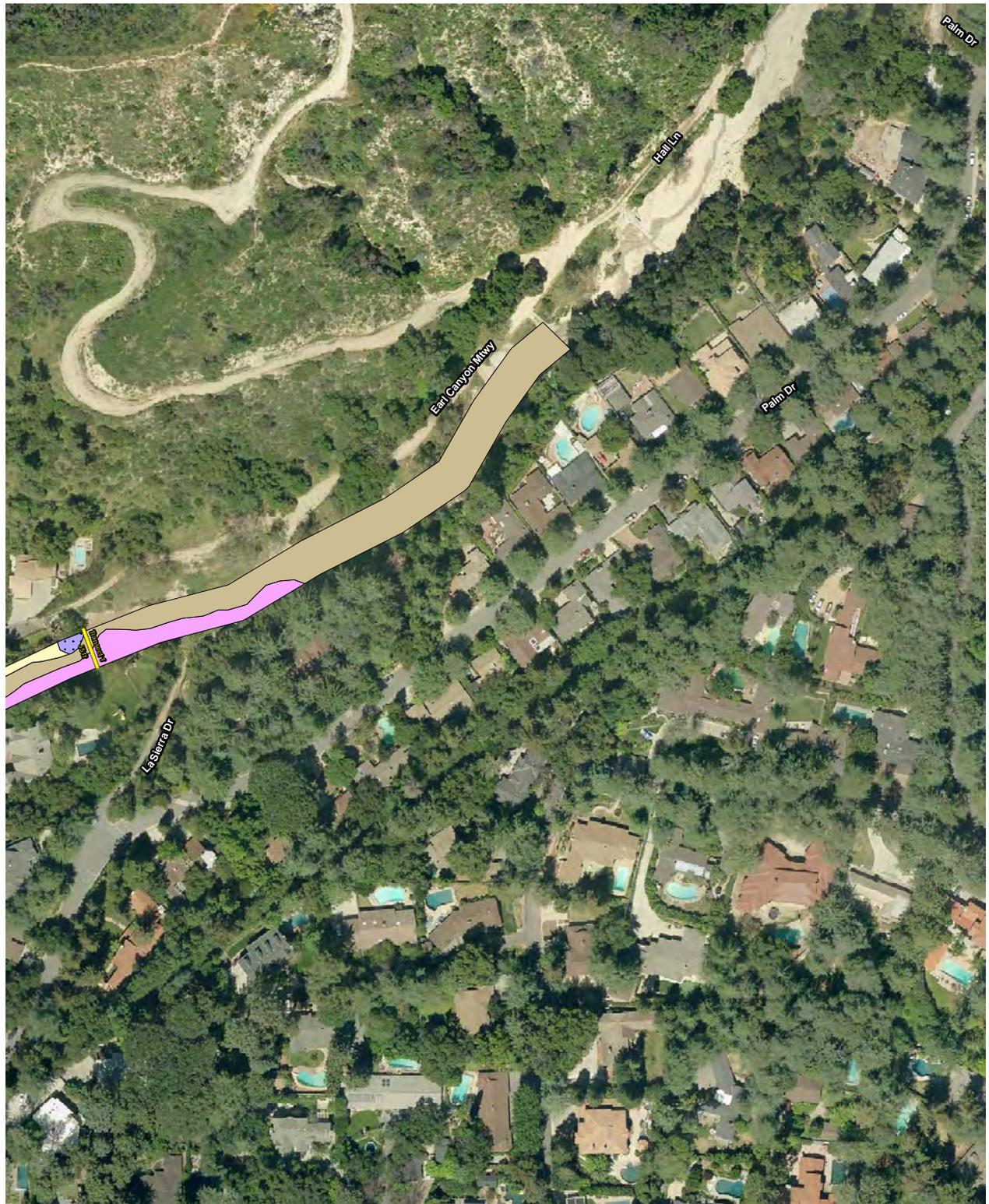
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■	Vegetation Types	■	cattail wetland	■	open water
■	scale broom scrub	■	cattail wetland/open water	■	disturbed
■	disturbed scale broom scrub	■	disturbed cattail wetland	■	ungrouted riprap
■	southern coast live oak riparian forest	■	riparian herb	■	developed
■	disturbed southern coast live oak riparian forest	■	ruderal		
■	willow riparian forest	■	ornamental		

Vegetation Types - Reaches 20 and 21

Los Angeles River Watershed Feasibility Study



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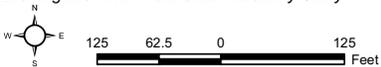


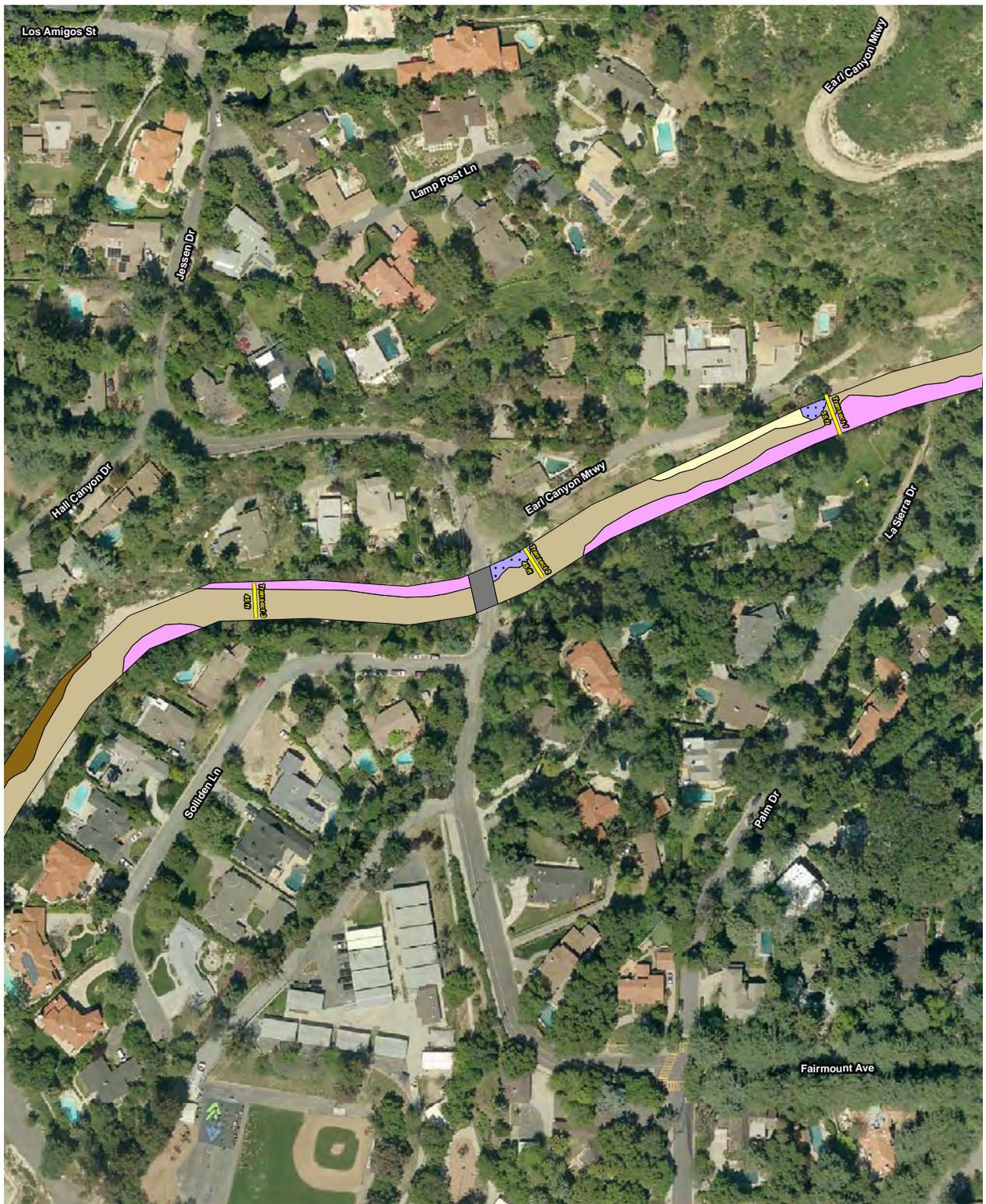
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 22

Los Angeles River Watershed Feasibility Study





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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 22

Los Angeles River Watershed Feasibility Study



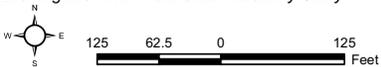


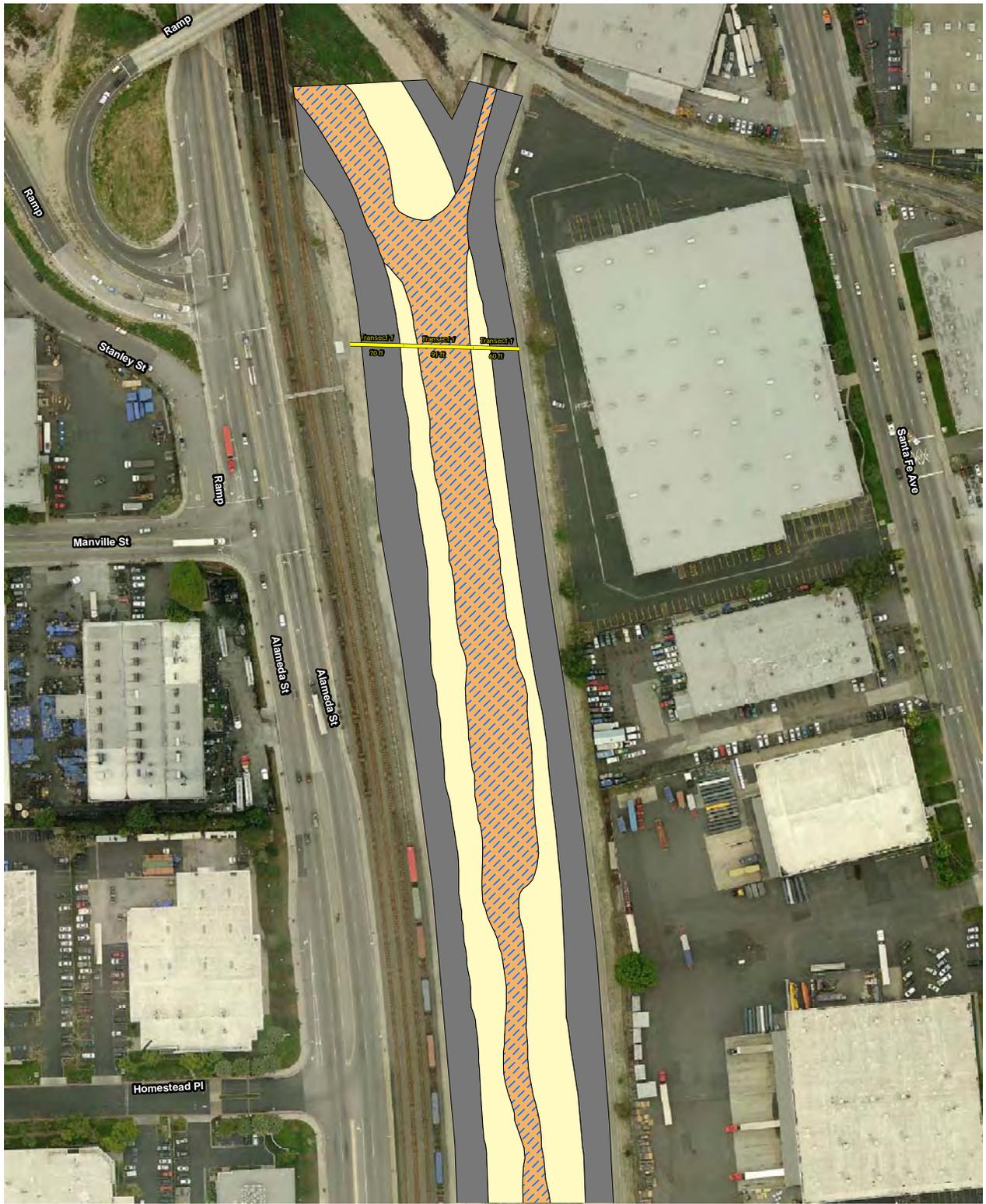
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| <ul style="list-style-type: none"> Transects Vegetation Types scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest | <ul style="list-style-type: none"> southern willow scrub cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental | <ul style="list-style-type: none"> unvegetated wash open water disturbed ungrouted riprap developed |
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Vegetation Types - Reach 22

Los Angeles River Watershed Feasibility Study

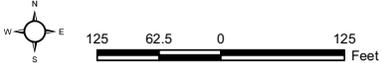




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| <ul style="list-style-type: none"> Transects Vegetation Types scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest | <ul style="list-style-type: none"> southern willow scrub cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental | <ul style="list-style-type: none"> unvegetated wash open water disturbed ungrouted riprap developed |
|--|--|---|

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study



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Transects

Vegetation Types

scale broom scrub

disturbed scale broom scrub

southern coast live oak riparian forest

disturbed southern coast live oak riparian forest

willow riparian forest

southern willow scrub

cattail wetland

cattail wetland/open water

disturbed cattail wetland

riparian herb

ruderal

ornamental

unvegetated wash

open water

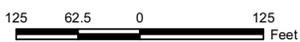
disturbed

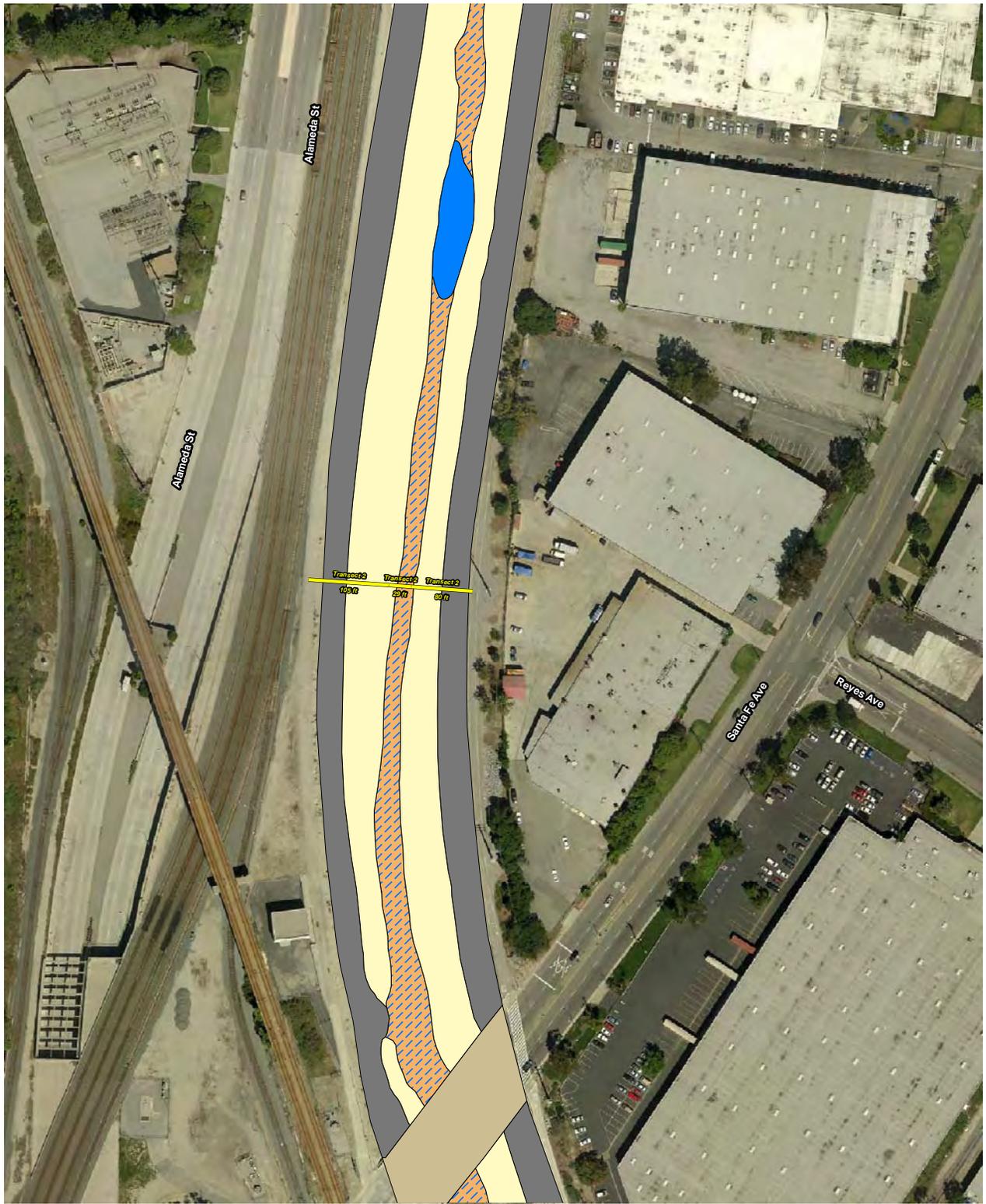
ungrouted riprap

developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study



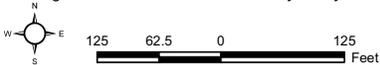


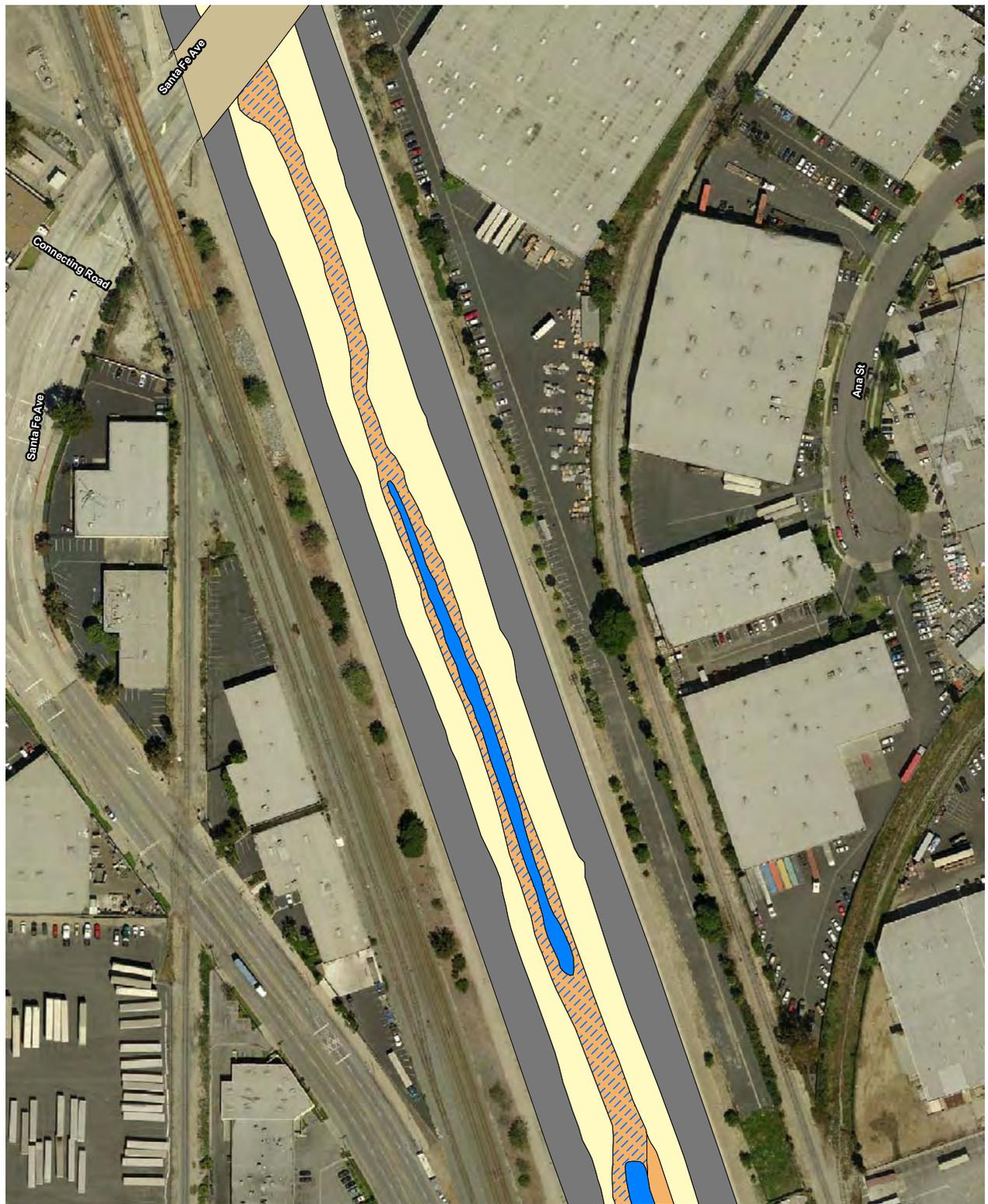
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Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

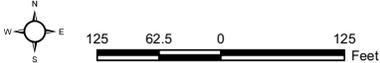




<ul style="list-style-type: none"> Transects 	<ul style="list-style-type: none"> southern willow scrub 	<ul style="list-style-type: none"> unvegetated wash
Vegetation Types <ul style="list-style-type: none"> scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest 	<ul style="list-style-type: none"> cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental 	<ul style="list-style-type: none"> open water disturbed ungrouted riprap developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study



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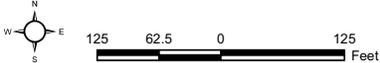


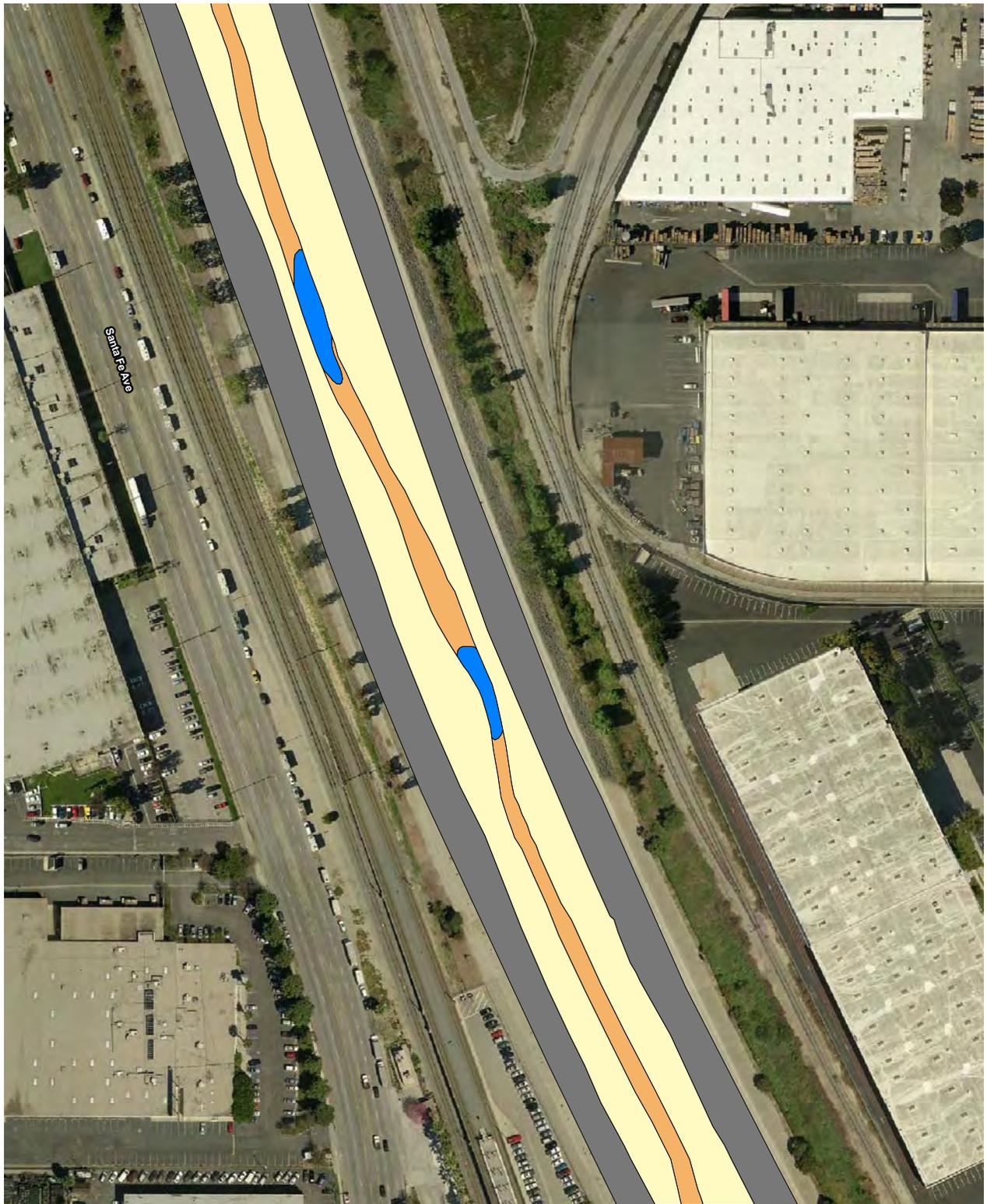
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study



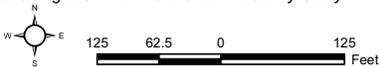


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study





- | | | |
|---|------------------------------|--------------------|
| — Transects | ■ southern willow scrub | ■ unvegetated wash |
| ■ Vegetation Types | ■ cattail wetland | ■ open water |
| ■ scale broom scrub | ■ cattail wetland/open water | ■ disturbed |
| ■ disturbed scale broom scrub | ■ disturbed cattail wetland | ■ ungrouted riprap |
| ■ southern coast live oak riparian forest | ■ riparian herb | ■ developed |
| ■ disturbed southern coast live oak riparian forest | ■ ruderal | |
| ■ willow riparian forest | ■ ornamental | |

Vegetation Types – Reach 24

Los Angeles River Watershed Feasibility Study



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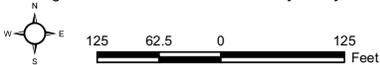


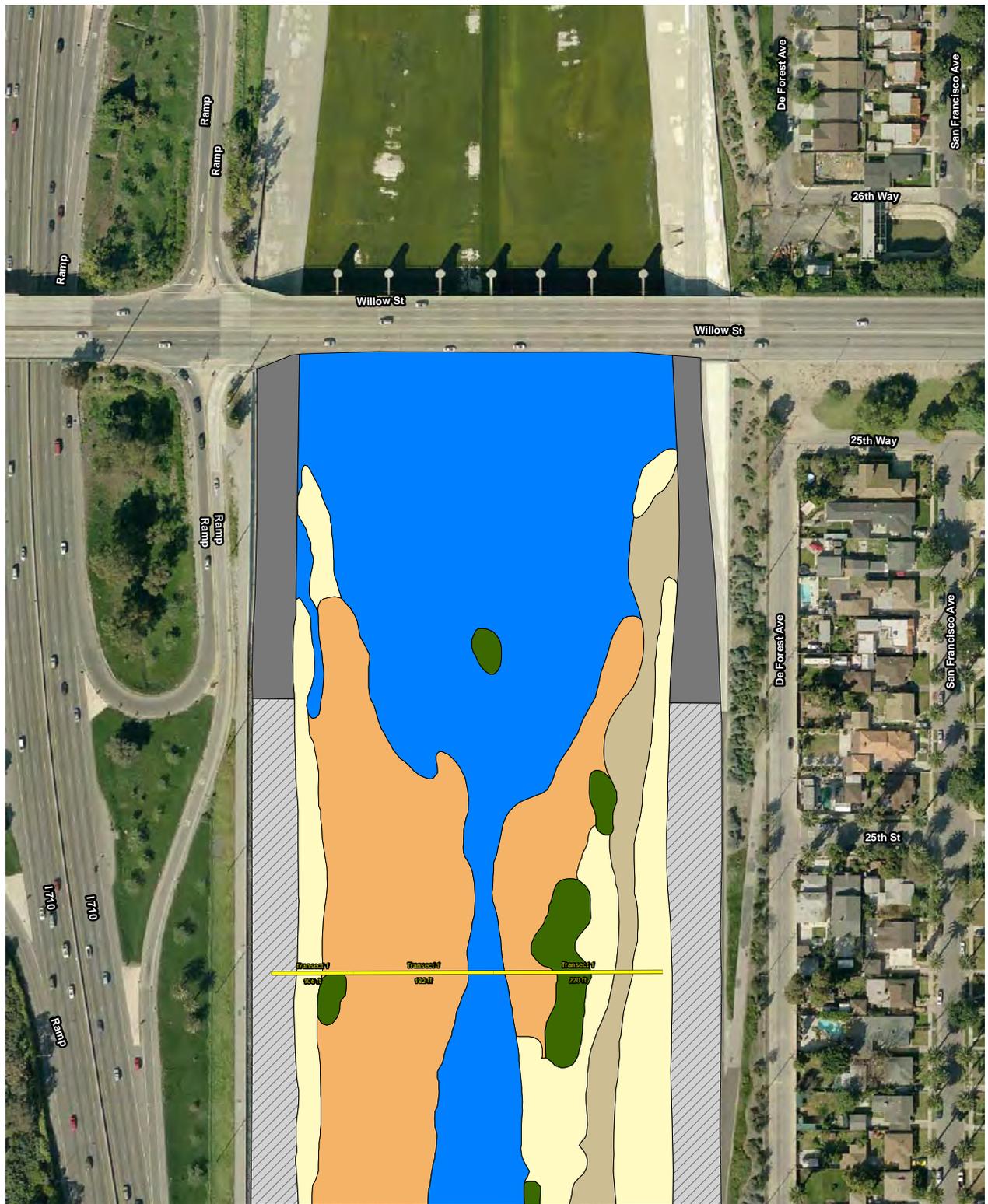
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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

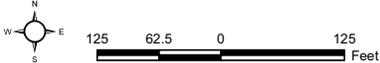


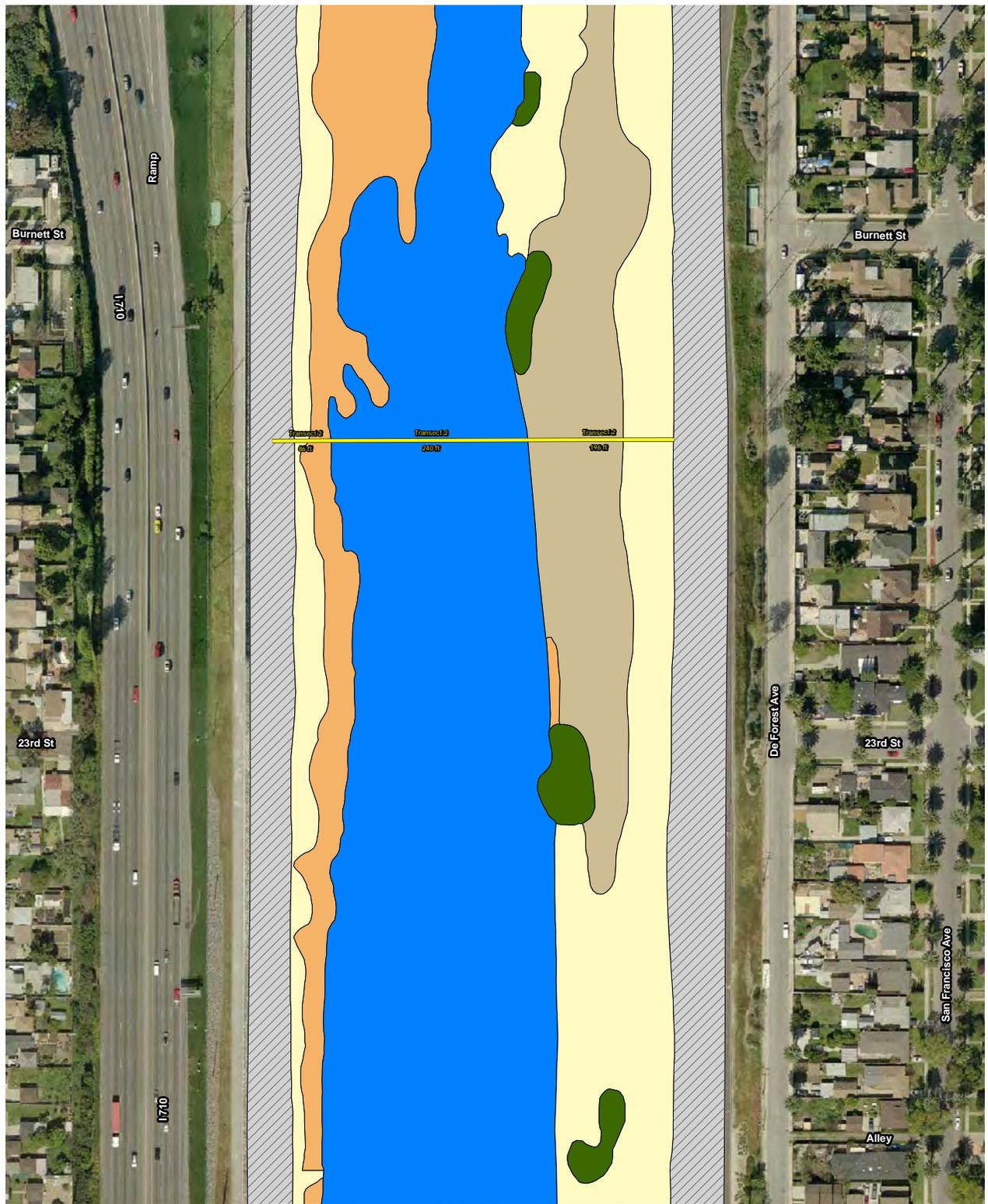


—	Transects	■	southern willow scrub	■	unvegetated wash
■	Vegetation Types	■	cattail wetland	■	open water
■	scale broom scrub	■	cattail wetland/open water	■	disturbed
■	disturbed scale broom scrub	■	disturbed cattail wetland	■	ungrouted riprap
■	southern coast live oak riparian forest	■	riparian herb	■	developed
■	disturbed southern coast live oak riparian forest	■	ruderal		
■	willow riparian forest	■	ornamental		

Vegetation Types - Reach 25

Los Angeles River Watershed Feasibility Study

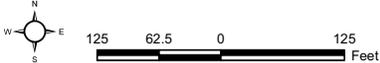




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Vegetation Types <ul style="list-style-type: none"> scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest 	<ul style="list-style-type: none"> cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental 	<ul style="list-style-type: none"> open water disturbed ungrouted riprap developed

Vegetation Types - Reach 25

Los Angeles River Watershed Feasibility Study



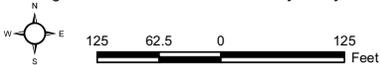
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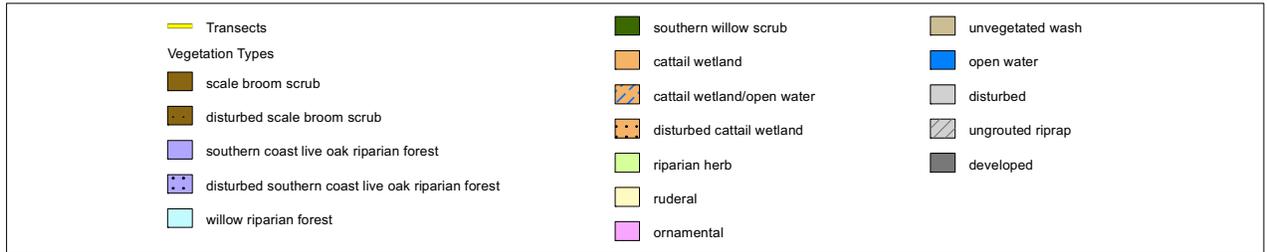
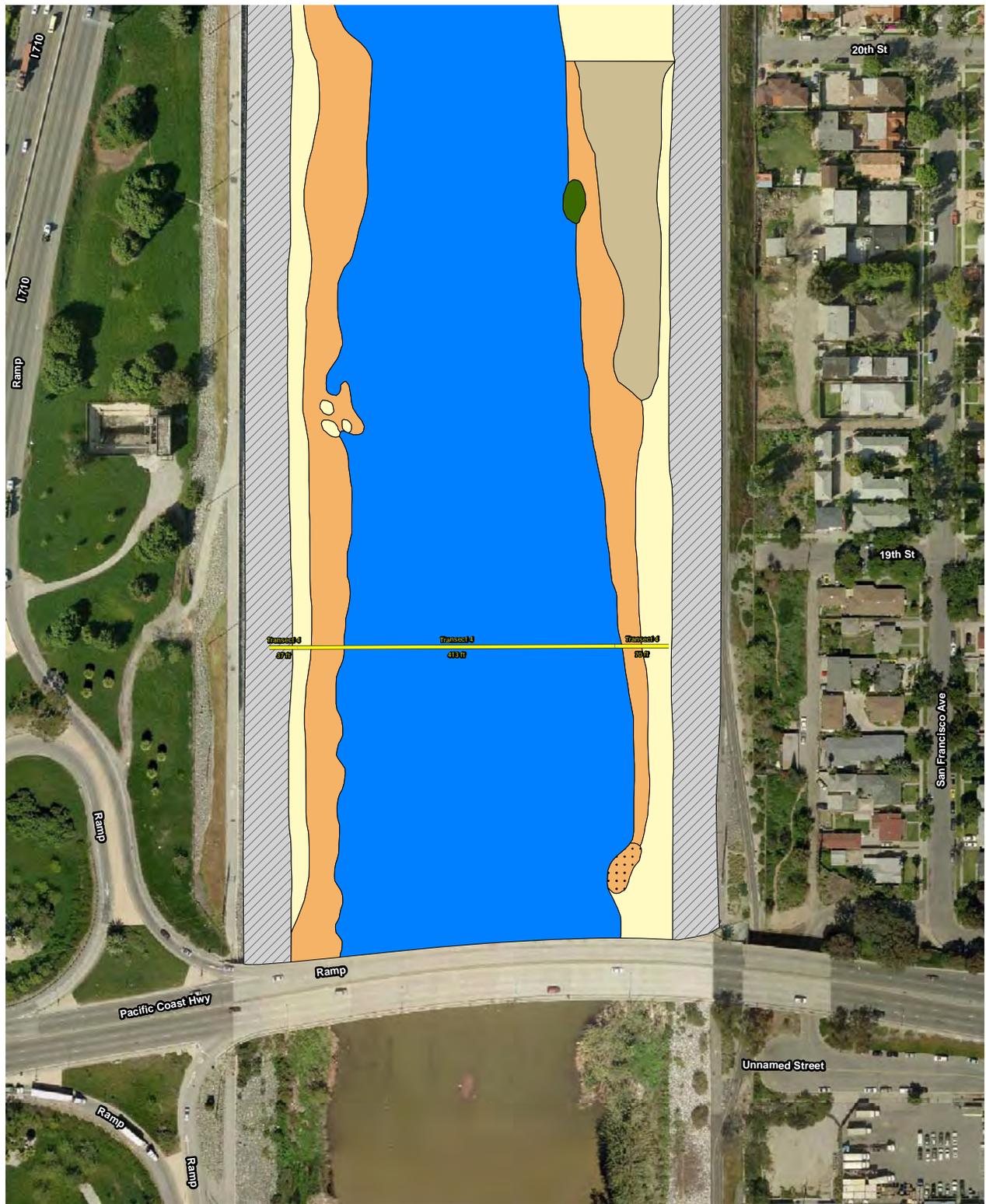


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|--|---|--|

Vegetation Types - Reach 25

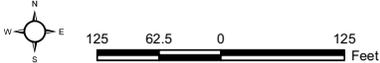
Los Angeles River Watershed Feasibility Study



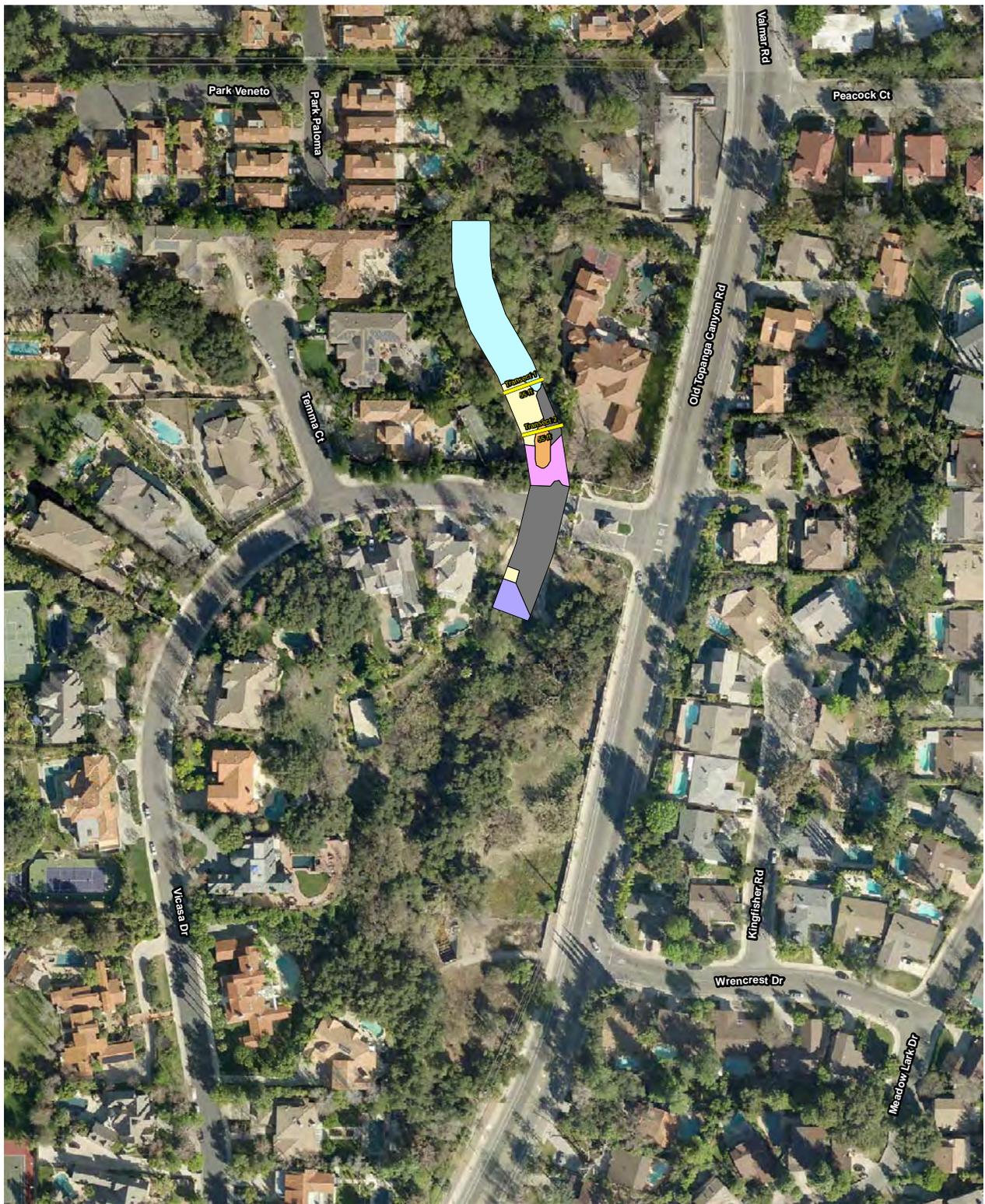


Vegetation Types - Reach 25

Los Angeles River Watershed Feasibility Study



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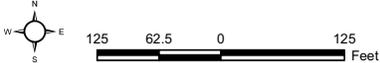


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 96

Los Angeles River Watershed Feasibility Study



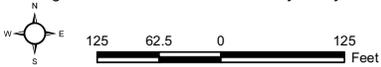


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—	Transects	■	southern willow scrub	■	unvegetated wash
■	Vegetation Types	■	cattail wetland	■	open water
■	scale broom scrub	■	cattail wetland/open water	■	disturbed
■	disturbed scale broom scrub	■	disturbed cattail wetland	■	ungrouted riprap
■	southern coast live oak riparian forest	■	riparian herb	■	developed
■	disturbed southern coast live oak riparian forest	■	ruderal		
■	willow riparian forest	■	ornamental		

Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study



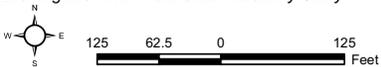


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study



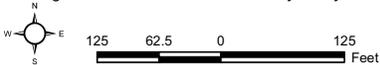


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study



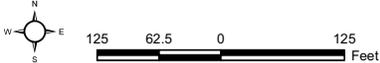


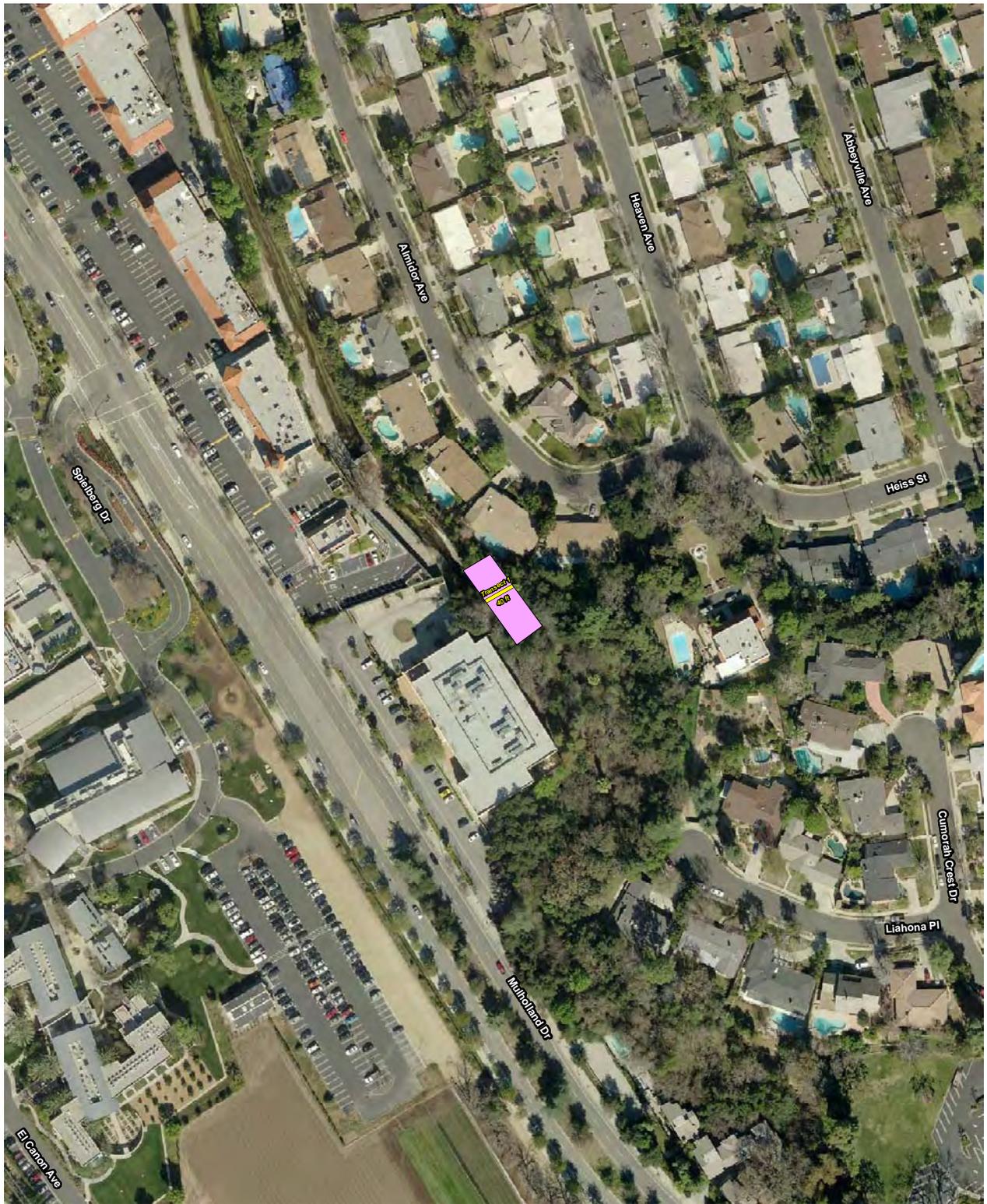
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<ul style="list-style-type: none"> Transects Vegetation Types scale broom scrub disturbed scale broom scrub southern coast live oak riparian forest disturbed southern coast live oak riparian forest willow riparian forest 	<ul style="list-style-type: none"> southern willow scrub cattail wetland cattail wetland/open water disturbed cattail wetland riparian herb ruderal ornamental 	<ul style="list-style-type: none"> unvegetated wash open water disturbed ungrouted riprap developed
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Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study



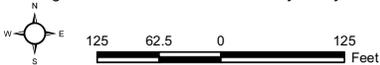


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Transects	southern willow scrub	unvegetated wash
Vegetation Types	cattail wetland	open water
scale broom scrub	cattail wetland/open water	disturbed
disturbed scale broom scrub	disturbed cattail wetland	ungrouted riprap
southern coast live oak riparian forest	riparian herb	developed
disturbed southern coast live oak riparian forest	ruderal	
willow riparian forest	ornamental	

Vegetation Types - Reach 100

Los Angeles River Watershed Feasibility Study



APPENDIX C
RESULTS OF FOCUSED PLANT SURVEY REPORT

February 13, 2011

Jemellee Cruz
 Flood Maintenance Division
 Department of Public Works
 County of Los Angeles
 900 South Fremont Ave., 2nd Floor Annex
 Alhambra, California 91803

VIA U.S. MAIL AND EMAIL
jcruz@dpw.lacounty.gov

Subject: Results of Focused Surveys for Special Status Plant Species for the 26 Flood Control Channel Reaches in the Los Angeles River Watershed, Los Angeles County, California

Dear Ms. Cruz:

This Letter Report presents the findings of focused surveys for special status plant species conducted in the 26 Flood Control Channel Reaches of the Los Angeles River Watershed in Los Angeles County (Exhibits 1, 2A to 2F, and 3A to 3M). All 26 channel reaches are maintained by the Los Angeles County Flood Control District (LACFCD). These focused surveys were performed for the Los Angeles River Watershed Feasibility Study. Table 1 below lists the number, length, and name of each channel reach, and their locations in a Thomas Guide.

**TABLE 1
 CHANNEL REACH INFORMATION**

26 Soft-Bottom Channel Reaches			
Reach No.	Reach Length (feet)	Reach Name	Thomas Guide Location
1	196	Bell Creek-MTD 963 M.C.I.	529, D5
2	1,546	Dry Canyon (Calabasas) PD T1845	559, G5
3	75	Santa Susana Creek M.C.I.	499, J2
4	1,243	Browns Creek	500, B2
5	652	Caballero Creek M.C.I. (West fork)	560, J5
6	160	Caballero Creek M.C.I. (East fork)	560, J5
7	350	Bull Creek M.C.O.	531, D7
8	529	Project 470 outlet	561, E3
9	120	Project 106 outlet	531, G7
10	4,194	Project No. 469	531, F7 to 561, F1
12	437	Haines Canyon M.C.O.	503, F2
13	537	Project No. 5215 unit 1	503, B2



**TABLE 1(Continued)
 CHANNEL REACH INFORMATION**

26 Soft-Bottom Channel Reaches			
Reach No.	Reach Length (feet)	Reach Name	Thomas Guide Location
14	690	May Channel (M.C.O. into Pacoima Canyon)	482, E3
15	4,762	Pacoima Wash	531, H1, H2, J2, J3
16	130	Verdugo Wash – Las Barras Cyn (channel inlet)	504, C7
17	300	Sheep Corral Channel	534, D1
18	800	Engleheard Channel	534, F3
19	2,406	Pickens Canyon	504, H7 to 534, H1
20	115	Webber Channel (strm @ private bridge)	504, J7
21	25	Webber Channel (main channel inlet d/s bridge)	504, J7
22	2,290	Halls Canyon	534, J1
24	11,000	Compton Creek	735, A7 to 765, A1-A3, B3-B4, C4
25	4,800	Los Angeles River	795, C3-C5
96	320	PD 1951	559, G5
99	4,858	Kagel Canyon	482, J5-J7
100	60	Dry Canyon Calabasas	559, G4

METHODS

Botanical surveys were floristic in nature and consistent with the current protocols created by the California Department of Fish and Game (CDFG) (CDFG 2009). Reference populations were monitored for annual and difficult-to-detect target species to ensure a comprehensive survey schedule. According to the National Weather Service, downtown Los Angeles received 16.3 inches of precipitation for Water Year 2010 (October 1, 2009 through Spring 2010), which is about 114 percent of the normal average (National Weather Service 2010). The 2010 survey season (Spring 2010 through Summer 2010) was therefore suitable for special status plant surveys.

**TABLE 2
 SPECIAL STATUS PLANT SPECIES REFERENCE POPULATIONS**

Date Checked	Species	Status	General Location
April 22, 2010	<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	Flowering	West of San Fernando Valley
April 22, 2010	<i>Dodecahema leptoceras</i> slender-horned spineflower	Flowering	Soledad Canyon
April 28, 2010	<i>Astragalus brauntonii</i> Braunton's milk-vetch	Flowering	Monrovia
May 2, 2010	<i>Calochortus clavatus</i> var. <i>gracilis</i> slender mariposa lily	Flowering	Bouquet Canyon
May 18, 2010	<i>Dudleya multicaulis</i> many-stemmed dudleya	Flowering	San Dimas
June 8, 2010	<i>Calochortus plummerae</i> Plummer's mariposa lily	Flowering	Monrovia
July 8, 2010	<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant	Flowering	Newport Beach

TABLE 2 (Continued)
SPECIAL STATUS PLANT SPECIES REFERENCE POPULATIONS

Date Checked	Species	Status	General Location
August 17, 2010	<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	Flowering	San Juan Capistrano
August 18, 2010	<i>Symphotrichum [Aster] greatae</i> Greata's aster	Flowering	Angeles National Forest near Hidden Springs/Singing Springs

A literature search was conducted to identify special status plants and habitats known to occur in the vicinity of the survey areas. Sources reviewed include the Beverly Hills, Burbank, Calabasas, Canoga Park, Condor Peak, Oat Mountain, Pasadena, San Fernando, Santa Susana, Sunland, Topanga, and Van Nuys quadrangles in the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2010) and the CDFG's California Natural Diversity Database (CNDDDB) (CDFG 2010a). All of the species from these electronic database searches and their status are listed in Table 3.

TABLE 3
SPECIAL STATUS PLANT SPECIES
KNOWN FROM THE VICINITY OF THE STUDY AREAS AND THEIR STATUS

Species	Status			Species	Status		
	USFWS	CDFG	CNPS		USFWS	CDFG	CNPS
<i>Aphanisma bilitoides</i> Aphanisma	—	—	1B.2	<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i> Santa Monica dudleya	FT	—	1B.2
<i>Astragalus brauntonii</i> Braunton's milk-vetch	FE	—	1B.1	<i>Dudleya multicaulis</i> Many-stemmed dudleya	—	—	1B.2
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i> Ventura Marsh milk-vetch	FE	SE	1B.1	<i>Dudleya virens</i> ssp. <i>insularis</i> Island green dudleya	—	—	1B.2
<i>Astragalus tener</i> var. <i>titi</i> Coastal dunes milk-vetch	FE	SE	1B.1	<i>Harpagonella palmeri</i> Palmer's grapplinghook	—	—	4.2
<i>Atriplex coulteri</i> Coulter's saltbush	—	—	1B.2	<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	—	—	1A
<i>Atriplex parishii</i> Parish's saltbush	—	—	1B.1	<i>Horkelia cuneata</i> ssp. <i>puberula</i> Mesa horkelia	—	—	1B.1
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltbush	—	—	1B.2	<i>Imperata brevifolia</i> California satintail	—	—	2.1
<i>Berberis nevinii</i> Nevin's barberry	FE	SE	1B.1	<i>Juglans californica</i> var. <i>californica</i> Southern California black walnut	—	—	4.2
<i>Baccharis malibuensis</i> Malibu baccharis	—	—	1B.1	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	—	—	1B.1
<i>California macrophylla</i> Round-leaved filaree	—	—	1B.1	<i>Lilium humboldtii</i> ssp. <i>ocellatum</i> Ocellated lily	—	—	4.2

TABLE 3 (Continued)
SPECIAL STATUS PLANT SPECIES
KNOWN FROM THE VICINITY OF THE STUDY AREAS AND THEIR STATUS

Species	Status			Species	Status		
	USFWS	CDFG	CNPS		USFWS	CDFG	CNPS
<i>Calochortus clavatus</i> var. <i>gracilis</i> Slender mariposa lily	—	—	1B.2	<i>Linanthus concinnus</i> San Gabriel linanthus	—	—	1B.2
<i>Calochortus plummerae</i> Plummer's mariposa lily	—	—	1B.2	<i>Linanthus orcutti</i> Orcutt's linanthus	—	—	1B.3
<i>Calystegia peirsonii</i> Peirson's morning-glory	—	—	4.2	<i>Lycium brevipes</i> var. <i>hassei</i> Santa Catalina Island desert-thorn	—	—	1B.1
<i>Camissonia lewisii</i> Lewis' evening-primrose	—	—	3	<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	—	—	1B.2
<i>Castilleja gleasonii</i> Mt. Gleason paintbrush	—	SR	1B.2	<i>Nama stenocarpum</i> Mud nama	FT	—	2.2
<i>Calystegia peirsonii</i> Peirson's morning-glory	—	—	4.2	<i>Navarretia fossalis</i> Moran's navarretia	FT	—	1B.1
<i>Centromadia parryi</i> ssp. <i>australis</i> Southern tarplant	—	—	1B.1	<i>Navarretia prostrata</i> Prostrate vernal pool navarretia	—	—	1B.1
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	FC	SE	1B.1	<i>Nemacaulis denudata</i> var. <i>denudata</i> Coast woolly-heads	—	—	1B.2
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	—	—	1B.1	<i>Nolina cismontana</i> Peninsular nolina	—	—	1B.2
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> Salt marsh bird's-beak	FE	SE	1B.2	<i>Orcuttia californica</i> California Orcutt grass	FE	SE	1B.1
<i>Crossosoma californicum</i> Catalina crossosoma	—	—	1B.2	<i>Pentachaeta lyonii</i> Lyon's pentachaeta	FE	SE	1B.1
<i>Dithyrea maritima</i> Beach spectaclepod	—	ST	1B.1	<i>Phacelia stellaris</i> Brand's star phacelia	FC	—	1B.1
<i>Deinandra minthornii</i> Santa Susana tarplant	—	SR	1B.2	<i>Pseudognaphalium leucocephalum</i> White rabbit-tobacco	—	—	2.2
<i>Dodecahema leptoceras</i> Slender-horned spineflower	FE	SE	1B.1	<i>Ribes divaricatum</i> ssp. <i>parishii</i> Parish' gooseberry	—	—	1A
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	—	—	1B.1	<i>Sidalcea neomexicana</i> Salt spring checkerbloom	—	—	2.2

**TABLE 3 (Continued)
 SPECIAL STATUS PLANT SPECIES
 KNOWN FROM THE VICINITY OF THE STUDY AREAS AND THEIR STATUS**

Species	Status			Species	Status		
	USFWS	CDFG	CNPS		USFWS	CDFG	CNPS
<i>Dudleya cymosa</i> ssp. <i>agourensis</i> Agoura Hills liveforever	—	—	1B.2	<i>Suaeda esteroa</i> Estuary seablite	—	—	1B.2
<i>Dudleya cymosa</i> ssp. <i>marcescens</i> Marcescent dudleya	FT	SR	1B.2	<i>Symphytotrichum greatae</i> Greata's aster	—	—	1B.3
LEGEND:							
Federal (USFWS)		State (CDFG)					
FE Endangered		SE Endangered					
FC Candidate		ST Threatened					
		SR Rare					
California Native Plant Society (CNPS) List Categories							
List 1A Plants Presumed Extinct in California							
List 1B Plants Rare, Threatened, or Endangered in California and Elsewhere							
List 2 Plants Rare, Threatened, or Endangered in California But More Common Elsewhere							
List 3 Plants About Which We Need More Information - A Review List							
List 4 Plants of Limited Distribution – A Watch List							
California Native Plant Society (CNPS) Threat Rank Extensions							
.1 Seriously threatened in California (high degree/immediacy of threat)							
.2 Fairly threatened in California (moderate degree/immediacy of threat)							
.3 Not very threatened in California (low degree/immediacy of threat or no current threats known)							

The surveys were conducted by BonTerra Consulting Senior Botanists Sandra Leatherman (SJL) and Jeff Crain (JSC); Senior Biologist Brian Daniels (BED); Biologists Jennifer Pareti (JSP) and Allison Rudalevige (ADR); and Consulting Botanist Pam DeVries (PDV). The survey dates and personnel are listed below in Table 4. Surveys 1 and 2 were focused plant surveys. Survey 3 was a focused plant survey conducted concurrently with vegetation mapping. Survey 2 was not conducted for Reaches 20 and 21 as the sites were temporarily inaccessible due to corrective measures taken by a private landowner to repair fire and storm damages.

**TABLE 4
 SURVEY DATES AND PERSONNEL**

Reach No.	Survey 1		Survey 2		Survey 3	
	Dates	Personnel	Dates	Personnel	Dates	Personnel
1	20-Apr-10	JSC, BED	26-May-10	SJL, BED	16-Jun-10	JSC, BED
2	20-Apr-10	JSC, BED	10-May-10	SJL, PDV	23-Jun-10	JSC, BED
3	20-Apr-10	JSC, BED	26-May-10	SJL, BED	23-Jun-10	JSC, BED
4	20-Apr-10	JSC, BED	26-May-10	SJL, BED	23-Jun-10	JSC, BED
5	16-Apr-10	JSC, ADR	10-May-10	SJL, PDV	16-Jun-10	JSC, BED
6	16-Apr-10	JSC, ADR	10-May-10	SJL, PDV	16-Jun-10	JSC, BED
7	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
8	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	16-Jun-10	JSC, BED
9	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
10	16-Apr-10	JSC, ADR	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
			24-May-10	SJL, JSP		

**TABLE 4 (Continued)
 SURVEY DATES AND PERSONNEL**

Reach No.	Survey 1		Survey 2		Survey 3	
	Dates	Personnel	Dates	Personnel	Dates	Personnel
12	16-Apr-10	SJL, PDV	24-May-10	SJL, JSP	17-Jun-10	JSC, BED
13	16-Apr-10	SJL, PDV	24-May-10	SJL, JSP	17-Jun-10	JSC, BED
14	16-Apr-10	SJL, PDV	17-May-10	SJL, PDV	17-Jun-10	JSC, BED
15	22-Apr-10	JSC, BED	26-May-10	SJL, BED	28-Jun-10	SJL, BED
16	19-Apr-10	JSC, JSP	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
17	19-Apr-10	JSC, JSP	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
18	19-Apr-10	JSC, JSP	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
19	30-Apr-10	SJL, PDV	19-May-10	SJL, PDV	18-Jun-10	JSC, BED
20	30-Apr-10	SJL, PDV	No survey		18-Jun-10	JSC, BED
21	30-Apr-10	SJL, PDV	No survey		18-Jun-10	JSC, BED
22	30-Apr-10	SJL, PDV	24-May-10	SJL, JSP	18-Jun-10	JSC, BED
24	19-Apr-10	JSC, JSP	21-May-10	SJL, JSP	28-Jun-10	SJL, BED
	21-Apr-10	JSC, JSP				
25	21-Apr-10	JSC, JSP	21-May-10	SJL, JSP	29-Jun-10	SJL, BED
96	20-Apr-10	JSC, BED	10-May-10	SJL, PDV	16-Jun-10	JSC, BED
99	22-Apr-10	JSC, BED	26-May-10	SJL, BED	29-Jun-10	SJL, BED
100	20-Apr-10	JSC, BED	10-May-10	SJL, PDV	16-Jun-10	JSC, BED

A systematic survey was conducted in all areas of suitable special status plant habitat within the survey area for each of the 26 channel reaches. The survey area included habitats on the earthen bottom of each channel reach but also the adjacent channel banks where appropriate. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified to the taxonomic level necessary to determine whether or not they are a special status species. Plants were identified using taxonomic keys, descriptions, and illustrations in Hickman (1993), Munz (1974), Abrams (1923, 1944, 1951), and Abrams and Ferris (1960). All voucher specimens collected were deposited in the herbarium at Rancho Santa Ana Botanic Gardens in Claremont, California by Ms. Leatherman in December 2010. Taxonomy and nomenclature follows Hickman (1993), the CNPS (2010), and current scientific journals for scientific and common names.

SITE DESCRIPTION

Vegetation types and other areas mapped in the survey areas consist of scalebroom scrub, disturbed scalebroom scrub, mule fat scrub, southern coast live oak riparian forest, disturbed southern coast live oak riparian forest, disturbed southern coast live oak woodland, willow riparian forest, southern willow scrub, cattail wetland, cattail wetland/open water, disturbed cattail wetland, riparian herb, ruderal, ornamental, unvegetated wash, open water, disturbed, rip-rap, and developed. The vegetation was mapped in the drainages, but not the overhanging canopy. The special status plant species known to occur in the study area vicinity and their potential to occur on the project sites are listed below in Table 5. The potential was determined based upon the suitability of the habitat present in each study area. The results of the survey are listed below.

TABLE 5
SPECIAL STATUS PLANT SPECIES KNOWN FROM THE VICINITY OF THE STUDY AREAS
AND THEIR POTENTIAL (P) TO OCCUR IN EACH CHANNEL REACH

Species	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	18	19	20	21	22	24	25	96	99	100
<i>Aphanisma bifitoides</i> <i>Aphanisma</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Astragalus brauntonii</i> Braunton's milk-vetch	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	P	-	-	-	-	-
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i> Ventura marsh milk-vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Astragalus tener</i> var. <i>titi</i> Coastal dunes milk-vetch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Atriplex coulteri</i> Coulter's saltbush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Atriplex parishii</i> Parish's saltbush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltbush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Berberis nevinii</i> Nevin's barberry	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	P	-	-	-	-	-
<i>Baccharis malibuensis</i> Malibu baccharis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>California macrophylla</i> Round-leaved filaree	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Calochortus clavatus</i> var. <i>gracilis</i> Slender mariposa lily	-	-	-	P	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Calochortus plummerae</i> Plummer's mariposa lily	-	-	-	P	-	-	-	-	-	-	-	P	P	-	-	-	-	P	-	-	P	-	-	-	-	-
<i>Camissonia lewisii</i> Lewis' evening-primrose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Castilleja gleasonii</i> Mt. Gleason paintbrush	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Calystegia peirsonii</i> Peirson's morning-glory	-	-	-	P	-	-	-	-	-	-	-	P	-	-	-	-	-	P	-	-	P	-	-	-	-	-
<i>Centromadia parryi</i> ssp. <i>australis</i> Southern tarplant	P	-	-	-	P	P	-	-	-	P	-	-	-	P	-	-	-	-	-	-	-	P	P	-	-	-

SURVEY RESULTS

Three surveys were conducted on each of the sites, with the exception of Reaches 20 and 21, which were being cleared by a private homeowner at the time of the second surveys. All of the species with potential to occur in the study areas listed above in Table 5 were focused on for the surveys. There was only one reach, Reach 17, in which a species status plant was observed.

The one special status plant species that was observed during the surveys is the ocellated lily. Ocellated lily is a CNPS List 4 species; this bulbiferous herb is endemic to California and typically blooms between March and July (CNPS 2010). It occurs at elevations below about 3,000 feet above mean sea level, in gravelly soils in gulleys and canyons, usually in chaparral and oak woodland habitats (Munz 1974). This species is known from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura Counties (CNPS 2010).

There were numerous lilies directly adjacent to the Sheep Corral Channel (Reach 17), but not on the channel bottom. These lilies were observed during the first survey, but were removed prior to the second survey when the entire area both within and outside Reach 17, was cleared for fire suppression. As a result, the ocellated lilies observed during the first survey were removed prior to their reaching maturity to bloom. No other special status plant species were observed during the surveys.

CNPS List 4 species are on a "watch list" for plants of limited distribution. Due to the relatively common distribution of these species in the region, any potential impacts to these species would not reduce the regional populations to below self-sustaining levels. Therefore, potential impacts would likely be considered adverse but less than significant under California Environmental Quality Act (CEQA) and mitigation would not be required.

Although reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, there is always a minimal potential for false negative survey results, as species could possibly be present on a site but may not be detectable at the time of the survey.

If you have any comments or questions, please call Marc Blain at (626) 351-2000.

Sincerely,

BONTERRA CONSULTING



Thomas E. Smith, Jr., AICP
Principal



Marc T. Blain
Associate, Biological Resources Manager

Enclosures: Exhibit 1 – Regional Location
Exhibits 2A to 2F – Local Vicinity
Exhibits 3A to 3M – Project Location
Attachment A – Plant Compendium

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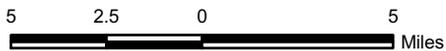


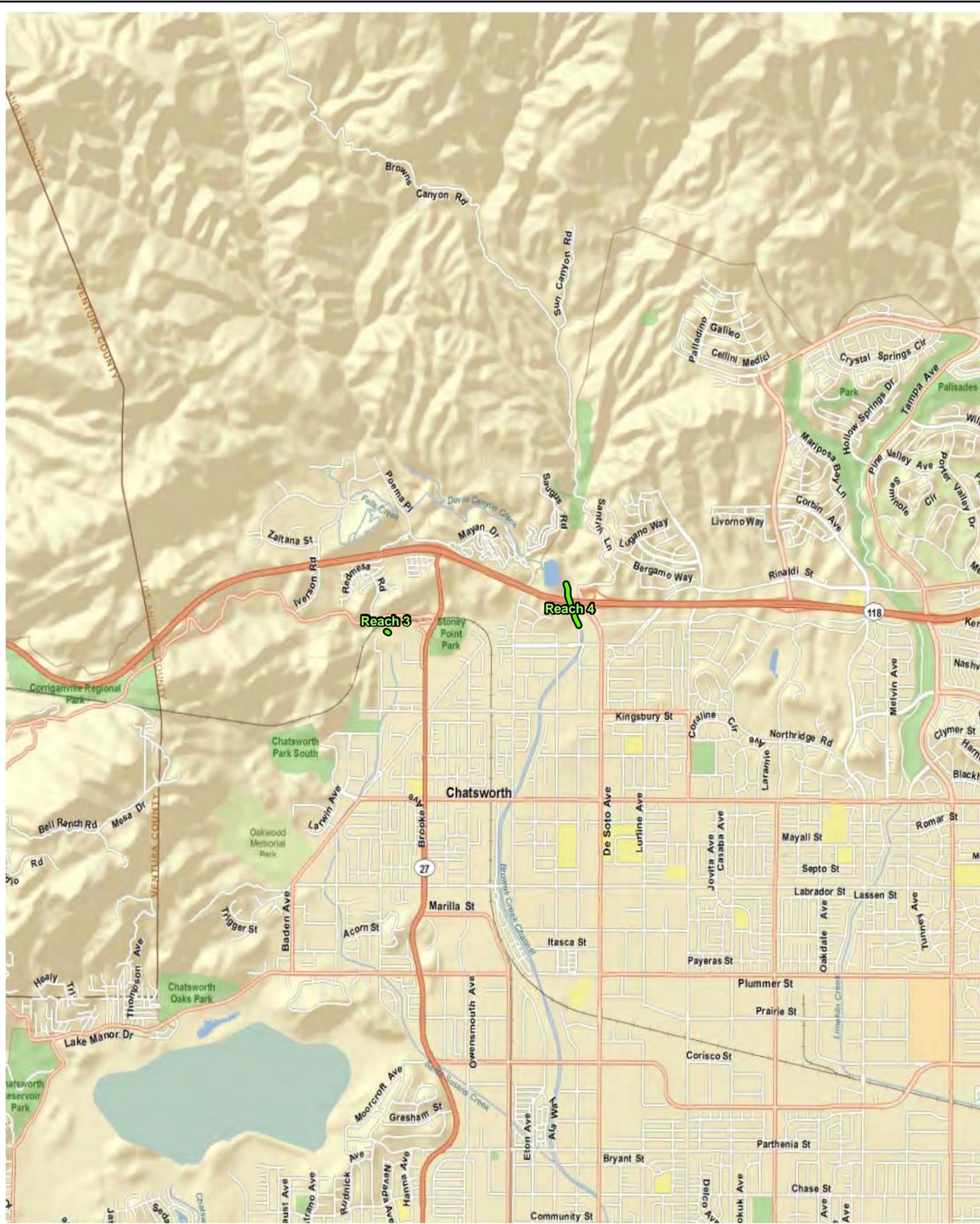
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Regional Location

Exhibit 1

Plant Report for the Los Angeles River Watershed Feasibility Study



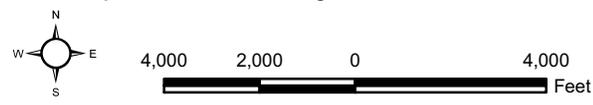


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Local Vicinity

Plant Report for the Los Angeles River Watershed Feasibility Study

Exhibit 2A



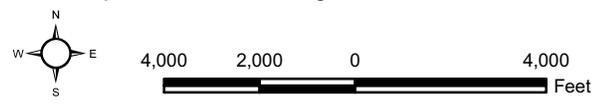


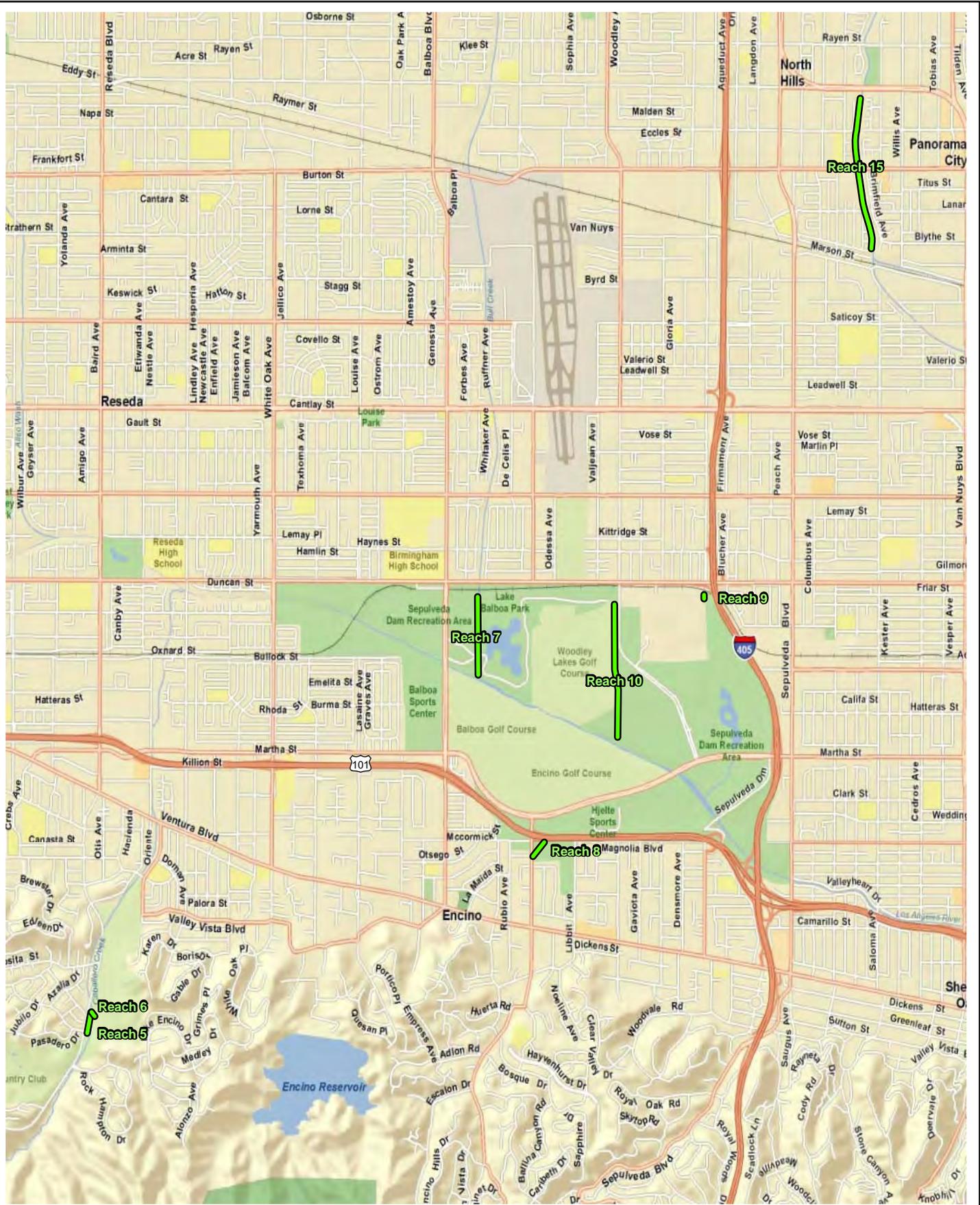
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Local Vicinity

Plant Report for the Los Angeles River Watershed Feasibility Study

Exhibit 2B



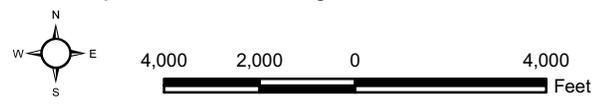


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Local Vicinity

Plant Report for the Los Angeles River Watershed Feasibility Study

Exhibit 2C



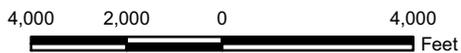


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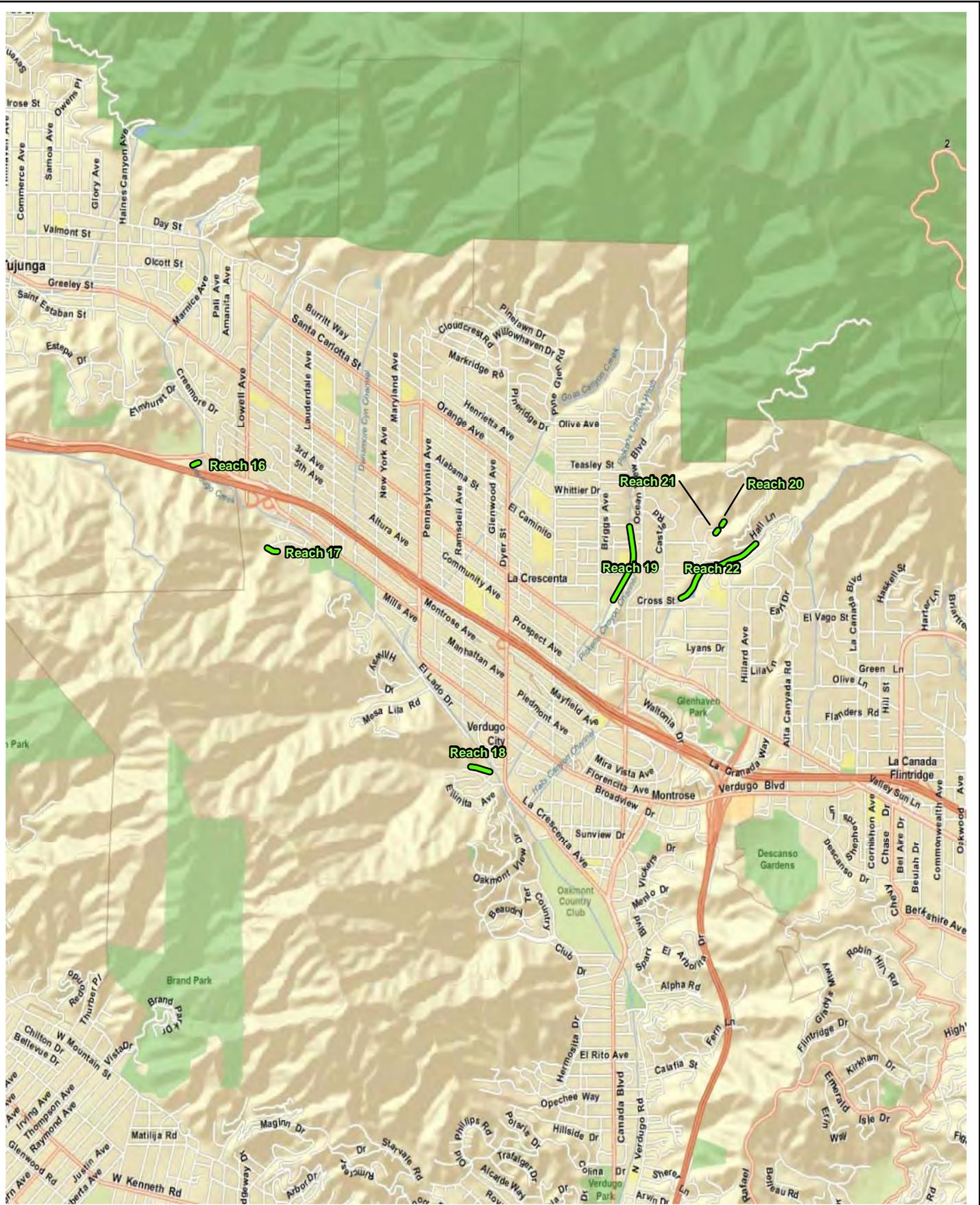
Local Vicinity

Exhibit 2D

Plant Report for the Los Angeles River Watershed Feasibility Study



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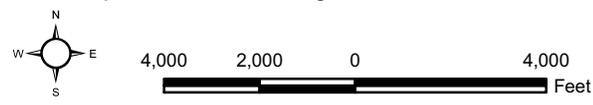


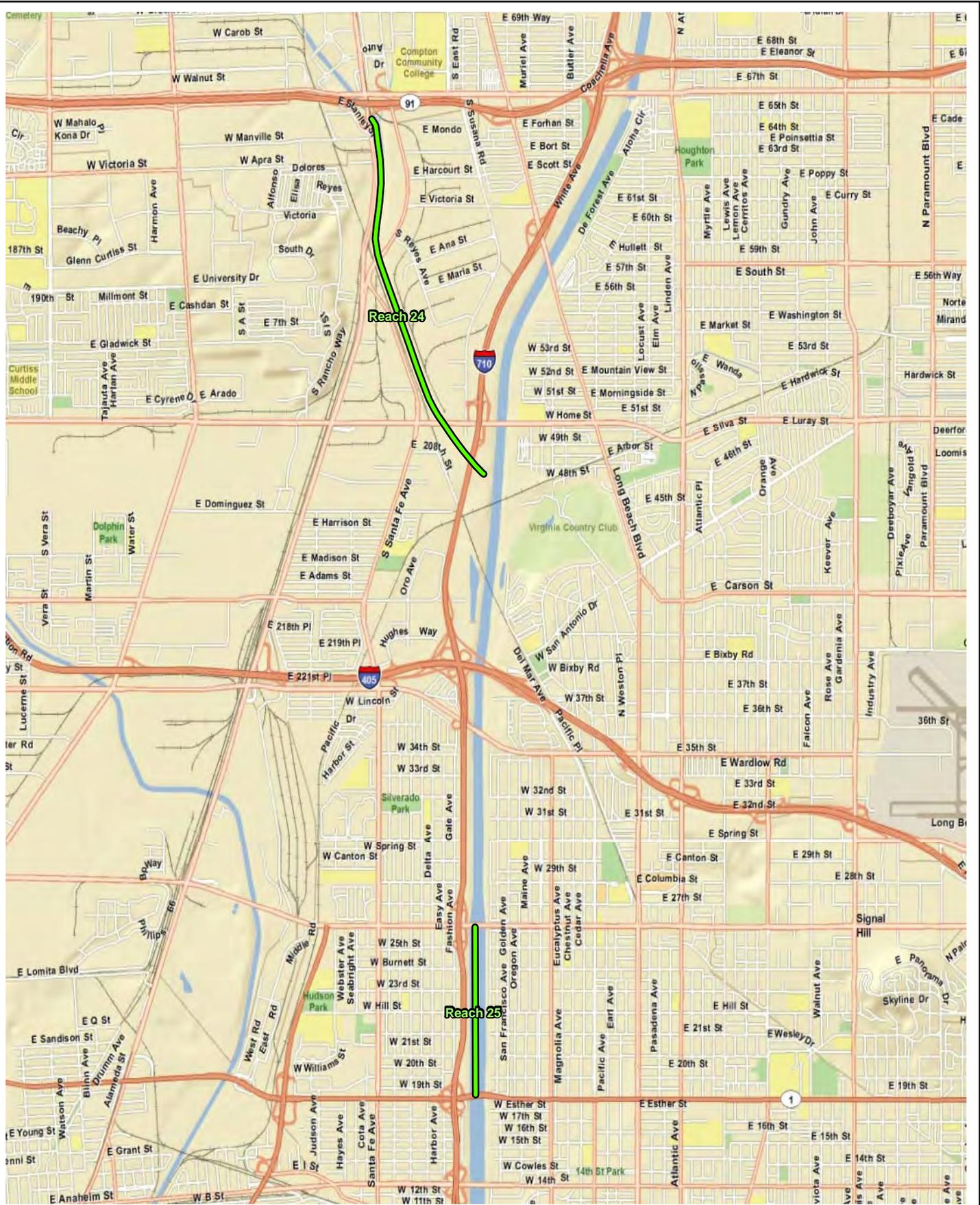
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Local Vicinity

Plant Report for the Los Angeles River Watershed Feasibility Study

Exhibit 2E



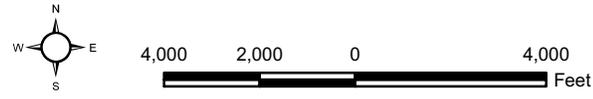


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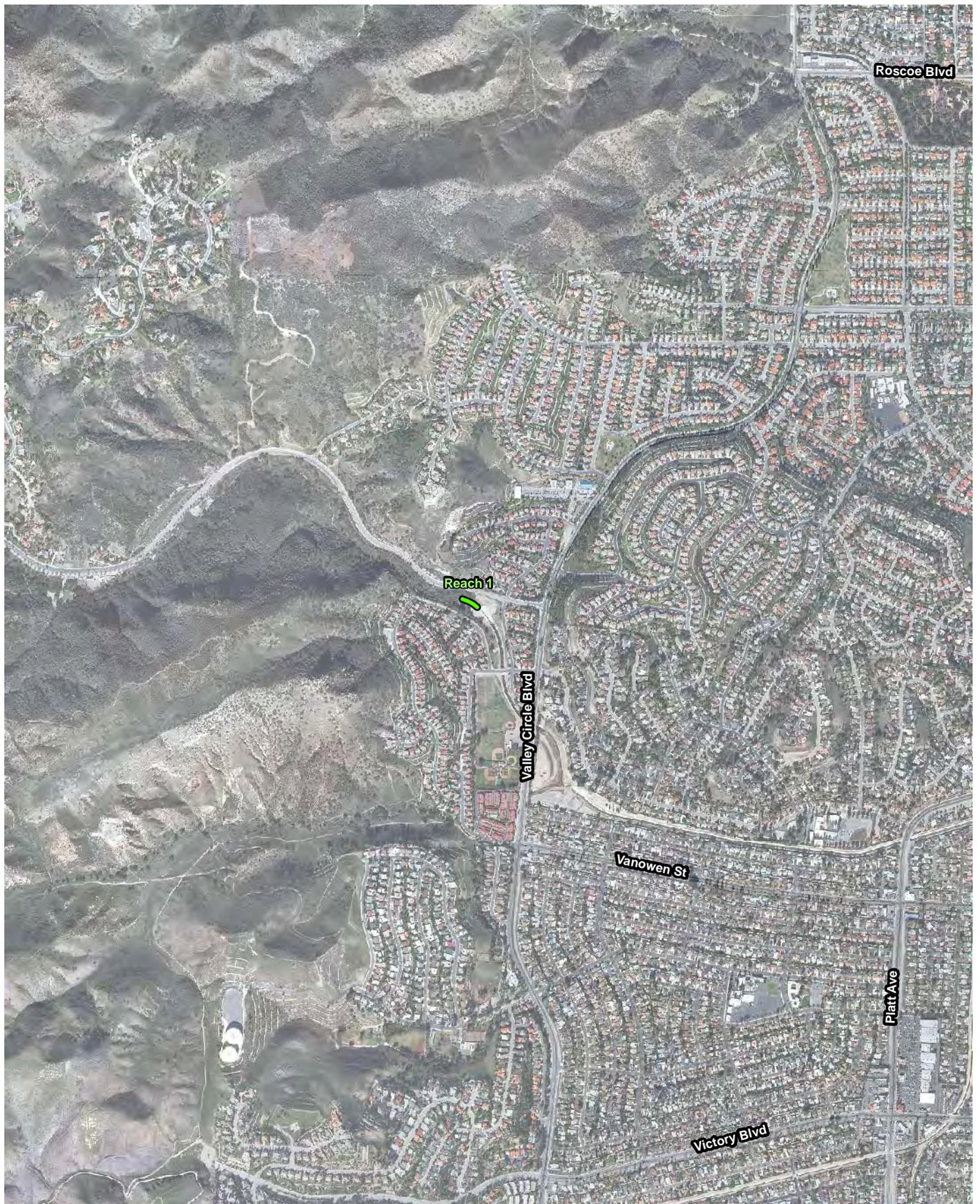
Local Vicinity

Plant Report for the Los Angeles River Watershed Feasibility Study

Exhibit 2F



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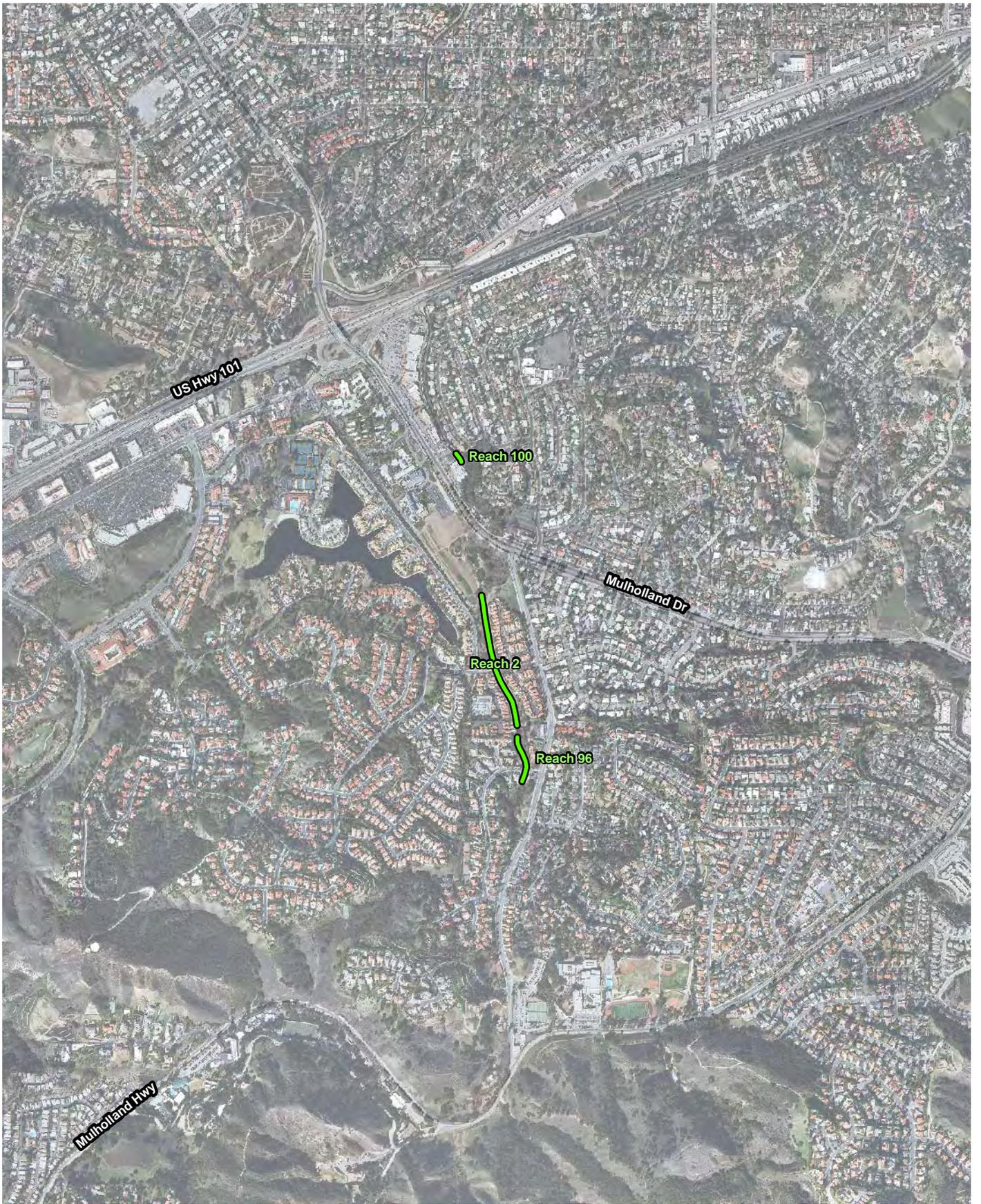


Project Location - Reach 1

Exhibit 3A

Plant Report for the Los Angeles River Watershed Feasibility Study



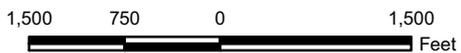


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Project Location – Reaches 2, 96, and 100

Exhibit 3B

Plant Report for the Los Angeles River Watershed Feasibility Study



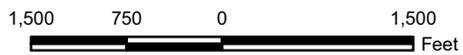
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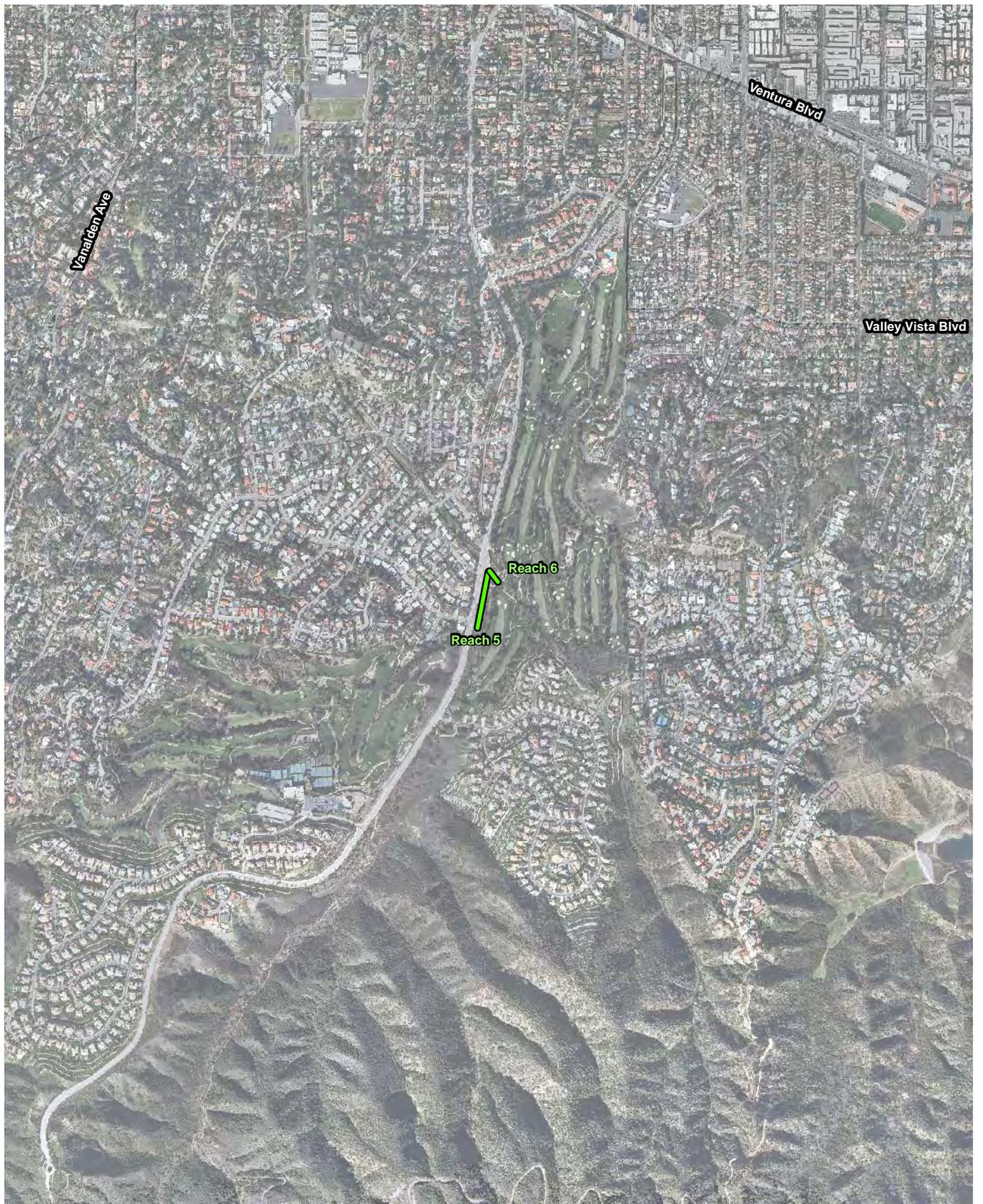


Project Location – Reaches 3 and 4

Exhibit 3C

Plant Report for the Los Angeles River Watershed Feasibility Study



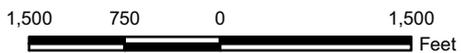


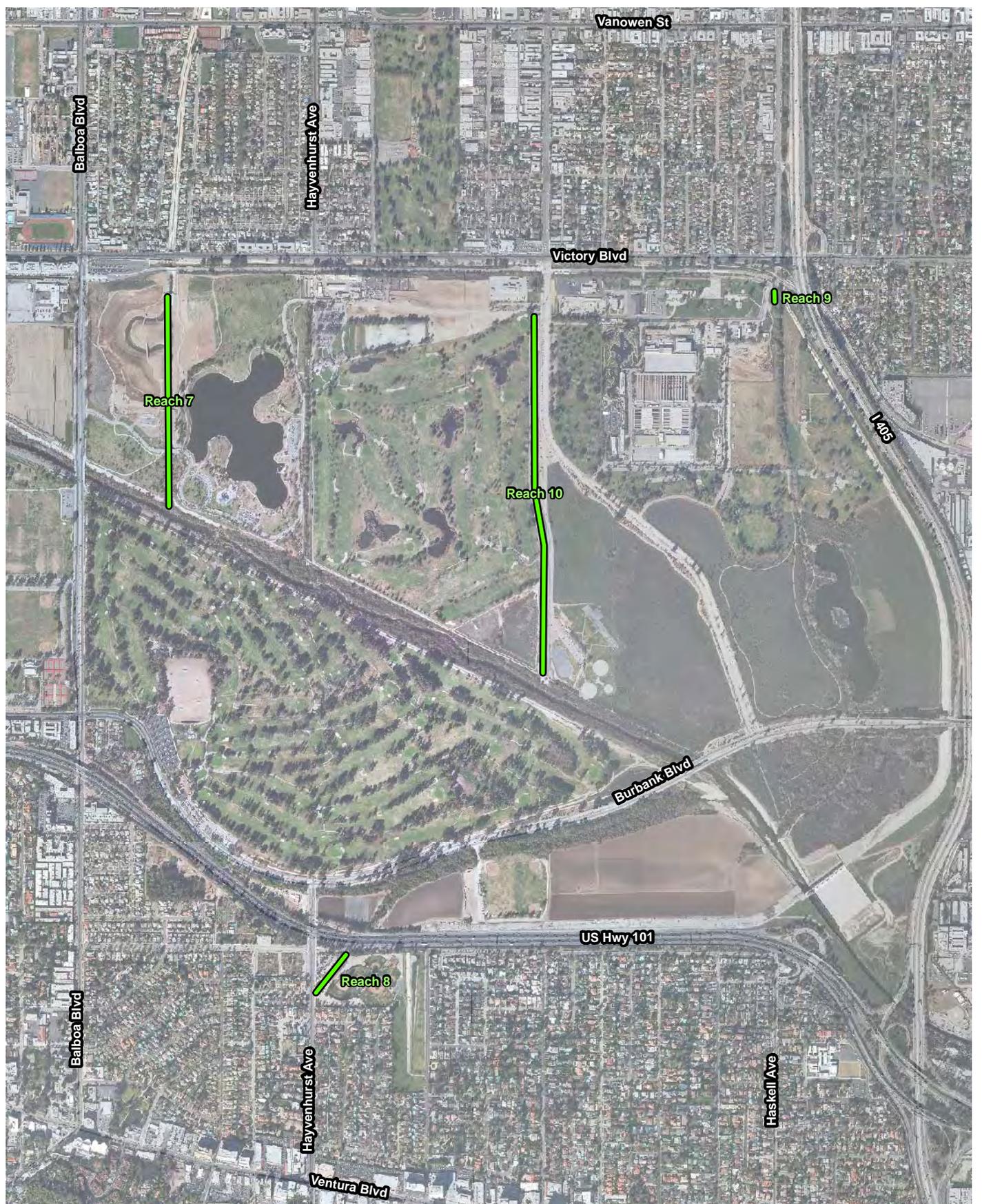
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Project Location – Reaches 5 and 6

Exhibit 3D

Plant Report for the Los Angeles River Watershed Feasibility Study



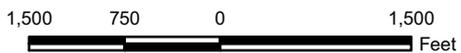


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Project Location – Reaches 7, 8, 9, and 10

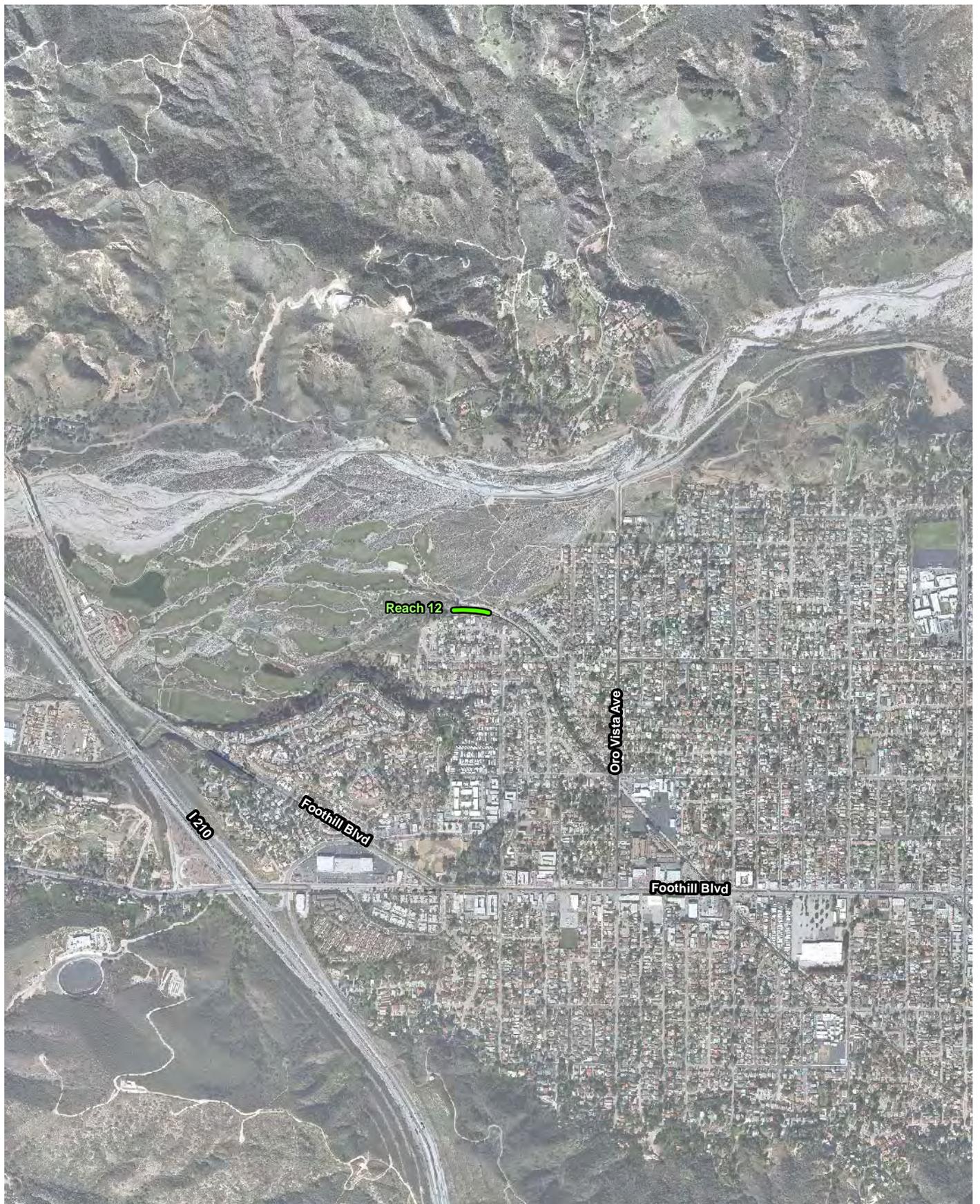
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Plant Report for the Los Angeles River Watershed Feasibility Study



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Project Location - Reach 12

Exhibit 3F

Plant Report for the Los Angeles River Watershed Feasibility Study



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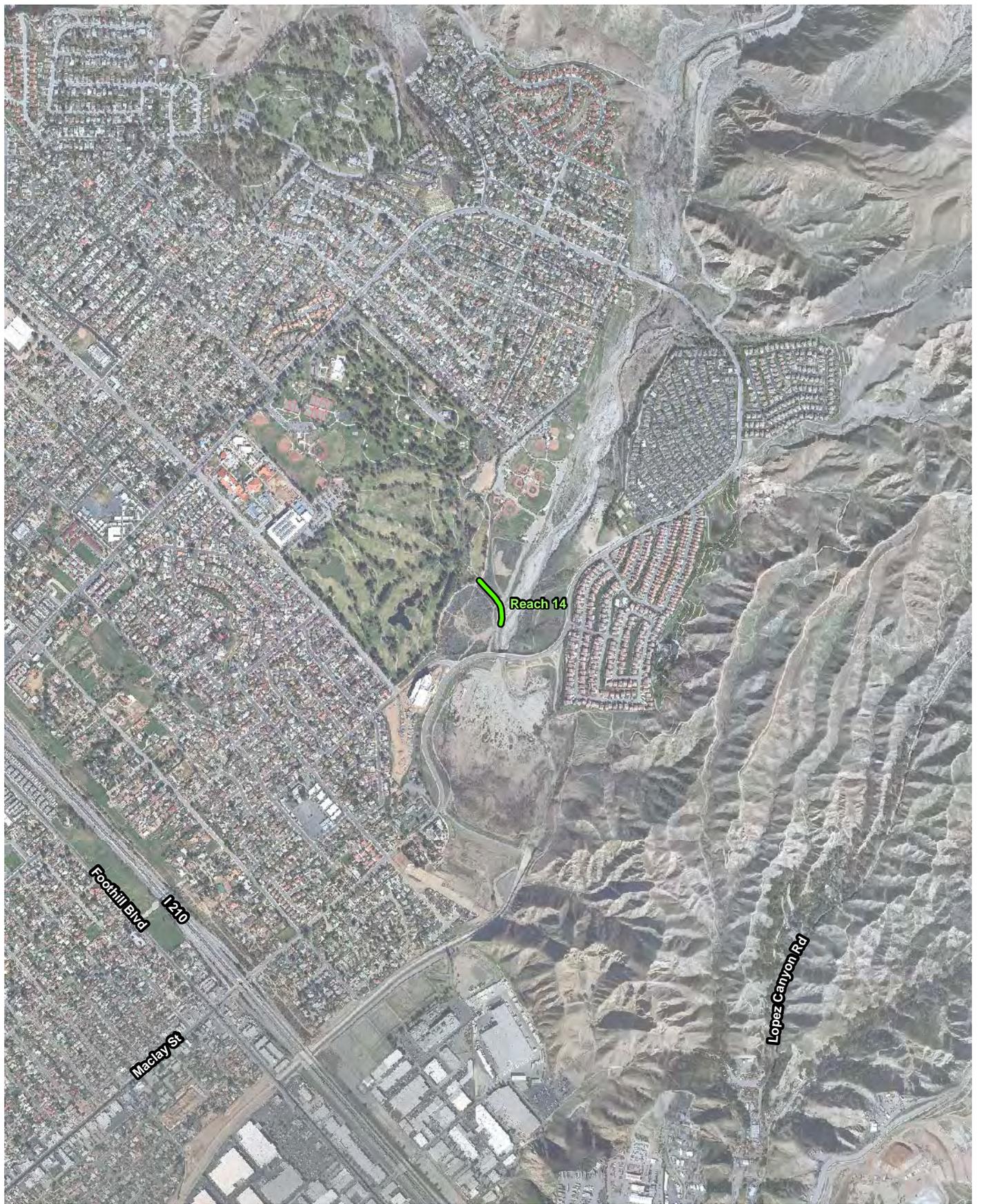
Project Location – Reaches 13 and 99

Exhibit 3C

Plant Report for the Los Angeles River Watershed Feasibility Study



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Project Location - Reach 14

Exhibit 3H

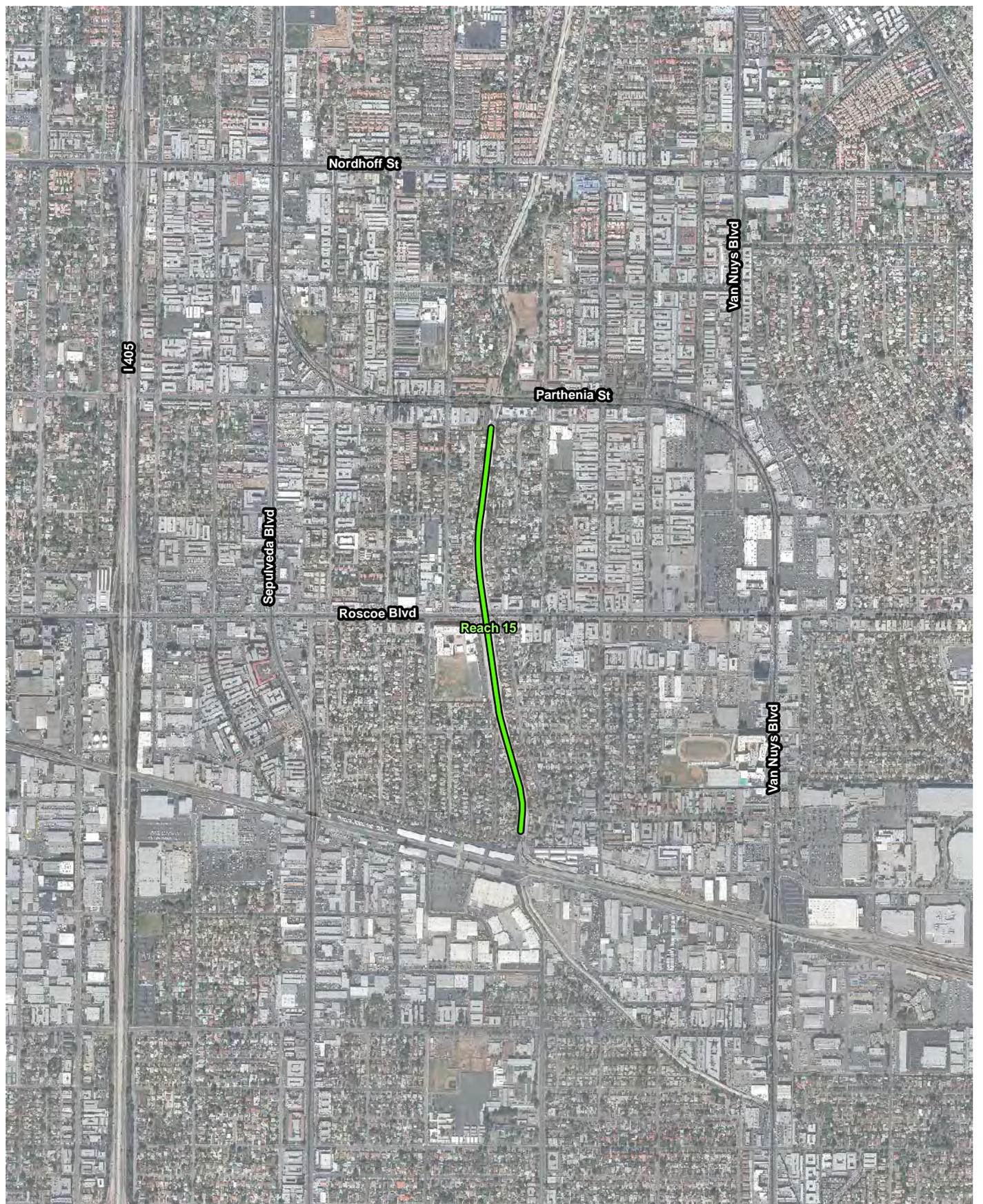
Plant Report for the Los Angeles River Watershed Feasibility Study



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Feet

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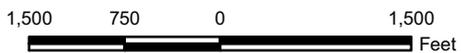
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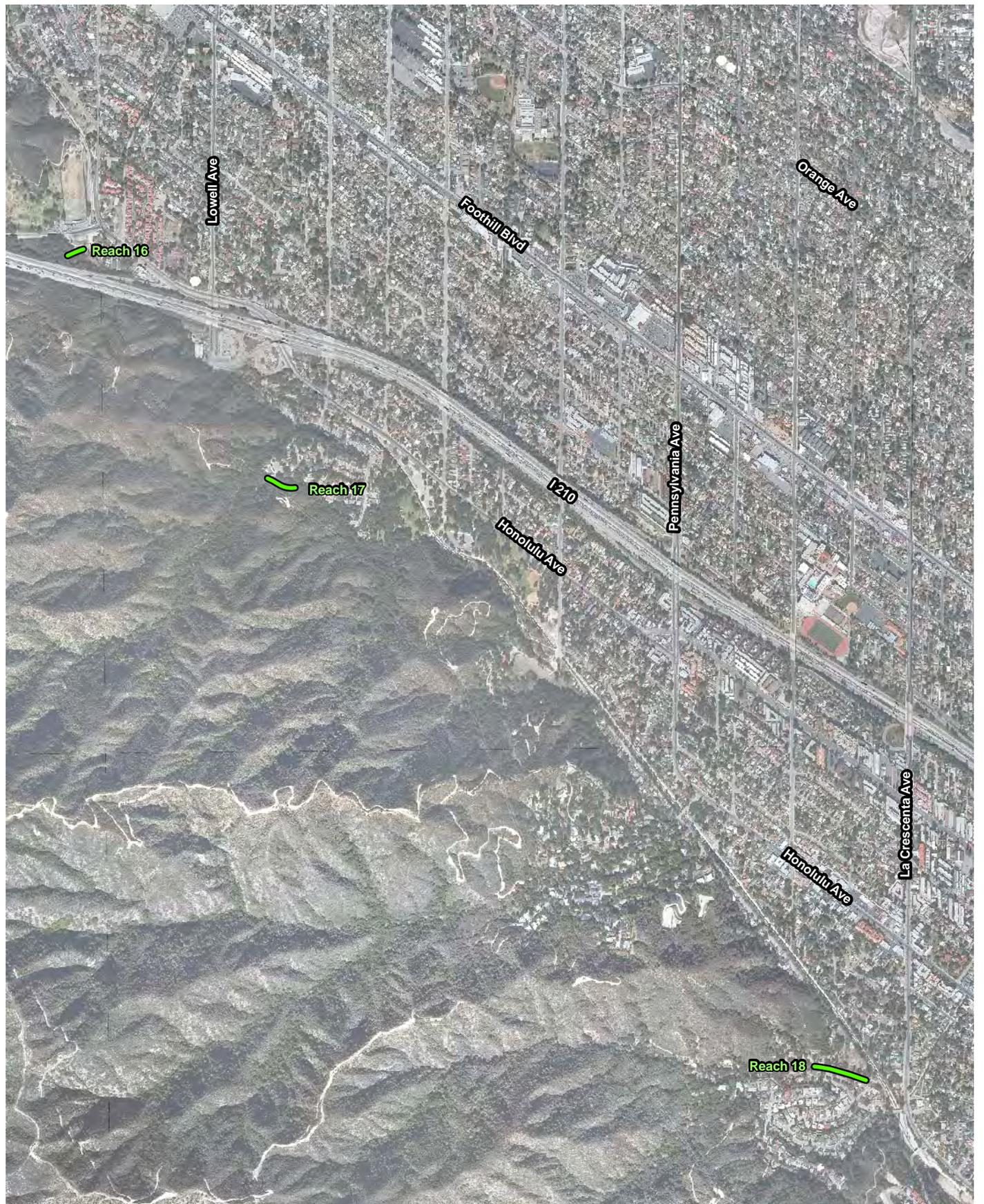
Project Location - Reach 15

Exhibit 31

Plant Report for the Los Angeles River Watershed Feasibility Study



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Project Location – Reaches 16, 17, and 18

Exhibit 3J

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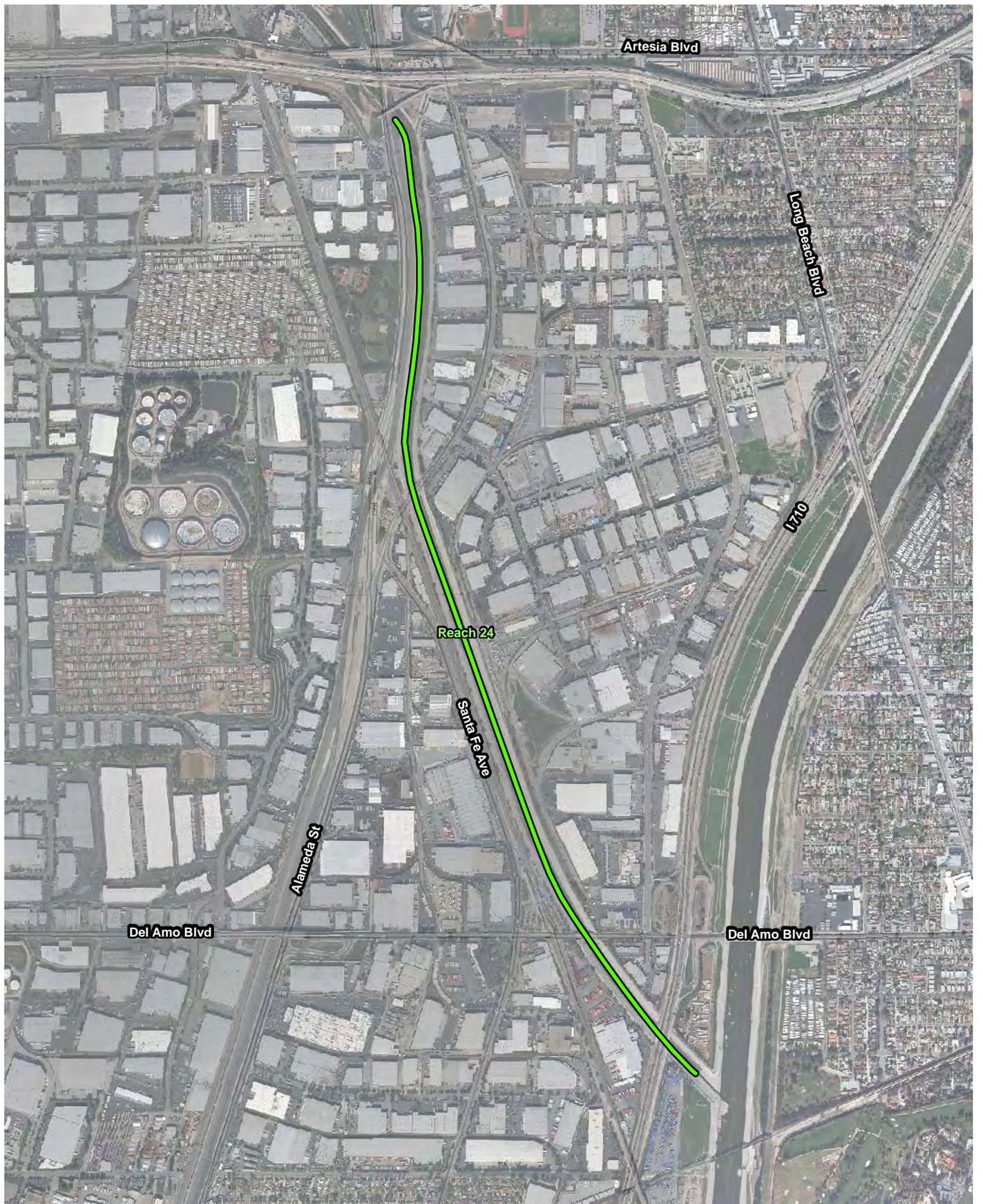


Project Location – Reaches 19, 20, 21, and 22

Exhibit 3K

Plant Report for the Los Angeles River Watershed Feasibility Study



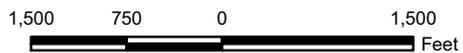


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Project Location - Reach 24

Exhibit 3L

Plant Report for the Los Angeles River Watershed Feasibility Study



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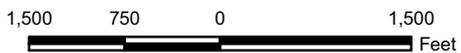
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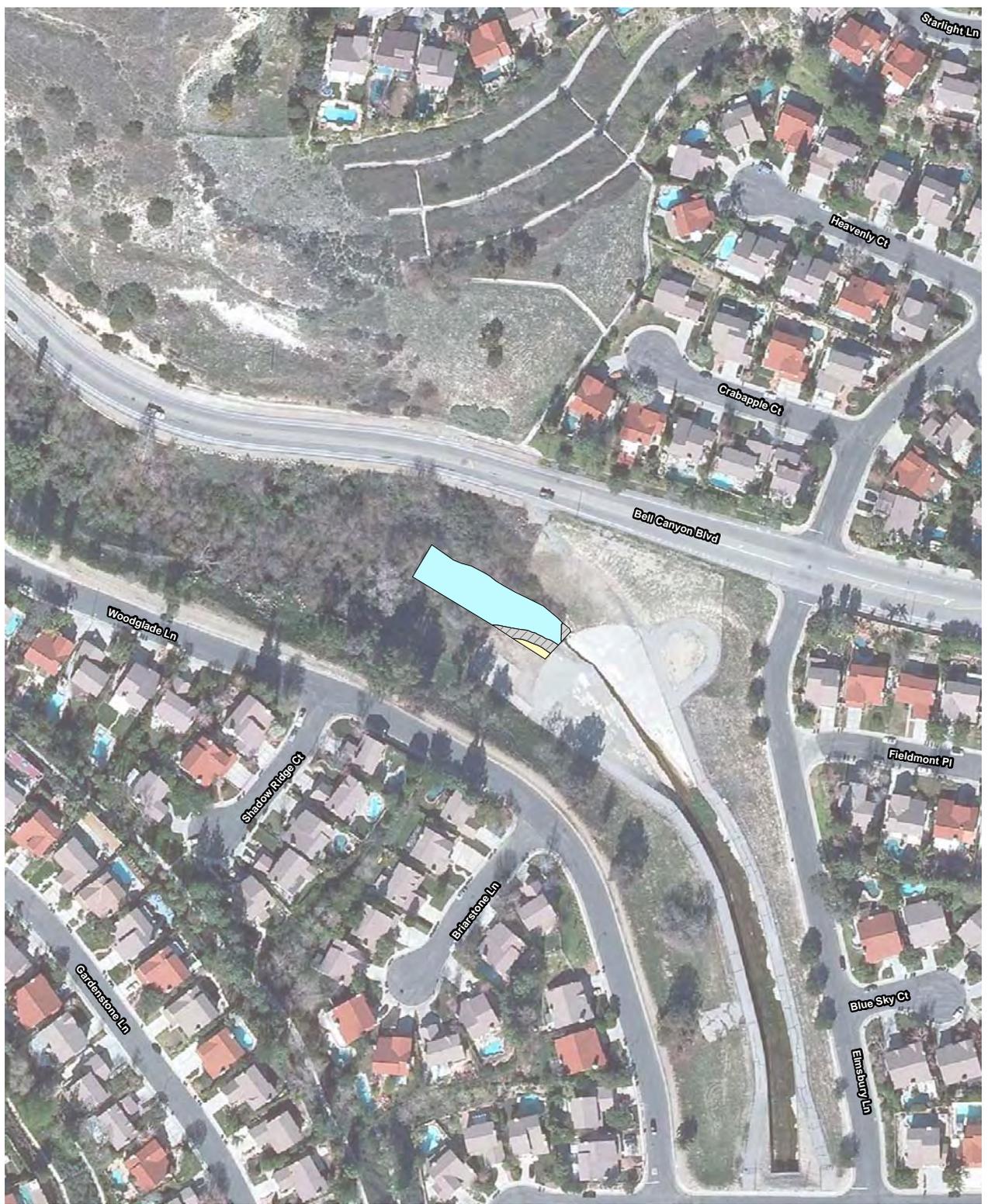


Project Location – Reach 25

Exhibit 3M

Plant Report for the Los Angeles River Watershed Feasibility Study





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 1

Los Angeles River Watershed Feasibility Study

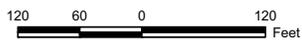
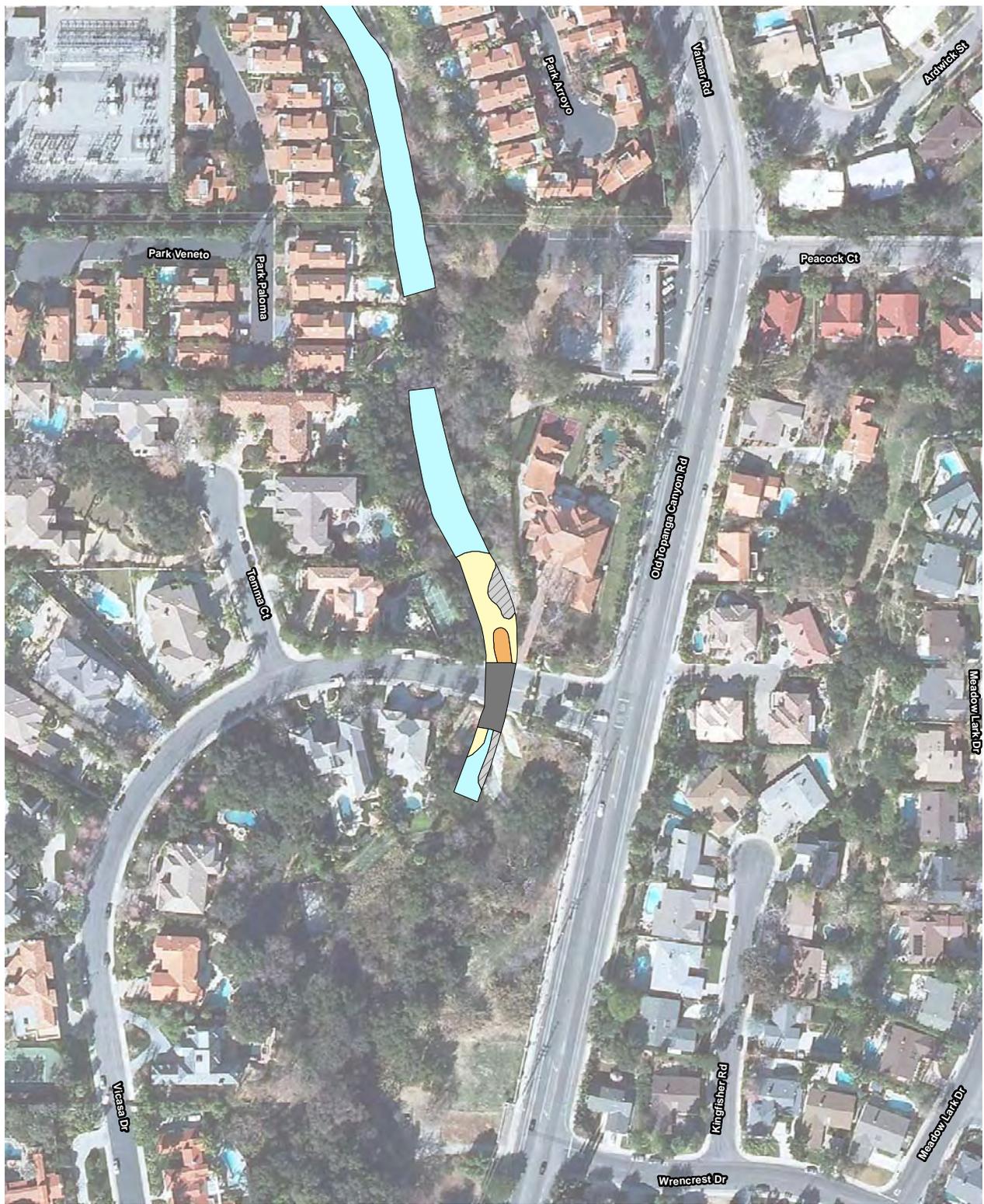


Exhibit 4A





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reaches 2 and 96

Los Angeles River Watershed Feasibility Study

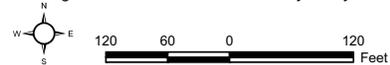


Exhibit 4C





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 3

Los Angeles River Watershed Feasibility Study

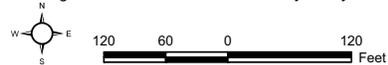
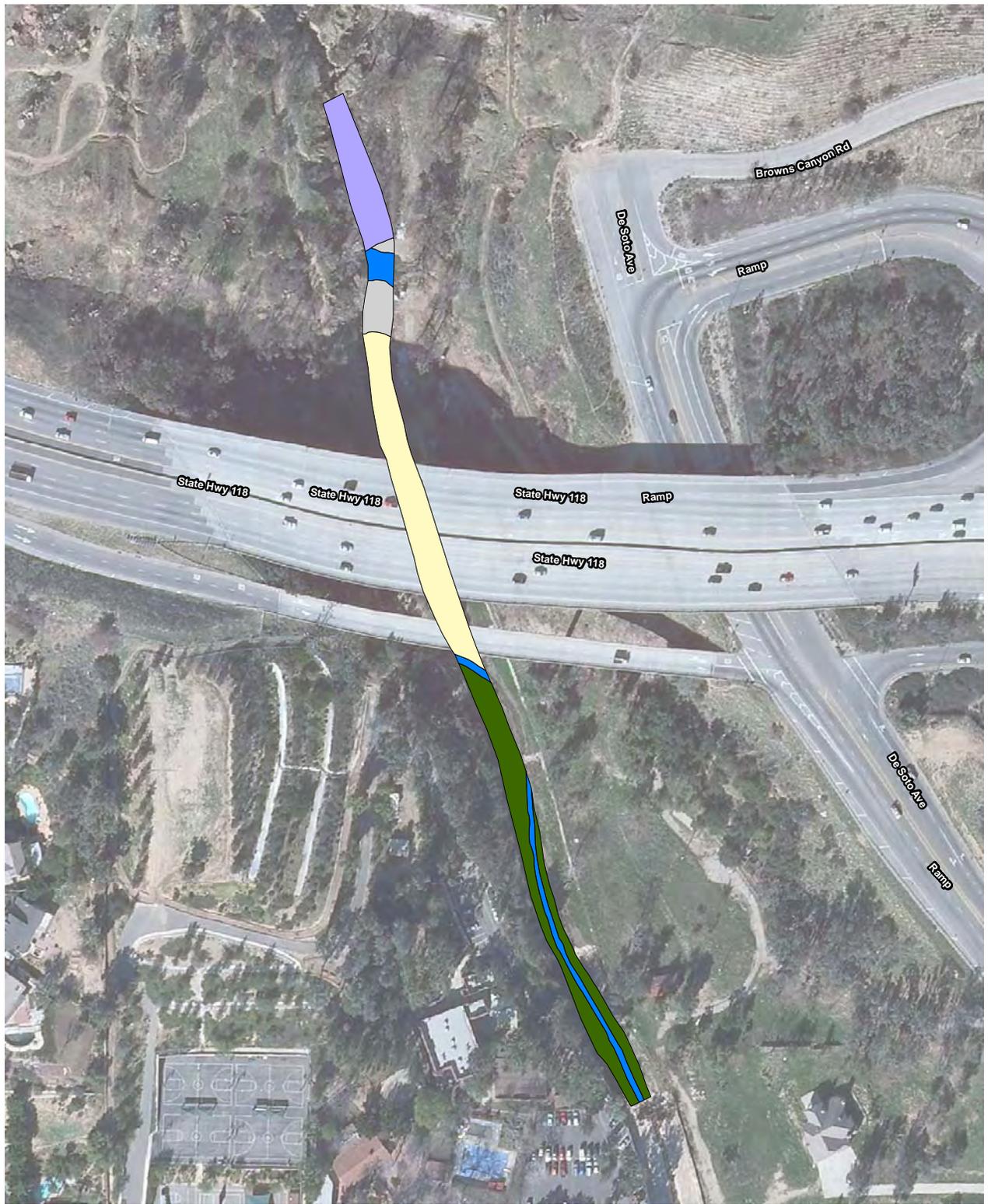


Exhibit 4D



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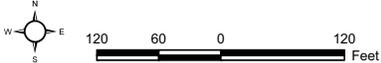
Vegetation Types

- | | | |
|---|----------------------------|------------------|
| scalebroom scrub | willow riparian forest | ornamental |
| disturbed scalebroom scrub | southern willow scrub | unvegetated wash |
| mule fat scrub | cattail wetland | open water |
| southern coast live oak riparian forest | cattail wetland/open water | disturbed |
| Disturbed southern coast live oak riparian forest | disturbed cattail wetland | rip-rap |
| Disturbed southern coast live oak woodland | riparian herb | developed |
| | ruderal | |

Vegetation Types - Reach 4

Los Angeles River Watershed Feasibility Study

Exhibit 4E



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Vegetation Types

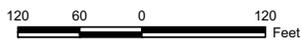
- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

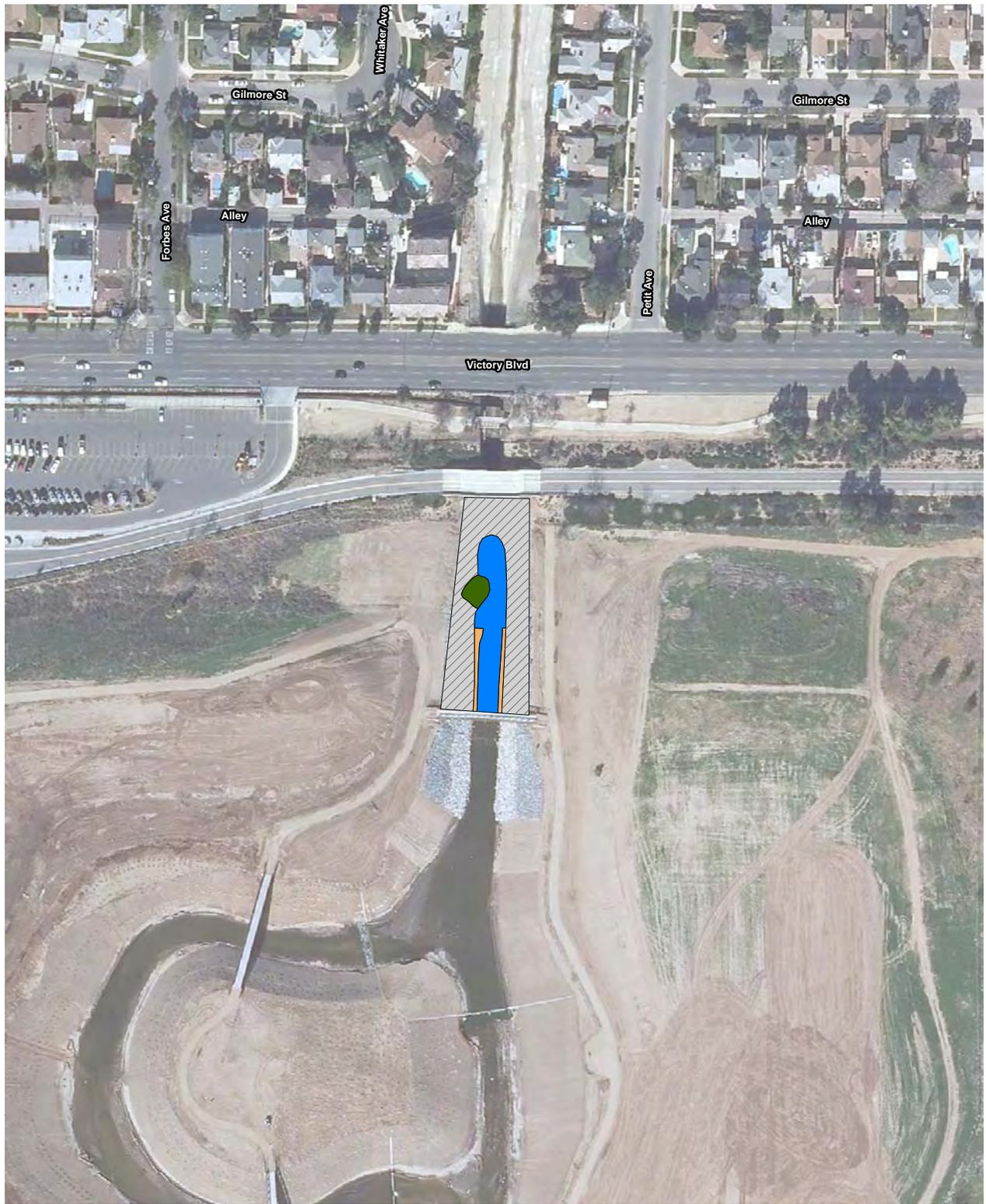
- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reaches 5 and 6

Los Angeles River Watershed Feasibility Study





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 7

Los Angeles River Watershed Feasibility Study

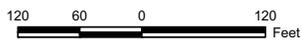
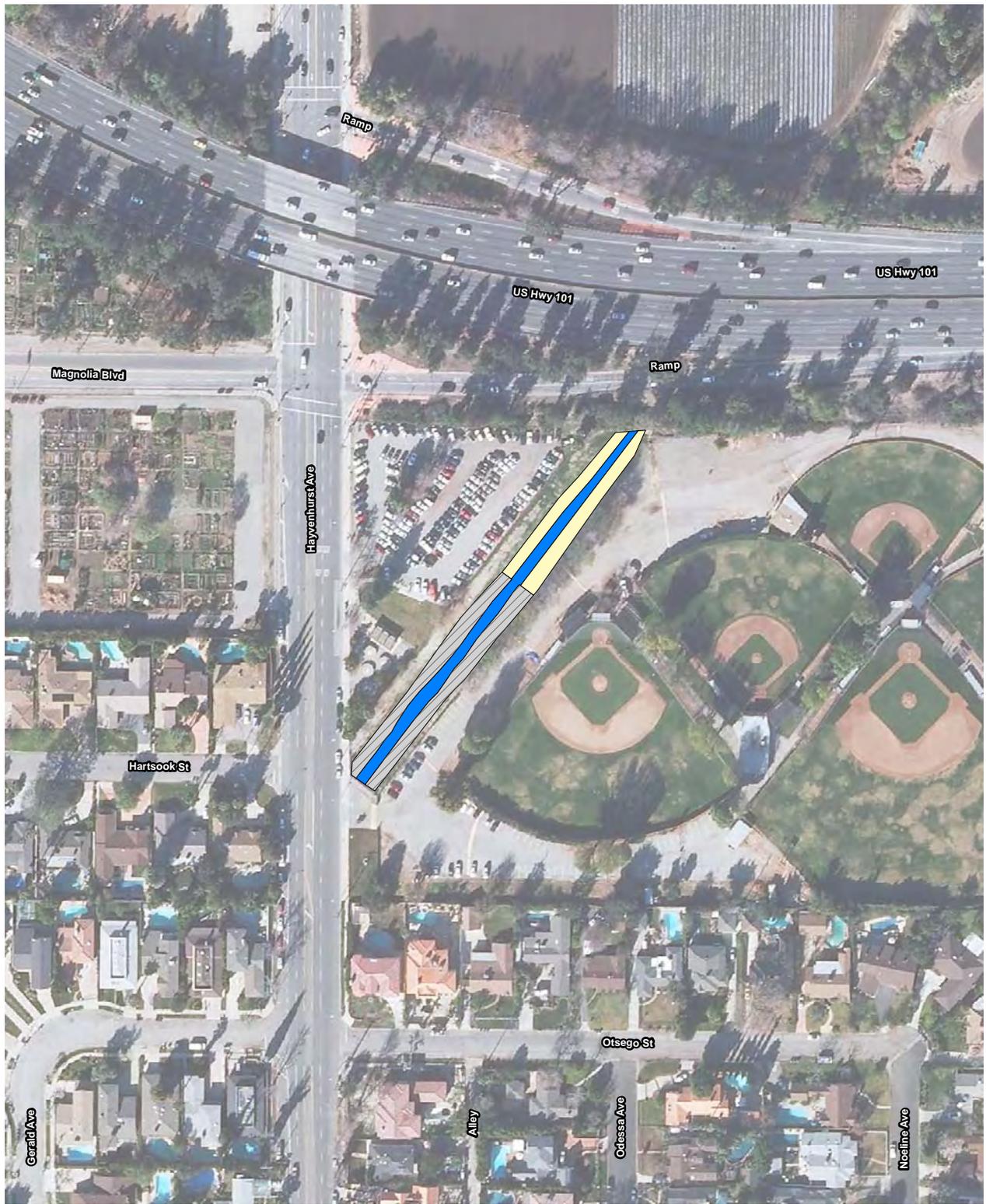


Exhibit 4C



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 8

Los Angeles River Watershed Feasibility Study

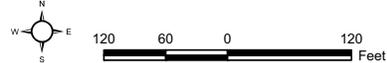
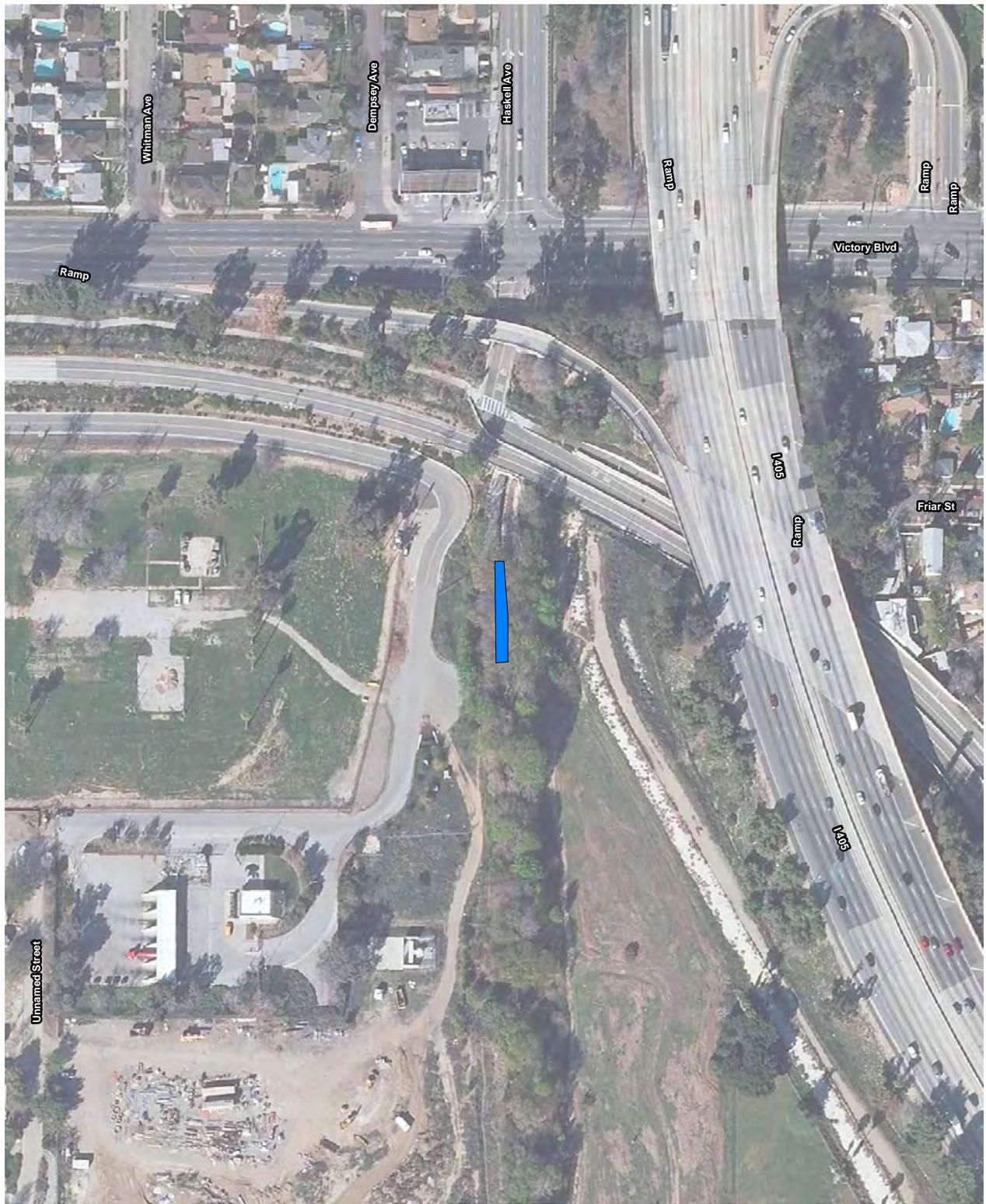


Exhibit 4H





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 9

Los Angeles River Watershed Feasibility Study

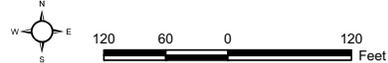
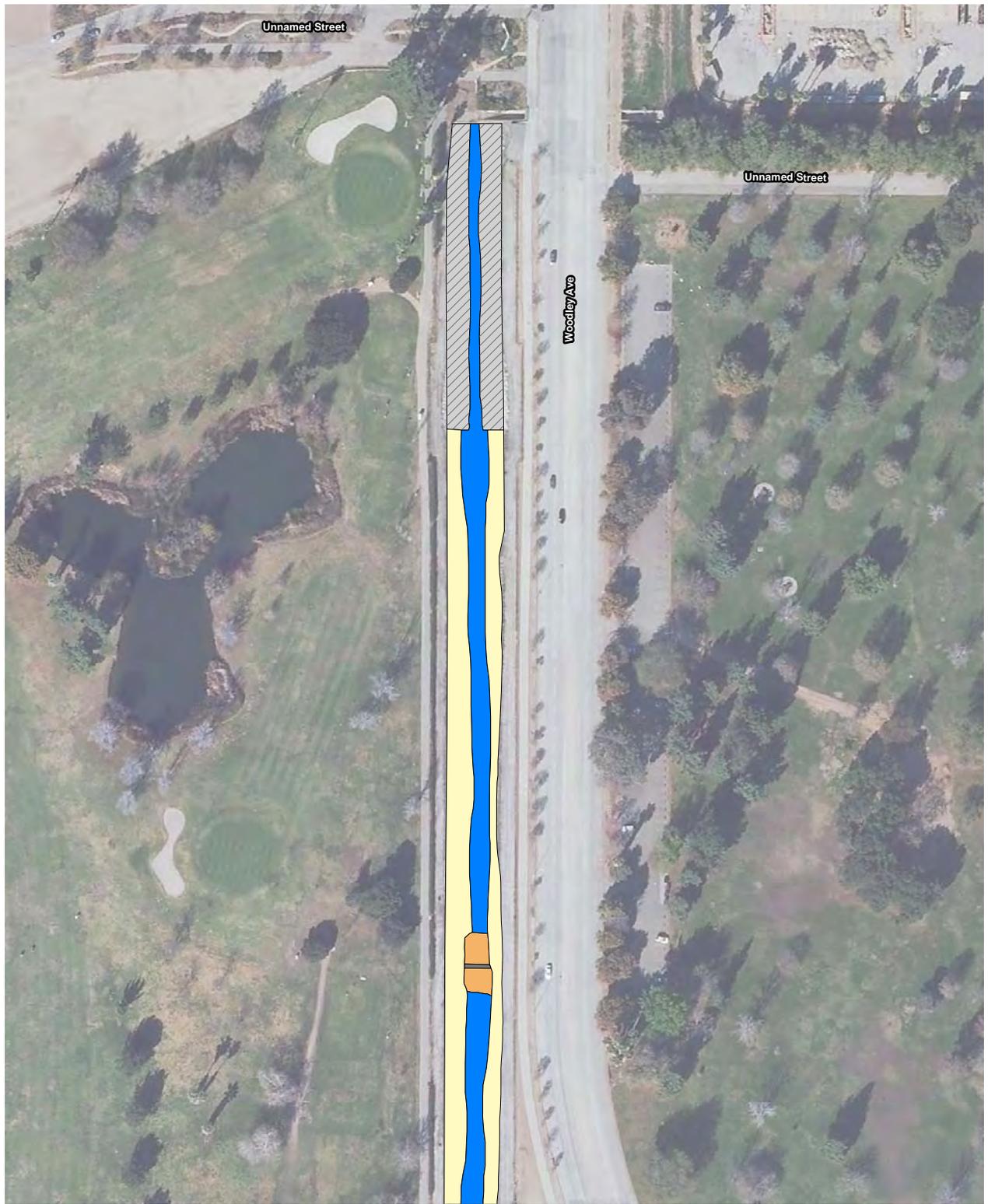


Exhibit 41



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 10

Los Angeles River Watershed Feasibility Study

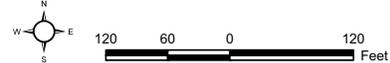


Exhibit 4J



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 10

Los Angeles River Watershed Feasibility Study

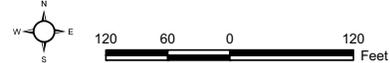


Exhibit 4K



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 10

Los Angeles River Watershed Feasibility Study

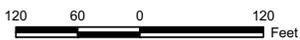
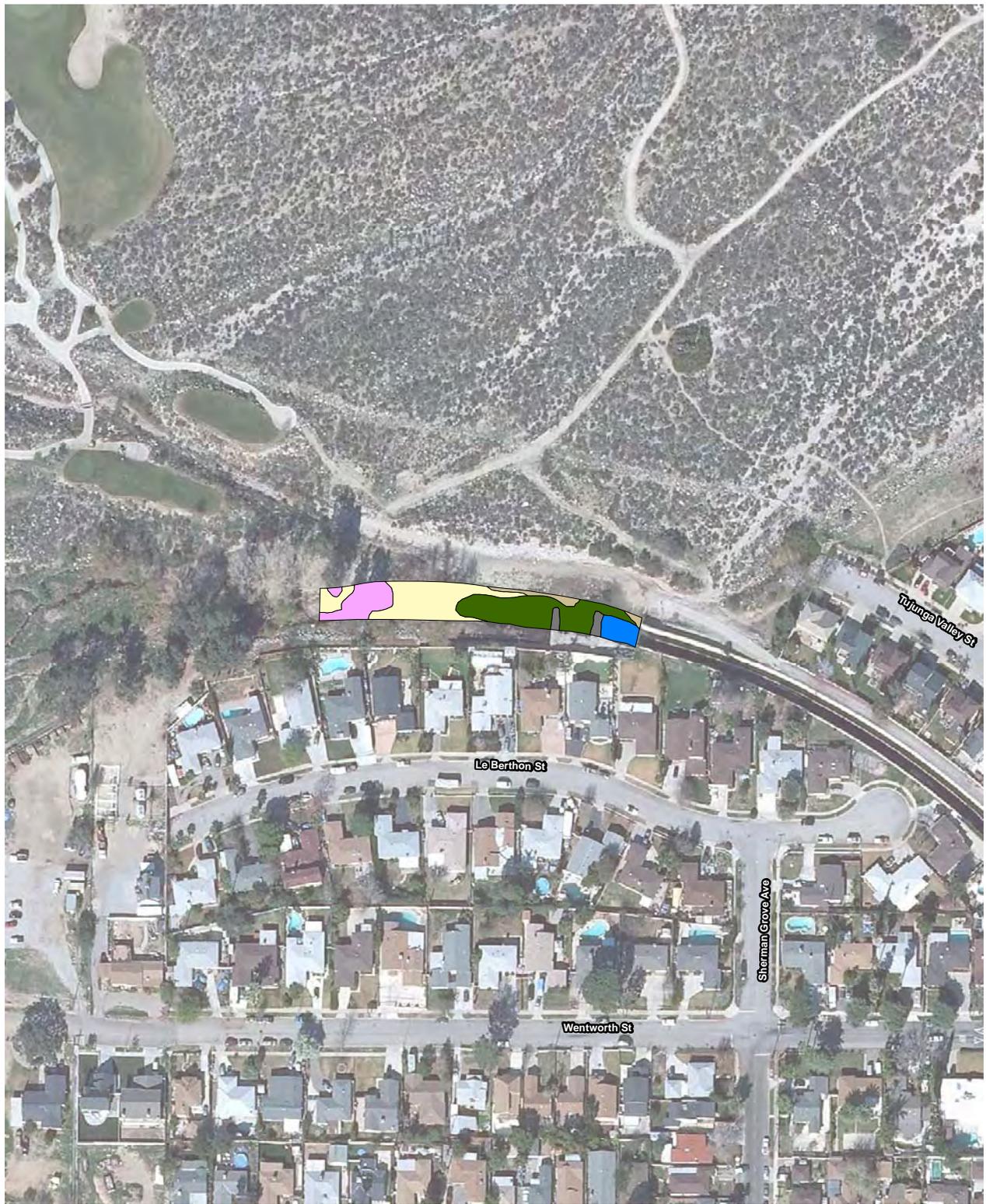


Exhibit 4L



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 12

Los Angeles River Watershed Feasibility Study

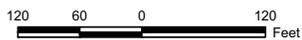
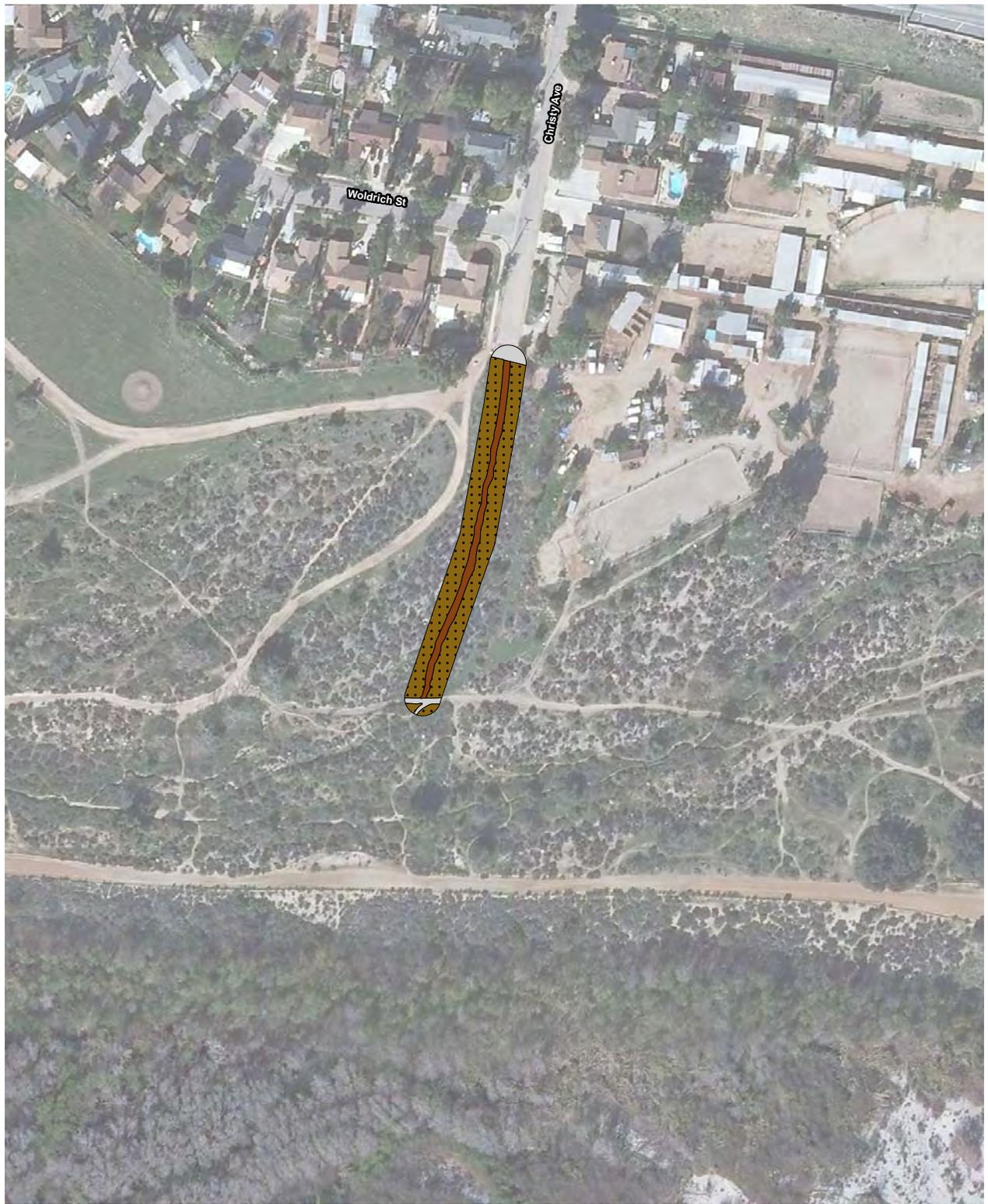


Exhibit 4M





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 13

Los Angeles River Watershed Feasibility Study

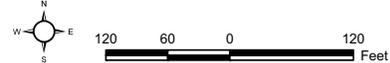


Exhibit 4N





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 14

Los Angeles River Watershed Feasibility Study

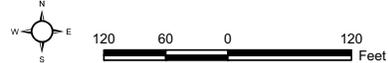


Exhibit 40



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study

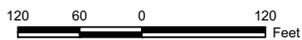
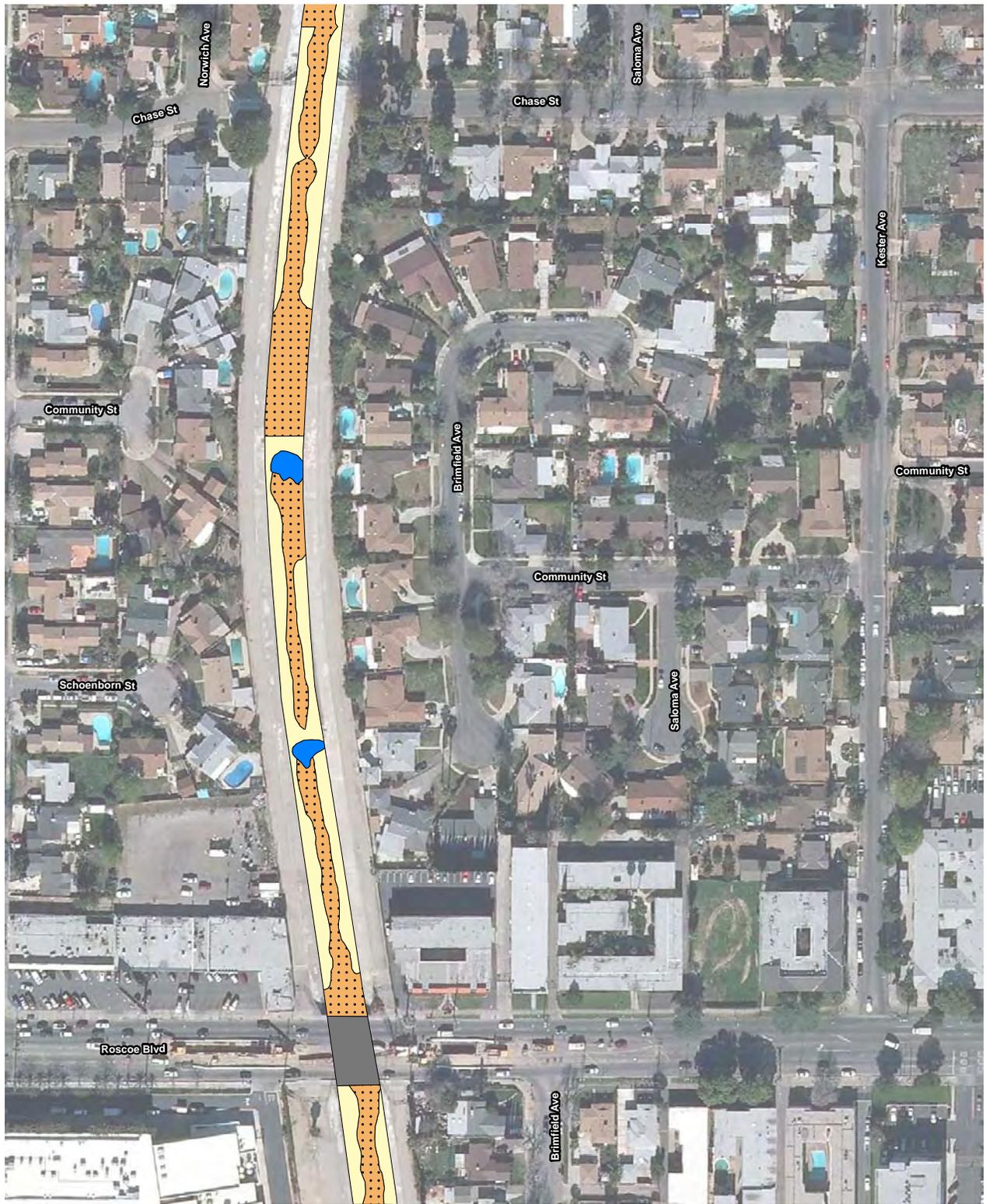


Exhibit 4P





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study

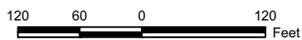
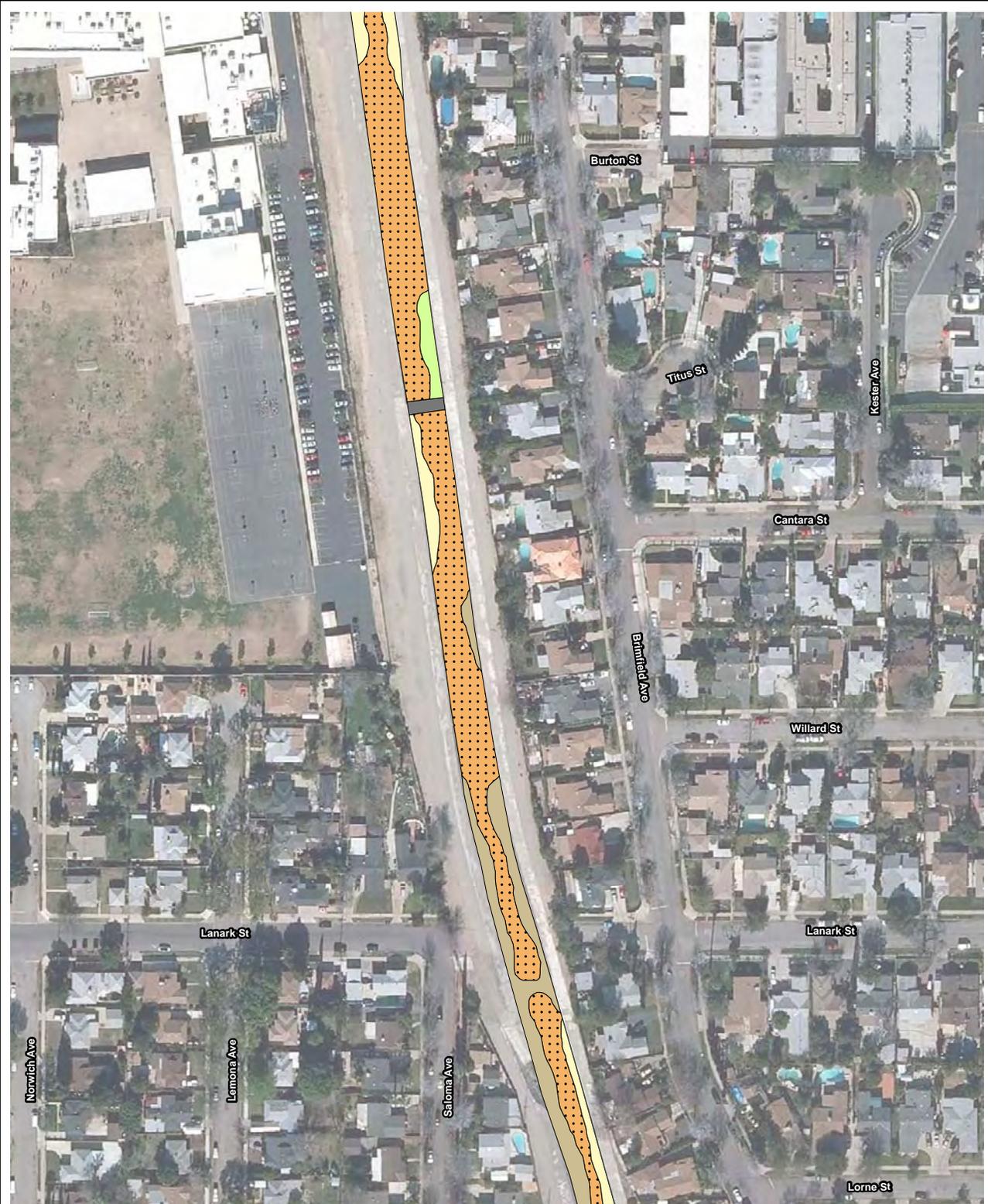


Exhibit 4Q





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study

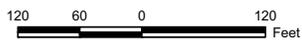
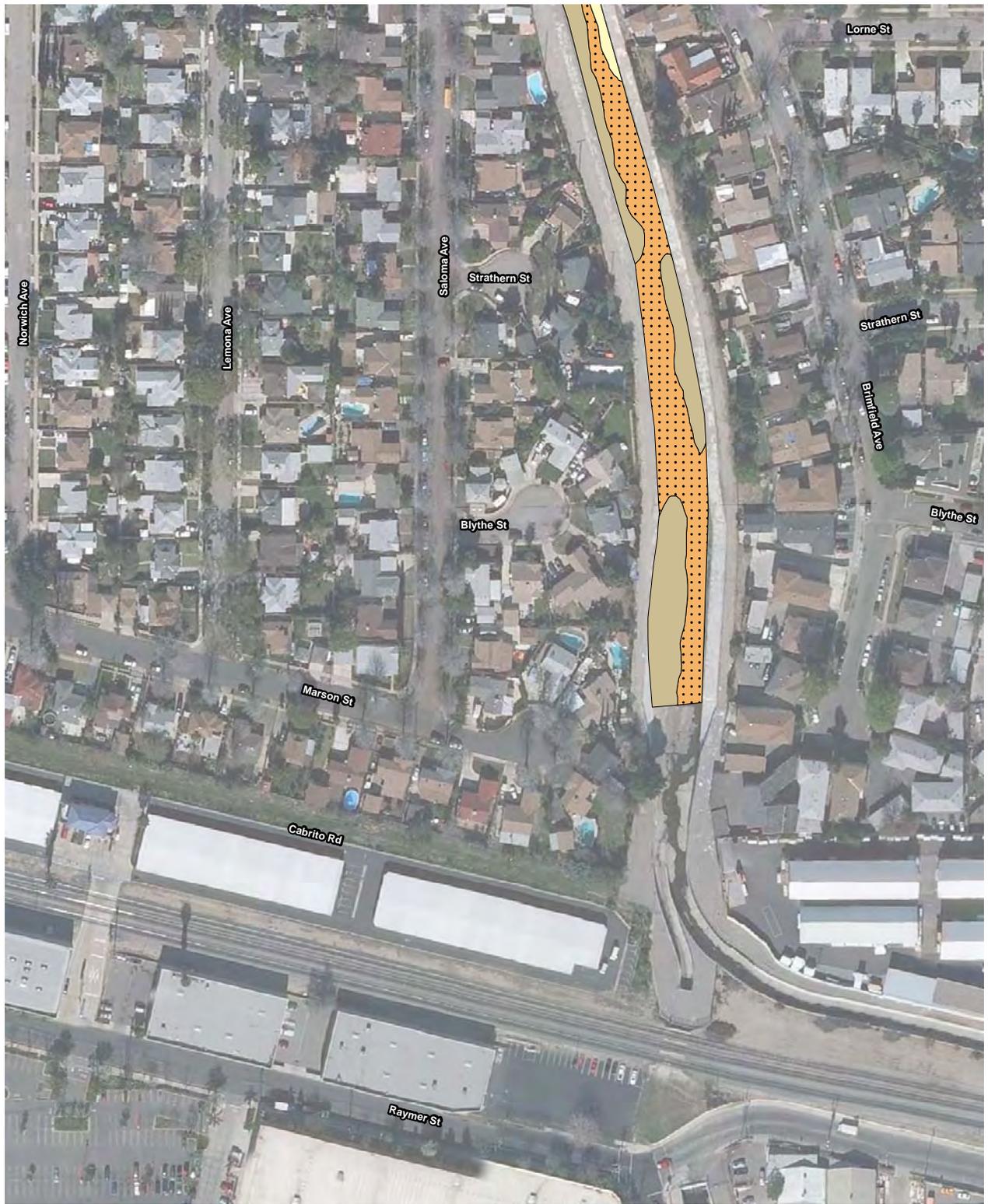


Exhibit 4R



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 15

Los Angeles River Watershed Feasibility Study



Exhibit 4S





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 16

Los Angeles River Watershed Feasibility Study

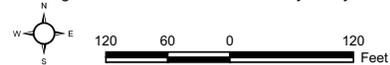
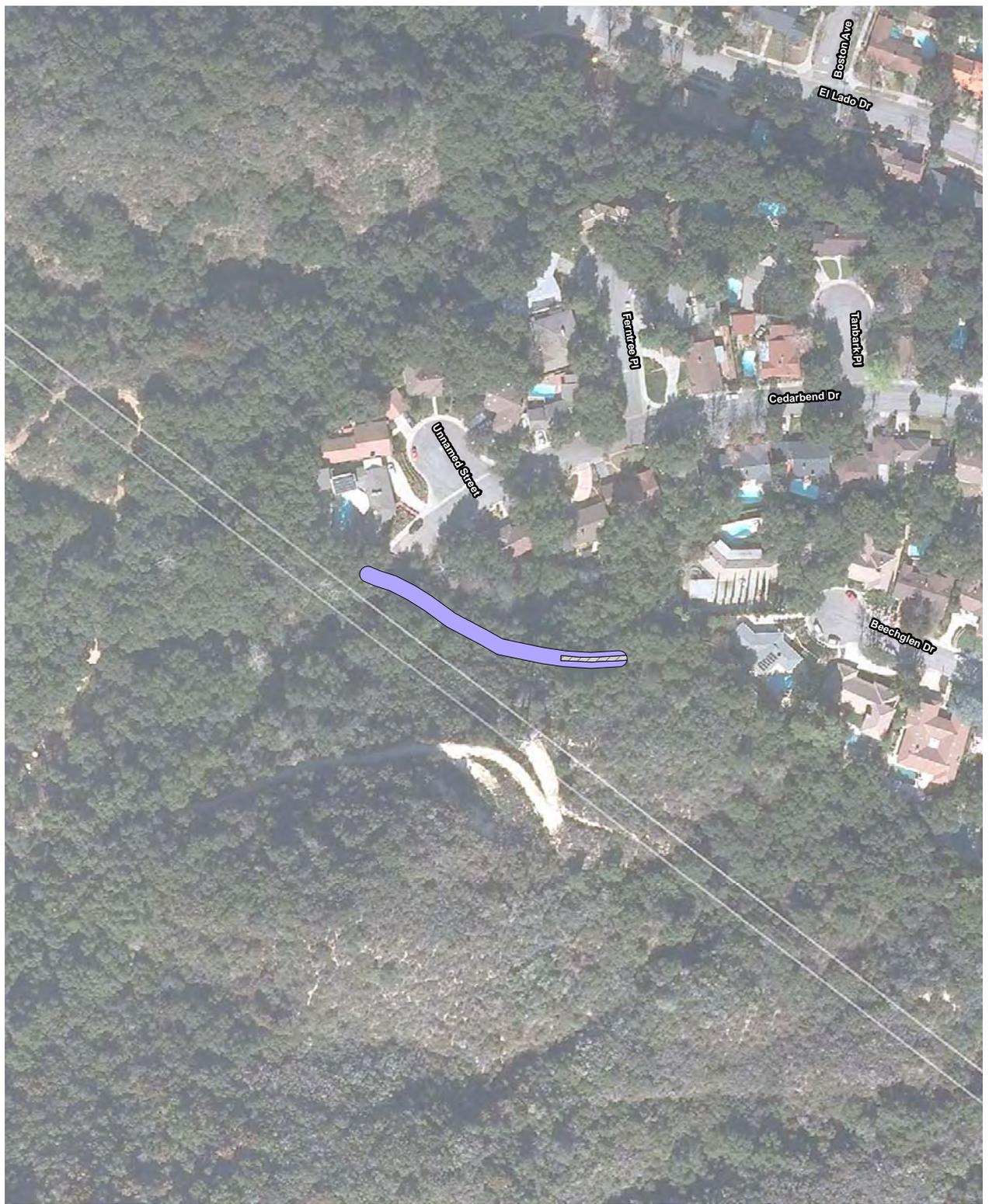


Exhibit 4T



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Vegetation Types

-  scalebroom scrub
-  disturbed scalebroom scrub
-  mule fat scrub
-  southern coast live oak riparian forest
-  Disturbed southern coast live oak riparian forest
-  Disturbed southern coast live oak woodland

-  willow riparian forest
-  southern willow scrub
-  cattail wetland
-  cattail wetland/open water
-  disturbed cattail wetland
-  riparian herb
-  ruderal

-  ornamental
-  unvegetated wash
-  open water
-  disturbed
-  rip-rap
-  developed

Vegetation Types - Reach 17

Los Angeles River Watershed Feasibility Study

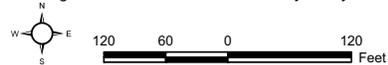


Exhibit 4U



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 18

Los Angeles River Watershed Feasibility Study

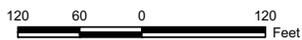


Exhibit 4V





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 19

Los Angeles River Watershed Feasibility Study

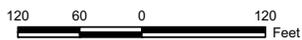


Exhibit 4W





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 19

Los Angeles River Watershed Feasibility Study

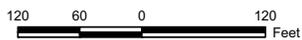
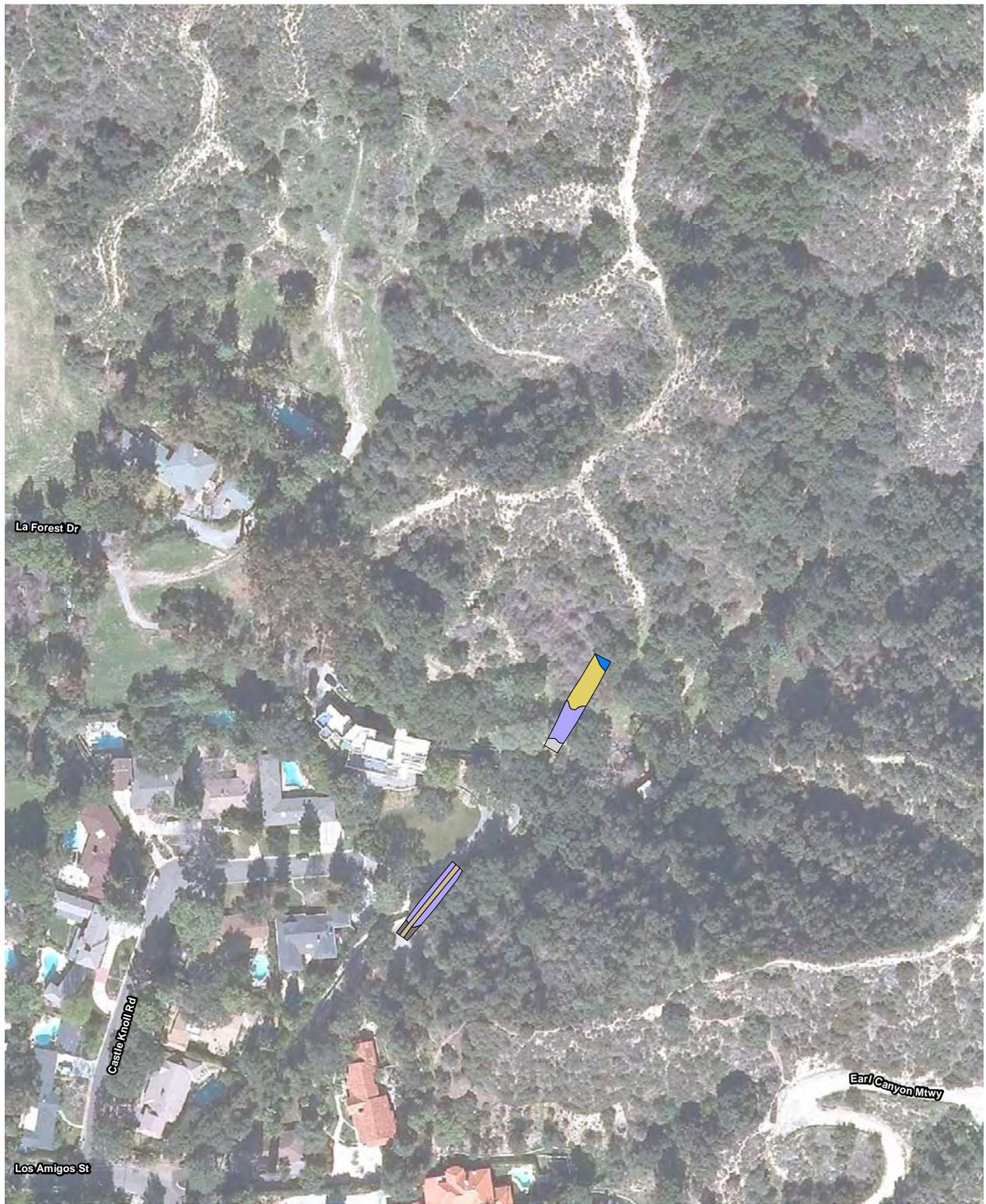


Exhibit 4X



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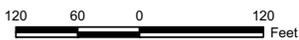
Vegetation Types

- | | | |
|---|----------------------------|------------------|
| scalebroom scrub | willow riparian forest | ornamental |
| disturbed scalebroom scrub | southern willow scrub | unvegetated wash |
| mule fat scrub | cattail wetland | open water |
| southern coast live oak riparian forest | cattail wetland/open water | disturbed |
| Disturbed southern coast live oak riparian forest | disturbed cattail wetland | rip-rap |
| Disturbed southern coast live oak woodland | riparian herb | developed |
| | ruderal | |

Vegetation Types - Reaches 20 and 21

Los Angeles River Watershed Feasibility Study

Exhibit 4Y





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 22

Los Angeles River Watershed Feasibility Study

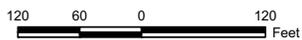


Exhibit 4Z



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 22

Los Angeles River Watershed Feasibility Study



Exhibit 4AA





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

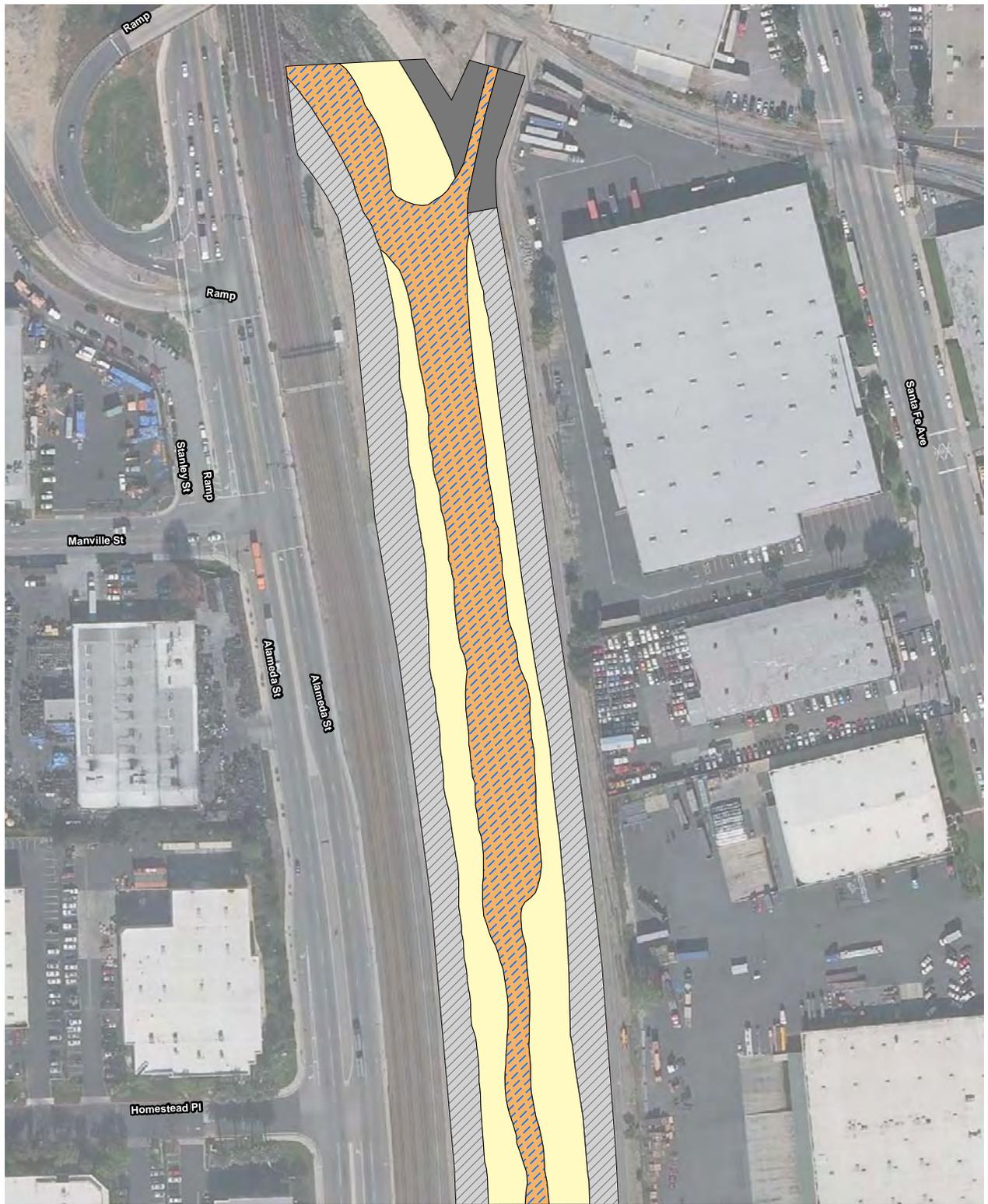
Vegetation Types - Reach 22

Los Angeles River Watershed Feasibility Study



Exhibit 4BB





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

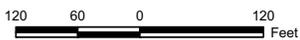
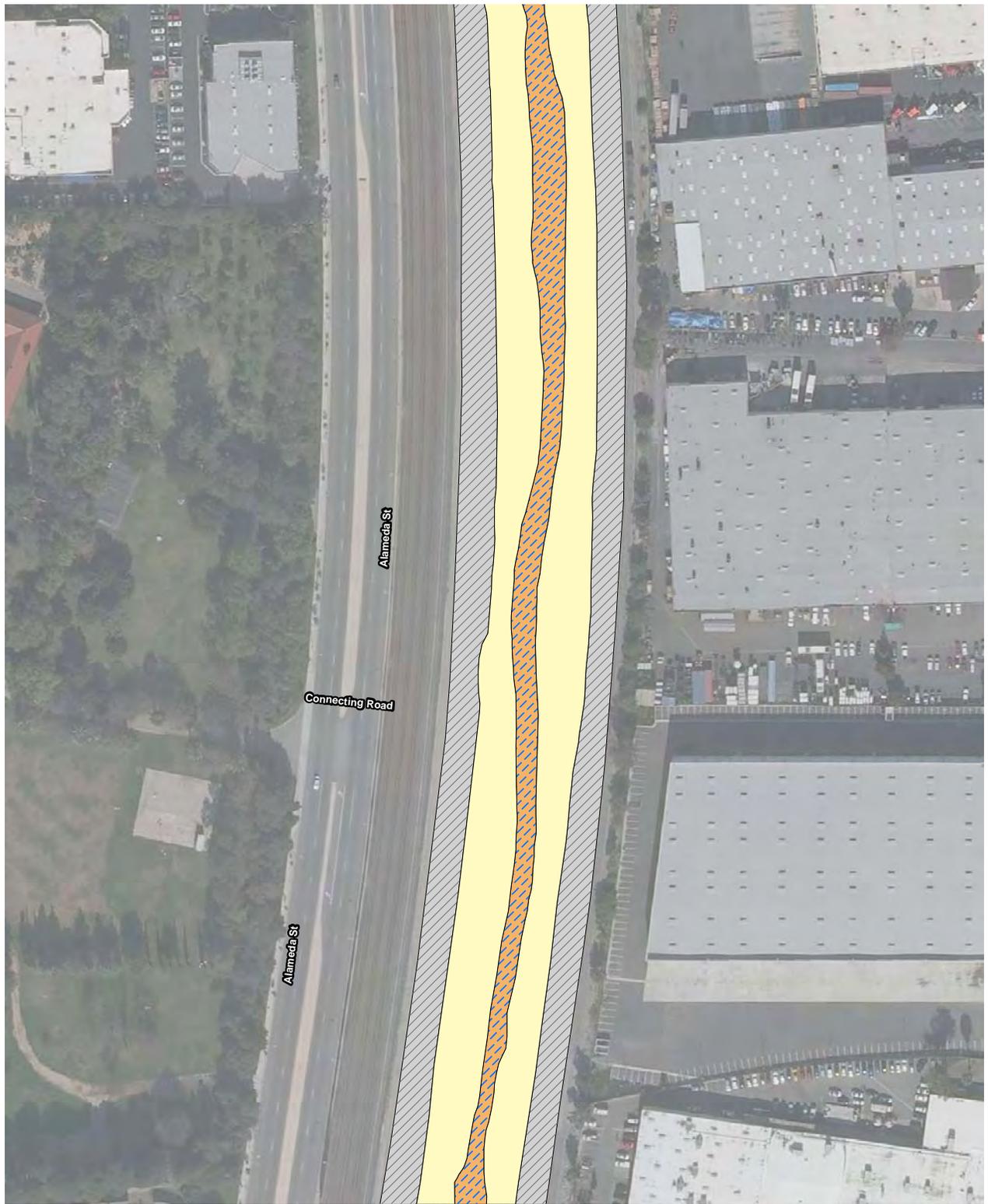


Exhibit 4CC





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

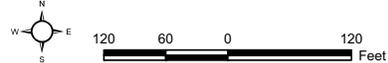
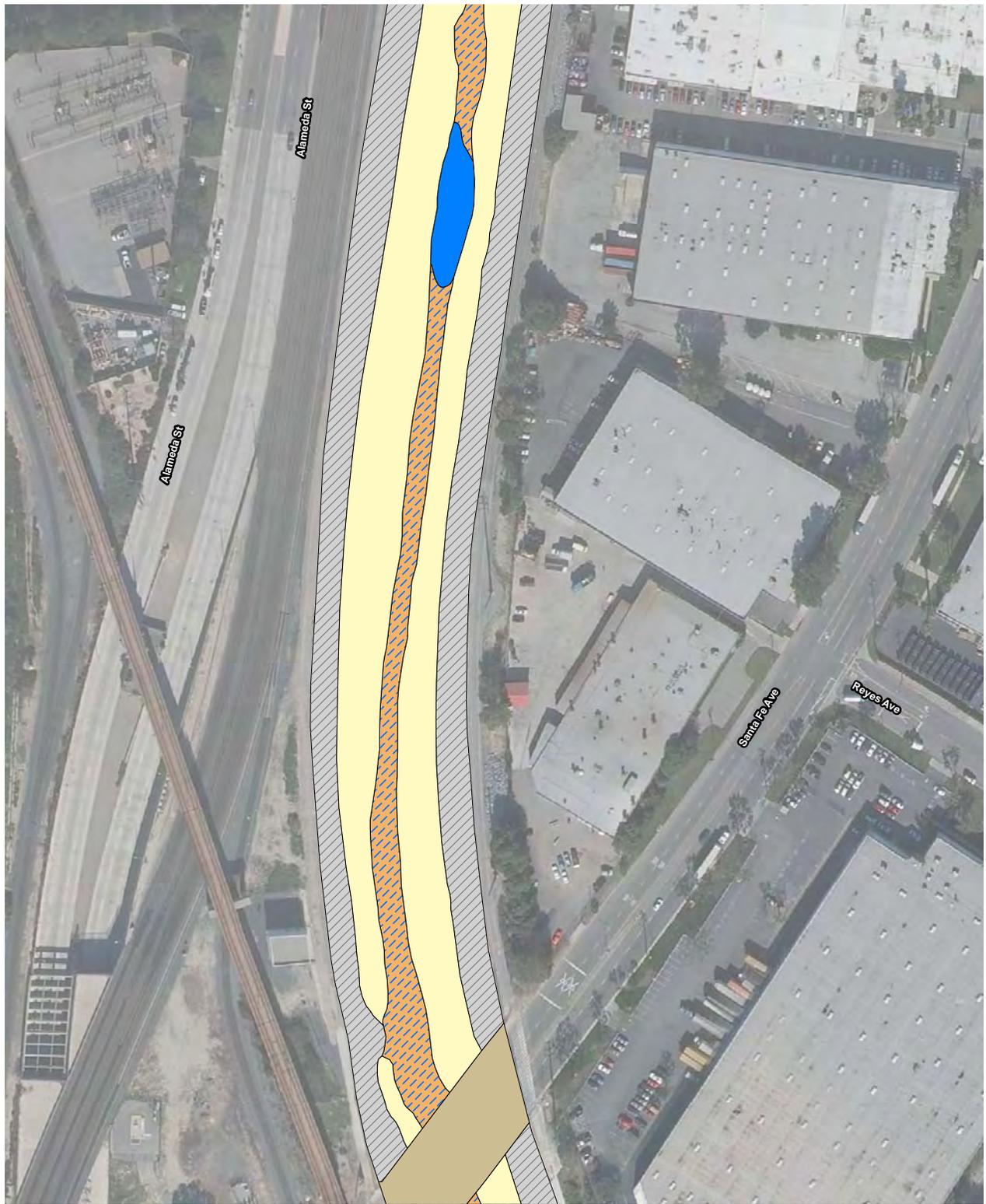


Exhibit 4DD





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

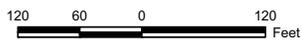


Exhibit 4EE





Vegetation Types

- | | | |
|---|----------------------------|------------------|
| scalebroom scrub | willow riparian forest | ornamental |
| disturbed scalebroom scrub | southern willow scrub | unvegetated wash |
| mule fat scrub | cattail wetland | open water |
| southern coast live oak riparian forest | cattail wetland/open water | disturbed |
| Disturbed southern coast live oak riparian forest | disturbed cattail wetland | rip-rap |
| Disturbed southern coast live oak woodland | riparian herb | developed |
| | ruderal | |

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study



Exhibit 4FF



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

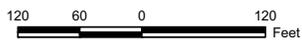
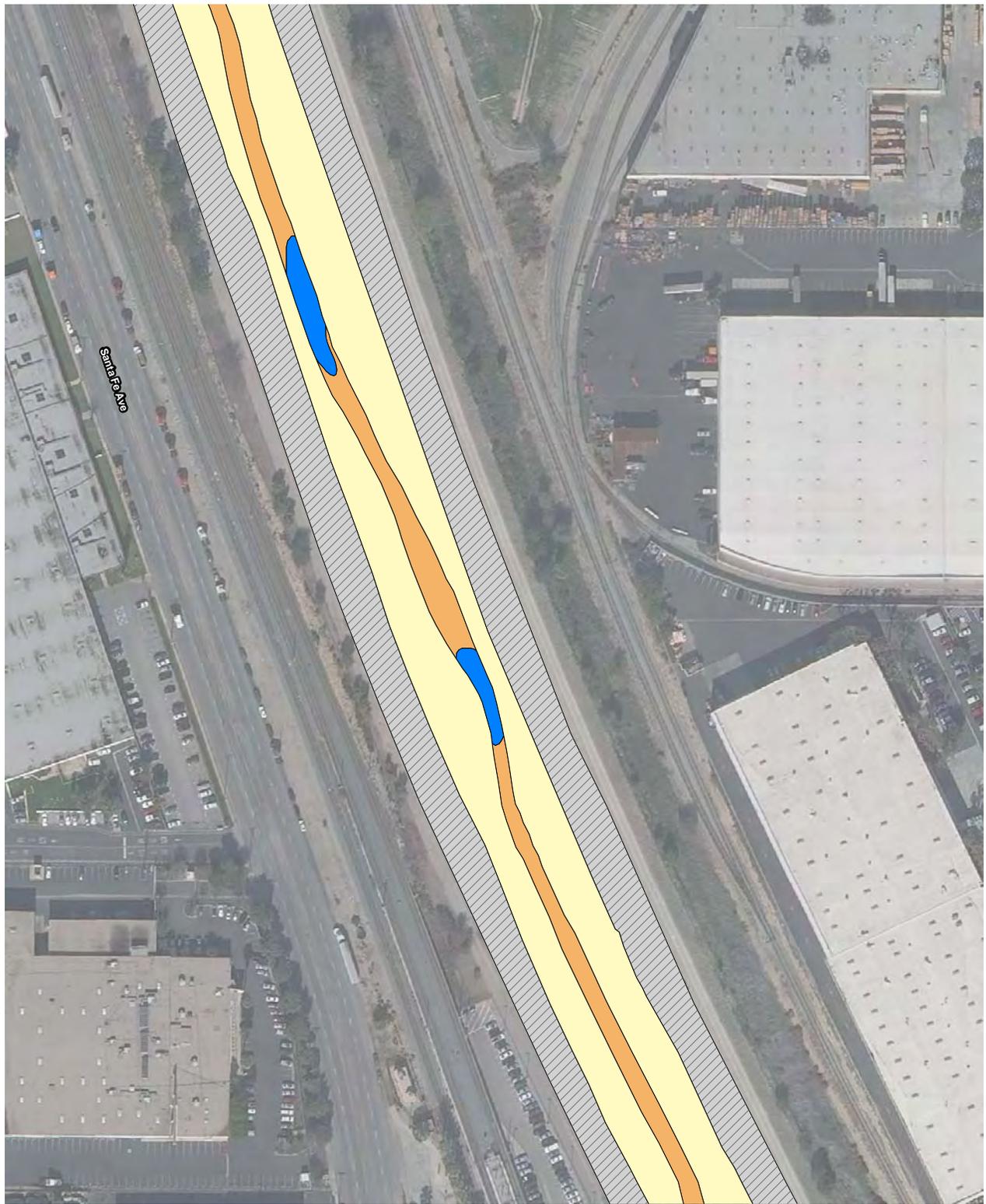


Exhibit 4GG





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

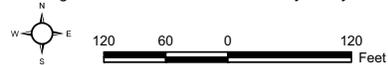
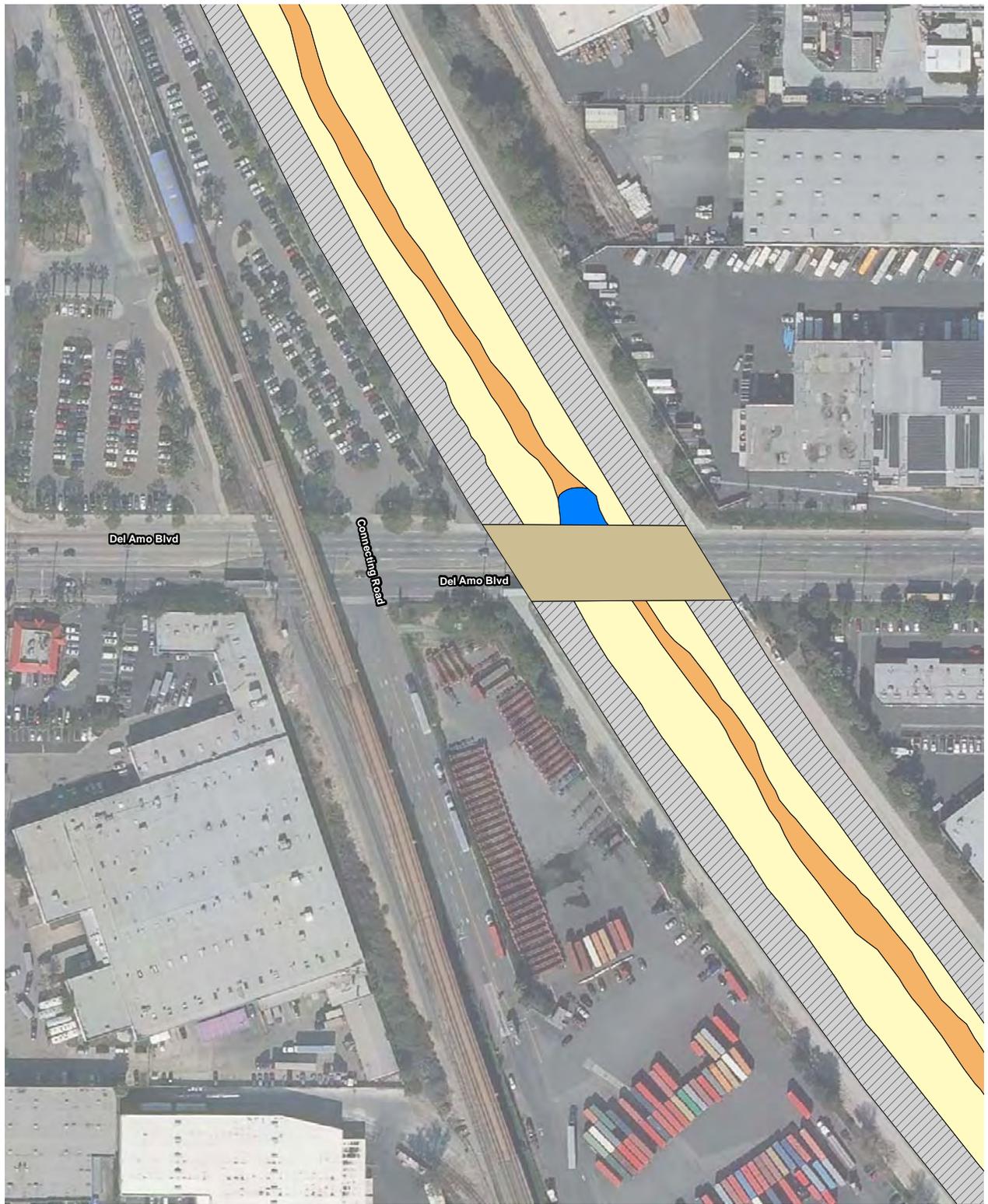


Exhibit 4HH



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

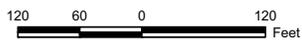
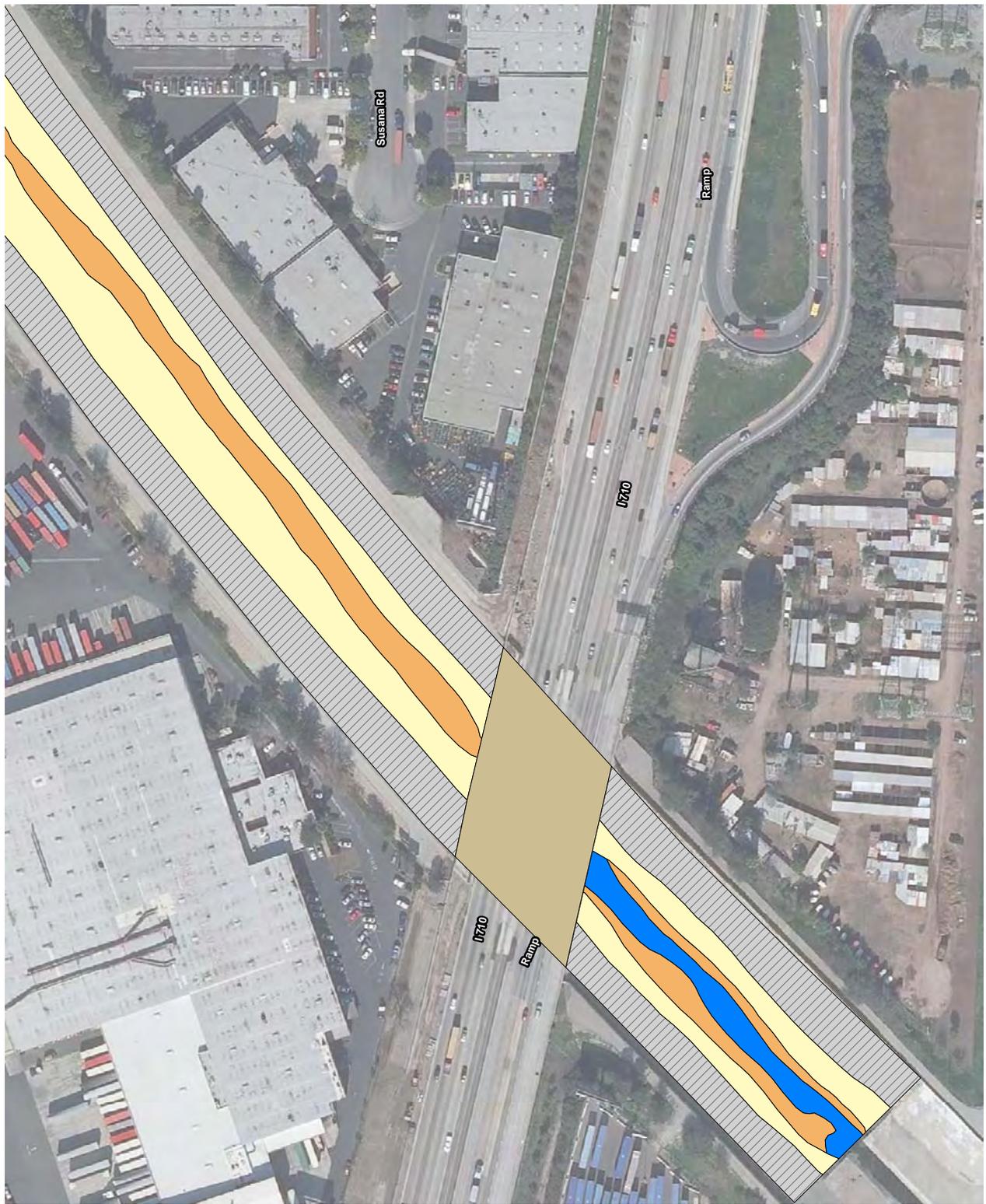


Exhibit 4II





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 24

Los Angeles River Watershed Feasibility Study

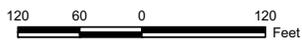
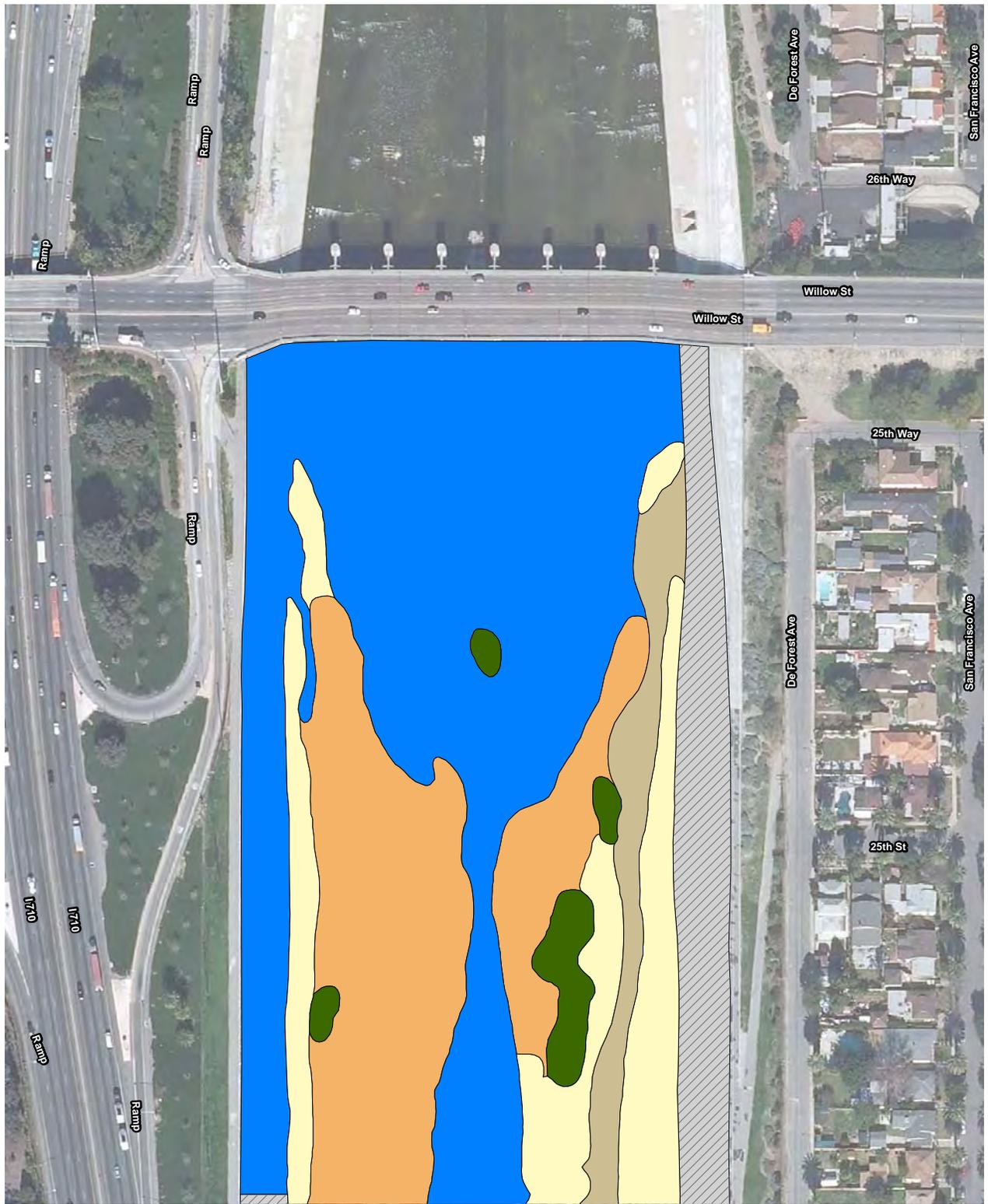


Exhibit 4JJ



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 25

Los Angeles River Watershed Feasibility Study

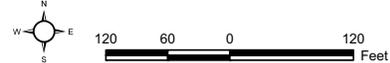
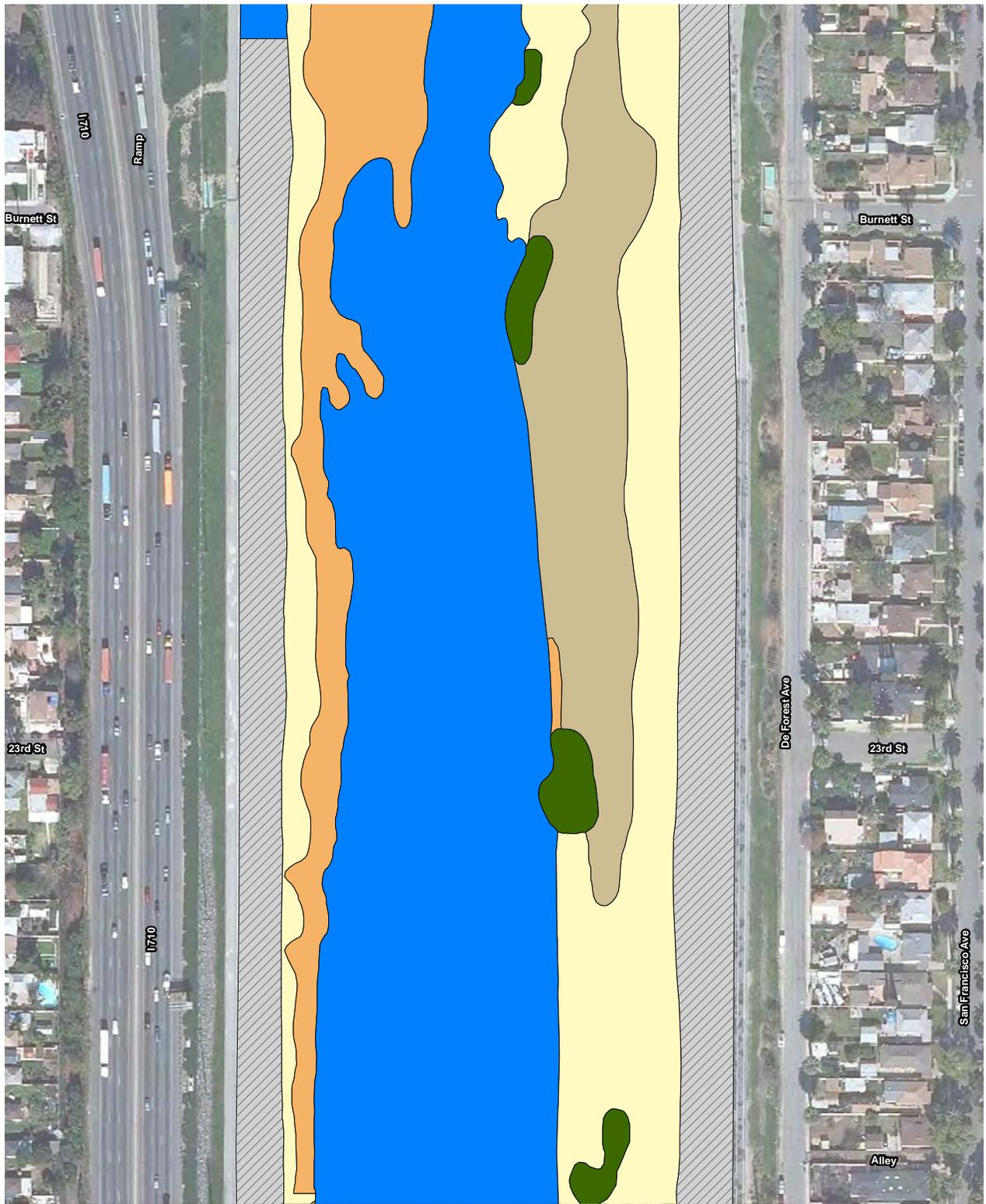


Exhibit 4KK



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Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types – Reach 25

Los Angeles River Watershed Feasibility Study



Exhibit 4LL





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 25

Los Angeles River Watershed Feasibility Study

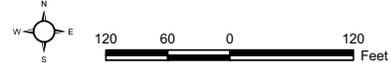
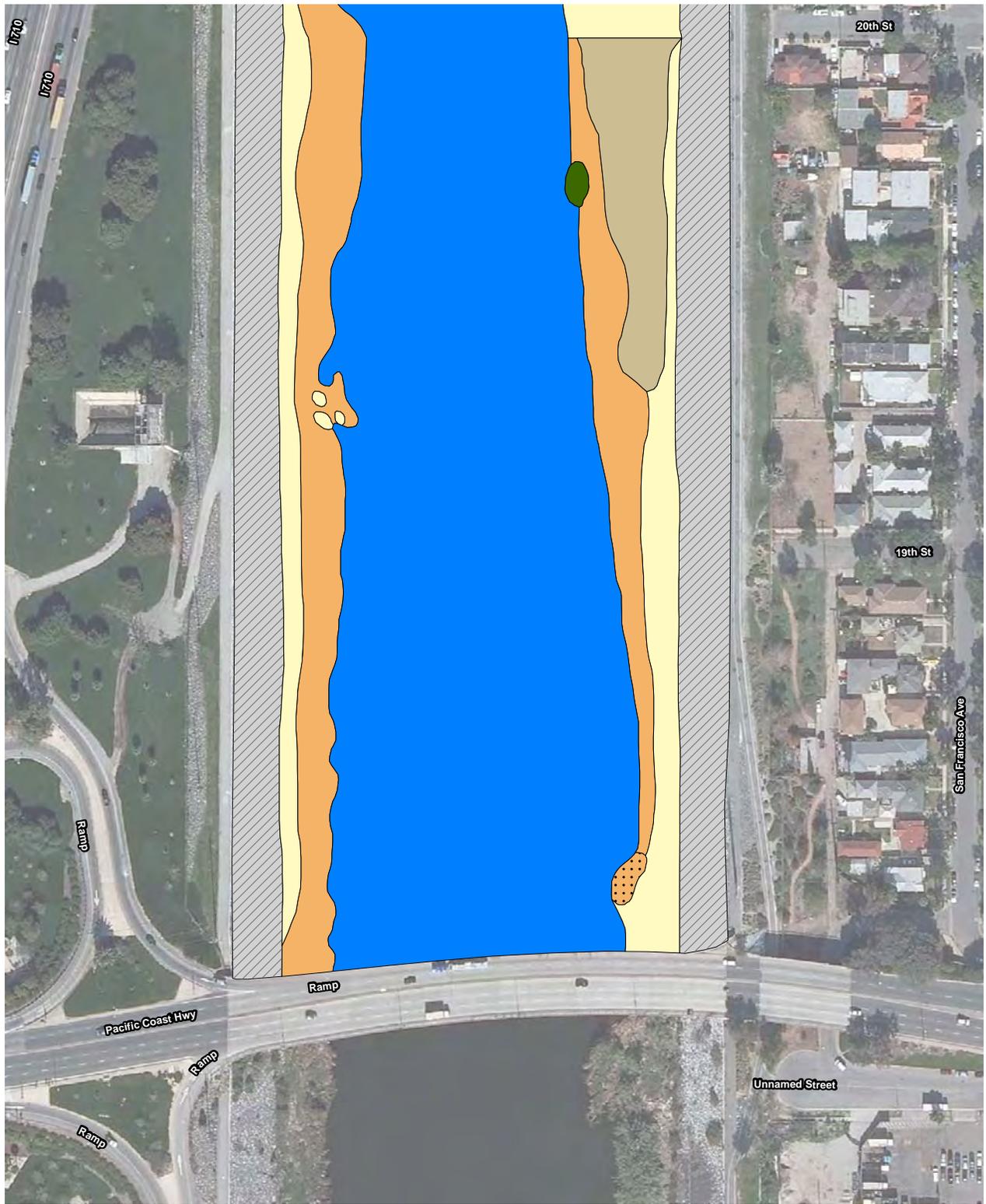


Exhibit 4MM





Vegetation Types

- | | | |
|---|----------------------------|------------------|
| scalebroom scrub | willow riparian forest | ornamental |
| disturbed scalebroom scrub | southern willow scrub | unvegetated wash |
| mule fat scrub | cattail wetland | open water |
| southern coast live oak riparian forest | cattail wetland/open water | disturbed |
| Disturbed southern coast live oak riparian forest | disturbed cattail wetland | rip-rap |
| Disturbed southern coast live oak woodland | riparian herb | developed |
| | ruderal | |

Vegetation Types - Reach 25

Los Angeles River Watershed Feasibility Study

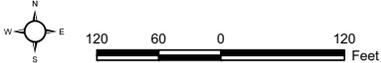


Exhibit 4NN





Vegetation Types

- | | | |
|---|----------------------------|------------------|
| scalebroom scrub | willow riparian forest | ornamental |
| disturbed scalebroom scrub | southern willow scrub | unvegetated wash |
| mule fat scrub | cattail wetland | open water |
| southern coast live oak riparian forest | cattail wetland/open water | disturbed |
| Disturbed southern coast live oak riparian forest | disturbed cattail wetland | rip-rap |
| Disturbed southern coast live oak woodland | riparian herb | developed |
| | ruderal | |

Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study

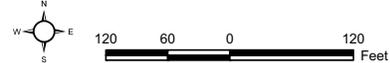


Exhibit 400





Vegetation Types

- | | | |
|---|----------------------------|------------------|
| scalebroom scrub | willow riparian forest | ornamental |
| disturbed scalebroom scrub | southern willow scrub | unvegetated wash |
| mule fat scrub | cattail wetland | open water |
| southern coast live oak riparian forest | cattail wetland/open water | disturbed |
| Disturbed southern coast live oak riparian forest | disturbed cattail wetland | rip-rap |
| Disturbed southern coast live oak woodland | riparian herb | developed |
| | ruderal | |

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Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study

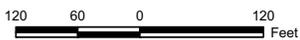


Exhibit 4PP





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study

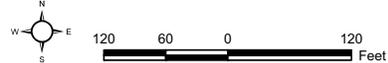


Exhibit 4QQ





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

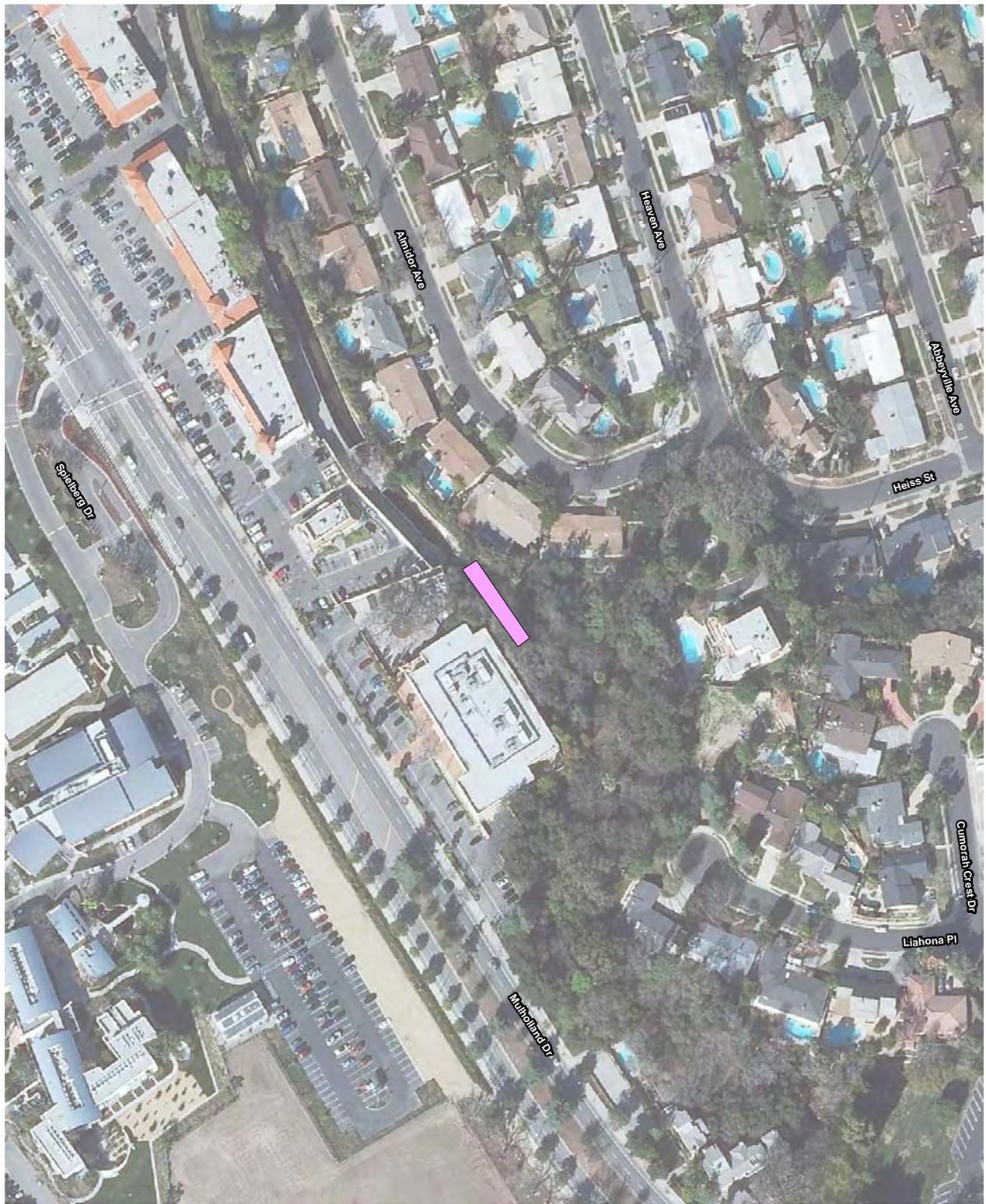
Vegetation Types - Reach 99

Los Angeles River Watershed Feasibility Study



Exhibit 4RR





Vegetation Types

- scalebroom scrub
- disturbed scalebroom scrub
- mule fat scrub
- southern coast live oak riparian forest
- Disturbed southern coast live oak riparian forest
- Disturbed southern coast live oak woodland

- willow riparian forest
- southern willow scrub
- cattail wetland
- cattail wetland/open water
- disturbed cattail wetland
- riparian herb
- ruderal

- ornamental
- unvegetated wash
- open water
- disturbed
- rip-rap
- developed

Vegetation Types - Reach 100

Los Angeles River Watershed Feasibility Study

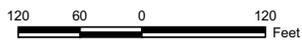


Exhibit 4SS



ATTACHMENT A
PLANT COMPENDIUM

LOS ANGELES RIVER PLANT COMPENDIUM (Continued)

Species	Reach #																										
	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	18	19	20	21	22	24	25	96	99	100	
<i>Baccharis pilularis</i>																											
<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>																											
<i>Bidens frondosa</i>																											
<i>Bidens pilosa</i> *																											
<i>Carduus pycnocephalus</i> var. <i>pycnocephalus</i> *																											
<i>Centaurea melitensis</i> *																											
<i>Matricaria discoides</i> [<i>Chamomilla suaveolens</i>]*																											
<i>Glebionis coronaria</i> [<i>Chrysanthemum coronarium</i>]*																											
<i>Cirsium occidentale</i>																											
<i>Cirsium vulgare</i> *																											
<i>Coryza bonariensis</i> *																											
<i>Coryza canadensis</i>																											
<i>Coryza floribunda</i>																											
<i>Cotula australis</i> *																											
<i>Cotula coronopifolia</i> *																											
<i>Cynara cardunculus</i> *																											
<i>Eclipta prostrata</i>																											
<i>Eriophyllum confertiflorum</i>																											
<i>Euthamia occidentalis</i>																											
<i>Logfia</i> [<i>Filago</i>] <i>gallica</i> *																											
<i>Gazania linearis</i> *																											
<i>Pseudognaphalium</i> [<i>Gnaphalium</i>] <i>californicum</i>																											
<i>Pseudognaphalium</i> [<i>Gnaphalium</i>] <i>luteoalbum</i> *																											
<i>Gnaphalium palustre</i>																											
<i>Helianthus annuus</i>																											
<i>Heterotheca grandiflora</i>																											
<i>Lactuca serriola</i> *																											
<i>Lepidospartum squamatum</i>																											
<i>Malacothrix saxatilis</i>																											
<i>Helminthotheca</i> [<i>Pteris</i>] <i>echinoides</i> *																											
<i>Delairea odorata</i> [<i>Senecio mikanioides</i>]*																											
<i>Senecio vulgaris</i> *																											
<i>Silybum marianum</i> *																											
<i>Sonchus oleraceus</i> *																											
<i>Sonchus asper</i> ssp. <i>asper</i> *																											
<i>Sonchus oleraceus</i> *																											
<i>Stephanomeria virgata</i> ssp. <i>virgata</i>																											
<i>Taraxacum officinale</i> *																											
<i>Xanthium strumarium</i>																											
BETULACEAE - BIRCH FAMILY																											
<i>Alnus rhombifolia</i>																											
BIGNONIACEAE - BIGNONIA FAMILY																											
<i>Tecomaria capensis</i>																											
BORAGINACEAE - BORAGE FAMILY																											
<i>Amsinckia intermedia</i>																											

LOS ANGELES RIVER PLANT COMPENDIUM (Continued)

Species	Reach #																										
	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	18	19	20	21	22	24	25	96	99	100	
<i>Erodium cressifolium</i>																											
<i>Eucypta chrysanthemifolia</i>																											
<i>Pectocarya linearis</i> ssp. <i>ferocula</i>																											
<i>Phacelia brachyloba</i>																											
<i>Phacelia cicutaria</i>																											
<i>Phacelia distans</i>																											
<i>Phacelia grandiflora</i>																											
<i>Phacelia</i> sp.																											
<i>Phacelia ramosissima</i>																											
<i>Plagiobothrys</i> sp.																											
BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY																											
<i>Brassica nigra</i> *																											
<i>Capsella bursa-pastoris</i> *																											
<i>Lepidium dityatum</i> [<i>Coronopus didymus</i>]*																											
<i>Hirschfeldia incana</i> *																											
<i>Lepidium lasiocarpum</i> ssp. <i>lasiocarpum</i>																											
<i>Lepidium latifolium</i> *																											
<i>Lepidium perfoliatum</i> *																											
<i>Lobularia maritima</i> *																											
<i>Raphanus sativus</i> *																											
<i>Nasturtium officinale</i> [<i>Rorippa nasturtium-aquaticum</i>]*																											
<i>Sisymbrium altissimum</i> *																											
<i>Sisymbrium irio</i> *																											
<i>Sisymbrium officinale</i> *																											
<i>Sisymbrium orientale</i> *																											
CACTACEAE - CACTUS FAMILY																											
<i>Opuntia californica</i> var. <i>parkeri</i> [<i>Opuntia parryi</i>]																											
<i>Opuntia ficus-indica</i> *																											
CAPRI/FOLIACEAE - HONEYSUCKLE FAMILY																											
<i>Lonicera subspicata</i> var. <i>denudata</i>																											
CARYOPHYLLACEAE - PINK FAMILY																											
<i>Cardionema ramosissimum</i>																											
<i>Cerastium fontanum</i> ssp. <i>vulgare</i> *																											
<i>Spergularia maritima</i>																											
<i>Stellaria media</i> *																											
CHENOPODIACEAE - GOOSEFOOT FAMILY																											
<i>Atriplex triangularis</i>																											
<i>Bassia hyssopifolia</i>																											
<i>Chenopodium album</i> *																											
<i>Dysphania</i> [<i>Chenopodium</i>] <i>ambrosioides</i> *																											
<i>Dysphania</i> [<i>Chenopodium</i>] <i>botrys</i> *																											
<i>Chenopodium murale</i> *																											
<i>Salsola tragus</i> *																											

APPENDIX D
RESULTS OF FISH SURVEY REPORT



DRAFT 2012 FOCUSED SURVEY RESULTS

LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS

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Department of Public Works
Flood Maintenance Division
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Annex Building, 2nd Floor
Alhambra, California 91802
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February 26, 2013

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EXECUTIVE SUMMARY

Focused surveys for Threatened and Endangered species are conducted on a regular basis at selected soft-bottom channel reaches maintained by the Los Angeles County Department of Public Works (LACDPW). Annual biological monitoring and periodic habitat assessments of all LACDPW channel reaches serves to update and revise, when necessary, the particular channel reaches and species for which surveys are recommended. This report describes the methods and results of focused surveys for two Endangered species—unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) and Santa Ana sucker (*Catostomus santaanae*)—conducted at 30 channel reaches in 2012. Also included is a maintenance overview with respect to these species. The 2012 survey results are summarized below.

FISH

UNARMORED THREESPINE STICKLEBACK

Focused surveys for unarmored threespine stickleback were conducted in 2012 within the Santa Clara River drainage at the following 27 soft-bottom channel reaches:

- Santa Clara River Reaches 47, 51, 54, 55, 56, 58, 59, 60, 61, 62, 63, 64, 66, 71, 82, and 109.
- Bouquet Canyon Creek Reaches 67, 69, 70, and 103.
- South Fork Santa Clara River Reaches 79 and 80, at the confluence of the Santa Clara and South Fork Santa Clara Rivers.
- Castaic Creek Reaches 86, 87, 97, and 104.
- San Francisquito Creek Reach 105.

These channel reaches have previously been identified as having potentially suitable breeding habitat during the spring and summer season for unarmored threespine stickleback when water is present.

The focused surveys followed the U.S. Fish and Wildlife Service (USFWS) protocol for this species. Since the protocol does not require handling of the species, a Section 10(a)(1)(A) permit (Scientific Permit) for “take” under the Endangered Species Act is not necessary for performance of these surveys. Only one reach—Reach 69, Bouquet Canyon Middle (PDs 722, 773, 1365, 1065, and 45)—was found to contain unarmored threespine stickleback during the 2012 focused surveys (Table ES-1). Although not detected during the 2012 surveys, previous focused surveys have detected unarmored threespine stickleback at Reaches 67, 103, and 109 (BonTerra Consulting 2011).

Unarmored threespine stickleback typically breed in the spring and early summer and are normally found in pools and slow flowing clean water with abundant vegetation. As a result, this species would not be expected to occur in the reach until after storm events. Soft-bottom channel maintenance is conducted in the dry months between September and November. Therefore, if unarmored threespine stickleback were present, the maintenance activity would not be expected to impact breeding activities.

SANTA ANA SUCKER

Focused surveys for Santa Ana sucker were conducted in 2012 within the San Gabriel River and Los Angeles River drainages at three soft-bottom channel reaches:

- San Gabriel River Reach 39 (Beatty Channel Outlet).
- Los Angeles River Reaches 12 (Haines Creek Main Channel Outlet) and 13 (Project No. 5215 Unit 1).

These channel reaches have previously been identified as having potentially suitable breeding habitat for Santa Ana sucker during the spring and summer season when water is present.

The focused surveys followed the USFWS protocol for this species. Since the protocol does not require handling the species, a Section 10(a)(1)(A) permit (Scientific Permit) for “take” under the Endangered Species Act is not necessary to perform these surveys. Results of focused surveys for the Santa Ana sucker were negative at all reaches. Previous focused surveys have not detected for Santa Ana sucker at any of the reaches surveyed (Table ES-1).

Santa Ana sucker typically breed in the spring and early summer and are normally found in clean, flowing water habitat containing a mixed structure of riffles, runs, glides, and pools. Soft-bottom channel maintenance is conducted in the dry months between September and November. Therefore, if Santa Ana sucker were present, these maintenance activities would not be expected to impact the species’ breeding activities.

**TABLE ES-1
SUMMARY OF 2012 RESULTS OF FOCUSED SURVEYS FOR THE
LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS**

Reach Number	Reach Name/Tributary	Survey Date	Unarmored Threespine Stickleback P/A	Santa Ana Sucker P/A	Easting/Northing for 2012 Presence*	Prior Presence (Year)**
Los Angeles River (LAR)						
12	Haines Creek Main Channel Outlet	9/5/12	N/A	Absent	–	–
13	Project No. 5215 Unit 1	8/30/12	N/A	Absent	–	–
San Gabriel River (SGR)						
39	Beatty Channel Outlet at SGR	9/14/12	N/A	Absent	–	–
Santa Clara River (SCR)						
47	SCR (PD 1733 Unit 1)	8/29/12	Absent	N/A	–	–
51	Mint Canyon Main Channel Outlet (PD 1984) at SCR Main Channel	9/5/12	Absent	N/A	–	–
54	SCR Non-main Channel (PD 832)	9/6/12	Absent	N/A	–	–
55	SCR Channel (PDs 910, 832, 1758, and 1562 Unit 2)	9/6/12	Absent	N/A	–	–
56	SCR (PD 1562 Unit 2)	9/6/12	Absent	N/A	–	–
58	SCR (PD 374)	9/6/12	Absent	N/A	–	–
59	SCR (PD 374)	9/6/12	Absent	N/A	–	–

**TABLE ES-1
SUMMARY OF 2012 RESULTS OF FOCUSED SURVEYS FOR THE
LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS**

Reach Number	Reach Name/Tributary	Survey Date	Unarmored Threespine Stickleback P/A	Santa Ana Sucker P/A	Easting/Northing for 2012 Presence*	Prior Presence (Year)**
60	SCR (PD 1339 and 374)	9/6/12	Absent	N/A	–	–
61	SCR (PD 659)	9/5/12	Absent	N/A	–	–
62	SCR (PD 754)	8/29/12	Absent	N/A	–	–
63	Oak Avenue Rd Drainage (CDR 523.081)	8/29/12	Absent	N/A	–	–
64	Soledad Canyon Rd Drainage (CDR 523.071 D Outlet)	8/29/12	Absent	N/A	–	–
66	SCR (PD 1358)	8/29/12	Absent	N/A	–	–
67	Bouquet Canyon Upper (PDs 1201, 802, 700B and 625)	8/30/12	Absent	N/A	–	2005, 2006, 2007 and 2008
69	Bouquet Canyon Middle (PDs 722, 773, 1365, 1065 and 45)	8/30/12	Present	N/A	11S 360810.56/ E 3812287.51	2005, 2006, 2007 and 2008
70	Bouquet Canyon Lower (PDs 544 and 345)	8/30/12	Absent	N/A	–	–
71	SCR Main Channel (PD 1946)	8/29/12	Absent	N/A	–	–
79	South Fork SCR Valencia Blvd Bridge Stabilizer	8/29/12	Absent	N/A	–	–
80	South Fork SCR (PDs 1947 and 1946)	8/29/12	Absent	N/A	–	–
82	SCR Main Channel (PD 2278)	9/6/12	Absent	N/A	–	–
86	Violin Canyon Main Channel Outlet	8/29/12	Absent	N/A	–	–
87	Castaic Old Road Drain (CDR 525.021D) Outlet	8/30/12	Absent	N/A	–	–
97	Castaic Creek (PD 1982)	8/30/12	Absent	N/A	–	–
103	Bouquet Canyon Channel (PD 2225)	9/5/12	Absent	N/A	–	2005, 2006, 2007 and 2008
104	Castaic Creek (PD 2441 Unit 2)	9/5/12	Absent	N/A	–	–
105	San Francisquito Channel (PD 2456)	9/5/12	Absent	N/A	–	–
109	SCR south bank west of McBean Pkwy (MTD 1510)	9/5/12	Absent	N/A	–	2009, 2010 and 2011

N/A: Not applicable; no potential habitat for the species; therefore no survey conducted; P: present; A: absent.
 * Easting/Northing information is provided only for those reaches where unarmored threespine stickleback or Santa Ana sucker were present.
 ** Sources: BonTerra Consulting; 2005, 2006, 2007, 2008, 2009, 2010, and 2011.

SECTION 1.0 INTRODUCTION

In 2002, focused surveys and habitat assessments were conducted at 54 soft-bottom channel reaches that included 53 of the original channel reaches plus 1 new channel reach identified as Reach 101 (Violin Canyon – PD 2312). The County of Los Angeles Department of Public Works (LACDPW) has continued to maintain all 53 original channel reaches under the required regulatory permits, but Reach 101 and other new channel reaches have yet to be permitted. The purpose of these surveys was to update baseline information on the occurrence or potential occurrence of Threatened or Endangered plant and wildlife species for permitted and non-permitted channel reaches.

Following the 2002 surveys, 22 of the 54 channel reaches were determined to have no suitable habitat for Threatened or Endangered species or, assuming habitat conditions are similar to 2002 survey conditions, species were determined to be absent and not expected to occur in the future. However, due to the drought conditions of 2002, focused surveys could not be conducted for some species, such as the slender-horned spineflower (*Dodecahema leptoceras*). Therefore, the habitat assessments conducted in 2002 made recommendations for further surveys in 2003. The 2003 surveys were conducted at 35 of the 54 channel reaches surveyed in 2002 and included among others, focused surveys for unarmored threespine stickleback and Santa Ana sucker (BonTerra Consulting 2002, 2003).

Focused pre-clearing fish surveys for unarmored threespine stickleback and Santa Ana sucker were conducted by biologists with the necessary permits in accordance with the requirements of the regulatory permits for maintenance of soft-bottom channel reaches. The methods and results of these surveys are provided in this report. The survey information provides baseline data to support future regulatory agency permitting of the ongoing maintenance of these soft-bottom channel reaches. Appendix A includes a signed Surveyor Certificate Statement verifying the accuracy of the survey methods and results presented in this report.

1.1 ENVIRONMENTAL SETTING

1.1.1 REGIONAL SETTING

The topography in Los Angeles County is diverse, containing coastline, flatlands, mountains, and desert within approximately 4,000 square miles. Elevations within the County range from sea level to over 10,000 feet above mean sea level (msl). The climate ranges from mild near the coast to severe in the high mountains and in the desert. This variation in environments has created a unique and diverse collection of biological resources (England and Nelson 1976).

The San Gabriel Mountains are a prominent topographic feature that include a portion of the headwaters of the Santa Clara, Los Angeles, Rio Hondo, and San Gabriel Rivers, and are the source of streams that drain into the Antelope and Fremont Valleys. The San Gabriel Mountains rise 7,000 feet above msl from the Antelope and Santa Clarita Valleys, and exert considerable influence on the climate, hydrology, and ecology of the lands around them. The San Andreas and other numerous faults have fractured the mountains so that they erode at a rapid rate such that stream basins along the northern slope are generally characterized by steep headwaters and sloping alluvial beds on the adjacent flatlands (CRA et al. 2001).

There are 4 major rivers in Los Angeles County: the Los Angeles River is approximately 51 miles long (main stem) and drains 830 square miles; the Rio Hondo River is approximately 20 miles long (main stem) and drains 125 square miles; the San Gabriel River is approximately 59 miles long (main stem) and drains 350 square miles; and the Santa Clara River is approximately 75 miles long (main stem) and drains 1,616 square miles

(LACDPW 2002). Numerous other streams also occur in Los Angeles County. Surface water in streams and rivers is generally only present during the winter and spring, in particular after storm events. Many storms do not generate sufficient runoff to sustain surface flow in all streams. In some areas, flows are supplemented with reclaimed water and agricultural and urban runoff. Particularly intense storms can result in flash floods or debris flows, which can carry large amounts of sediment, rocks, and debris to be deposited in the valley below (CRA et al. 2001).

The Los Angeles River system has been extensively channelized to provide flood protection as it passes through several cities on its way to the Pacific Ocean. The Los Angeles River tributaries include Bell Creek, Calabasas Creek, Burbank Western Channel, Pacoima Wash, Tujunga Wash, Verdugo Wash, Arroyo Seco, Compton Creek, and the Rio Hondo River (LACDPW 2002). There are now over 400 miles of concrete-lined tributaries that feed into the main channel (LACDPW 2002). Approximately 47.9 miles of the 51-mile river is concrete-lined. The two stretches where the river is not lined (i.e., soft- or earthen-bottom channels) included the Sepulveda Flood Control Basin through the Glendale Narrows and south of Willow Street in Long Beach (LACDPW 2002). Reclaimed water enters the Los Angeles River at the Sepulveda Basin, where the Department of Water and Power releases as many as 75 million gallons of reclaimed water daily from the Donald C. Tillman Water Reclamation Plant.

The San Gabriel River begins in the Angeles National Forest and also flows through several cities on its way to the Pacific Ocean. The San Gabriel River tributaries include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drains (LACDPW 2002). The headwaters of the San Gabriel River begin just north of Pasadena and northwest of Mount Wilson, where they flow through a steep canyon to Cogswell Reservoir. The west fork of the river then merges with the east fork and flows into the San Gabriel Reservoir. Below the reservoir, the main stem of the San Gabriel River flows through San Gabriel Canyon to Morris Reservoir. Below Morris Reservoir, the river flows through cities from Azusa to Seal Beach and empties into Long Beach Harbor.

The Santa Clara River is unique because it is the only major unchannelized river that drains the San Gabriel Mountains. The Santa Clara River is fed by five major tributaries: Sand Canyon, Mint Canyon, Bouquet Canyon, South Fork, and San Francisquito Canyon (LACDPW 2002). Further west, Castaic, Piru, Sespe, and Santa Paula Creeks join the river (CRA et al. 2001). The headwaters of the Santa Clara River are located near Acton, and the river runs approximately 100 miles to its outlet in the City of Ventura in Ventura County. Most development adjacent to the river is located in or near the City of Santa Clarita (LACDPW 2002).

1.1.2 LOCAL SETTING

In 2002, the LACDPW maintained 95 soft-bottom channel reaches located within the boundaries of the Los Angeles County Flood Control District, which consisted of 885.58 acres that require management. Since 2002, ten soft-bottom channel reaches have been removed due to development or ownership change, but several more have been added to the list. As of 2012, the LACDPW manages 106 channel reaches (1 thru 116) that are located in 7 identified watersheds¹ of Los Angeles County:

- Los Angeles River – 29 channel reaches (includes Reach 27).
- Dominguez Channel – 1 channel reach.

¹ Cerritos Channel is located in Long Beach and drains into the Long Beach Harbor at Pacific Coast Highway. This soft-bottom channel has not been associated yet with any watershed and appears to be separate from the above-identified watersheds.

- Malibu Creek – 9 channel reaches.
- San Gabriel River – 8 channel reaches (not splitting Reaches 40 and 43).
- Santa Clara River – 56 channel reaches.
- Ballona Creek – 1 channel reach.
- Antelope Valley – 1 channel reach.
- Cerritos Channel – 1 channel reach.

1.2 **PROPOSED PROJECT**

1.2.1 **BACKGROUND**

To effectively control flood waters from the mountainous watersheds surrounding the Los Angeles basin, the U.S. Army Corps of Engineers (USACE) and the Los Angeles County Flood Control District (LACFCD) constructed concrete-bottom and earth-bottom channels leading from dams and debris basins located along the frontal slopes of the San Gabriel, Santa Monica, Verdugo, and Santa Susanna Mountains. Construction began in the 1930s. These channels, as a system, provide flood protection for Los Angeles County.

Channel maintenance activities have been performed regularly in Flood Control District channels for over 50 years. Originally constructed by the USACE, upon completion, most of the channel facilities were transferred to the Los Angeles County Flood Control District for cyclic maintenance. The USACE's maintenance guidelines require that debris, objectionable growth, shoals, and waste materials must not encroach on the invert. Excess materials that will not move readily with low flows must be removed. Measures must be taken to control objectionable growth by approved chemical or mechanical means.

The County formerly maintained channels clear of any vegetation, as required under the *Code of Federal Regulations* (33 CFR 208.10), until the California Department of Fish and Game (CDFG) (now known as the California Department of Fish and Wildlife [CDFW]) began requiring the County to clear vegetation on alternating sides of the channels each year. The USACE allowed limited clearing to occur between 1993 and 1995. Anticipated heavy rains during the 1997/1998 storm season caused by El Niño conditions resulted in a statewide need to remove vegetation and sediment from soft-bottom channels to restore their flood-carrying capacity. The LACDPW obtained all necessary permits to conduct this work in the 1997/1998 storm season and has continued the ongoing maintenance as approved by the permits.

1.2.2 **PROJECT DESCRIPTION**

Vegetative growth in a channel system reduces channel capacity. All soft-bottom channels were designed and constructed as relatively clean, unvegetated channels. As vegetation grows more densely, the roughness of the channel increases and the velocity of flows decrease, which corresponds to a loss in the channel's carrying capacity. The vegetation also traps some of the sediments being transported by flood flows which, when deposited, further reduce channel capacity. Studies have shown that increased vegetation and sediments in the channels result in reduced flow area with a concomitant decrease in flow velocity (LACDPW 1996). A loss of carrying capacity in the channels could cause flood flows to escape the channel systems and impact adjacent properties (LACDPW 1996).

Vegetation can also affect the structural integrity of bridges during a major storm event. Vegetation slows flood flows, which creates a backwater effect and increases water surface elevations upstream. Bridges are not normally designed to withstand the forces that

result from significantly increased flood-water elevations. Additionally, increased flood depths upstream can result in flooding of adjacent properties and erosion of channel banks.

The LACDPW performs annual vegetation clearing in channels and minor grading to retrain channel flows consistent with the clearing limits established by the permitted maintenance plan (BonTerra Consulting 1999). This ongoing program is necessary to maintain the design capacities of the channels and to ensure the proper functioning of these facilities located within LACFCD boundaries.

Within each reach, the LACDPW proposes to clear the same areas (and acreage) that have been cleared annually since 1997. Biological impacts to these channel reaches associated with the initial clearing of vegetation for maintenance activities were previously mitigated through maintaining and enhancing 62.7 acres of riparian habitats at the Big Tujunga Wash Mitigation Bank site (BonTerra Consulting 1999).

Channel clearing activities are performed primarily by mechanical means, using heavy equipment (such as trucks, bulldozers, dump trucks, and loaders), as well as other specialized equipment designed for this type of work. Hand clearing is conducted in areas where mechanical equipment cannot be used or where important biological resources exist nearby. Herbicides approved by regulatory agencies are applied, as necessary, to eradicate invasive and/or non-native vegetation including, but not limited to, giant reed (*Arundo donax*) and castor bean (*Ricinus communis*).

The channel clearing activities are performed under an existing Maintenance Plan approved by the Los Angeles Regional Water Quality Control Board (RWQCB) and USACE and are modified by the CDFW under the existing Streambed Alteration Agreement between CDFG and the LACDPW. BonTerra Consulting has reviewed the Maintenance Plan and has extensive knowledge of channel clearing activities in all channel reaches, having worked with the LACDPW since 1997 to provide biological monitoring of flood-control channel maintenance work. Pre-clearing and post-clearing photos have been taken every year to document the biological resources in these channel reaches in compliance with the mitigation requirements of existing permits from the USACE, RWQCB, and CDFG.

1.3 SPECIAL STATUS SPECIES BACKGROUND

In order to comply fully with the regulatory permits issued to the LACDPW, surveys are performed for a variety of special status species at soft-bottom channel reaches where suitable or potentially suitable habitat has been identified. These permits include required annual pre-clearing surveys for the federally and California State-listed Endangered, unarmored threespine stickleback and federally listed Threatened and California State-listed Species of Special Concern, Santa Ana sucker. Table 1 below shows the federal and State status of these two species.

**TABLE 1
STATUS OF SPECIES ADDRESSED**

Species	Status	
	USFWS	CDFW
<i>Gasterosteus aculeatus williamsoni</i> Unarmored threespine stickleback	FE	SE
<i>Catostomus santaanae</i> Santa Ana sucker	FE	SSC
<u>U.S. Fish and Wildlife Service (USFWS)</u> FE Federally Endangered		
<u>California Department of Fish and Wildlife (CDFW)</u> SE State Endangered SSC State Species of Special Concern		

1.3.1 UNARMORED THREESPINE STICKLEBACK

In California, the presence of ‘threespine stickleback’ (*Gasterosteus aculeatus*) in most coastal drainages is well documented going back to 1800s (e.g., Girard 1854). At one time naturally occurring sticklebacks were abundant throughout the Los Angeles River Basin (Culver and Hubbs 1917) but are no longer found, presumably due to increased urbanization in the region (Baskin and Bell 1976; Irwin and Soltz 1982).

Miller and Hubbs (1969) recognized three subspecies in California based mainly on lateral plate polymorphism (different number of bony plates found on subspecies), and subsequent studies confirmed this (Bell 1975, 1976, 1981):

1. Fully armored threespine stickleback (*Gasterosteus aculeatus aculeatus*) is a typically anadromous (marine and fresh water) subspecies with a complete row of lateral plates extending from the anterior portion of the body to the caudal peduncle (fully armored),
2. Partially armored threespine stickleback (*Gasterosteus aculeatus microcephalus*) is a freshwater resident subspecies with the lateral plates restricted to the anterior portion of the body (partially armored), and
3. Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) is a freshwater subspecies that lacks lateral plates (unarmored) and has a limited distribution within Southern California.

Unarmored threespine stickleback is a fully protected species in California. This subspecies was listed by the USFWS as an Endangered species in 1970, and is currently restricted to three areas: the upper Santa Clara River and its tributaries in Los Angeles County; San Antonio Creek on Vandenberg Air Force Base in Santa Barbara County; and the Shay Creek vicinity (Shay Pond, Sugarloaf Pond, Juniper Springs, Motorcycle Pond, Shay Creek, Wiebe Pond, and Baldwin Lake) in San Bernardino County.

The California Natural Diversity Database (CNDDDB) contains several records of unarmored threespine stickleback (Appendix C) from the vicinity of the survey areas (CDFG 2012):

- A section of the Santa Clara River at Lang Station Road upstream Arrastre Canyon in Acton.

- Agua Dulce Creek, 0.5 mile downstream from State Route (SR) 14 and west of Agua Dulce Road, a Santa Clara River tributary north of Soledad Canyon.
- A section of Santa Clara river behind Greenbrier Mobile Estates (near Reach 64) in Santa Clarita.
- Santa Clara River near McBean Bridge in Valencia.
- Bouquet Canyon Creek at Texas Canyon Road in Santa Clarita.
- Castaic creek, 0.8 mile north of the SR-126 and Interstate (I) 5.

Unarmored threespine stickleback is threatened by habitat degradation from urbanization, channelization, and lower water quality. The introduction of many non-native predators and competitors into the Santa Clara River has also threatened unarmored threespine stickleback populations. Further, since 1990, a number of oil spills indicate the real threat posed by the pipeline and transportation corridors along and across the Santa Clara River.

Unarmored threespine stickleback is a small, primarily annual fish requiring shallow, slow, marginal stream flows with abundant aquatic vegetation for cover. They can be found throughout a given stream of suitable habitat, but tend to mill in areas of slow flow or standing water, such as within eddies behind obstructions or in edgewater where vegetation slows the stream flow. Under optimal conditions, several hundred unarmored threespine stickleback can exist within approximately ten meters of a stream. While strong storm flows can severely reduce localized populations, as the stream stabilizes in the spring, unarmored threespine stickleback can quickly recover. Moreover, Unarmored threespine stickleback use backwater habitats in the Santa Clara River as refugia during storm events.

Male sticklebacks develop a distinctive nuptial coloration – a red throat, blue sides and blue eyes – during the breeding season and defend territories adjacent to vegetation where they construct a nest. Males attract females to the nest, each of which can spawn between 50 and 300 eggs. After courtship, males defend the eggs and care for them while they develop. The eggs take approximately 6 to 8 days to hatch at 64 to 68 degrees Fahrenheit (°F). The fry remain in the nest for the first couple days, during which time the male continues to guard them (Wootton 1976; Haglund 1981).

Two features of unarmored threespine stickleback habitat appear to be essential for the survival of fry and juveniles; (1) slow flowing, clear water for the proper development of the eggs, with any form of pollution or small amounts of turbidity interfering with normal development and (2) aquatic vegetation along the edge of the shoreline to supply cover and microscopic food organisms for the fry (Ono et al. 1983). While unarmored threespine stickleback rely upon a wide variety of foods, they prefer insects and some snails in their diet.

Critical habitat is not specifically delineated in the Unarmored Threespine Stickleback Recovery Plan (USFWS 1985), but is defined as: (1) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Endangered Species Act of 1973 as amended, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection and (2) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species (45 Federal Register 76012-76015). “Conservation” means the use of all methods and procedures that are necessary to bring an Endangered or a Threatened species to the point at which listing under the Act is no longer necessary (USFWS 1998).

Three Essential Habitat zones within the Santa Clara River watershed are described under the Unarmored Threespine Stickleback Revised Recovery Plan (USFWS 1985):

1. **Del Valle Zone.** An area of land and water with the following components (San Bernardino meridian): Santa Clara River within T4N, R16W and R17W, beginning at its confluence with San Martinez Grande Canyon, at a point 0.9 of a mile (1.5 kilometers) southwest of Del Valle settlement, and extending upstream approximately 5.6 miles (8.8 kilometers) to the Interstate Highway 5 Bridge.
2. **San Francisquito Creek Zone.** An area of land and water with the following components (San Bernardino meridian): San Francisquito Canyon watercourse, within T5N, R16W and T6N, R15W, beginning at a point where the Angeles National Forest boundary intersects the San Francisquito Canyon watercourse, approximately 2.5 miles southwest of San Francisquito Powerhouse No. 2, and extending upstream in San Francisquito Canyon approximately 8.4 miles (13.5 kilometers) to San Francisquito Powerhouse No. 1, near its junction with Clearwater Canyon.
3. **Soledad Canyon Zone.** An area of land and water in Los Angeles County, with the following components (San Bernardino meridian): Santa Clara River within T4N, R13W, and R14W, beginning at a point 1.4 miles (2.3 kilometers) upstream in Soledad Canyon from the community of Lang, at the downstream end of the area called River's End Park, at 34°26' 7" N, 118°21' 51" W, thence extending upstream approximately 8.5 miles (13.7 kilometers) to its confluence with Arrastre Canyon, at a point located about 0.6 of a mile (1 kilometer) southwest of Los Angeles County Rehabilitation Camp, thence upstream in Arrastre Canyon approximately 0.8 of a mile (1.4 kilometers) to 34° 26' 7" N, 118°11' 51" W.

1.3.2 SANTA ANA SUCKER

Santa Ana sucker is a federally listed Threatened species and a California Species of Special Concern. Its historic range consisted of the Los Angeles, San Gabriel, and Santa Ana River systems; only these populations within its historic range are federally protected.

The CNDDDB contains several records of Santa Ana sucker (Appendix C) from the vicinity of the survey area (CDFG 2012):

- East Fork San Gabriel River on east side of Camp Oak Grove.
- East Fork San Gabriel River at Coyote Flat.
- East Fork San Gabriel River about 0.7 miles north of Coyote Flat.
- Cattle Canyon/Creek near junction with Dime Canyon.
- North Fork San Gabriel and West Fork San Gabriel River, approximately .5 miles below mouth of East Fork and Bear Creek in the Angeles Forest.
- Hasley Canyon approximately 2 miles east of Val Verde.
- Tujunga Creek at Foothill Bridge, downstream to junction with Haines Creek.
- Haines Creek and outlets from ponds north of creek.
- Castaic Creek, upstream of Highway 126.
- Fish Canyon, 0.7 miles downstream from confluence of Fern Canyon.
- Santa Clara River, from Lang to Arrastre Canyon.

Santa Ana sucker is found in small, shallow streams with flows that run from slow to swift. It is most abundant where water is clear and unpolluted, although it can withstand seasonal turbidity. It is often associated with bottom materials of boulders, gravel, and cobble where there are growths of filamentous algae, though it is also occasionally found on sand or mud substrates (Thompson et al. 2010). Although Santa Ana sucker has generalized stream habitat requirements, it is intolerant of polluted or highly modified streams (Moyle 2001). It is presumed that the majority of its diet consists of algae, including lithic diatoms, and detritus that it scrapes from rock surfaces, as well as occasional aquatic insect larvae (Haglund, *pers comm.*).

Adult Santa Ana sucker rarely exceed a standard length of eight inches (measured from snout tip to anterior of the caudal fin [tail fin]). It possesses a broad mouth with notches at the junction of the upper and lower lips, and the median notch on the lower lip is less well defined. Its body coloration is silver on the ventral (belly/underside) surface and darker with irregular blotches on the dorsal (back/top) surface. Its scale pattern has longitudinal lateral (along the length of their body) striping. The interradiation membrane (membrane between the spines) of the caudal fin is pigmented, and the anal and pelvic fins normally lack pigment (Moyle 2001).

Santa Ana sucker are relatively short-lived; they become reproductively mature by the first year and spawn during the first and second years. Most Santa Ana sucker do not survive past the second year, although a few live three to four years. There is no sexual dimorphism (appearances between males and females are distinguishable), although reproductive males develop breeding tubercles (small bumps) over most of the body (Moyle 2001).

Santa Ana sucker spawning occurs from April until early July, but peaks in late May and early June. Santa Ana sucker spawn over gravel beds in flowing water where the female deposits the eggs in fine gravel substrate. The eggs hatch within 36 hours at 55.5 degrees Fahrenheit (°F), and the fry (fish hatchlings) congregate in shallow, slow-moving waters along the stream margins in water depths ranging from 1 to 5.5 inches, often over very soft sandy or muddy substrates. Edgewater habitat is probably used by fry because (1) it typically contains fewer predatory fish and (2) shallow water is warmer and probably allows the suckers to grow more quickly (USFWS 2010).

Santa Ana sucker are currently threatened by water diversions; alteration of stream channels; changes in the watershed that result in erosion and debris flows; pollution; and predation by non-native fishes. The primary cause for the extirpation of the Santa Ana sucker from lowland reaches of the Los Angeles, San Gabriel, and Santa Ana Rivers is most likely due to increased urbanization (Swift 1993).

On January 4, 2005, the USFWS published a Final Rule designating 8,305 acres of critical habitat for Santa Ana sucker (USFWS 2010). Two areas were designated in Los Angeles County: one along the San Gabriel River (Unit 2) and the other along Big Tujunga Creek (Unit 3). This designation did not include habitat for the species in Orange, Riverside, or San Bernardino Counties. Following lawsuits, the USFWS proposed a Revised Critical Habitat on December 9, 2009, adding habitat along the Santa Ana River in Orange, Riverside, and San Bernardino Counties to critical habitat for the species (USFWS 2010). This increased the critical habitat designation to 9,331 acres. On December 14, 2010, the USFWS published the Final Rule formalizing the Revised Critical Habitat (USFWS 2010).

It should be noted that, while the survey areas for the Los Angeles River (13 and 14) are within the 2010 revised critical habitat for Santa Ana sucker, the survey area for the San Gabriel River (39) is not within the 2010 revised critical habitat for Santa Ana sucker.

SECTION 2.0 SURVEY METHODOLOGIES

Focused surveys for unarmored threespine stickleback and Santa Ana sucker were conducted according to USFWS protocols. The biologists conducted the surveys at the most appropriate time of day to ensure maximum opportunity to observe the species.

2.1 UNARMORED THREESPINE STICKLEBACK AND SANTA ANA SUCKER

The initial studies conducted in 2002 included a background literature review and habitat assessment for each of the soft-bottom channel reaches that represented potentially suitable unarmored threespine stickleback habitat. The literature review included the documentation of relevant literature on the presence of the unarmored threespine stickleback within each reach including areas both upstream and downstream. This included review of *Federal Register* listings, protocols, and species data provided by the USFWS and the CNDDDB; consultation with qualified experts familiar with the distribution and natural history of unarmored threespine stickleback; and review of unpublished biological resource letter reports and assessments conducted in the region.

Unarmored Threespine Stickleback: Focused surveys for unarmored threespine stickleback were conducted in 2012 at 27 channel reaches (see Exhibit 1):

- Santa Clara River Reaches 47, 51, 54, 55, 56, 58, 59, 60, 61, 62, 63, 64, 66, 71, 82, 105, and 109.
- Bouquet Canyon Creek Reaches 67, 69, 70, and 103.
- South Fork Santa Clara River Reaches 79 and 80 at the confluence of the Santa Clara and South Fork Santa Clara Rivers.
- Castaic Creek Reaches 86, 87, 97 and 104.

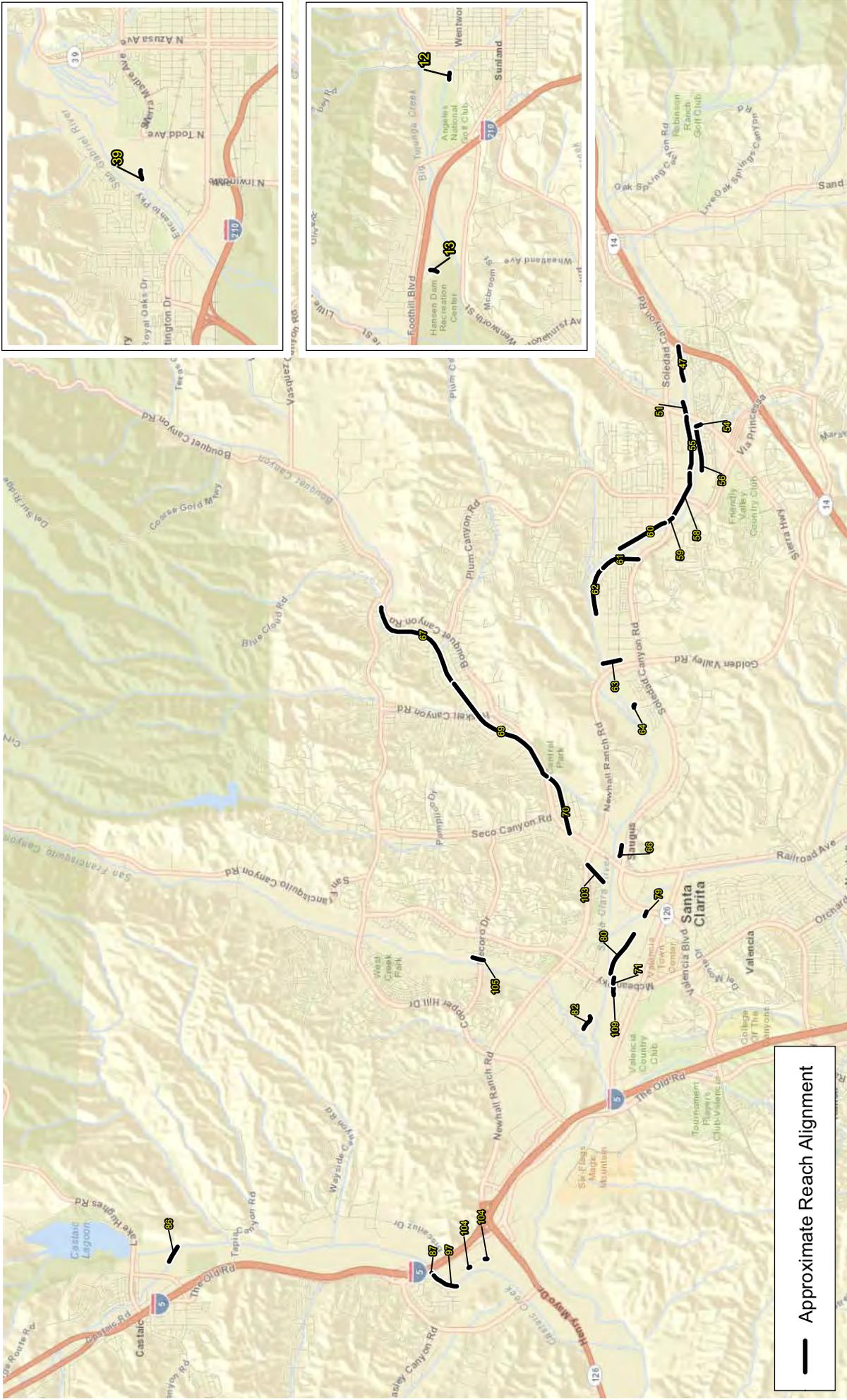
These channel reaches may provide suitable breeding habitat for unarmored threespine stickleback during the spring and summer season when water is present.

Santa Ana Sucker: Focused surveys for Santa Ana sucker were conducted in 2012 in the San Gabriel River and Los Angeles River drainages at three channel reaches (see Exhibit 1):

- San Gabriel Reach 39 (Beatty Channel Outlet at San Gabriel River).
- Los Angeles River Reaches 12 (Haines Canyon Main Channel Outlet) and 13 (Project No. 5215 Unit 1, within the Tujunga Wash Watershed).

These channel reaches may provide suitable breeding habitat for Santa Ana sucker during the spring and summer season when water is present.

Surveys were conducted by Consulting Fisheries Biologist Dr. Jonathan Baskin (TE 781-377-5), BonTerra Consulting Fisheries Biologists, Dr. Carl Demetropoulos (TE-72044A-0), Jennifer Pareti, and Nathan Moffett. Prior to the surveys, Dr. Baskin consulted John O'Brien from the CDFG for approval to conduct the surveys for special status fish species in the survey area. Survey methods included underwater video recording, dip netting, seining, and snorkeling depending on the location/stream morphology within the survey area and the species being surveyed.



— Approximate Reach Alignment

Regional Location of All Reaches Surveyed

Pre and Post Clearing for Soft-Bottom Channels 2012-2013

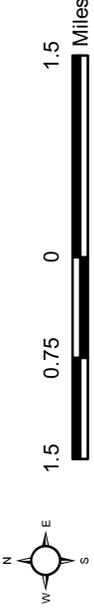


Exhibit 1



Surveys followed the current presence/absence protocol for both unarmored threespine stickleback and Santa Ana sucker and were conducted from August 29 to September 14, 2012. During surveys, all accessible areas of the creeks were surveyed using dip nets, seine nets, and underwater videography. While using underwater video and seining, care was taken to avoid algal mats and dense vegetation in the creek to avoid impacts on refugia for potential young fish.

Netting

Dip netting and seining methods were used in shallow water down to depths of approximately three feet for Santa Ana sucker only. Seining was conducted using a 20-foot by 4-foot deep nylon knotless delta weave bagged seine with ¼-inch mesh. Captured fishes were immediately transferred into a container of clean water taken from the creek and were visually identified.

Underwater Videography

For the purpose of this study, use of underwater cameras was determined be an effective means of determining unarmored threespine stickleback presence/absence. Depending on the habitat type, the two following underwater cameras with high lumen light-emitting diode (LED) lighting systems and weighted platforms were used to observe pool and deep creek habitat: (1) high definition remote underwater color video camera (Aqua Vu, Inc AV760cz Color Underwater Video Camera) providing depth, temperature, and time on an underwater video monitor and (2) a high definition 360-degree view camera (Aqua Vu, Inc AV360 Black/White Underwater Video Camera) with a selectable 4-way split screen.

Surveyors viewed the creek in real time and could simultaneously record targets for later review output from the video camera on a Digital Video Recorder (DVR). The location of the image (in Universal Transverse Mercator [UTM]) could be correlated to global positioning system (GPS) location by a time stamp. After the survey and in order to validate and map the location of fish that may not have been seen during the survey, any potential video targets were analyzed on a computer at 0.25 real time speed.

SECTION 3.0 SURVEY RESULTS

The following section presents the results of the biological surveys conducted within each channel reach. Channel reaches are grouped by watershed and include Los Angeles River, San Gabriel River, and the Santa Clara River. Table ES-1 above summarizes the results of these 2012 surveys.

3.1 LOS ANGELES RIVER AREA

3.1.1 REACH 12 – HAINES CANYON MAIN CHANNEL OUTLET

Project Location

Reach 12, Haines Canyon Main Channel Outlet, is located within the Tujunga Wash Watershed, approximately one mile northwest of the Mount Gleason Avenue and Foothill Boulevard intersection, in the community of Sunland in the City of Los Angeles (Exhibit 1). The limits of Reach 12 are approximately 791 feet downstream of Wentworth Street to approximately 1,228 feet downstream of Wentworth Street. Reach 12 is 437 feet in total length. The reach is found on the U.S. Geological Survey’s (USGS’) Sunland 7.5-minute quadrangle map (Also, refer to Thomas Guide, Los Angeles County, page 503-F2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 2
REACH 12 – HAINES CANYON MAIN CHANNEL OUTLET**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the Santa Ana sucker	September 5, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Santa Ana sucker was not observed in Reach 12 during this survey, but arroyo chub, a California Species of Special Concern, was present. Water was abundant but appeared to be mostly from urban runoff and was not considered to be of high enough quality for Santa Ana sucker. Further, use of videography showed no Santa Ana sucker in this reach.

3.1.2 REACH 13 – PROJECT NO. 5215 UNIT 1

Project Location

Reach 13, Project No. 5215 Unit 1, is located within the Tujunga Wash Watershed, approximately one mile northwest of the Foothill Freeway (I-210) and Wentworth Street intersection in the community of Shadow Hills in the City of Los Angeles (Exhibit 1). The limits of Reach 13 are between approximately 1,030 feet downstream of Foothill Boulevard and approximately 1,535 feet downstream of Foothill Boulevard. Reach 13 is 537 feet in total length. The reach is found on the Sunland USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 503-B2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 3
REACH 13 – PROJECT NO. 5215 UNIT 1**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the Santa Ana sucker	August 30, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Santa Ana sucker was not observed in Reach 13 during this survey. No water was present in the reach.

3.2 SAN GABRIEL RIVER AREA**3.2.1 REACH 39 – BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER****Project Location**

Reach 39, Beatty Channel Outlet at San Gabriel River, is located within the San Gabriel River watershed, approximately 0.8 mile north of the Foothill Boulevard and Irwindale Avenue intersection in the City of Azusa (Exhibit 1). The limits of Reach 39 are approximately 2,323 feet downstream of Todd Avenue to approximately 2,415 feet downstream of Todd Avenue. Reach 39 is 145 feet in total length. The reach is found on the USGS Azusa 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 568-F4).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 4
REACH 39 – BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the Santa Ana sucker	September 14, 2012	Dr. Carl Demetropoulos

Santa Ana sucker was not observed in Reach 39 during this survey. While some water was present in the reach, it was shallow (< 9 inches deep) and was not determined to be suitable for Santa Ana sucker. Further, use of videography showed no fish of any species in this reach.

3.3 SANTA CLARA RIVER AREA

3.3.1 REACH 47 – SANTA CLARA RIVER (PD 1733 UNIT 1)

Project Location

Reach 47, Santa Clara River (PD 1733 unit 1), is located within the Santa Clara River Watershed, approximately 1.5 miles southwest of the SR-14 and Sand Canyon Road intersection in the City of Santa Clarita (Exhibit 1). The limits of Reach 47 are the downstream edge of SR-14 to approximately 1,875 feet downstream of SR-14. Reach 47 is approximately 1,875 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4552- A3 to 4551-J3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 5
REACH 47 – SANTA CLARA RIVER (PD 1733 UNIT 1)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 47 during this survey. No water was present in the reach.

3.3.2 REACH 51 – MINT CANYON MAIN CHANNEL OUTLET (PD 1984)/SANTA CLARA RIVER – MAIN CHANNEL

Project Location

Reach 51, Mint Canyon Main Channel Outlet (PD 1984)/Santa Clara River – Main Channel, is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 51 are approximately 1,044 feet downstream from Soledad Canyon Road to Soledad Canyon Road on the downstream side of Sierra Highway. Reach 51 is approximately 932 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4551 G3/G4 to 4552 B2/B3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 6
REACH 51 – MINT CANYON MAIN CHANNEL OUTLET (PD 1984) / SANTA CLARA RIVER – MAIN CHANNEL**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	September 5, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 51 during this survey. Very little water was present in the reach.

3.3.3 REACH 54 – SANTA CLARA RIVER NON-MAIN CHANNEL (PD 832) MAIN CHANNEL OUTLET

Project Location

Reach 54, Santa Clara river non-main channel (PD 832) main channel outlet is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 54 are approximately 821 feet downstream of Sierra Highway to 1,098 feet downstream of Sierra Highway. Reach 54 is approximately 298 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4551 H3 to H4).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 7
REACH 54 – SANTA CLARA RIVER NON-MAIN CHANNEL (PD 832)
MAIN CHANNEL OUTLET**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 54 during this survey. Very little water was present in the reach and it appeared to come from urban runoff.

3.3.4 REACH 55 – SANTA CLARA RIVER CHANNEL (PDS 910, 832, 1758, & 1562 UNIT 2)

Project Location

Reach 55, Santa Clara River Channel (PDs 910, 832, 1758, and 1562 Unit 2), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 55 are from the downstream edge of Sierra Highway to approximately 3,049 feet downstream of Sierra Highway. Reach 55 is approximately 3,049 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4551-H3 to G4).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 8
REACH 55 – SANTA CLARA RIVER CHANNEL
(PDS 910, 832, 1758, AND 1562 UNIT 2)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 55 during this survey. No water was present in this reach.

3.3.5 REACH 56 – SANTA CLARA RIVER CHANNEL (PD 1562 UNIT 2)

Project Location

Reach 56, Santa Clara River Main Channel (PD 1562 unit 2), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 56 are approximately 3,049 feet downstream of Sierra Highway to approximately 3,501 feet downstream of Sierra Highway. Reach 56 is 452 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4551- G3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 9
REACH 56 – SANTA CLARA RIVER CHANNEL (PD 1562 UNIT 2)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 56 during this survey. No water was present in this reach.

3.3.6 REACH 58 – SANTA CLARA MAIN RIVER CHANNEL (PD 374)

Project Location

Reach 58, Santa Clara River Main Channel (PD 374), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 58 are from a point approximately 2,114 feet upstream of the Old Soledad Canyon Road Bridge to the upstream edge of Soledad Canyon Road Bridge. Reach 58 is 2,064 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4551-G3 to F3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 10
REACH 58 – SANTA CLARA RIVER CHANNEL (PD 374)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 58 during this survey. No water was present in this reach.

3.3.7 REACH 59 – SANTA CLARA RIVER MAIN CHANNEL (PD 374)

Project Location

Reach 59, Santa Clara River Main Channel (PD 374), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 59 are the upstream side of the Old Soledad Canyon Road Bridge to the downstream side of the new Soledad Canyon Road Bridge. Reach 59 is 640 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4551-F3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 11
REACH 59 – SANTA CLARA RIVER CHANNEL (PD 374)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 59 during this survey. No water was present in this reach.

3.3.8 REACH 60 – SANTA CLARA RIVER MAIN CHANNEL (PD 1339 AND 374)

Project Location

Reach 60, Santa Clara River Main Channel (PD 1339 & 374), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 60 are the downstream side of the new Soledad Canyon Road Bridge to its confluence with PD 313, which is downstream of Newhouse Street. Reach 60 is 3,258 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4551-F3 to E2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 12
REACH 60 – SANTA CLARA RIVER CHANNEL (PD 1339 AND 374)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 60 during this survey. No water was present in this reach.

3.3.9 REACH 61 – SANTA CLARA RIVER (PD 659)

Project Location

Reach 61, Santa Clara River (PD 659), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 61 are the downstream side of the new Soledad Canyon Road Bridge to a point approximately 1,634 feet further downstream. Reach 61 is 1,634 feet in total length. The reach is found on the Mint Canyon USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4551-E2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 13
REACH 61 – SANTA CLARA RIVER (PD 659)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 5, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 61 during this survey. No water was present in this reach.

3.3.10 REACH 62 – SANTA CLARA RIVER (PD 754)

Project Location

Reach 62, Santa Clara River (PD 754), is located within the Santa Clara Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 62 are approximately 1,634 feet downstream of the new Soledad Canyon Road Bridge to Honby Avenue. Reach 62 is 3,032 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4551-E2 – D2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 14
REACH 62 – SANTA CLARA RIVER (PD 754)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 62 during this survey. While some water was present in this reach, it was outside the zone of disturbance.

3.3.11 REACH 63 – OAK AVE ROAD DRAINAGE (CDR 523.081)**Project Location**

Reach 63, Oak Avenue Road Drainage (CDR 523.081), is located within the Santa Clara Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 63 are approximately 1,400 feet north of Soledad Canyon Road at the Southern California Edison (SCE) lines to 2,300 feet north of Soledad Canyon Road at the SCE lines. Reach 63 is 900 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4551 C2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 15
REACH 63 – OAK AVE ROAD DRAINAGE (CDR 523.081)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 63 during this survey. While some water was present in this reach (<10 inches) it appeared to come from urban runoff and would not be suitable for this species.

3.3.12 REACH 64 – SOLEDAD CANYON ROAD DRAINAGE (CDR 523.071D OUTLET)**Project Location**

Reach 64, Soledad Canyon Road Drainage (CDR 523.071 D Outlet), is located within the Santa Clara Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 64 are the east side of the Los Angeles Aqueduct north of Soledad Canyon Road, approximately 980 feet to 1,250 feet northwest of Soledad Canyon Road and the Los Angeles Aqueduct. Reach 64 is 577 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4551 B2 to B3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 16
REACH 64 – SOLEDAD CANYON ROAD DRAINAGE
(CDR 523.071D OUTLET)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 64 during this survey. While some water was present in this reach (< 5 inches) and water quality appeared to be good, no fish were found. Further, use of videography showed no fish of any species in this reach.

3.3.13 Reach 66 – Santa Clara River (PD 1538)

Project Location

Reach 66, Santa Clara River (PD 1358), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 66 are approximately 706 feet upstream of Bouquet Canyon Road to approximately 1,417 feet upstream of Bouquet Canyon Road. Reach 66 is 711 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-H2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 17
REACH 66 – SANTA CLARA RIVER (PD 1538)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 66 during this survey. While some water was present in this reach (<6 inches), no fish were found.

3.3.14 REACH 67 – BOUQUET CANYON CREEK UPPER (PDS 1201, 802, 700B, AND 625B)

Project Location

Reach 67, Bouquet Canyon Upper (PDs 1201, 802, 700B, and 625), is located within the Santa Clara River Watershed in the City of Santa Clarita and the Bouquet Canyon community in unincorporated Los Angeles County (Exhibit 1). The limits of Reach 67 are approximately 63 feet downstream of Hob Avenue to approximately 153 feet upstream of Urbandale Avenue. Reach 67 is 6,176 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4461-D1 to C6).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 18
REACH 67 – BOUQUET CANYON CREEK UPPER
(PDS 1201, 802, 700B, & 625B)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 30, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin Jennifer Paretti Nathan Moffett

Unarmored threespine stickleback was not observed in Reach 67 during this survey. While some water was present in this reach (< 12 inches) and water quality appeared to be good, no fish were found and use of videography showed no fish of any species in this reach. However, unarmored threespine stickleback were previously found in this reach in 2005, 2006, 2007 and 2008 (BonTerra Consulting 2005, 2006, 2007, 2008).

3.3.15 REACH 69 – BOUQUET CANYON CREEK MIDDLE (PDS 772, 773, 1365, 1065, AND 451)

Project Location

Reach 69, Bouquet Canyon Middle (PDs 722, 773, 1365, 1065, and 45), is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 69 are approximately 122 feet downstream of Urbandale Avenue to approximately 54 feet downstream of the middle crossing of Bouquet Canyon Road. Reach 69 is 6,812 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4461-C6 to A7).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 19
REACH 69 – BOUQUET CANYON CREEK MIDDLE
(PDS 772, 773, 1365, 1065, AND 451)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 30, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin Jennifer Paretti Nathan Moffett

Unarmored threespine stickleback was observed in Reach 69 during this survey. Underwater videography showed several unarmored threespine stickleback in a cement constructed riprap plunge pool with dimensions of approximately 3 feet deep by 6.5 feet by 18 feet, with the longest dimension running perpendicular to the main axis of the reach. The pool is located at GPS coordinates 11S 360810.56/E 3812287.51 (Exhibits 2 and 3). Water quality parameters: Temperature = 73°F, Dissolved oxygen (DO) = 9.22 milligrams per liter (mg/L), hydrogen potential (pH) = 9.3, total dissolved solids (TDS) = 0.368 mg/L, and Salinity = 1.2 parts per trillion (ppt).

Vegetation was present on both the south and north sides of this pool and would have provided cover for larval, juvenile, and adult unarmored threespine stickleback. Further, the habitat is consistent with locations where unarmored threespine stickleback presence would be expected in this area (Exhibits 4A and 4B). Unarmored threespine stickleback were previously found in this reach in 2005, 2006, 2007 and 2008 (BonTerra Consulting 2005, 2006, 2007, 2008).

Presence of unarmored threespine stickleback at this reach was submitted to the CNDDB database (Appendix B).

3.3.16 REACH 70 – BOUQUET CANYON CREEK LOWER (PDS 544 AND 345)**Project Location**

Reach 70, Bouquet Canyon Lower (PDs 544 and 345) is located within the Santa Clara River Watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 70 are 2,866 feet upstream of the lower crossing with Bouquet Canyon Road to the downstream side of the lower crossing with Bouquet Canyon Road. Reach 70 is 2,954 feet in total length. The reach is found on the Newhall USGS 7.5 x 15-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4550-J1 to H1).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

TABLE 20
REACH 70 – BOUQUET CANYON CREEK LOWER (PDS 544 AND 345)

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 30, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin Jennifer Paretti Nathan Moffett

Unarmored threespine stickleback was not observed in Reach 70 during this survey. While some water was present in this reach (< 10 inches), and water quality appeared to be marginal to good, no fish were found. Further, use of videography showed no fish of any species in this reach.

3.3.17 REACH 71 – SANTA CLARA RIVER MAIN CHANNEL (PD 1946)**Project Location**

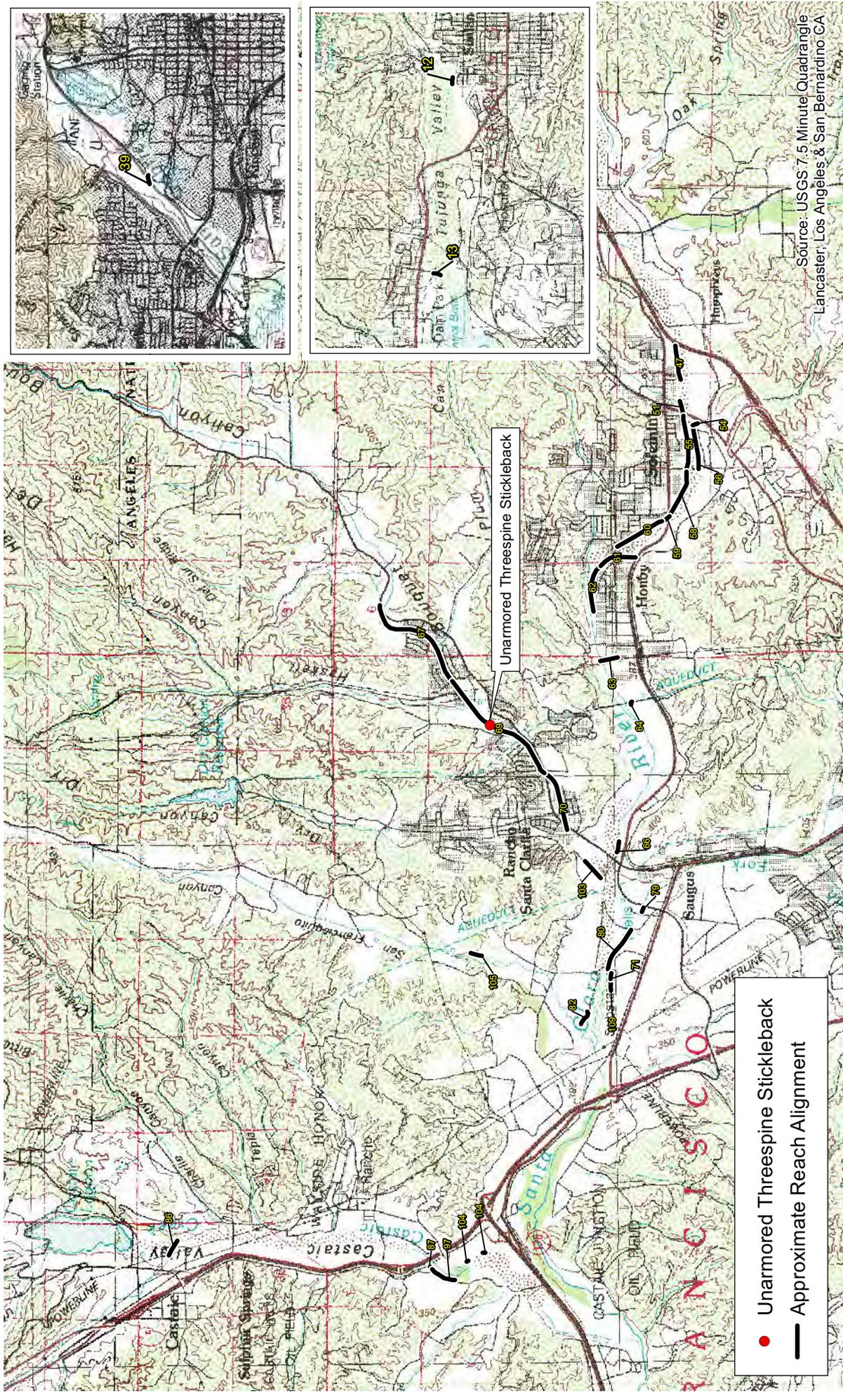
Reach 71, Santa Clara River Main Channel (PD 1946), is located within the Santa Clara River-South Fork watershed in the City of Santa Clarita (Exhibit 1). The limits of Reach 71 are approximately 276 feet upstream of McBean Parkway (at the confluence with the South Fork of the Santa Clara River) to the downstream edge of McBean Parkway. Reach 71 is 346 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-E2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and surveying biologist.

TABLE 21
REACH 71 – SANTA CLARA RIVER MAIN CHANNEL (PD 1946)

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos



Source: USGS 7.5 Minute Quadrangle
 Lancaster, Los Angeles & San Bernardino CA

- Unarmored Threespine Stickleback
- Approximate Reach Alignment

Survey Results – Regional

Pre and Post Clearing for Soft-Bottom Channels 2012-2013

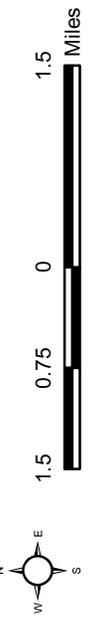


Exhibit 2





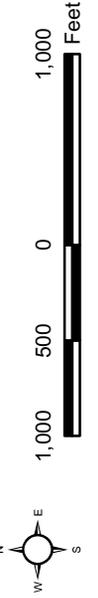
- Unarmored Threespine Stickleback
- Approximate Reach Alignment

Unarmored Threespine Stickleback
 11S 360810.56, 3812287.51

Survey Results – Reach #69 – Bouquet Canyon Creek

Exhibit 3

Pre and Post Clearing for Soft-Bottom Channels 2012-2013





Bouquet Canyon reach 69, facing northeast. Unarmored threespine stickleback habitat.



Bouquet Canyon reach 69, Facing north. Unarmored threespine stickleback (UTS) habitat.

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Site Photos

Pre Clearing Surveys - Sensitive Fish Species

Exhibit 4A

Bonterra
CONSULTING

(Rev 02/11/13 MMD) Projects\CoLADPW\190\Graphics\Misc\Ex4A_SP.pdf



Bouquet Canyon reach 69, Facing south. Unarmored threespine stickleback surveyors at pool.



Bouquet Canyon reach 69, facing south. Unarmored threespine stickleback pool.

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Site Photos

Pre Clearing Surveys - Sensitive Fish Species

Exhibit 4B

BonTerra
CONSULTING

(Rev 02/11/13 MMD) Projects\CoLADPW\190\Graphics\Misc\Ex4B_SP.pdf

Unarmored threespine stickleback was not observed in Reach 71 during this survey. No water was present in this reach.

3.3.18 REACH 79 – SOUTH FORK – SANTA CLARA RIVER (VALENCIA BOULEVARD BRIDGE STABILIZER)

Project Location

Reach 79, South Fork – Santa Clara River (Valencia Boulevard Bridge Stabilizer), is located within the Santa Clara River-South Fork Watershed (Exhibit 1). The limits of Reach 79 are the downstream edge of Valencia Boulevard to approximately 167 feet downstream of Valencia Boulevard. Reach 79 is 167 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-G3).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 22
REACH 79 – SOUTH FORK – SANTA CLARA RIVER
(VALENCIA BOULEVARD BRIDGE STABILIZER)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 79 during this survey. While some water was present in this reach (< 8 inches), it appeared to come from residential and/or commercial sources and be of marginal quality. Further, use of videography showed no fish of any species in this reach.

3.3.19 REACH 80 – SOUTH FORK – SANTA CLARA RIVER (PDS 1947 AND 1946)

Project Location

Reach 80, South Fork-Santa Clara River (PDs 1947 and 1946), is located in the Santa Clara River-South Fork Watershed (Exhibit 1). The limits of Reach 80 are approximately 3,080 feet upstream of McBean Parkway to approximately 276 feet upstream of McBean Parkway and the confluence with Santa Clara River. Reach 80 is 2,804 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-F2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 23
REACH 80 – SOUTH FORK – SANTA CLARA RIVER (PDS 1947 AND 1946)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 80 during this survey. No water was present in this reach.

3.3.20 REACH 82 – SANTA CLARA RIVER MAIN CHANNEL (PD 2278)

Project Location

Reach 82, Santa Clara River Main Channel (PD 2278), is located in the Santa Clara River Watershed, approximately 0.75 mile east of the I-5 and Magic Mountain Parkway intersection in the City of Santa Clarita (Exhibit 1). The upstream limits of Reach 82 are approximately 740 feet southeast of the intersection of Hopkins Avenue and Rockefeller Avenue to just south of the intersection of Hopkins Avenue and Rockefeller Avenue. Reach 82 is 865 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-D1).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 24
REACH 82 – SANTA CLARA RIVER MAIN CHANNEL (PD 2278)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 6, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 82 during this survey. No water was present in this reach.

3.3.21 REACH 86 – VIOLIN CANYON MAIN CHANNEL OUTLET

Project Location

Reach 86, Violin Canyon Main Channel Outlet, is located in the Castaic Creek Watershed in the community of Castaic in unincorporated Los Angeles County, approximately 0.5 mile southeast of the I-5 and Lake Hughes Road intersection (Exhibit 1). The limits of Reach 86 are approximately 1,021 feet downstream of Ridge Route Road to the confluence with Castaic Creek. Reach 86 is 946 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4369-J7).

Survey Results

The table below summarizes the type of survey completed, the survey dates, and the surveying biologist.

**TABLE 25
REACH 86 – VIOLIN CANYON MAIN CHANNEL OUTLET**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 86 during this survey. While some water was present in this reach (< 2 inches), it appeared to come from residential and/or commercial sources and to be of marginal quality.

3.3.22 REACH 87 – CASTAIC-OLD ROAD DRAINAGE (CDR 525.021D) OUTLET

Project Location

Reach 87, Castaic – Old Road Drainage (CDR 525.021D) Outlet, is located in the Castaic Creek Watershed, approximately one mile northwest of the I-5 and Henry Mayo Drive (SR-126) in the Castaic Junction community of unincorporated Los Angeles County (Exhibit 1). The limits of Reach 87 are approximately 610 feet downstream of the intersection of Hasley Canyon Road and The Old Road to the confluence with Castaic Creek. Reach 87 is 240 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4459-H5).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 26
REACH 87 – CASTAIC-OLD ROAD DRAINAGE (CDR 525.021D) OUTLET**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin Jennifer Paretti Nathan Moffett

Unarmored threespine stickleback was not observed in Reach 87 during this survey. While some water was present in this reach (< 3 inches), it appeared to come from residential and/or commercial sources and be of marginal quality.

3.3.23 REACH 97 – CASTAIC CREEK (PD 1982)

Project Location

Reach 97, Castaic Creek (PD 1982), is located within the Castaic Creek Watershed in the Castaic Junction community of unincorporated Los Angeles County (Exhibit 1). The limits of Reach 97 are approximately 300 feet downstream to 2,300 feet downstream of The Old Road. Reach 97 is 2,000 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle maps (Refer to Thomas Guide, Los Angeles County, page 4459-H5 to 4459-H6).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 27
REACH 97 – CASTAIC CREEK (PD 1982)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	August 29, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin Jennifer Paretti Nathan Moffett

Unarmored threespine stickleback was not observed in Reach 97 during this survey. While water was present in this reach (< 26 inches), it appeared to come mainly from residential and/or commercial sources and be of marginal quality. Underwater videography in deeper areas associated with cement constructed riprap pools, channels, and associated vegetation showed no fish in the reach.

3.3.24 REACH 103 – BOUQUET CANYON CHANNEL (PD 2225)

Project Location

Reach 103, Bouquet Canyon Channel (PD 2225), is located within the Santa Clara River Watershed (Exhibit 1). The limits of Reach 103 are approximately 173 feet downstream of the centerline of Newhall Ranch Road (beginning of Grouted Stone Toe) to the Metropolitan Water District Fee Right-of-Way on the right bank and the embankment turn at the Santa Clara River on the left bank. Reach 103 is 1,824 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-H1, 4550-H2, and 4550-G2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologists.

**TABLE 28
REACH 103 – BOUQUET CANYON CHANNEL (PD 2225)**

Survey Type	Survey Date	Surveying Biologists
Focused survey for the unarmored threespine stickleback	September 5, 2012	Dr. Carl Demetropoulos Dr. Jonathan Baskin

Unarmored threespine stickleback was not observed in Reach 103 during this survey. Very little water was present in the reach. Further, use of videography showed no fish of any species in this reach. However, unarmored threespine stickleback were previously found in this reach in 2005, 2006, 2007 and 2008 (BonTerra Consulting 2005, 2006, 2007, 2008).

3.3.25 REACH 104 – CASTAIC CREEK (PD 2441 – UNITS 1 AND 2)

Project Location

Reach 104, Castaic Creek (PD 2441 – Unit 2), is located in the Castaic Creek Watershed. The limits of Reach 104 are approximately 669 feet upstream of the Muirfield Lane Centerline to 478 feet downstream of the Turnberry Lane Centerline (Exhibit 1). Reach 104 is 2,186 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4459- H6 to 4459-H7).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 29
REACH 104 – CASTAIC CREEK (PD 2441 – UNIT 2)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 5, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 104 during this survey. Very little water was present in the reach.

3.3.26 REACH 105 – SAN FRANCISQUITO CHANNEL (PD 2456)

Project Location

Reach 105, San Francisquito Channel (PD 2456), is located in the Santa Clara River Watershed in unincorporated Los Angeles County (Exhibit 1). The limits of Reach 105 are approximately 417 feet upstream of the Decoro Drive Centerline to 416 feet downstream of the Decoro Drive Centerline. Reach 105 is 833 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4460-F6).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

**TABLE 30
REACH 105 – SAN FRANCISQUITO CHANNEL (PD 2456)**

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 5, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 105 during this survey. No water was present in the reach.

3.3.27 REACH 109 – SANTA CLARA RIVER – SOUTH BANK WEST OF MCBEAN PARKWAY (MTD 1510)

Project Location

Reach 109, Santa Clara River – South Bank West of McBean Parkway (MTD 1510), is an outlet located on the south bank (concrete levee), just west or downstream of McBean Parkway (Exhibit 1). The limits of Reach 109 are from the outlet, approximately 300 feet downstream of the McBean Parkway centerline, downstream 371 feet (Exhibit 3). The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-E2).

Survey Results

The table below summarizes the type of survey completed, the survey date, and the surveying biologist.

TABLE 31
REACH 109 – SANTA CLARA RIVER – SOUTH BANK WEST OF MCBEAN PARKWAY (MTD 1510)

Survey Type	Survey Date	Surveying Biologist
Focused survey for the unarmored threespine stickleback	September 5, 2012	Dr. Carl Demetropoulos

Unarmored threespine stickleback was not observed in Reach 109 during this survey. No water was present in the reach. However, unarmored threespine stickleback were previously found in this reach in 2009, 2010, and 2011 (BonTerra Consulting 2009, 2010, 2011).

SECTION 4.0 REFERENCES

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² The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) effective January 1, 2013.

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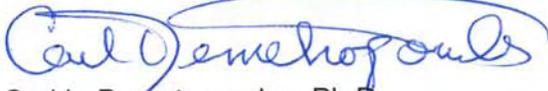
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APPENDIX A
SURVEYOR CERTIFICATE STATEMENT

SURVEYOR CERTIFICATE STATEMENT

I certify that the information in this survey report and enclosed exhibits fully and accurately represent our work.



Carl L. Demetropoulos, Ph.D.
Senior Fisheries Biologist
(TE-72044A-0)

APPENDIX B
CALIFORNIA NATURAL DIVERSITY DATABASE
(CNDDDB) FIELD SURVEY FORM

Source Code _____ Quad Code _____
 Elm Code _____ Occ. No. _____
 EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 08/30/2012

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Gasterosteus aculeatus williamsoni

Common Name: Unarmored threespine stickleback

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: Dr. Carl L. Demetropoulos

Address: 185 Erten St.
Thousand Oaks, CA 91360

E-mail Address: cdemetropoulos@bonterraconsulting.com

Phone: 805-760-1350

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)

County: Los Angeles Landowner / Mgr.: _____

Quad Name: Mint Canyon (3411844) Elevation: _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model Garmin GPSMAP 60csx

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy +/- 3 meter meters/feet

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

Coordinates: 11S 360810.56 / E 3812287.51

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):
Darting in and out of aquatic vegetation.

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: Bouquet Canyon Creek, within the Santa Clara River Watershed -- urban development.

Visible disturbances:

Threats: Threatened by flooding, poor water quality, and development.

Comments: Surveyed reach approximately 122 feet downstream of Urbandale Avenue to approximately 54 feet downstream of the middle crossing of Bouquet Canyon Road. Underwater videography showed 3 unarmored threespine stickleback in a cement constructed riprap plunge pool with dimensions of approximately 3 feet deep by 6.5 feet by 18 feet, longest dimension running perpendicular to the main axis of the reach. Vegetation was present on both the south and north sides of this pool and would have provided cover for larval, juvenile, and adult

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): Dr. Jonathan N. Baskin
- Other: _____

Photographs: (check one or more) Slide Print Digital
 Plant / animal
 Habitat
 Diagnostic feature

May we obtain duplicates at our expense? yes no

APPENDIX C
CALIFORNIA NATURAL DIVERSITY DATABASE
(CNDDDB) SEARCH RESULTS



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	02738	EO Index:	14835
Key Quad:	Glendora (3411727)	Element Code:	AFCJC02190
Occurrence Number:	2	Occurrence Last Updated:	2010-11-19

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1 State: S1	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2006-08-XX	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2006-08-XX	Occurrence Rank:	Good
Owner/Manager:	USFS-ANGELES NF	Trend:	Unknown
Presence:	Presumed Extant		

Location:
EAST FORK SAN GABRIEL RIVER (EFSGR) & CATTLE CANYON/CREEK (CC).

Detailed Location:
S1 = EFSGR, E SIDE OF CAMP OAK GROVE. S2 = EFSGR AT COYOTE FLAT. S3 = EFSGR ABOUT 0.7 MI N OF COYOTE FLAT. S4 = CC NEAR JUNCTION WITH DIME CANYON. EFSGR-N = EFSGR NORTH OF CC. SWIFT OBS THROUGHOUT EFSGR & CC. ALSO SEE OCC#3 FOR SKI OBS.

Ecological:
MONTANE STREAM WITH COBBLE, BOULDERS, GRAVEL. OVERHANGING TREE CANOPY OF WILLOWS, ALDERS, AND MISC OTHERS. SKIDMORE MARKED HABITAT AS 'GOOD,' CHAPMAN, MARTIN & SAIKI MARKED IT AS 'EXCELLENT.'

Threats:
TUNGSTEN MINE MAY THREATEN HABITAT. MAN MADE DAMS FOR MINING. 2003: 2002 FIRE & THEN RAINY SEASON. 2006: OHV.

General:
'75: OBS IN CC & EFSGR-N. '97: 236 OBS IN EFSGR & 107 IN CC. '99: 369 OBS AT S2 & 164 AT S3. '00-'02: 300+ OBS AT HEATON FLAT. '03: 9 OBS AT S1, 22 AT S2 & 4 AT S4. '04: 376 OBS AT S1. '06: 16,496 OBS IN EF&WFSGR (SKI).

PLSS:	T02N, R09W (S)	Accuracy:	specific area	Area (acres):	852
UTM:	Zone-11 N3790247 E430101	Latitude/Longitude:	34.25100 / -117.75914	Elevation (feet):	2,000

County Summary:	Quad Summary:
Los Angeles	Mt. Baldy (3411726), Glendora (3411727), Mount San Antonio (3411736), Crystal Lake (3411737)



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

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CHA04F0050 CHAPMAN, TODD (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-05-02

CHA04F0063 CHAPMAN, TODD (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-10-10

CHA04F0064 CHAPMAN, TODD (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-10-10

CSU83U0002 CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09

DFG97R0001 CALIFORNIA DEPARTMENT OF FISH & GAME - MEMO, REGION 5: WITH SUBJECT "FISH SURVEY ON THE EAST FORK OF THE SAN GABRIEL RIVER (EFSGR) AND CATTLE CREEK." 1997-08-20

HAG02R0001 HAGLUND, T. & J. BASKIN (CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA) - HABITAT AND RESOURCE UTILIZATION BY THE SANTA ANA SUCKER (CATOSTOMUS SANTANNAE) AND THE SANTA ANA SPECKLED DACE (RHINICHTHYS OSCULUS SSP) IN THE EAST FORK OF THE SAN GABRIEL RIVER 2002-01-21

MAR99F0019 MARTIN, BARBARA (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-09-14

MAR99F0020 MARTIN, BARBARA (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-09-15

MAR99F0021 MARTIN, BARBARA (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-12-14

MAR99F0022 MARTIN, BARBARA (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-12-15

SAI98F0002 SAIKI, MICHAEL K. (U.S. GEOLOGICAL SURVEY) - 2 FIELD SURVEY FORMS FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) [BOTH FORMS FROM DECEMBER] 1998-12-17

SAI99F0003 SAIKI, MICHAEL K. (U.S. GEOLOGICAL SURVEY) - 4 FIELD SURVEY FORMS FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) [2 FORMS FROM MARCH AND 2 FROM JUNE] 1999-06-18

SKI06F0003 SKIDMORE, S. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2006-06-13

SWI83M0001 SWIFT, CAMM - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX

WEL75R0001 WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 75007
Key Quad: Azusa (3411728)
Occurrence Number: 3

EO Index: 28610
Element Code: AFCJC02190
Occurrence Last Updated: 2010-05-06

Scientific Name: *Catostomus santaanae*

Common Name: Santa Ana sucker

Listing Status: **Federal:** Threatened
 State: None
CNDDDB Element Ranks: **Global:** G1
 State: S1

Rare Plant Rank:
Other Lists: AFS_TH-Threatened
 CDFW_SSC-Species of Special Concern
 IUCN_VU-Vulnerable

General Habitat:
 ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.

Micro Habitat:
 HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER
 BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 2006-08-XX
Last Survey Date: 2006-08-XX
Owner/Manager: USFS-ANGELES NF
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Good
Trend: Unknown

Location:
 N FORK SAN GABRIEL RIVER, W FORK SAN GABRIEL RIVER, FROM 1 KM BELOW MOUTH OF E FORK, & BEAR CREEK (BC), ANGELES NF.

Detailed Location:
 S1=WFSGR @ BEAR CREEK. S2=WFSGR JUST WEST OF LITTLE MERMAIDS CYN. S3=WFSGR BETWEEN NFSGR & RESERVOIR. S4=WFSGR @
 GLEN CAMPGROUND. S5=BC NEAR WFSGR. S6=BC 1.6KM ABOVE WFSGR. S7=BC AT WEST FORK BC. S8=NFSGR 1.1 MI N OF WFSGR.

Ecological:
 1975: RIPARIAN OF ALDER, WILLOW, & OAK. 1999: RIPARIAN W/ POPULUS, PLATANUS RACEMOSA & SALIX. 2003: STREAM VARIES FROM
 WIDE/SHALLOW TO NARROW/DEEP. ASSOC W/ SPECKLED DACE, RAINBOW TROUT N FORK; ASSOC W/ RAINBOW TROUT, BLACK BULLHEAD W
 FORK.

Threats:
 POLLUTION & HUMAN RECREATION. LOW RAINFALL IN 2001-02. 2 WILDFIRES IN 2002 THEN HEAVY RAIN. BASS. 2006: OHV.

General:
 1974: 4 OBS AT S4. 45 OBS IN '75. '99: 3 @ S1. '00: UNK # AT S3 & MANY JUV'S @ E FORK BRIDGE. '01: 15 @ S1. '02: 600+ LARV, JUV'S & YOY
 MOUTH OF W& E FORKS TO HWY 39. '03: 545 @ MULT STATIONS. '04: 74 AT S1. '06:16,496 AT EF&WFSGR (OCC#2).

PLSS: T02N, R10W, Sec. 22 (S) **Accuracy:** specific area **Area (acres):** 1,293
UTM: Zone-11 N3789444 E415308 **Latitude/Longitude:** 34.24265 / -117.91970 **Elevation (feet):** 1,600

County Summary:
 Los Angeles

Quad Summary:
 Glendora (3411727), Azusa (3411728), Crystal Lake (3411737), Waterman Mtn. (3411738)



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

ALL00F0001	ALLY, J.R. RAYMOND (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 2000-05-09
ALL04R0001	ALLY, J.R. RAYMOND (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE) - RESULTS OF ELECTROFISHING SURVEYS DONE IN THE SAN GABRIEL RIVER (WEST, NORTH AND EAST FORKS) AND TRIBUTARIES OF BEAR CREEK AND CATTLE CANYON DURING JUNE AND JULY 2003. 2004-03-30
CHA01F0011	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2001-08-25
CHA03F0006	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2003-08-02
CHA03F0007	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2003-08-02
CHA03F0014	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2003-11-02
CHA03F0015	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2003-11-02
CHA04F0049	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-05-01
CHA04F0061	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-10-09
CHA04F0062	CHAPMAN, T. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-10-09
CSU83U0002	CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09
DAV99F0007	DAVIS, N. & D. SOLTZ - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1999-10-30
SKI06F0003	SKIDMORE, S. (CHAMBERS GROUP, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2006-06-13
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
SWI83M0002	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX
SWI83M0003	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX
SWI83M0004	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX
TEN01U0001	TENNANT, P. - RESULT OF SURVEYS CONDUCTED FOR THE SANTA ANA SUCKER ON THE SAN GABRIEL RIVER, AUGUST 25 AND 26 2001. 2001-10-06
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	00850	EO Index:	28607
Key Quad:	Val Verde (3411846)	Element Code:	AFCJC02190
Occurrence Number:	6	Occurrence Last Updated:	2009-05-13

Scientific Name:	<i>Catostomus santaanae</i>		
Common Name:	Santa Ana sucker		
Listing Status:	Federal:	Threatened	Rare Plant Rank:
	State:	None	Other Lists:
CNDDDB Element Ranks:	Global:	G1	AFS_TH-Threatened
	State:	S1	CDFW_SSC-Species of Special Concern
			IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	1975-07-12	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1975-07-12	Occurrence Rank:	Unknown
Owner/Manager:	PVT	Trend:	Unknown
Presence:	Presumed Extant		

Location:
HASLEY CANYON 3.2 KM EAST OF VAL VERDE, SANTA CLARA RIVER DRAINAGE.

Detailed Location:
WELLS LOCATION AT STATION 5, HASLEY CANYON 3.2 KM E OF VAL VERDE, T04N R17W S11. ALSO CITED IN CSU & MAPPED IN SWI. MAP WITH LOCATION PROVIDED IN ALL THREE SOURCES.

Ecological:
BANK PLANTS ARE WILLOW, SALT CEDAR & COTTONWOOD.

Threats:
General:
1 CAPTURED ON 12 JUL 1975.

PLSS:	T04N, R17W, Sec. 11 (S)	Accuracy:	nonspecific area	Area (acres):	51
UTM:	Zone-11 N3813192 E350214	Latitude/Longitude:	34.44940 / -118.63052	Elevation (feet):	1,120

County Summary:	Quad Summary:
Los Angeles	Newhall (3411845), Val Verde (3411846)

Sources:

CSU83U0002	CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09
SWI83M0007	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE 1983-08-XX
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 01933	EO Index: 14836	
Key Quad: Sunland (3411833)	Element Code: AFCJC02190	
Occurrence Number: 7	Occurrence Last Updated: 2010-05-19	

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 2007-05-10	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2007-05-10	Occurrence Rank: Poor
Owner/Manager: USFS-ANGELES NF, PVT	Trend: Decreasing
Presence: Presumed Extant	

Location:
BIG TUJUNGA CREEK & PART OF HAINES CREEK, FROM HANSEN DAM E TO DELTA FLAT, N OF SUNLAND, LOS ANGELES COUNTY.

Detailed Location:
SWIFT: SPECIES COLLECTED AT HANSEN DAM IN 1972. 2001-06: TUJUNGA CRK @ FOOTHILL BRIDGE DOWNSTREAM TO JUNCTION WITH HAINES CREEK. 1999-2007: HAINES CREEK AND OUTLET STREAMS OF PONDS N OF HAINES CREEK, SW OF I-215 - NO FISH FOUND IN PONDS.

Ecological:
BANK VEGETATION IS ALNUS SP. AQUATIC VEGETATION OF CHARA & POTOMOGETON. ALSO FILAMENTOUS GREEN ALGAE IN PLACES. LOWER REACH DRIES EVERY YEAR.

Threats:

General:

1975: 15 FISH @ HANSEN DAM. FISH OBS IN '83. 5-7 ADULTS, 200 LARV & 1 JUV 18 MAY 2001. 12 FISH 1.5 KM S OF I-210 ON 8 MAY '02. 15 ADULTS & 50+ LARV APR '03. 0 OBS IN FOOTHILL POOL '06. 2001-06: SUCKERS COMMON IN HAINES CREEK, NONE IN PONDS.

PLSS: T02N, R14W, Sec. 11 (S)	Accuracy: nonspecific area	Area (acres): 634
UTM: Zone-11 N3793210 E378752	Latitude/Longitude: 34.27299 / -118.31712	Elevation (feet): 1,200

County Summary: Los Angeles	Quad Summary: Sunland (3411833), San Fernando (3411834)
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Sources:

CSU83U0002	CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09
LAC02S0003	LACM - LOS ANGELES COUNTY MUSEUM FISH COLLECTION RECORDS FOR CATOSTOMUS SANTAANAE COLLECTED IN 2002. 2002-05-08
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
SWI83M0005	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX
SWI93R0001	SWIFT, C., T. HAGLUND, M. RUIZ & R. FISHER - THE STATUS AND DISTRIBUTION OF THE FRESHWATER FISHES OF SOUTHERN CALIFORNIA. BULLETIN OF THE SOUTHERN CALIFORNIA ACADEMY OF SCIENCE 92(3):101-167. 1993-12-XX
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	00497	EO Index:	13484
Key Quad:	Piru (3411847)	Element Code:	AFCJC02190
Occurrence Number:	9	Occurrence Last Updated:	2010-05-03

Scientific Name:	<i>Catostomus santaanae</i>		
Common Name:	Santa Ana sucker		
Listing Status:	Federal:	Threatened	Rare Plant Rank:
	State:	None	Other Lists:
CNDDB Element Ranks:	Global:	G1	AFS_TH-Threatened
	State:	S1	CDFW_SSC-Species of Special Concern
			IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2007-10-09	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2007-10-09	Occurrence Rank:	Good
Owner/Manager:	PVT	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 SANTA CLARA RVR FROM SANTA PAULA TO VALENCIA, 9MI OF SESPEE CRK, PIRU CRK S OF LAKE, & CASTAIC CRK FROM 126 TO COMMERCE.

Detailed Location:
 FAW: "SESPE CRK AT RR CROSSING." WEL STATIONS WITH OBS: #4-5, 7-12, 28-29 & 31. LACM: "SANTA CLARA RIVER @ FILLMORE" & "SANTA CLARA RIVER BETWEEN HWY23 & SESPE CRK." COU05F05: "CASTAIC CRK U/S OF HWY 126 & D/S OF COMMERCE CENTER BRIDGE."

Ecological:
 HYBRIDIZES W/OWENS SUCKER IN LOWER PARTS OF DRAINAGE (S OF FILMORE).

Threats:
General:
 18 OBS AT STATION #8 & 14 AT #4 IN JUL '75 (WEL/CSU).4 OBS IN '92. 2 OBS IN '96, 22 IN '97, 455 IN '98, 1 IN '99. 51 IN 2000. 60 PIT IN DEC '00. 80 COLL IN '03; DEP @ LACM. 1 OBS IN '04 & 111 IN '05. COMMON OBS IN '07. 39 DEAD OBS OCT '07.

PLSS:	T04N, R18W, Sec. 29 (S)	Accuracy:	nonspecific area	Area (acres):	3,770
UTM:	Zone-11 N3807874 E335753	Latitude/Longitude:	34.39926 / -118.78686	Elevation (feet):	650

County Summary:	Quad Summary:
Los Angeles, Ventura	Moorpark (3411838), Newhall (3411845), Val Verde (3411846), Piru (3411847), Fillmore (3411848), Santa Paula (3411931)



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

BEL78R0001	BELL, MICHAEL A. (UNIVERSITY OF CALIFORNIA, LOS ANGELES) - FISHES OF THE SANTA CLARA RIVER SYSTEM, SOUTHERN CALIFORNIA. NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY CONTRIBUTIONS IN SCIENCE. NUMBER 295. MAY 15, 1978. 1978-XX-XX
COU00F0037	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE IN THE SANTA CLARA RIVER AT CASTAIC JUNCTION 2000-05-23
COU00F0038	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE IN THE SANTA CLARA RIVER BETWEEN HUMBLE CROSSING AND LONG CANYON CROSSING 2000-08-03
COU00F0039	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE IN THE SANTA CLARA RIVER BETWEEN ALFALFA AND MAYO CROSSINGS 2000-08-03
COU00F0040	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE IN THE SANTA CLARA RIVER BETWEEN MAYO AND SALT CREEK CROSSINGS 2000-08-10
COU00F0041	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE IN THE SANTA CLARA RIVER BETWEEN SALT CREEK AND SUMMER CROSSINGS 2000-08-10
COU00F0042	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE IN THE SANTA CLARA RIVER BETWEEN SUMMER CROSSING AND CAMULOS DIVERSION 2000-08-16
COU00F0043	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2000-10-12
COU04F0003	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE AT MAYO CROSSING ON THE SANTA CLARA RIVER 2004-03-29
COU05F0003	COURTOIS, L. (AQUATIC CONSULTING SERVICES) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2005-01-21
COU05F0006	COURTOIS, L. (AQUATIC CONSULTING SERVICES) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2005-02-15
COU05F0009	COURTOIS, L. (AQUATIC CONSULTING SERVICES) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2005-02-17
COU05F0011	COURTOIS, L. (AQUATIC CONSULTING SERVICES) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2005-07-05
COU05F0013	COURTOIS, L. (AQUATIC CONSULTING SERVICES) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2005-07-06
COU93F0002	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1993-04-04
COU97F0003	COURTOIS, L. - 3 FIELD SURVEY FORMS FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER), DATES COLLECTED: 4/14; 9/2; 12/22. 1997-12-22
COU98F0003	COURTOIS, L. - 15 FIELD SURVEY FORMS FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER); DATES COLLECTED: 2/13, 19; 3/4, 12, 13, 19, 20, 24, 27; 4/30; 5/26; 6/25; 10/20. 1998-10-20
COU99F0044	COURTOIS, L. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-10-14
CSU83U0002	CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09
FAW94U0001	FAWCETT, M.H. - SCIENTIFIC COLLECTING PERMIT FOR ARROYO CHUB, SANTA ANA SUCKER, TIDEWATER GOBY, SOUTHERN STEELHEAD & RED-LEGGED FROG. 1994-02-19
LAC03S0001	LACM - LOS ANGELES COUNTY MUSEUM FISH COLLECTION RECORDS FOR CATOSTOMUS SANTAANAE FROM 2003. 2003-XX-XX
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
SWI83M0006	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	75017	EO Index:	28605
Key Quad:	Azusa (3411728)	Element Code:	AFCJC02190
Occurrence Number:	11	Occurrence Last Updated:	2009-05-13

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: None	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
CNDDDB Element Ranks:	Global: G1		
	State: S1		

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	1975-XX-XX	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1986-07-02	Occurrence Rank:	None
Owner/Manager:	PVT	Trend:	Unknown
Presence:	Possibly Extirpated		

Location:
 FISH CANYON, 0.7 MILES DOWNSTREAM FROM CONFLUENCE OF FERN CANYON.

Detailed Location:
 SWI83 & CSU83 BOTH REFER TO WEL75 OCCURANCE, AT AN "ADDITIONAL POOL APPROX 200 M UPSTREAM FROM STATION 4," WHERE STATION 4 WAS PLOTTED ON A MAP. HOS CITES LOCATION AS "FISH CYN - EO#11."

Ecological:
 1975: ARROYO CHUB, SPECKLED DACE & RAINBOW TROUT ALSO FOUND IN THE LOWER REACHES. 1986: RAINBOW TROUT & DACE FOUND.

Threats:
General:
 1975: 9 OBS BY WELLS. 1986: NONE OBS; PRESUMED EXTIRPATED. IT APPEARS THAT SWI83 & CSU83 REFER TO THE WELLS 1975 OBSERVATION.

PLSS:	T01N, R10W, Sec. 21 (S)	Accuracy:	nonspecific area	Area (acres):	33
UTM:	Zone-11 N3780350 E414728	Latitude/Longitude:	34.16060 / -117.92510	Elevation (feet):	800

County Summary:	Quad Summary:
Los Angeles	Azusa (3411728)

Sources:

CSU83U0002	CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09
HOS86F0003	HOSHOVSKY, M. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1986-07-02
SWI83M0008	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE 1983-08-XX
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	00563	EO Index:	508
Key Quad:	Cobblestone Mtn. (3411857)	Element Code:	AFCJC02190
Occurrence Number:	12	Occurrence Last Updated:	2009-08-24

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened State: None	Rare Plant Rank:	
CNDDB Element Ranks:	Global: G1 State: S1	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	1975-07-11	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1975-07-11	Occurrence Rank:	Unknown
Owner/Manager:	USFS-LOS PADRES NF	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 PIRU CREEK FROM ABOUT BLUE POINT CAMPGROUND TO ABOUT 1.4 MI SOUTH OF ELLIS APIARY CAMPGROUND, LOS PADRES NATIONAL FOREST.

Detailed Location:
 WELLS' OBSERVATIONS AT STATION 4 (AT "R18W T5N SEC10, 0.1 KM ABOVE BLUE POINT CAMPGROUND") AND AT STATION 44 (GENERAL LOC PLOTTED ON A MAP - NORTH HALF OF FEATURE). SWI83 & CSU83 DATA ARE BASED ON WEL75 DATA.

Ecological:

Threats:
General:
 UNKNOWN NUMBER DETECTED AT STATION 44 IN 1975 (WEL). 19 TAKEN AT STATION 4 ON 11 JUL 1975 (WEL). IT APPEARS THAT SWI83 & CSU83 REFER TO A CNDDB OCC WHICH IN TURN WAS BASED ON THE WELLS 1975 OBSERVATIONS.

PLSS: T05N, R18W, Sec. 10 (S)	Accuracy: nonspecific area	Area (acres): 118
UTM: Zone-11 N3823328 E338441	Latitude/Longitude: 34.53898 / -118.76055	Elevation (feet): 1,120

County Summary:	Quad Summary:
Ventura	Cobblestone Mtn. (3411857)

Sources:

CSU83U0002	CSUTI, BLAIR - TNC ELEMENT PRESERVATION PLAN WRITTEN BY B. CSUTI WITH EDITORIAL COMMENTS BY CAMM SWIFT. 1983-08-09
SWI83M0006	SWIFT, C. - PARTIAL DISTRIBUTION MAPS FOR CATOSTOMUS SANTAANAE - WITH CORRECTIONS 1983-08-XX
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	01944	EO Index:	14833
Key Quad:	Agua Dulce (3411843)	Element Code:	AFCJC02190
Occurrence Number:	13	Occurrence Last Updated:	2006-09-06

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: None	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
CNDDDB Element Ranks:	Global: G1		
	State: S1		

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	1993-08-04	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1993-08-04	Occurrence Rank:	Fair
Owner/Manager:	PVT	Trend:	Decreasing
Presence:	Presumed Extant		

Location:
 SANTA CLARA RIVER, FROM LANG TO ARRASTRE CYN (1978). 2.5 MILES EAST FROM LANG & THE ANELOPE VALLEY FREEWAY (1993).

Detailed Location:
 COLLECTED AT 8 SITES ALONG STREAM LENGTH SEARCHED (1978).

Ecological:
 WILLOW/ BACCHARIS RIPARIAN WITH OVERSTORY OF COTTONWOOD AND LIVE OAK. RECENTLY SCOURED BY HEAVY RAINS AND HIGH WATER FLOWS IN PREVIOUS 2 WINTERS (1993).

Threats:
 (1993) WATER DIVERSIONS & IMPOUNDMENTS FROM PVT CAMPGROUNDS, URBANIZATION, HAZARDOUS WASTE FROM SP RAILROAD & RECREATION

General:
 1993 SAMPLE SITE WAS LOCATED, T4N, R14W, SECTION 11. THERE WERE 15 SAMPLE POINTS WITH A TOTAL OF 4 FISH OBSERVED AT 3 OF THOSE POINTS. OTHER RARE SPECIES SEEN GASTEROSTEUS ACULEATUS WILLIAMSONI & GILA ORCUTTI

PLSS:	T04N, R14W, Sec. 12 (S)	Accuracy:	specific area	Area (acres):	701
UTM:	Zone-11 N3811699 E380642	Latitude/Longitude:	34.43990 / -118.29916	Elevation (feet):	2,000

County Summary:	Quad Summary:
Los Angeles	Acton (3411842), Agua Dulce (3411843)

Sources:

BAU93F0002	BAUTISTA, S. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1993-08-04
BEL78R0001	BELL, MICHAEL A. (UNIVERSITY OF CALIFORNIA, LOS ANGELES) - FISHES OF THE SANTA CLARA RIVER SYSTEM, SOUTHERN CALIFORNIA. NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY CONTRIBUTIONS IN SCIENCE. NUMBER 295. MAY 15, 1978. 1978-XX-XX



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	17708	EO Index:	11603
Key Quad:	Orange (3311777)	Element Code:	AFCJC02190
Occurrence Number:	14	Occurrence Last Updated:	1991-10-31

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: None	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
CNDDB Element Ranks:	Global: G1		
	State: S1		

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	XXXX-XX-XX	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	XXXX-XX-XX	Occurrence Rank:	Unknown
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
WALNUT CANYON, BELOW WALNUT CANYON RESERVOIR

Detailed Location:

Ecological:

Threats:

General:

OBSERVATION BY ROBERT FISHER, UC IRVINE.

PLSS:	T04S, R08W (S)	Accuracy:	nonspecific area	Area (acres):	29
UTM:	Zone-11 N3744969 E429300	Latitude/Longitude:	33.84262 / -117.76416	Elevation (feet):	500

County Summary:	Quad Summary:
Orange	Orange (3311777)

Sources:
BOW85R0002 BOWLER, P. & S. BROWN - AREAS OF CRITICAL ENVIRONMENTAL CONCERN IN ORANGE COUNTY, CALIFORNIA. PUBLISHED BY SEA AND SAGE AUDUBON SOCIETY. 1985-03-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 21784	EO Index: 10040
Key Quad: Riverside West (3311784)	Element Code: AFCJC02190
Occurrence Number: 18	Occurrence Last Updated: 2010-06-29

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 2002-05-31	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-05-31	Occurrence Rank: Unknown
Owner/Manager: CITY OF RIVERSIDE, UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
LAKE EVANS DRAIN, N OF TEQUESITO ARROYO CONFLUENCE, 0.5 MI S OF POMONA FWY (SR 60) & JCT OF SANTA ANA RIVER, RIVERSIDE.

Detailed Location:
CHADWICK & ASSOCIATES SITE #R-1. JUST SOUTH OF FAIRMONT PARK GOLF COURSE. MAPPED ACCORDING TO MAP AND DETAILED LOCATION PROVIDED.

Ecological:
Threats:

General:
1991: 10 INDIVIDUALS COLLECTED, EST 109 FISH/KM. 7 APR 2000: FEW ADULTS OBS. 22 JUNE '00: JUV SUCKERS ABUNDANT. JUVENILE SUCKERS COMMON IN EVANS LAKE DRAIN AND RIVER ON 31 MAY 2002.

PLSS: T02S, R05W, Sec. 15 (S)	Accuracy: 1/5 mile	Area (acres): 0
UTM: Zone-11 N3761608 E464538	Latitude/Longitude: 33.99445 / -117.38397	Elevation (feet): 780

County Summary: Riverside	Quad Summary: Riverside West (3311784)
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Sources:

CAN91F0007	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91U0001	CANTON, S. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - REPORT OF SPECIMENS TAKEN UNDER 1990 SCIENTIFIC COLLECTING PERMIT #2018 (MULTIPLE FISH SPECIES). 1991-XX-XX
CHA92R0001	CHADWICK & ASSOCIATES, INC. - SANTA ANA RIVER USE - ATTAINABILITY ANALYSIS VOL. 2 AQUATIC BIOLOGY, HABITAT & TOXICITY ANALYSIS. 1992-05-XX
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	21786	EO Index:	701
Key Quad:	Riverside West (3311784)	Element Code:	AFCJC02190
Occurrence Number:	21	Occurrence Last Updated:	2010-07-30

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: None	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
CNDDDB Element Ranks:	Global: G1		
	State: S1		

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2005-03-29	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2005-03-29	Occurrence Rank:	Fair
Owner/Manager:	PVT, UNKNOWN, RIV COUNTY	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 SANTA ANA RIVER, 1.7MI W OF VAN BUREN BLVD, E TO SUNNYSLOPE CHANNEL, TEQUESQUITO ARROYO, & ANZA PARK NARROWS, RIVERSIDE.

Detailed Location:
 FROM SOUTH OF PARADISE KNOLLS GOLF COURSE UPSTREAM TO 0.8 MILES ABOVE THE UNION PACIFIC RAILROAD TRACKS, & UP SUNNYSLOPE CHANNEL, TEQUESQUITO ARROYO, & ANZA PARK NARROWS.

Ecological:
 SOUTHERN COTTONWOOD WILLOW RIPARIAN FOREST. DOWNSTREAM FROM RIVERSIDE NARROWS WHERE GROUNDWATER IS FORCED TO THE SURFACE & FLOWS MORE PERENNIAL & STABLE. 2005: SUNNYSLOPE CREEK MUCH ELONGATED DUE TO CHANGES IN MAINSTREAM CHANNEL OR RIVER.

Threats:
 FLOWS INCREASE QUICKLY DUE TO UPSTREAM DISCHARGE BRINGING TURBID WATER DOWNSTREAM. DEVELOPMENT.

General:
 OBS/COLLECTIONS FROM VARIOUS SITES THROUGHOUT THIS AREA. 6 APR 1987: LACM #44622 FROM NEAR MCLEON RIDING PARK. 1991: 533 FISH. '95: 20. '96: 45. '97: 113. '98: 40. '99: 130. 2000: 122. '01: 39. SUNNYSLOPE CHANNEL 2000-'05: COMMON.

PLSS: T02S, R05W, Sec. 30 (S)	Accuracy: nonspecific area	Area (acres): 602
UTM: Zone-11 N3758736 E459168	Latitude/Longitude: 33.96837 / -117.44198	Elevation (feet): 700

County Summary:	Quad Summary:
Riverside	Riverside West (3311784)



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Sources:

BUR00F0002	BURTON, C. (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 2000-07-12
BUR00F0031	BURTON, C. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2000-09-20
BUR01F0006	BURTON, C. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2001-07-27
BUR99F0004	BURTON, C. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1999-07-27
CAN91F0003	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91F0004	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91F0008	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91F0009	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91F0010	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91U0001	CANTON, S. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - REPORT OF SPECIMENS TAKEN UNDER 1990 SCIENTIFIC COLLECTING PERMIT #2018 (MULTIPLE FISH SPECIES). 1991-XX-XX
CHA92R0001	CHADWICK & ASSOCIATES, INC. - SANTA ANA RIVER USE - ATTAINABILITY ANALYSIS VOL. 2 AQUATIC BIOLOGY, HABITAT & TOXICITY ANALYSIS. 1992-05-XX
LAC87S0004	LACM - LOS ANGELES COUNTY MUSEUM OF NATURAL HISTORY COLLECTION RECORD FOR CATOSTOMUS SANTAANAE IN THE SANTA ANA RIVER. 1987-04-06
MAR99F0015	MARTIN, B. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-09-16
MAR99F0016	MARTIN, B. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-12-16
MAR99F0017	MARTIN, B. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-09-17
MAR99F0018	MARTIN, B. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1999-12-17
ROD96F0005	RODRIGUEZ, R. (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1996-08-22
SAI98F0004	SAIKI, M.K. - 2 FIELD SURVEY FORMS FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) [BOTH FORMS FROM DECEMBER] 1998-12-14
SAI99F0005	SAIKI, M.K. - 4 FIELD SURVEY FORMS FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) [2 FORMS FROM MARCH AND 2 FROM JUNE] 1999-06-21
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
WIN95F0004	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1995-08-02
WIN96F0005	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1996-08-23
WIN97F0003	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1997-08-05
WIN98F0008	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1998-08-05



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 21446	EO Index: 20193
Key Quad: Corona North (3311785)	Element Code: AFCJC02190
Occurrence Number: 22	Occurrence Last Updated: 2010-05-12

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 2001-09-25	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-07-09	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, FROM HAMNER AVENUE BRIDGE UPSTREAM TO CALIFORNIA AVE, JUST DOWNSTREAM FROM HIDDEN VALLEY WA, NORCO.

Detailed Location:
MAPPED ACCORDING TO MAP AND DETAILED LOCATION PROVIDED. NO SUCKERS FOUND IN JUNE 2000 SURVEY OR JULY 2002 SNORKEL SURVEY.

Ecological:
FISH COMMUNITY DOMINATED BY MOSQUITOFISH, FATHEAD MINNOWS & YELLOW BULLHEADS.

Threats:
General:
1991:3 COLL (CAN). 18 IN JUNE & 9 IN NOV. 3 ADULTS & 2 JUV'S ON 6 AUG '97. JUN 2000: 0 OBS. JULY 2000: SNORKELED & SEINED 6 JUV'S OBS. SEINING MAY '01: JUV'S COMMON. 25 SEP '01:1 FISH TRANSPLANTED FROM ARCHIBALD AVE BRIDGE. JUL 2002: 0 OBS.

PLSS: T02S, R06W, Sec. 31 (S)	Accuracy: nonspecific area	Area (acres): 147
UTM: Zone-11 N3757240 E449573	Latitude/Longitude: 33.95446 / -117.54575	Elevation (feet): 600

County Summary: Riverside	Quad Summary: Corona North (3311785)
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Sources:

CAN91F0012	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
CAN91U0001	CANTON, S. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - REPORT OF SPECIMENS TAKEN UNDER 1990 SCIENTIFIC COLLECTING PERMIT #2018 (MULTIPLE FISH SPECIES). 1991-XX-XX
CHA92R0001	CHADWICK & ASSOCIATES, INC. - SANTA ANA RIVER USE - ATTAINABILITY ANALYSIS VOL. 2 AQUATIC BIOLOGY, HABITAT & TOXICITY ANALYSIS. 1992-05-XX
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
TEN01R0001	TENNANT, P. - RESULTS OF SURVEY ACTIVITIES FOR THE SANTA ANA SUCKER (CATOSTOMUS SANTAANAE) ON THE SANTA ANA RIVER AT RIVER ROAD IN RIVERSIDE, CALIFORNIA. 2001-11-01
WIN97F0001	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1997-08-06



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 21422	EO Index: 10042
Key Quad: Orange (3311777)	Element Code: AFCJC02190
Occurrence Number: 23	Occurrence Last Updated: 2010-05-10

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 2000-09-25	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2000-09-25	Occurrence Rank: Unknown
Owner/Manager: ORA COUNTY	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, AT IMPERIAL HIGHWAY (SR 90) BRIDGE JUST NORTH OF RIVERSIDE FWY (SR 91) JCT, YORBA LINDA, ORANGE COUNTY.

Detailed Location:
PART OF SANTA ANA RIVER GREENBELT. MAPPED ACCORDING TO T&R AND LOCATION PROVIDED. 1996: SUCKERS WERE RARE IN THIS SECTION OF THE RIVER. 11 FISH/KM FOUND IN JUNE, 0 IN AUGUST, & 11 FISH/KM IN NOVEMBER.

Ecological:

Threats:
SITE DOMINATED BY CARP, LARGEMOUTH BASS, FATHEAD MINNOW & YELLOW BULLHEAD.

General:
15 SEP 1987: LACM #44383.001. 1991: CHADWICK & ASSOCSITE #12; 2 COLLECTED. 1995: 3 ADULTS, 50 JUV'S OBS. 1996:1 JUV OBS. 2000: NONE IN 17 SEINE HAULS ON 24 MAR. 10 FISH TRAPPED & RELOCATED NEAR MISSION BLVD BETWEEN 20-25 SEPT.

PLSS: T04S, R09W, Sec. 02 (S)	Accuracy: nonspecific area	Area (acres): 57
UTM: Zone-11 N3746683 E427086	Latitude/Longitude: 33.85793 / -117.78823	Elevation (feet): 280

County Summary: Orange	Quad Summary: Orange (3311777)
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- Sources:**
- CAN91F0011 CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-XX-XX
 - CAN91U0001 CANTON, S. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - REPORT OF SPECIMENS TAKEN UNDER 1990 SCIENTIFIC COLLECTING PERMIT #2018 (MULTIPLE FISH SPECIES). 1991-XX-XX
 - CHA92R0001 CHADWICK & ASSOCIATES, INC. - SANTA ANA RIVER USE - ATTAINABILITY ANALYSIS VOL. 2 AQUATIC BIOLOGY, HABITAT & TOXICITY ANALYSIS. 1992-05-XX
 - LAC87S0001 LACM - LOS ANGELES COUNTY MUSEUM OF NATURAL HISTORY COLLECTION RECORD FOR CATOSTOMUS SANTAANAE IN THE SANTA ANA RIVER. 1987-09-15
 - SWI09R0001 SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
 - WIN95F0003 WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1995-08-01
 - WIN96F0008 WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1996-08-19



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 25143	EO Index: 5940
Key Quad: Harrison Mtn. (3411722)	Element Code: AFCJC02190
Occurrence Number: 24	Occurrence Last Updated: 2000-02-24

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 1982-08-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1982-08-XX	Occurrence Rank: Good
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
WEST FORK CITY CREEK, 3.5 MILES NORTH OF HIGHLAND AVENUE. 0.5 MILE UPSTREAM OF CROSSING OF FOREST SERVICE RD 1N32.

Detailed Location:

Ecological:

HABITAT CONSISTS OF A SOUTH COAST MINNOW/SUCKER STREAM. ASSOCIATED AQUATIC TAXA INCLUDE RED-LEGGED FROG, PACIFIC SPECKLED DACE, PACIFIC TREE FROG, & INTRODUCED BROWN TROUT.

Threats:

General:

UNKNOWN NUMBER COLLECTED FROM A SINGLE COLLECTION SITE.

PLSS: T01N, R03W, Sec. 10 (S)	Accuracy: nonspecific area	Area (acres): 41
UTM: Zone-11 N3783267 E483037	Latitude/Longitude: 34.19026 / -117.18409	Elevation (feet): 2,600

County Summary:

San Bernardino

Quad Summary:

Harrison Mtn. (3411722)

Sources:

H0082F0001 HOOVER, F. - NDDDB FIELD REPORT FORM DICTATED ON PHONE TO JOHN ELLISON, REGARDING SOUTH COASTAL MINNOW/SUCKER STREAM AND ASSOCIATED TAXA. 1982-08-XX



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 78871	EO Index: 29581	
Key Quad: Riverside West (3311784)	Element Code: AFCJC02190	
Occurrence Number: 25	Occurrence Last Updated: 2010-05-18	

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 2004-09-22	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2004-09-22	Occurrence Rank: Poor
Owner/Manager: RIV COUNTY FLOOD CONTROL	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, FROM MISSION BOULEVARD BRIDGE CROSSING UPSTREAM TO JUST SOUTH OF MARKET STREET, RIVERSIDE.

Detailed Location:
INCLUDES EVANS LAKE DRAINAGE AT MISSION BLVD. MAPPED ACCORDING TO MAP AND LOCATION PROVIDED.

Ecological:
HABITAT CONSISTS OF DISTURBED RIPARIAN, POOR WILLOW SCRUB, MANAGED GROWTH, AND SHIFTING SUBSTRATE/SANDS. SURROUNDING LAND USE IS RESIDENTIAL AND PARK.

Threats:
THREATS INCLUDE FLOODING, TRASH, HOMELESS, NON-POINT SOURCE POLLUTION, AND PREDATION.

General:
1 JUV 29 MAR 1991. 9 ADULTS & 6 JUV 23 AUG '96. 11 JAN 2000 @ MARKET ST: 15 SUCKERS OBS. 2000-'03: LARVAE-ADULT SUCKERS ABUNDANT FROM MISSION BLVD TO MARKET ST. 50 JUV'S OBS 22 JUL '03 & 88 JUV'S OBS ON 22 SEP '04 NEAR MISSION ST BRIDGE.

PLSS: T02S, R05W, Sec. 15 (S)	Accuracy: nonspecific area	Area (acres): 89
UTM: Zone-11 N3762086 E464319	Latitude/Longitude: 33.99876 / -117.38636	Elevation (feet): 770

County Summary: Riverside	Quad Summary: Riverside West (3311784), Fontana (3411714)
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Sources:

CAN91F0006	CANTON, S.P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 1991-03-29
CAN91U0001	CANTON, S. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - REPORT OF SPECIMENS TAKEN UNDER 1990 SCIENTIFIC COLLECTING PERMIT #2018 (MULTIPLE FISH SPECIES). 1991-XX-XX
CHA92R0001	CHADWICK & ASSOCIATES, INC. - SANTA ANA RIVER USE - ATTAINABILITY ANALYSIS VOL. 2 AQUATIC BIOLOGY, HABITAT & TOXICITY ANALYSIS. 1992-05-XX
RUS03F0001	RUSSELL, K. (RIVERSIDE COUNTY RESOURCE CONSERVATION DISTRICT) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2003-07-22
RUS04F0002	RUSSELL, K. (RIVERSIDE COUNTY RESOURCE CONSERVATION DISTRICT) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-09-22
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
WIN96F0006	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1996-08-23



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 34089	EO Index: 16691	
Key Quad: Black Star Canyon (3311776)	Element Code: AFCJC02190	
Occurrence Number: 26	Occurrence Last Updated: 1997-01-31	

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 1996-08-22	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1996-08-22	Occurrence Rank: Unknown
Owner/Manager: ORA COUNTY	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, FEATHERLY REGIONAL PARK, SANTA ANA CANYON, ALONG HIGHWAY 91.

Detailed Location:
THE RIVER IN FEATHERLY REGIONAL PARK.

Ecological:
SOUTHERN CALIFORNIA ARROYO CHUB/SANTA ANA SUCKER STREAM.

Threats:
General:
1996, ONE ADULT OBSERVED. SURROUNDING LAND USE IS REGIONAL PARK.

PLSS: T03S, R08W, Sec. 29 (S)	Accuracy: nonspecific area	Area (acres): 38
UTM: Zone-11 N3747819 E433343	Latitude/Longitude: 33.86859 / -117.72068	Elevation (feet): 370

County Summary: Orange	Quad Summary: Black Star Canyon (3311776)
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Sources:
WIN96F0007 WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1996-08-22



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	78873	EO Index:	30063
Key Quad:	San Bernardino South (3411713)	Element Code:	AFCJC02190
Occurrence Number:	27	Occurrence Last Updated:	2010-05-18

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1 State: S1	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2005-10-06	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2005-10-06	Occurrence Rank:	Unknown
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 SANTA ANA RIVER (SAR), 0.35 NE OF RIVERSIDE AVE UPSTREAM TO S LA CADENA AVE, 1.8 MILES SSW OF COLTON PO, SAN BERNARDINO.

Detailed Location:
 SITE #3 JUST W OF LA CADENA DRIVE AND S OF COLTON SEWAGE TREATMENT PLANT. SITE #4 0.3 MILES EAST OF COLTON-SAN BERNARDINO SEWAGE TREATMENT PLANT AT RIALTO DRAIN. MAPPED ACCORDING TO MAP PROVIDED AND DETAILED LOCATION GIVEN.

Ecological:
 SOUTHERN CALIFORNIA RIVER, SOUTHERN COTTONWOOD WILLOW RIPARIAN FOREST.

Threats:
General:
 5 OBS 23 AUG 1996 & 1 ON 6 AUG '98 @ SITE #4. 95 JUV'S @ SITE #3 ON 3 AUG '98. '00: SAR @ RIALTO DRAIN: LARV, JUV'S & ADULTS COMMON. '01:4 ADULTS & 25 YOY IN RIALTO. 100'S OBS FROM RIALTO TO RIVERSIDE '02 & 50 IN '05. 150 LARV IN RIALTO '05

PLSS:	T01S, R05W, Sec. 36 (S)	Accuracy:	nonspecific area	Area (acres):	184
UTM:	Zone-11 N3767323 E467641	Latitude/Longitude:	34.04610 / -117.35058	Elevation (feet):	880

County Summary:	Quad Summary:
San Bernardino	San Bernardino South (3411713)

Sources:

SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
WIN96F0009	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1996-08-23
WIN98F0001	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1998-08-06
WIN98F0002	WINKLE, P. (CHADWICK ECOLOGICAL CONSULTANTS, INC.) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 1998-08-03



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	15800	EO Index:	42842
Key Quad:	Santa Paula Peak (3411941)	Element Code:	AFCJC02190
Occurrence Number:	28	Occurrence Last Updated:	2000-05-01

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: None	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
CNDDDB Element Ranks:	Global: G1		
	State: S1		

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2000-02-28	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2000-02-28	Occurrence Rank:	Unknown
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 SANTA PAULA CREEK, APPROX. 5 MILES UPSTREAM FROM CONFLUENCE OF SANTA PAULA CREEK AND SANTA CLARA RIVER, ALONG OJAI ROAD.

Detailed Location:
 OIL SPILL AREA IS STICKLE PARK TO THE FISH LADDER, JUST UPSRTEAM OF MUD CREEK CANYON.

Ecological:
Threats:
 OIL SPILL KILLED FISH.

General:
 2 SUCKERS COLLECTED, ALSO FOUND ARROYO CHUB, AND STEELHEAD OR RAINBOW TROUT.

PLSS: T04N, R21W, Sec. 21 (S)	Accuracy: nonspecific area	Area (acres): 138
UTM: Zone-11 N3809802 E308650	Latitude/Longitude: 34.41198 / -119.08199	Elevation (feet): 780

County Summary:	Quad Summary:
Ventura	Santa Paula Peak (3411941)

Sources:
 WIL00U0001 WILSON, KEN (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE) - PERSONAL COMMUNICATION BY EMAIL, REGARDING SANTA ANA SUCKER (CATOSTOMUS SANTAANAE) AND ARROYO CHUB (GILA ORCUTTII). 2000-04-18



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 43785	EO Index: 43785
Key Quad: Prado Dam (3311786)	Element Code: AFCJC02190
Occurrence Number: 29	Occurrence Last Updated: 2010-07-30

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 2000-07-14	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-07-10	Occurrence Rank: Good
Owner/Manager: DPR, PVT	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, AROUND JCT W/WARDLOW WASH, N OF SR 91(RIVERSIDE FWY) & 0.3-0.7 MI W FROM JCT WITH SR 71, LA SIERRA.

Detailed Location:
0.5 MILES SSW OF PRADO DAM. MAPPED ACCORDING TO MAP PROVIDED AND LOCATION STATED.

Ecological:
RIPARIAN HABITAT IS GOOD WITH WILLOWS AND COTTONWOODS, MOSTLY SHADED. WATER IS VERY TURBID. SURROUNDING LAND USE IS PARKS

Threats:
General:
1 JUVENILE CAPTURED DURING ELECTROSHOCKING & SEINING 14 JUL 2000. NONE FOUND 10 JUL 2002. NO NATIVE FISH FOUND AMONG THE MANY EXOTICS.

PLSS: T03S, R07W, Sec. 30 (S)	Accuracy: nonspecific area	Area (acres): 39
UTM: Zone-11 N3749271 E439851	Latitude/Longitude: 33.88208 / -117.65042	Elevation (feet): 449

County Summary:	Quad Summary:
Riverside	Prado Dam (3311786)

Sources:
BUR00F0001 BURTON, C. (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE (SANTA ANA SUCKER) 2000-07-14
SWI09R0001 SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 48191	EO Index: 48191
Key Quad: Corona North (3311785)	Element Code: AFCJC02190
Occurrence Number: 30	Occurrence Last Updated: 2010-05-10

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 2002-07-16	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-07-16	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, 1.5 KM DOWNSTREAM & 2 KM UPSTREAM OF RIVER RD/ARCHIBALD ST BRIDGE, W OF LAKE NORCONIAN, RIVERSIDE CO.

Detailed Location:
TRAPS, SNORKELING, DIPNETS, AND SEINES USED NORTH AND SOUTH OF RIVER ROAD BRIDGE BETWEEN 2000-JULY 2002.

Ecological:
RIVER DEEPEST NEAR SHORE & MORE SHALLOW NEAR CENTER WITH SUBSTRATE PRIMARILY OF SAND. VEGETATION OVER-HANGING BANKS INCLUDES SHRUBS WITH HERBACEOUS COVER EXTENDING ONTO WATER. SOME DEEPER POOLS WITH GRAVEL SUBSTRATE.

Threats:
DIVERSION OF WATER (TO DEWATER PROJECT SITE) TO REMOVE SAND FROM BOTTOM OF RIVER TO INCREASE CLEARANCE UNDER BRIDGE.

General:
BLUFF ST SITE: 2000: 0 FOUND ON 6 MAY, 24 FISH ON 20 JUN. RIVER RD & UPSTREAM SITE: 2000: 0 OBS IN FEB & APR. FEW IN MAY, JUN, JUL, SEP. 2001: 5 OBS IN SEP. 2002: SOME JUV OBS IN APR, ABUNDANT IN MAY & JUN. 50+ OBS IN JUL.

PLSS: T03S, R07W, Sec. 10 (S)	Accuracy: nonspecific area	Area (acres): 143
UTM: Zone-11 N3753850 E444792	Latitude/Longitude: 33.92364 / -117.59728	Elevation (feet): 520

County Summary:	Quad Summary:
Riverside	Corona North (3311785)

Sources:

SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
TEN01R0001	TENNANT, P. - RESULTS OF SURVEY ACTIVITIES FOR THE SANTA ANA SUCKER (CATOSTOMUS SANTAANAE) ON THE SANTA ANA RIVER AT RIVER ROAD IN RIVERSIDE, CALIFORNIA. 2001-11-01



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 52810	EO Index: 50090
Key Quad: San Bernardino South (3411713)	Element Code: AFCJC02190
Occurrence Number: 31	Occurrence Last Updated: 2010-05-18

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 2004-08-31	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2004-08-31	Occurrence Rank: Fair
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, JUST NORTH OF MARKET STREET CROSSING, UPSTREAM TO NORTH OF RIVERSIDE AVENUE, RIVERSIDE.

Detailed Location:
BURTON: SITE #9. MAPPED ACCORDING TO MAP AND LOCATION PROVIDED.

Ecological:
GRAVEL/SAND SUBSTRATE, DEPTH ABOUT 0.5 M. VEG: ARUNDO, COTTONWOOD/WILLOW SCRUB & ALLUVIAL SAGE SCRUB. SURROUNDING AREA IS URBAN, HORSE LOTS & WASTEWATER TREATMENT PLANTS. FLOW MAINTAINED BY TREATED WASTEWATER. ARROYO CHUB FOUND HERE TOO.

Threats:
LOTS OF OFF-ROAD VEHICLE USE, HOMELESS ENCAMPMENTS.

General:
APR-JUNE 2000: SUCKERS COMMON. 20 SEP '00: 26 FISH OBS ABOVE RIVERSIDE AVE. MAY-SEP 01: VISUAL, SEINE, ELECTROSHOCK & PIT: LARVE-ADULTS COMMON. 53 ADULTS BETWEEN MAR '02-MAY '03 & 72 JUVS CAPT 31 AUG '04 ALL AROUND RIVERSIDE AVE CROSSING.

PLSS: T02S, R05W, Sec. 11 (S)	Accuracy: nonspecific area	Area (acres): 118
UTM: Zone-11 N3764291 E465784	Latitude/Longitude: 34.01870 / -117.37058	Elevation (feet): 838

County Summary:	Quad Summary:
Riverside, San Bernardino	San Bernardino South (3411713), Fontana (3411714)

Sources:

BUR00F0033	BURTON, C. (U.S. GEOLOGICAL SURVEY) - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2000-09-20
RUS04F0001	RUSSELL, K. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2004-08-31
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19



Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database



Map Index Number: 52818	EO Index: 52818
Key Quad: Orange (3311777)	Element Code: AFCJC02190
Occurrence Number: 32	Occurrence Last Updated: 2003-10-06

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat: ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	Micro Habitat: HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.
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Last Date Observed: 1987-09-08	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1987-09-08	Occurrence Rank: Unknown
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location:
SANTA ANA RIVER, ABOUT 1.25 MILES EAST OF IMPERIAL HWY. YORBA LINDA.

Detailed Location:
FISH COLLECTED NEAR NEAR SALIX AND BACCLARIS GROVES.

Ecological:

Threats:

General:

10 COLLECTED 8 SEP 1987 BY ROBERT FISHER (LACM #44378.001)

PLSS: T03S, R09W, Sec. 36 (S)	Accuracy: nonspecific area	Area (acres): 34
UTM: Zone-11 N3747481 E428751	Latitude/Longitude: 33.86524 / -117.77030	Elevation (feet): 300

County Summary: Orange	Quad Summary: Orange (3311777)
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Sources:
LAC87S0002 LACM - LOS ANGELES COUNTY MUSEUM OF NATURAL HISTORY COLLECTION RECORD FOR CATOSTOMUS SANTAANAE IN THE SANTA ANA RIVER. 1987-09-08



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	52819	EO Index:	52819
Key Quad:	Orange (3311777)	Element Code:	AFCJC02190
Occurrence Number:	33	Occurrence Last Updated:	2003-10-06

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1 State: S1	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	1987-09-14	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1987-09-14	Occurrence Rank:	Unknown
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
SANTA ANA RIVER NEAR TAYLOR ST BRIDGE, YORBA LINDA.
Detailed Location:
MUSEUM RECORD LOCATION GIVEN AS "NEAR LAKEVIEW & SANTA ANA RIVER"

Ecological:

Threats:

General:
1 COLLECTED BY ROBERT FISHER 14 SEP 1987 (LACM #44381.001)

PLSS:	T04S, R09W, Sec. 04 (S)	Accuracy:	1/10 mile	Area (acres):	0
UTM:	Zone-11 N3746536 E424372	Latitude/Longitude:	33.85641 / -117.81756	Elevation (feet):	260

County Summary:	Quad Summary:
Orange	Orange (3311777)

Sources:
LAC87S0003 LACM - LOS ANGELES COUNTY MUSEUM OF NATURAL HISTORY COLLECTION RECORD FOR CATOSTOMUS SANTAANAE IN THE SANTA ANA RIVER. 1987-09-14



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	73896	EO Index:	74894
Key Quad:	Glendora (3411727)	Element Code:	AFCJC02190
Occurrence Number:	34	Occurrence Last Updated:	2009-03-12

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened	Rare Plant Rank:	
	State: None	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable
CNDDDB Element Ranks:	Global: G1		
	State: S1		

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2008-08-22	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2008-08-22	Occurrence Rank:	Poor
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 PUDDINGSTONE DIVERSION DAM (SAN DIMAS DAM), SAN DIMAS WASH, ABOUT 1 MILE NNE OF HWY 30 & HWY 66 INTERCHANGE, LA VERNE.

Detailed Location:
 NE END OF PUDDINGSTONE DIVERSION DAM IN WETLAND HABITAT. MAPPED TO PROVIDED COORDINATES.

Ecological:
 WETLAND HABITAT IN RESERVOIR. SURROUNDING AREA DESCRIBED AS URBAN, RESIDENTIAL, GOLF COURSE, AND OPEN SPACE.

Threats:
 THREATENED BY ALTERED HYDROLOGY: LOW WATER FLOWS DUE TO DAM.

General:
 30 JUVENILES WERE CAPTURED AT THIS SITE AND RELOCATED TO HIGHER QUALITY HABITAT APROXIMATELY 1 MILE NNE (OCCURRENCE #35) ON 22 AUG 2008.

PLSS: T01N, R09W, Sec. 36 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3777313 E428200	Latitude/Longitude: 34.13423 / -117.77870	Elevation (feet): 1,160

County Summary:	Quad Summary:
Los Angeles	Glendora (3411727)

Sources:
 SKI08F0022 SKIDMORE, S. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2008-08-22



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number:	73899	EO Index:	74896
Key Quad:	Glendora (3411727)	Element Code:	AFCJC02190
Occurrence Number:	35	Occurrence Last Updated:	2009-03-12

Scientific Name:	<i>Catostomus santaanae</i>	Common Name:	Santa Ana sucker
Listing Status:	Federal: Threatened State: None	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G1 State: S1	Other Lists:	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed:	2008-08-22	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2008-08-22	Occurrence Rank:	Good
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
SAN DIMAS WASH, WEST OF SAN DIMAS CYN RD, ABOUT 2 MILES NNE OF HWY 30 & HWY 66 INTERCHANGE, NORTH OF LA VERNE.

Detailed Location:
ABOUT 0.4 MILES NNW OF GOLDEN HILLS RD AT WHEELER AVE (BM 1408). MAPPED TO PROVIDED COORDINATES.

Ecological:
WITHIN STREAM OF SAN DIMAS WASH. SURROUNDING AREA DESCRIBED AS URBAN, RESIDENTIAL, GOLF COURSE, AND OPEN SPACE.

Threats:
THREATENED BY ALTERED HYDROLOGY: LOW WATER FLOWS DUE TO DAM.

General:
30 JUVENILES WERE RELEASED AT THIS SITE WHERE ONE ADULT WAS OBSERVED AND THE HABITAT WAS CONSIDERED HIGHER QUALITY. THE JUVENILES WERE REMOVED FROM A SITE APROXIMATELY 1 MILE SSW (OCCURRENCE #34) ON 22 AUG 2008.

PLSS: T01N, R09W, Sec. 25 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3778961 E428568	Latitude/Longitude: 34.14911 / -117.77485	Elevation (feet): 1,305

County Summary:	Quad Summary:
Los Angeles	Glendora (3411727)

Sources:
SKI08F0022 SKIDMORE, S. - FIELD SURVEY FORM FOR CATOSTOMUS SANTAANAE 2008-08-22



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 78743
Key Quad: Oxnard (3411922)
Occurrence Number: 36

EO Index: 79684
Element Code: AFCJC02190
Occurrence Last Updated: 2010-04-29

Scientific Name: *Catostomus santaanae*

Common Name: Santa Ana sucker

Listing Status:
Federal: Threatened
State: None
CNDDDB Element Ranks:
Global: G1
State: S1

Rare Plant Rank:
Other Lists: AFS_TH-Threatened
 CDFW_SSC-Species of Special Concern
 IUCN_VU-Vulnerable

General Habitat:
 ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.

Micro Habitat:
 HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER
 BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 2003-10-08
Last Survey Date: 2003-10-08
Owner/Manager: UNKNOWN
Presence: Presumed Extant

Occurrence Type: Natural/Native occurrence
Occurrence Rank: Unknown
Trend: Unknown

Location:
 SANTA CLARA RIVER, W OF HWY 101 DOWNSTREAM TO THE NATURE CONSERVANCY AT STRATHMORE, 1.9 MILES W OF EL RIO, VENTURA.

Detailed Location:
 JUST N/NE OF RIVER RIDGE GOLF CLUB. LOCATION IN REPORT GIVEN AS "VENTURA COUNTY, SANTA CLARA RIVER FROM U.S. HWY 101 FREEWAY TO ONE MILE DOWNSTREAM." MAPPED ACCORDING TO LOCATION STATED IN REPORT.

Ecological:
 RIVER FLOW INTERMITTENT. "STICKLEBACK ONLY NATIVE FISH TAKEN WITH ABUNDANT NON-NATIVE FISH: GREEN SUNFISH, MOSQUITOFISH, ARROYO CHUBS, SANTA ANA, AND OWENS SUCKERS." HOWEVER, IT IS UNDETERMINED WHETHER THEY ARE NATIVE OR INTRODUCED HERE.

Threats:
General:
 19 SEINE HAULS ALONG GROINS OF SOUTH SHORE OF SANTA CLARA RIVER ON 8 OCT 2003 CAPTURED UNKNOWN NUMBER OF SANTA ANA SUCKERS. AMOUNT GIVEN AS "ABUNDANT."

PLSS: T02N, R22W, Sec. 21 (S)	Accuracy: nonspecific area	Area (acres): 71
UTM: Zone-11 N3790719 E297695	Latitude/Longitude: 34.23792 / -119.19662	Elevation (feet): 57

County Summary:	Quad Summary:
Ventura	Oxnard (3411922)

Sources:
 SWI09R0001 SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19



Occurrence Report
California Department of Fish and Wildlife
California Natural Diversity Database



Map Index Number: 78812	EO Index: 79756
Key Quad: Condor Peak (3411832)	Element Code: AFCJC02190
Occurrence Number: 37	Occurrence Last Updated: 2010-05-05

Scientific Name: <i>Catostomus santaanae</i>	Common Name: Santa Ana sucker
Listing Status:	Rare Plant Rank:
Federal: Threatened	
State: None	Other Lists: AFS_TH-Threatened
CNDDB Element Ranks:	CDFW_SSC-Species of Special Concern
Global: G1	IUCN_VU-Vulnerable
State: S1	

General Habitat:	Micro Habitat:
ENDEMIC TO LOS ANGELES BASIN SOUTH COASTAL STREAMS.	HABITAT GENERALISTS, BUT PREFER SAND-RUBBLE-BOULDER BOTTOMS, COOL, CLEAR WATER, & ALGAE.

Last Date Observed: 2001-11-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2002-07-17	Occurrence Rank: Unknown
Owner/Manager: USFS-ANGELES NF, PVT	Trend: Unknown
Presence: Presumed Extant	

Location:
BIG TUJUNGA CREEK, FROM DELTA FLAT AT TRAIL CANYON, EAST TO BIG TUJUNGA RESERVOIR DAM, LOS ANGELES COUNTY.

Detailed Location:
1975: STATION #3 (IN SECTION 3), 0.7 KM NW OF BIG TUJUNGA STATION. MAPPED ACCORDING TO MAP AND DETAILED LOCATIONS PROVIDED.

Ecological:

Threats:

General:

1975: 21 FISH TAKEN AT STATION 3. 17 JUL 2002: NO FISH OBS DURING SNORKELING SURVEY FROM DAM TO BIG TUJUNGA CANYON ROAD, BUT DAMKEEPER STATED SUCKERS WERE PRESENT PREVIOUS NOV (2001) IN POOL ABOVE GUNNITED SECTION BY BRIDGE.

PLSS: T02N, R13W, Sec. 10 (S)	Accuracy: specific area	Area (acres): 388
UTM: Zone-11 N3793778 E387618	Latitude/Longitude: 34.27910 / -118.22091	Elevation (feet):

County Summary:

Los Angeles

Quad Summary:

Condor Peak (3411832), Sunland (3411833)

Sources:

SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19
WEL75R0001	WELLS, A.W. & J.S. DIANA (CALIFORNIA STATE UNIVERSITY, LONG BEACH) - SURVEY OF THE FRESHWATER FISHES AND THEIR HABITATS IN THE COASTAL DRAINAGES OF SOUTHERN CALIFORNIA. 1975-XX-XX



Occurrence Report

California Department of Fish and **Wildlife**
California Natural Diversity Database



Map Index Number: 02048	EO Index: 5409	
Key Quad: Agua Dulce (3411843)	Element Code: AFCPA03011	
Occurrence Number: 4	Occurrence Last Updated: 2010-05-26	

Scientific Name: <i>Gasterosteus aculeatus williamsoni</i>	Common Name: unarmored threespine stickleback
Listing Status: Federal: Endangered	Rare Plant Rank:
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDDB Element Ranks: Global: G5T1	CDFW_FP-Fully Protected
State: S1	

General Habitat: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed: 2007-12-13	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2007-12-13	Occurrence Rank: Fair
Owner/Manager: PVT, USFS-ANGELES NF	Trend: Unknown
Presence: Presumed Extant	

Location: SANTA CLARA RIVER AT LANG AROUND RIVERS END PARK, THROUGH SOLEDAD CANYON, UPSTREAM TO & 1 MILE UP ARRASTRE CANYON.

Detailed Location: FLOODS IN 1993 ELIMINATED MOST BREEDING POOLS; WATERFALL CREATED BY DYNAMITING RIVER HAS PREVENTED UPSTREAM RECOLONIZATION, FURTHER ISOLATING THE POPULATION. HISTORIC INFO IN 1996 REPORT.

Ecological: EMERGENT VEGETATION (GRASSES) GROWING OUT FROM SHORE LEAVING ONLY ABOUT A 3' CHANNEL. SANTA ANA SUCKER AND ARROYO CHUB ALSO AT THIS SITE. 2007: CREEK UNDERGOING RESTORATION AFTER CLEAN WATER ACT SEC 404 VIOLATION. 20 OBS

Threats: STREAM ALTERATION, FLOODS, RECREATION & AFRICAN CLAWED FROGS. 2009 STATION FIRE COULD CAUSE 500% INCREASE IN WATER FLOW.

General: 1987: 51 COLL & DEP @ UCLA. '81-95: UTS SAMPLING (SOLEDAD CAMPGROUND); HIGH OF 784 IN '91, LOW OF 13 IN '95. SEINING-VIC OF RUSS: 57 IN '99, 123 IN 2000 & 80 IN '01. 30 ON 19 DEC '01. 6 OBS 6 MAY '05. 20 OBS 3 MAR '07. 1 OBS 13 DEC '07.

PLSS: T04N, R13W, Sec. 07 (S)	Accuracy: nonspecific area	Area (acres): 774
UTM: Zone-11 N3811685 E381854	Latitude/Longitude: 34.43992 / -118.28597	Elevation (feet): 2,440

County Summary: Los Angeles	Quad Summary: Acton (3411842), Agua Dulce (3411843)
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Occurrence Report
California Department of Fish and **Wildlife**
California Natural Diversity Database



Sources:

BAU93F0001	BAUTISTA, S. (U.S. FOREST SERVICE-ANGELES NATIONAL FOREST) - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI & SOUTHERN CALIFORNIA THREESPINE STICKLEBACK STREAM 1993-08-04
BAU95F0001	BAUTISTA, S. (U.S. FOREST SERVICE-ANGELES NATIONAL FOREST) - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPINE STICKLEBACK) 1995-07-25
COO01U0006	COOK, J. (U.S. FOREST SERVICE) - PERSONAL COMMUNICATION BETWEEN J. COOK AND A. BADGLEY REGARDING AN ANNUAL REPORT FOR ENDAGERED SPECIES ACT RECOVERY PERMIT TE-016443-2 AND ANGENF-1 2001 2001-12-03
DEL05F0001	DELLITH, C. (U.S. FISH AND WILDLIFE SERVICE) - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPINE STICKLEBACK) 2005-05-06
DEL07F0001	DELLITH, C. (U.S. FISH AND WILDLIFE SERVICE) - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPINE STICKLEBACK) 2007-12-13
HAG88U0001	HAGLUND, T.R. - SCIENTIFIC COLLECTING PERMIT REPORT AND FIELD NOTES REGARDING GASTEROSTEUS ACULEATUS WILLIAMSONI. 1988-06-16
HAG96R0001	HAGLUND, T.R. & J.N. BASKIN - FINAL REPORT: STATUS AND MONITORING OF THE AGUA DULCE UNARMORED THREESPINE STICKLEBACK POPULATION. 1996-05-XX
HOV09U0001	HOVEY, T. & K. MCKEE-LEWIS (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE-REGION 5) - CALIFORNIA DEPARTMENT OF FISH AND GAME INLAND FISHERIES SURVEY MEMORANDUM REGION 5 2009-09-15
SAS77R0001	SASAKI, S. ET AL. - RECOVERY PLAN FOR THE UNARMORED THREESPINE STICKLEBACK. 1977-02-10
SWI09R0001	SWIFT, C. (ENTRIX, INC.) - ESA RECOVERY PERMIT TE-793644-6 2008 ANNUAL REPORT 2009-03-19



Occurrence Report

California Department of Fish and **Wildlife**

California Natural Diversity Database



Map Index Number: 13137	EO Index: 12443	
Key Quad: Casmalia (3412075)	Element Code: AFCPA03011	
Occurrence Number: 8	Occurrence Last Updated: 1994-05-26	

Scientific Name: <i>Gasterosteus aculeatus williamsoni</i>	Common Name: unarmored threespine stickleback
Listing Status: Federal: Endangered	Rare Plant Rank:
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDDB Element Ranks: Global: G5T1	CDFW_FP-Fully Protected
State: S1	

General Habitat: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed: 1984-06-19	Occurrence Type: Introduced Back into Native Hab./Range
Last Survey Date: 1984-06-19	Occurrence Rank: Unknown
Owner/Manager: DOD-VANDENBERG AFB	Trend: Unknown
Presence: Presumed Extant	

Location: SHUMAN CREEK, VANDENBERG AFB.

Detailed Location: POP PROBABLY CURRENTLY EXTENDS ONLY A FEW HUNDRED YDS U/S OR D/S FROM MAPPED TRANSPLANT LOCATION.

Ecological: AREA USED FOR GRAZING IN THE PAST BUT CATTLE HAVE BEEN REMOVED & AREA NOW FENCED.

Threats:

General: 500 STICKLEBACKS FROM SAN ANTONIO CR TRANSPLANTED HERE IN 1984.

PLSS: T09N, R35W, Sec. 27 (S)	Accuracy: specific area	Area (acres): 36
UTM: Zone-10 N3857033 E723609	Latitude/Longitude: 34.83105 / -120.55481	Elevation (feet): 200

County Summary: Santa Barbara	Quad Summary: Casmalia (3412075)
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Sources: MCG84F0004 MCGRIFF, D. (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE) - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPINE STICKLEBACK) 1984-XX-XX



Occurrence Report

California Department of Fish and **Wildlife**

California Natural Diversity Database



Map Index Number: 37950	EO Index: 32957	
Key Quad: Agua Dulce (3411843)	Element Code: AFCPA03011	
Occurrence Number: 9	Occurrence Last Updated: 1998-01-22	

Scientific Name: <i>Gasterosteus aculeatus williamsoni</i>	Common Name: unarmored threespine stickleback
Listing Status: Federal: Endangered	Rare Plant Rank:
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDDB Element Ranks: Global: G5T1	CDFW_FP-Fully Protected
State: S1	

General Habitat: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed: 1996-05-XX	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1996-05-XX	Occurrence Rank: Unknown
Owner/Manager: PVT	Trend: Stable
Presence: Presumed Extant	

Location: AGUA DULCE CREEK, 0.5 MILE DOWNSTREAM FROM HIGHWAY 14 AND W OF AGUA DULCE RD, SANTA CALRA RIVER TRIB. N OF SOLEDAD CYN.

Detailed Location: FISH FOUND IN A ~0.3 MILE SECTION OF THE STREAM WHERE THE UNDERFLOW IS FORCED TO A SURFACE FLOW BY BEDROCK.

Ecological: GOOD SUN EXPOSURE, BED ROCK CONFINED. FILAMENTOUS ALGAE DEVELOPES ON PEA GRAVEL/COARSE SAND BOTTOM. DEEPER WATER FOR REPRODUCTION, EMERGENT VEGETATION DOMINATED BY WILD CELERY.

Threats: ANY DECREASED SURFACE FLOW. DEVELOPMENT. TOXIC SPILLS. NON-NATIVE PREDATOR (CLAWED FROG, GREEN SUNFISH, MOSQUITO FISH).

General: 58 FISH TRAPPED 7/94. 30 TRAPPED 8/95. 104 FISH 5/96. OTHER DATA IN 1996 REPORT: STANDARD LENGTH, STREAM MEASUREMENTS, CAPTURES / SEINE HAUL, # YOY, ARROYO CHUB DATA.

PLSS: T04N, R14W, Sec. 03 (S)	Accuracy: specific area	Area (acres): 29
UTM: Zone-11 N3813838 E377745	Latitude/Longitude: 34.45885 / -118.33100	Elevation (feet): 2,060

County Summary: Los Angeles	Quad Summary: Agua Dulce (3411843)
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Sources: HAG96R0001 HAGLUND, T.R. & J.N. BASKIN - FINAL REPORT: STATUS AND MONITORING OF THE AGUA DULCE UNARMORED THREESPIKE STICKLEBACK POPULATION. 1996-05-XX



Occurrence Report
 California Department of Fish and **Wildlife**
 California Natural Diversity Database



Map Index Number: 47495	EO Index: 47495	
Key Quad: Newhall (3411845)	Element Code: AFCPA03011	
Occurrence Number: 10	Occurrence Last Updated: 2002-03-26	

Scientific Name: <i>Gasterosteus aculeatus williamsoni</i>	Common Name: unarmored threespine stickleback
Listing Status: Federal: Endangered	Rare Plant Rank:
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDB Element Ranks: Global: G5T1	CDFW_FP-Fully Protected
State: S1	

General Habitat: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed: 1999-02-02	Occurrence Type: Natural/Native occurrence
Last Survey Date: 1999-02-02	Occurrence Rank: Fair
Owner/Manager: PVT-NEWHALL LAND & FARMING	Trend: Unknown
Presence: Presumed Extant	

Location:
 SANTA CLARA RIVER IN SOLEDAD CANYON, ABOUT 1.75 MILES EAST OF BOUQUET CANYON BRIDGE

Detailed Location:
 SECTION OF SANTA CLARA RIVER JUST BEHIND GREENBRIER TRAILER PARK.

Ecological:
 FOUND IN ISOLATED POOL, NO SURFACE FLOW PRESENT. RIPARIAN IS SOUTHERN WILLOW SCRUB.

Threats:
 TIRE TRACKS IN RIVER BED.

General:
 26 OBSERVED ON 4 SEPARATE DAYS BETWEEN 26 JAN & 2 FEB 1999.

PLSS: T04N, R16W, Sec. 24 (S)	Accuracy: 1/10 mile	Area (acres): 0
UTM: Zone-11 N3809755 E360888	Latitude/Longitude: 34.41991 / -118.51381	Elevation (feet): 300

County Summary: Los Angeles	Quad Summary: Newhall (3411845)
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Sources:
 COU99F0003 COURTOIS, L. - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPINE STICKLEBACK) 1999-02-02



Occurrence Report

California Department of Fish and **Wildlife**
California Natural Diversity Database



Map Index Number:	47497	EO Index:	47497
Key Quad:	Newhall (3411845)	Element Code:	AFCPA03011
Occurrence Number:	11	Occurrence Last Updated:	2002-03-26

Scientific Name:	<i>Gasterosteus aculeatus williamsoni</i>	Common Name:	unarmored threespine stickleback
Listing Status:	Federal: Endangered State: Endangered	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G5T1 State: S1	Other Lists:	AFS_EN-Endangered CDFW_FP-Fully Protected

General Habitat:	WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat:	COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed:	1999-10-14	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	1999-10-14	Occurrence Rank:	Good
Owner/Manager:	PVT-NEWHALL LAND & FARMING	Trend:	Unknown
Presence:	Presumed Extant		

Location:
SANTA CLARA RIVER AT THE MCBEAN BRIDGE, VALENCIA

Detailed Location:

Ecological:
HABITAT CONSISTS OF A SMALL STREAM CHANNEL UNDER THE BRIDGE, WITH TULE ALONG EDGE AND SHALLOW WATER.

Threats:

General:
TOTAL OF 112 OBSERVED ON 4 DATES BETWEEN 4 AUG-14 OCT 1999.

PLSS: T04N, R16W, Sec. 16 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3810346 E356458	Latitude/Longitude: 34.42463 / -118.56210	Elevation (feet): 1,100

County Summary:	Quad Summary:
Los Angeles	Newhall (3411845)

Sources:
COU99F0004 COURTOIS, L. - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPINE STICKLEBACK) 1999-08-04



Occurrence Report
 California Department of Fish and **Wildlife**
 California Natural Diversity Database



Map Index Number:	62526	EO Index:	62563
Key Quad:	Mint Canyon (3411844)	Element Code:	AFCPA03011
Occurrence Number:	12	Occurrence Last Updated:	2009-09-29

Scientific Name:	<i>Gasterosteus aculeatus williamsoni</i>	Common Name:	unarmored threespine stickleback
Listing Status:	Federal: Endangered State: Endangered	Rare Plant Rank:	
CNDDDB Element Ranks:	Global: G5T1 State: S1	Other Lists:	AFS_EN-Endangered CDFW_FP-Fully Protected

General Habitat:	WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat:	COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed:	2005-04-16	Occurrence Type:	Natural/Native occurrence
Last Survey Date:	2005-04-16	Occurrence Rank:	Fair
Owner/Manager:	UNKNOWN	Trend:	Unknown
Presence:	Presumed Extant		

Location:
 BOUQUET CANYON CREEK, AT TEXAS CANYON ROAD, 5 MILES NORTH OF SOLEMINT

Detailed Location:

Ecological:
 BOUQUET CANYON CR DOWNSTREAM OF USFS BOUNDARY SCOURED IN 2004-2005 BY HIGH-FLOW EVENTS; RIPARIAN MARGIN WAS REMOVED. ONLY FILAMENTOUS GREEN ALGAE WAS FOUND; NO EMERGENT VEGETATION. SUBSTRATE WAS PRIMARILY SAND, SOME FINE GRAVEL/COBBLES.

Threats:
 THREATENED BY FLOODING AND DEVELOPMENT.

General:
 NOT FOUND HERE UNTIL 1979; MIGHT HAVE BEEN INTRODUCED DURING FISH STOCKING. MIX OF UNARMORED & PARTIALLY ARMORED FISH. GENETIC WORK IN PROGRESS. ADULTS OBS 18 NOV 1998. STREAM DRY 19 MAR 2000. ADULTS OBS 5 JUN 2001. 1 ADULT OBS 16 APR 2005.

PLSS: T05N, R15W, Sec. 28 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3817586 E365891	Latitude/Longitude: 34.49116 / -118.46061	Elevation (feet): 1,615

County Summary:	Quad Summary:
Los Angeles	Mint Canyon (3411844)

Sources:

HAG05F0001	HAGLUND, T.R. - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPIKE STICKLEBACK) 2005-04-16
HOV09U0001	HOVEY, T. & K. MCKEE-LEWIS (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE-REGION 5) - CALIFORNIA DEPARTMENT OF FISH AND GAME INLAND FISHERIES SURVEY MEMORANDUM REGION 5 2009-09-15



Occurrence Report
 California Department of Fish and **Wildlife**
 California Natural Diversity Database



Map Index Number: 62527	EO Index: 62564	
Key Quad: Mint Canyon (3411844)	Element Code: AFCPA03011	
Occurrence Number: 13	Occurrence Last Updated: 2009-09-29	

Scientific Name: <i>Gasterosteus aculeatus williamsoni</i>	Common Name: unarmored threespine stickleback
Listing Status: Federal: Endangered	Rare Plant Rank:
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDDB Element Ranks: Global: G5T1	CDFW_FP-Fully Protected
State: S1	

General Habitat: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed: 2005-04-16	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2005-04-16	Occurrence Rank: Fair
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Presumed Extant	

Location: BOUQUET CANYON CREEK, DOWNSTREAM OF ESGUERRA ROAD, ~3 MILES NNW OF SOLEMINT

Detailed Location: TWO AREAS CHECKED AT THIS SITE.

Ecological: BOUQUET CANYON CR DOWNSTREAM OF USFS BOUNDARY SCOURED IN 2004-2005 BY HIGH-FLOW EVENTS; RIPARIAN MARGIN WAS REMOVED. ONLY FILAMENTOUS GREEN ALGAE WAS FOUND; NO EMERGENT VEGETATION. SUBSTRATE WAS PRIMARILY SAND, SOME FINE GRAVEL/COBBLES.

Threats: THREATENED BY FLOODING AND DEVELOPMENT.

General: NOT FOUND HERE UNTIL 1979; MIGHT HAVE BEEN INTRODUCED DURING FISH STOCKING. MIX OF UNARMORED & PARTIALLY ARMORED FISH. GENETIC WORK IN PROGRESS. ADULTS & JUV OBS 18 NOV 1998. STREAM DRY 19 MAR 2000. ADS OBS 5 JUN 2001. 2 ADS OBS 16 APR 2005

PLSS: T04N, R15W, Sec. 05 (S)	Accuracy: specific area	Area (acres): 13
UTM: Zone-11 N3814772 E364541	Latitude/Longitude: 34.46563 / -118.47486	Elevation (feet): 1,470

County Summary: Los Angeles	Quad Summary: Mint Canyon (3411844)
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Sources:

HAG05F0002	HAGLUND, T.R. - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPIKE STICKLEBACK) 2005-04-16
HAG05F0003	HAGLUND, T.R. - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPIKE STICKLEBACK) 2005-04-16
HOV09U0001	HOVEY, T. & K. MCKEE-LEWIS (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE-REGION 5) - CALIFORNIA DEPARTMENT OF FISH AND GAME INLAND FISHERIES SURVEY MEMORANDUM REGION 5 2009-09-15



Occurrence Report

California Department of Fish and **Wildlife**
California Natural Diversity Database



Map Index Number: 62528	EO Index: 62565	
Key Quad: Mint Canyon (3411844)	Element Code: AFCPA03011	
Occurrence Number: 14	Occurrence Last Updated: 2009-09-29	

Scientific Name: <i>Gasterosteus aculeatus williamsoni</i>	Common Name: unarmored threespine stickleback
Listing Status: Federal: Endangered	Rare Plant Rank:
State: Endangered	Other Lists: AFS_EN-Endangered
CNDDDB Element Ranks: Global: G5T1	CDFW_FP-Fully Protected
State: S1	

General Habitat: WEEDY POOLS, BACKWATERS, AND AMONG EMERGENT VEGETATION AT THE STREAM EDGE IN SMALL SOUTHERN CALIFORNIA STREAMS.	Micro Habitat: COOL (<24 C), CLEAR WATER WITH ABUNDANT VEGETATION.
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Last Date Observed: 1998-11-18	Occurrence Type: Natural/Native occurrence
Last Survey Date: 2005-04-16	Occurrence Rank: None
Owner/Manager: UNKNOWN	Trend: Unknown
Presence: Possibly Extirpated	

Location: BOUQUET CANYON CREEK, AT VASQUEZ CANYON ROAD, ~2 MILES NNW OF SOLEMINT

Detailed Location:

Ecological:

BOUQUET CANYON CR DOWNSTREAM OF USFS BOUNDARY SCOURED IN 2004-2005 BY HIGH-FLOW EVENTS; RIPARIAN MARGIN WAS REMOVED. ONLY FILAMENTOUS GREEN ALGAE WAS FOUND; NO EMERGENT VEGETATION. SUBSTRATE WAS PRIMARILY SAND, SOME FINE GRAVEL/COBBLES.

Threats:

THREATENED BY FLOODING AND DEVELOPMENT.

General:

NOT FOUND HERE UNTIL 1979; MIGHT HAVE BEEN INTRODUCED DURING FISH STOCKING. MIX OF UNARMORED & PARTIALLY ARMORED FISH. GENETIC WORK IN PROGRESS. ADULTS & JUV OBS 18 NOV 1998. STREAM DRY 19 MAR 2000. NONE OBS 5 JUN 2001 OR 16 APR 2005.

PLSS: T05N, R15W, Sec. 33 (S)	Accuracy: 80 meters	Area (acres): 0
UTM: Zone-11 N3815667 E365262	Latitude/Longitude: 34.47379 / -118.46715	Elevation (feet): 1,515

County Summary: Los Angeles	Quad Summary: Mint Canyon (3411844)
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Sources:

HAG05F0004	HAGLUND, T.R. - FIELD SURVEY FORM FOR GASTEROSTEUS ACULEATUS WILLIAMSONI (UNARMORED THREESPIKE STICKLEBACK) 2005-04-16
HOV09U0001	HOVEY, T. & K. MCKEE-LEWIS (CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE-REGION 5) - CALIFORNIA DEPARTMENT OF FISH AND GAME INLAND FISHERIES SURVEY MEMORANDUM REGION 5 2009-09-15

APPENDIX E

**RESULTS OF SOUTHWESTERN WILLOW FLYCATCHER
AND LEAST BELL'S VIREO REPORT**



2011 FOCUSED SURVEY RESULTS

LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS

Prepared for | County of Los Angeles
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August 30, 2011

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EXECUTIVE SUMMARY

Focused surveys for Threatened and Endangered species are conducted on a regular basis at selected soft-bottom channel reaches maintained by the Los Angeles County Department of Public Works (LACDPW). Annual biological monitoring and periodic habitat assessments of all LACDPW channel reaches serves to update and revise, when necessary, the particular channel reaches and species for which surveys are recommended. The following summary is of 3 Endangered animal species for which focused surveys were conducted at 22 channel reaches in 2011 and includes a maintenance overview with respect to these species. The 2011 survey results are also summarized below in Table ES-1.

AMPHIBIANS

ARROYO TOAD

Focused surveys for the arroyo toad (*Anaxyrus californicus*) were conducted at 11 channel reaches in 2011: Castaic Creek Reaches 86, 87, and 97 and Reach 104 in the Castaic Creek watershed; San Francisquito Wash Reach 105; South Fork Santa Clara River Reaches 75 (but only the northern part of Reach 75 from Magic Mountain Parkway upstream to the Via Princessa bridge) and 79; Reach 80 at the confluence of the Santa Clara and South Fork Santa Clara Rivers; and Santa Clara River Reaches 71, 82, and 109. These channel reaches may provide suitable breeding habitat during the spring season for the arroyo toad when water is present. Portions of these channel reaches also provide potentially suitable aestivating and foraging habitat. These surveys followed the U.S. Fish and Wildlife Service (USFWS) protocol for this species. Since the protocol does not require handling of the species, a Section 10(a)(1)(A) permit (Scientific Permit) for “take” under the Endangered Species Act is not necessary for performance of these surveys. Although not detected during the 2011 surveys, previous focused surveys have detected the arroyo toad at Reaches 71 and 82 (BonTerra Consulting 2003) and these two channel reaches are considered to be occupied (USFWS 2004). No arroyo toads were observed during the 20011 focused surveys.

The arroyo toad is not typically active during the time period when the soft-bottom channel maintenance occurs (September to November), with the exception of a limited number of juveniles, which stay near the active channel, and increased activity of some adults after storms (Ramirez 2003). Therefore, even if the arroyo toads were present, the maintenance activity would not be expected to impact the arroyo toad’s foraging or breeding activities. The arroyo toad would not be expected to aestivate in the maintenance area because the area that is maintained has compacted soil; therefore, the maintenance activities would not be expected to affect aestivation of this species.

BIRDS

LEAST BELL'S VIREO AND SOUTHWESTERN WILLOW FLYCATCHER

Focused surveys for the least Bell’s vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) were conducted in 2011 at a total of 21 channel reaches where they have potential to occur: 4 channel reaches in the Los Angeles River/San Pedro Bay/Santa Monica Bay areas (Reaches 12, 14, 27, and 28); 4 channel reaches in the San Gabriel River (Reaches 39, 40b, 43a, and 43b); and 13 channel reaches in the Santa Clara River and Castaic Creek drainages (Reaches 71, 75, 79, 80, 82, 87, 97, 103, 104, 105, 106, 109, and 110). Surveys followed the U.S. Fish and Wildlife Service (USFWS) protocol for both species. The southwestern willow flycatcher was not present during the 2011 focused surveys or during previous surveys in 2009, 2007, 2005, 2003, and 2002. The least Bell’s vireo was

present at 15 territories: Reach 14 (3 territories); Reach 27 (1 territory); Reach 39 (3 territories); Reach 40b (4 territories); and Reach 43a (4 territories). Singing male least Bell's vireos present during these 2011 surveys for just one survey date at both Reaches 71 and 105 were considered to be wandering males with no territory established in the survey area. There were 2 more least Bell's vireo territories in 2011 than there were in 2009, as 13 territories were found in 2009. The survey result totals in 2009 and 2011 represent a substantial increase over previous focused survey result totals for the least Bell's vireo: 2002 (four territories), 2003 (one territory), 2005 (four territories), and 2007 (seven territories).

Both the least Bell's vireo and southwestern willow flycatcher are migratory species that are only present in Southern California from about March through early September. As required by the permits (see U.S. Army Corps of Engineers Nationwide Permit 31 dated September 30, 2010, with Informal USFWS Section 7 Consultation), in order to avoid and/or minimize potential impacts on these species, all channel maintenance clearing work occurs outside this time period (March 15–September 15); additionally, seasonally occupied habitat is identified and protected by flagging and clearing activities are monitored by a qualified biologist.

**TABLE ES-1
SUMMARY OF 2011 RESULTS OF FOCUSED SURVEYS FOR THE
LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS**

Reach Number	Reach Name	Focused Surveys for Arroyo Toad	Focused Surveys for Least Bell's Vireo	Focused Surveys for Southwestern Willow Flycatcher
Los Angeles River/San Pedro Bay				
12	Haines Canyon Main Channel Outlet	N/A	Negative	Negative
14	May Channel (Main Channel Outlet into Pacoima Canyon)	N/A	3 territories (3 pairs)	Negative
27	Wilmington Drain	N/A	1 territory (solitary male)	Negative
Santa Monica Bay/ Malibu Creek Watershed				
28	Triunfo Creek (PD T2200)	N/A	Negative	Negative
San Gabriel River				
39	Beatty Channel Outlet at San Gabriel River 25+99.00+50'	N/A	3 territories (3 pairs)	Negative
40b	San Gabriel River-Santa Monica (I-10) Freeway to Thienes Ave	N/A	4 territories (4 pairs but only 3 females)	Negative
43a	San Gabriel River-Upper	N/A	4 territories (2 pairs and 2 solitary males)	Negative
43b	San Gabriel River-Lower	N/A	Negative	Negative
Santa Clara River				
71	Santa Clara River Main Channel (PD 1946)	Negative	No territory established – singing male present on only 1 survey date	Negative
75	South Fork-Santa Clara River (PDs 725, 916, 1041, 1300)	Negative	Negative	Negative

TABLE ES-1 (Continued)
SUMMARY OF 2011 RESULTS OF FOCUSED SURVEYS FOR THE
LOS ANGELES COUNTY SOFT-BOTTOM CHANNELS

79	South Fork-Santa Clara River (Valencia Blvd Bridge Stabilizer)	Negative	Negative	Negative
80	South Fork-Santa Clara River (PDs 1947 and 1946)	Negative	Negative	Negative
82	Santa Clara River Main Channel (PD 2278)	Negative	Negative	Negative
86	Violin Canyon M.C.O.	Negative	N/A	N/A
87	Castaic-Old Road Drain (CDR 525.021D) Outlet	Negative	Negative	Negative
97	Castaic Creek – The Old Road (PD 1982)	Negative	Negative	Negative
103	Bouquet Canyon Channel (PD 2225)	N/A	Negative	Negative
104	Castaic Creek (PD 2441 Units 1 and 2)	Negative	Negative	Negative
105	San Francisquito Canyon Channel (PD 2456)	Negative	No territory established – singing male present on only 1 survey date	Negative
106	Castaic Drain Outlet (RMD Channel)	N/A	Negative	Negative
109	Santa Clara River – south bank west of McBean Pkwy (MTD 1510)	Negative	Negative	Negative
110	Hasley Canyon Channel (PD 2262)	N/A	Negative	Negative
N/A = Not applicable; no potential habitat for the species; therefore no survey conducted.				

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SECTION 1.0 INTRODUCTION

In 2002, focused surveys and habitat assessments were conducted at 54 soft-bottom channel reaches that included 53 of the original channel reaches plus 1 new channel reach identified as Reach 101 (Violin Canyon – PD 2312). All 53 original channel reaches have continued to be maintained by the LACDPW under the required regulatory permits, but Reach 101 and other new channel reaches have yet to be permitted. The purpose of these surveys was to provide baseline information on the occurrence or potential occurrence of Threatened or Endangered plant and wildlife species for permitted and non-permitted channel reaches.

Following the 2002 surveys, a total of 22 of the 54 channel reaches were determined to have no suitable habitat for Threatened or Endangered species or, assuming habitat conditions are similar to 2002 survey conditions, species were determined to be absent and not expected to occur in the future. However, due to the drought conditions of 2002, focused surveys could not be conducted for some species, such as the slender-horned spineflower (*Dodecahema leptoceras*). Therefore, the habitat assessments conducted in 2002 made recommendations for further surveys in 2003. The 2003 surveys were conducted at 35 of the 54 channel reaches surveyed in 2002 and included focused surveys for the slender-horned spineflower, Santa Ana sucker (*Catostomus santaanae*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), arroyo toad (*Bufo [Anaxyrus] californicus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and least Bell's vireo (*Vireo bellii pusillus*). Focused surveys for arroyo toad, southwestern willow flycatcher, and least Bell's vireo were repeated in 2005, 2007, and 2009; these surveys included previously surveyed channel reaches and also some new channel reaches to be maintained by the LACDPW once permits are obtained. Except for new channel reaches yet to be permitted, surveys for the slender-horned spineflower have not been performed since 2003 as the 2002 and 2003 survey results concluded the species was absent from the permitted channel reaches. Note that annual surveys for the Santa Ana sucker and unarmored threespine stickleback are conducted per requirements of the regulatory permits. These pre-clearing fish surveys are conducted by biologists with the necessary permits and the survey results are reported separately to the LACDPW.

Focused surveys for the arroyo toad, southwestern willow flycatcher, and least Bell's vireo were repeated in 2011 in channel reaches with suitable or potentially suitable habitat. These surveys were conducted to provide current information on the distribution of these species and to satisfy resource agency permit conditions. The survey information provides baseline data to support future regulatory agency permitting of the ongoing maintenance of these soft-bottom channel reaches.

1.1 ENVIRONMENTAL SETTING

1.1.1 REGIONAL SETTING

The topography in Los Angeles County is diverse, containing coastline, flatlands, mountains, and desert within approximately 4,000 square miles. Elevations within the County range from sea level to over 10,000 feet above mean sea level (msl). The climate ranges from mild near the coast to severe in the high mountains and in the desert. This variation in environments has created a unique and diverse collection of biological resources (England and Nelson 1976).

The San Gabriel Mountains are a prominent topographic feature that include a portion of the headwaters of the Santa Clara, Los Angeles, Rio Hondo, and San Gabriel Rivers, and are the source of streams that drain into the Antelope and Fremont Valleys. The San Gabriel Mountains rise 7,000 feet above msl from the Antelope and Santa Clarita Valleys, and exert considerable influence on the climate, hydrology, and ecology of the lands around them. The San Andreas and

other numerous faults have fractured the mountains so that they erode at a rapid rate. Hence, the stream basins along the northern slope are generally characterized by steep headwaters and sloping alluvial beds on the adjacent flatlands (CRA et al. 2002).

The Santa Monica Mountains are also a prominent topographic feature and include the headwaters of Malibu Creek and Topanga Creek; these are the source of streams that drain the Malibu Coast. The Santa Monica Mountains are up to 10 miles wide and reach an elevation of 3,100 feet above msl at Sandstone Peak. The Santa Monica Mountains have a complex structure because they have been uplifted and then eroded several times over the past 200 million years (Dale 1986; England and Nelson 1976).

There are 4 major rivers in Los Angeles County: the Los Angeles River is approximately 51 miles long (main stem) and drains 830 square miles; the Rio Hondo River is approximately 20 miles long (main stem) and drains 125 square miles; the San Gabriel River is approximately 59 miles long (main stem) and drains 350 square miles; and the Santa Clara River is approximately 75 miles long (main stem) and drains 1,616 square miles (LACDPW 2002). Numerous other streams also occur in Los Angeles County. Surface water in streams and rivers is generally only present during the winter and spring, in particular after storm events. Many storms do not generate sufficient runoff to sustain surface flow in all streams. In some areas, flows are supplemented with reclaimed water and agricultural and urban runoff. Particularly intense storms can result in flash floods or debris flows which can carry large amounts of sediment, rocks, and debris to be deposited in the valley below (CRA et al. 2002).

The Los Angeles River system has been extensively channelized to provide flood protection as it passes through several cities on its way to the Pacific Ocean. The Los Angeles River tributaries include Bell Creek, Calabasas Creek, Burbank Western Channel, Pacoima Wash, Tujunga Wash, Verdugo Wash, Arroyo Seco, Compton Creek, and the Rio Hondo River (LACDPW 2002). There are now over 400 miles of concrete-lined tributaries that feed into the main channel (LACDPW 2002). Approximately 47.9 miles of the 51-mile river is concrete-lined. The two stretches where the river is not lined (i.e. soft or earthen bottom channels) included the Sepulveda Flood Control Basin through the Glendale Narrows and south of Willow Street in Long Beach (LACDPW 2002). Reclaimed water enters the Los Angeles River at the Sepulveda Basin where the Department of Water and Power releases as much as 75 million gallons of reclaimed water daily from the Donald C. Tillman Water Reclamation Plant.

The San Gabriel River begins in the Angeles National Forest and also flows through several cities on its way to the Pacific Ocean. The San Gabriel River tributaries include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drains (LACDPW 2002). The headwaters of the San Gabriel River begin just north of Pasadena and northwest of Mount Wilson, where they flow through a steep canyon to Cogswell Reservoir. The west fork of the river then merges with the east fork and flows into the San Gabriel Reservoir. Below the reservoir, the east fork converges with the main stem of the San Gabriel River and flows through San Gabriel Canyon to Morris Reservoir. Below Morris Reservoir, the river flows through cities from Azusa to Seal Beach and empties into Long Beach Harbor.

The Santa Clara River is unique because it is the only major unchannelized river that drains the San Gabriel Mountains. The Santa Clara River is fed by five major tributaries: Sand Canyon, Mint Canyon, Bouquet Canyon, South Fork, and San Francisquito Canyon (LACDPW 2002). Further west, Castaic, Piru, Sespe, and Santa Paula Creeks join the river (CRA et al. 2002). The headwaters of the Santa Clara River are located near Acton, and the river runs approximately 100 miles to its outlet in the City of Ventura in Ventura County. Most development adjacent to the river is located in or near the City of Santa Clarita (LACDPW 2002).

The Malibu Creek watershed is a system of independent streams that drains approximately 109 square miles in northwest Los Angeles County from the Santa Monica Mountains to the Pacific Ocean. These include Las Virgenes, Triunfo, and Cold Creeks, as well as other small streams that flow from the Santa Monica Mountains to Santa Monica Bay. These creeks flow through the cities of Agoura Hills, Calabasas, Malibu, Thousand Oaks, Westlake Village, unincorporated Los Angeles County, and Ventura County (LACDPW 2002).

The Ballona Creek watershed is a ten-mile-long flood-control channel that drains the Los Angeles basin from the Santa Monica Mountains to the north, the Harbor Freeway (Interstate [I] 110) to the east, and the Baldwin Hills to the south. All together, the Ballona Creek Watershed drains approximately 130 square miles of the Los Angeles Basin. Creeks or drainages of this watershed include Centinela Creek, Sepulveda Channel, and Benedict Canyon Channel. These drainages pass through the communities of Beverly Hills, Culver City, Inglewood, Los Angeles, and West Hollywood (LACDPW 2002).

The Dominguez Watershed is situated in south Los Angeles County and drains approximately 133 square miles of the Los Angeles Basin into the Los Angeles Harbor. Parts of the communities of Hawthorne, Torrance, Gardena, Carson, and Wilmington drain into the Dominguez Channel. Over 40 percent of this watershed consists of industrial, commercial, and transportation land uses.

The Antelope Valley watershed is a system of independent streams that drains approximately 1,200 square miles in north Los Angeles County from the San Gabriel Mountains and Kern County into the valley floor. These include Little Rock, Big Rock, and Mill Creeks, as well as other small streams that flow from the San Gabriel Mountains into the Antelope Valley. Due to the surrounding topography, these streams do not drain into the sea, but into dry lakebeds on the valley floor, with most surface flows infiltrating into groundwater basins or evaporating (CRA et al. 2002; LACDPW 2002). Because the valley lacks defined natural channels outside the foothills, it is subject to unpredictable sheet flow patterns (LACDPW 2002). The portion of the Antelope Valley watershed within Los Angeles County includes the cities of Lancaster and Palmdale, with scattered clusters of sparse development outside these cities (LACDPW 2002). None of the channel reaches discussed in this report are located in the Antelope Valley Watershed.

1.1.2 LOCAL SETTING

In 2002, the LACDPW maintained 95 soft-bottom channel reaches located within the boundaries of the Los Angeles County Flood Control District, consisting of 885.58 acres that require management. Since 2002, ten soft-bottom channel reaches have been lost due to development or ownership change, but several more have been added to the list. As of 2011, the LACDPW manages 106 channel reaches (1 thru 116) that are located in 7 identified watersheds¹ of Los Angeles County:

- Los Angeles River – 29 channel reaches (includes Reach 27)
- Dominguez Channel – 1 channel reach
- Malibu Creek – 9 channel reaches
- San Gabriel River – 8 channel reaches (not splitting Reaches 40 and 43)
- Santa Clara River – 56 channel reaches

¹ Cerritos Channel is located in Long Beach and drains into the Long Beach Harbor at Pacific Coast Highway. This soft-bottom channel has not been associated yet with any watershed and appears to be separate from the above-identified watersheds.

- Ballona Creek – 1 channel reach
- Antelope Valley – 1 channel reach
- Cerritos Channel – 1 channel reach

In 1997, the 95 soft-bottom flood control channel reaches encompassed 885.58 acres that included 205.27 acres of vegetation. Based on vegetation categories developed at the time, the 205.27 acres of vegetation included an estimated 105.32 acres of riparian vegetation, 63.40 acres of mule fat vegetation, and 36.55 acres of scrub vegetation (BonTerra Consulting 1999). The acreages noted above have not been updated since that time and are presented to indicate the large amount of habitat under LACDPW jurisdiction.

1.2 PROPOSED PROJECT

1.2.1 BACKGROUND

To effectively control flood waters from the mountainous watersheds surrounding the Los Angeles basin, the U.S. Army Corps of Engineers (USACE) and the Los Angeles County Flood Control District constructed concrete-bottom and earth-bottom channels leading from dams and debris basins located along the frontal slopes of the San Gabriel, Santa Monica, Verdugo, and Santa Susanna Mountains. Construction began in the 1930s. These channels, as a system, provide flood protection for Los Angeles County.

Channel maintenance activities have been performed regularly in Flood Control District channels for over 50 years. Originally constructed by the USACE, upon completion, most of the channel facilities were transferred to the Los Angeles County Flood Control District for cyclic maintenance. The USACE's maintenance guidelines require that "debris, objectionable growth, shoals, and waste materials must not encroach on the invert. Excess materials that will not move readily with low flows must be removed. Measures must be taken to control objectionable growth by approved chemical or mechanical means" (USACE 1996).

The County formerly maintained channels clear of any vegetation, as required under the *Code of Federal Regulations* (33 CFR 208.10), until the California Department of Fish and Game (CDFG) began requiring the County to clear vegetation on alternating sides of the channels each year. The USACE allowed limited clearing to occur between 1993 and 1995. Anticipated heavy rains during the 1997/1998 storm season caused by El Niño conditions resulted in a statewide need to remove vegetation and sediment from soft-bottom channels to restore their flood-carrying capacity. The LACDPW obtained all necessary permits to conduct this work in the 1997/1998 storm season and has continued the ongoing maintenance as approved by the permits.

1.2.2 PROJECT DESCRIPTION

Vegetative growth in a channel system reduces channel capacity. All soft-bottom channels were designed and constructed as relatively clean, unvegetated channels. As vegetation grows more densely, the roughness of the channel increases and the velocity of flows decrease, which corresponds to a loss in the channel's carrying capacity. The vegetation also traps some of the sediments being transported by flood flows which, when deposited, further reduce channel capacity. Studies have shown that increased vegetation and sediments in the channels result in reduced flow area with a concomitant decrease in flow velocity (LACDPW 1996). A loss of carrying capacity in the channels could cause flood flows to escape the channel systems and impact adjacent properties (LACDPW 1996).

Vegetation can also affect the structural integrity of bridges during a major storm event. Vegetation slows flood flows, which creates a backwater effect and increases water surface elevations upstream. Bridges are not normally designed to withstand the forces that result from significantly increased flood water elevations. Additionally, increased flood depths upstream can result in flooding of adjacent properties and erosion of channel banks.

The LACDPW performs annual vegetation clearing in channels and minor grading to retrain channel flows consistent with the clearing limits established by the permitted maintenance plan (BonTerra Consulting 1999). This ongoing program is necessary to maintain the design capacities of the channels and to ensure the proper functioning of these facilities located within the Los Angeles County Flood Control District boundaries.

Within each reach, the LACDPW proposes to clear the same areas (and acreage) that have been cleared annually since 1997. Biological impacts to these channel reaches associated with the initial clearing of vegetation for maintenance activities were previously mitigated through maintaining and enhancing 62.7 acres of riparian habitats at the Big Tujunga Wash Mitigation Bank site (BonTerra Consulting 1999).

Channel clearing activities are performed primarily by mechanical means, using heavy equipment (such as trucks, bulldozers, dump trucks, and loaders), as well as other specialized equipment designed for this type of work. Hand clearing is conducted in areas where mechanical equipment cannot be used or where important biological resources exist nearby. Herbicides approved by regulatory agencies are applied, as necessary, to eradicate invasive and/or non-native vegetation including, but not limited to, giant reed (*Arundo donax*) and castor bean (*Ricinus communis*).

The channel clearing activities are performed under an existing Maintenance Plan approved by the Los Angeles Regional Water Quality Control Board (RWQCB) and USACE and modified by the CDFG under the existing Streambed Alteration Agreement between CDFG and the LACDPW. BonTerra Consulting has reviewed the Maintenance Plan and has extensive knowledge of channel clearing activities in all channel reaches, having worked with the LACDPW since 1997 to provide biological monitoring of flood-control channel maintenance work. Pre-clearing and post-clearing photos have been taken every year to document the biological resources in these channel reaches in compliance with the mitigation requirements of existing permits from the USACE, RWQCB, and CDFG.

1.3 SPECIAL STATUS SPECIES BACKGROUND

In order to comply fully with the regulatory permits issued to the LACDPW, surveys are performed for a variety of special status species at soft-bottom channel reaches where suitable or potentially suitable habitat has been identified. For example, the permits require annual pre-clearing surveys for the federally and State-listed Endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) and federally listed Threatened Santa Ana sucker (*Catostomus santaanae*). Results of these fish surveys were included with previous survey efforts (BonTerra Consulting 2002, 2003), but have since been reported separately to the LACDPW. This report provides the results of surveys for the arroyo toad (*Anaxyrus californicus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and least Bell's vireo (*Vireo bellii pusillus*). Table 1 below shows the federal and State status of these three species.

**TABLE 1
STATUS OF SPECIES ADDRESSED**

Species	Status	
	USFWS	CDFG
Amphibians		
<i>Anaxyrus californicus</i> arroyo toad	FE	SSC
Birds		
<i>Vireo bellii pusillus</i> least Bell's vireo	FE	SE
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	FE	SE*
USFWS FE Federally Endangered CDFG SE State Endangered SSC State Species of Special Concern * The State listing included all subspecies of willow flycatcher that breed in California.		

1.3.1 ARROYO TOAD

The arroyo toad was listed as a federally Endangered species by the USFWS on January 17, 1995 (CDFG 2011a) and is a California Species of Special Concern (CDFG 2011b). At the time of listing, the arroyo toad was one of two subspecies of the southwestern toad (*Bufo microscaphus*), but subsequent genetic studies (Gergus 1998) resulted in the separation of arroyo toad (*B. californicus*) from the Arizona toad (*B. microscaphus*). Recent research (Frost et al. 2006) placed both species in the genus *Anaxyrus*.

This is a rather uniformly warty and stocky toad with a light-colored stripe across the head that includes the eyelids. The parotoid glands are oval-shaped, widely separated, and pale toward the front. The underside of the arroyo toad is usually buff-colored and unspotted, and the cranial crests are absent or weak. The typical size (snout to vent) range of reproductive adult toads is 2 to 2.6 inches for males and 2.6 to 3.1 inches for females (Sweet 1992, 1993). Tadpoles reach an average maximum length of 1.3 inches (maximum of 1.6 inches) and are black at hatching. Soon after hatching, the tadpoles develop a tan-colored dorsum with crossbars on the tail and an opaque, white abdomen (venter) before metamorphosing (Sweet 1992).

Early descriptions of the habitat requirements for the arroyo toad are based on detailed life history studies conducted over a period of years by Sweet (1992, 1993). Much of that work was conducted in the Los Padres National Forest in Santa Barbara County. Subsequent to this work, additional studies of populations in other portions of the range have resulted in a somewhat broader habitat description (e.g., Griffin et al. 1999; Ramirez 1999, 2000, 2001, 2002a, 2002b, 2002c). It can generally be said that the arroyo toad frequents third order washes, streams, and arroyos in semiarid parts of the southwest. Stream substrates range from sands to small cobble, with sandy banks supporting mule fat (*Baccharis salicifolia*), willows (*Salix* spp.), cottonwoods (*Populus* spp.), and/or sycamores (*Platanus racemosa*). The arroyo toad breeds both within streams and in small backwater pools that form along the stream margins, usually in relatively shallow water (about four inches) with sand or gravel substrate.

Arroyo toads are primarily nocturnal, except during the breeding season when they are sometimes active during daylight hours. These toads will move extensively in upland habitats, at least seasonally. Adult males will sometimes travel 1.2 to 1.9 miles along a stream course, often becoming more sedentary once reaching a large size (Sweet 1992). Females are more sedentary, typically maintaining an area of movement less than 330 feet in diameter

(Sweet 1992). Adults mostly feed on ants, particularly nocturnal ants such as the trail-forming tree ants (*Liometopum occidentale*), but will also consume other invertebrates (Sweet 1992). Tadpoles are substrate gleaners, feeding on detritus and microbial mats from just beneath the surface layer of fine sediments or within the interstices of gravel deposits (Sweet 1992).

On February 7, 2001, the USFWS published a final rule designating 182,360 acres of land in California including parts of Monterey, Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties as critical habitat for the arroyo toad (USFWS 2005a). Following the designation of critical habitat, several lawsuits were filed challenging various aspects of the designation. In response to these lawsuits, the critical habitat designation was vacated and the USFWS was instructed by the court to re-evaluate its previous position.

On April 28, 2004, the USFWS published a final rule designating 11,695 acres of critical habitat for the arroyo toad in portions of Santa Barbara, Ventura, Los Angeles, San Bernardino, and Riverside Counties (USFWS 2005a). Further lawsuits were filed that successfully challenged this final rule and resulted in another proposed rule for revised critical habitat that was published in the *Federal Register* on October 13, 2009 (USFWS 2009). The revised critical habitat final rule was released on February 8, 2011 (USFWS 2011a).

Four Castaic Creek channel reaches (Reaches 86, 87, 97, and 104) are located in Unit 6, Subunit B, of this final critical habitat revision (USFWS 2011a). Another surveyed channel reach (Reach 110) is located just upstream of Unit 6, Subunit B of this final critical habitat (USFWS 2011a). One surveyed channel reach (Reach 82) previously located within proposed critical habitat (USFWS 2005a), is now located about 1,000 feet upstream of Unit 6, Subunit B of this final critical habitat (USFWS 2011a). None of the other 106 channel reaches managed by the LACDPW are located in this final critical habitat.

1.3.2 LEAST BELL'S VIREO

The least Bell's vireo was formerly a common, even locally abundant summer resident of Southern California's lowland riparian woodlands (Grinnell and Miller 1986). The substantial population decline of this avian species over the latter half of the twentieth century is attributable to the loss and degradation of riparian habitats and, perhaps more importantly, brood parasitism by the brown-headed cowbird (*Molothrus ater*). The least Bell's vireo was listed by the CDFG as State Endangered on October 2, 1980, and by the USFWS as federally Endangered on May 2, 1986 (USFWS 1986).

The Bell's vireo is a neotropical migrant that breeds in central and southwestern North America from northern Mexico to Southern California, Nevada, and Utah, east to Louisiana, and north to North Dakota, Wisconsin, and Indiana in the central U.S. (AOU 1998). The winter range of this vireo, although not well known, is believed to be the west coast of Central America from southern Sonora south to northwest Nicaragua, including the cape region of Baja California, Mexico (Brown 1993). Of the four Bell's vireo subspecies, only two breed in California: the least Bell's vireo and the Arizona Bell's vireo (*V. b. arizonae*), which occurs in the Colorado River Valley (Garrett and Dunn 1981; Rosenberg et al. 1991). Though the least Bell's vireo was formerly considered a common breeder in riparian habitats throughout the Central Valley and other low elevation river systems in California and Baja California, Mexico (Franzreb 1989), it had been eliminated from much of its historical range by the time of its listing in 1986 (Franzreb 1989; Brown 1993). Recovery efforts since its listing have included habitat protection, removal of exotic species particularly giant reed, and trapping programs for the brown-headed cowbird (USFWS 2006). The least Bell's vireo population has increased tenfold from 291 territories in the early 1980s to an estimated 2,968 territories 20 years later (USFWS 2006). After a decade or more of absence in Los Angeles County, the least Bell's vireo returned by the mid-1980s with a pair reported from Whittier Narrows in 1985 and 1986 (Long 1993). Numbers

of least Bell's vireo have continued to increase since that time, and it is now known to occur at several other locations in Los Angeles County such as the San Fernando (Van Norman) Dam; the San Gabriel River at Fish Canyon and Van Tassel Canyon; the Sepulveda Basin Wildlife Area; and the Castaic Lagoon Recreation Area (CDFG 2009). The two largest populations in the county are at Hansen Dam in the northeastern corner of the San Fernando Valley where 44 least Bell's vireo territories were present in 2009 (Griffith Wildlife Biology 2009) and on the Santa Clara River from the I-5 Freeway downstream to the Las Brisas bridge where 56 least Bell's vireo territories were present in 2007 (Bloom Biological, Inc. 2007).

Least Bell's vireo breeding habitat is primarily riparian habitats dominated by willows with dense understory vegetation. Shrubs such as mule fat and California rose (*Rosa californica*) are often a component of the understory (Goldwasser 1981). The least Bell's vireo is often found in areas that include trees such as willow, sycamore, or cottonwood, particularly where the canopy is within or immediately adjacent to an understory layer of vegetation (Salata 1983). The least Bell's vireo generally nests in early successional stages of riparian habitats, with vireo nest sites frequently located in willows that are between four and ten years of age (RECON 1988; Franzreb 1989). The most critical factor in habitat structure is the presence of a dense understory shrub layer from approximately two feet to ten feet above ground (Goldwasser 1981; Salata 1983; Franzreb 1989).

On February 2, 1994, the USFWS published a final critical habitat for the least Bell's vireo designating approximately 37,560 acres of land in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties, California (USFWS 1994b). Designated critical habitat in Los Angeles County is located only in the Santa Clara River from the Golden State (I-5) Freeway west to the Ventura County line. The surveyed soft-bottom channel reaches are all located outside the critical habitat for this species.

1.3.3 SOUTHWESTERN WILLOW FLYCATCHER

The southwestern willow flycatcher was formerly a common summer resident of southern California's lowland riparian woodlands and up into mountain canyons (Garrett and Dunn 1981). By the 1970s, the southwestern willow flycatcher was considered to be absent as a breeder in Southern California (McCaskie 1975). The virtual extirpation of this species as a breeder in Southern California has been attributed to the loss and degradation of riparian habitats and brood parasitism by the brown-headed cowbird. All willow flycatchers breeding in California—which include the subspecies *E. t. brewsteri* and *E. t. adastus* in addition to the southwestern willow flycatcher—were listed by the CDFG as State Endangered on January 2, 1991. The USFWS listed the southwestern willow flycatcher as federally Endangered on February 7, 1995 (USFWS 1993b).

The willow flycatcher is a neotropical migrant that breeds in the west from northern Baja California, Mexico to central British Columbia, Canada and generally east through the northern half of the United States to the Atlantic coast (AOU 1998). The willow flycatcher winters in Central America from Nayarit, Mexico (Pacific coast) and Honduras (Gulf of Mexico coast) to Panama and also to northern Colombia and northwest Venezuela (Sedgwick 2000). Depending on the authority, there are four or five recognized subspecies of willow flycatcher (Sedgwick 2000). The breeding range of the southwestern willow flycatcher includes Southern California, Arizona, New Mexico, western Texas, and extreme southern parts of Nevada and Utah (USFWS 1993b).

The California population of southwestern willow flycatchers breeds along the coast north of Baja California to the Santa Ynez River, Santa Barbara County, and north in the interior to about Independence, Inyo County (Unitt 1987). Besides the Colorado River, there are five drainages in California that support major breeding populations of southwestern willow flycatcher:

the South Fork of the Kern River in Kern County; the Santa Margarita River on Camp Pendleton and the San Luis Rey River in San Diego County; the Santa Ana River in Riverside and San Bernardino Counties; and the Owen's River in Inyo and Mono Counties (Durst et al. 2007). In the 1970s, the southwestern willow flycatcher was believed to have been extirpated from coastal Southern California (Remsen 1978), but small numbers were found during the late 1970s and early 1980s in San Diego County (Unitt 1984). An early population estimate for the southwestern willow flycatcher in California was 70 pairs (USFWS 1993b). More recent population estimates are higher, such as 200 territories in 2004 and 190 territories in 2006 (Durst et al. 2005; Durst et al. 2007), and are more likely the result of increased survey effort rather than a population increase (Durst et al. 2007).

The southwestern willow flycatcher breeds in willow dominated riparian habitats that are similar to least Bell's vireo nesting habitats. The southwestern willow flycatcher differs from least Bell's vireo in that it shows a stronger dependency on willow thickets for all its requirements (Grinnell and Miller 1944). In addition, the southwestern willow flycatcher appears to have a preference for sites with surface water in the vicinity, such as along streams, on the margins of a pond or lake, and at wet mountain meadows (Grinnell and Miller 1944; Flett and Sanders 1987; Harris et al. 1987); in Arizona, the southwestern willow flycatcher invariably nests near surface water (Phillips et al. 1964). Recently, the southwestern willow flycatcher has adapted to introduced vegetation present in riparian vegetation types, such as tamarisk (*Tamarix* sp.) and Russian olive (*Elaeagnus angustifolia*) (USFWS 1993b).

The willow flycatcher is a common migrant in the interior of California and a rare to uncommon migrant along the coastal slope, with most birds moving through Southern California between May 15 and June 20 during the spring season (Garrett and Dunn 1981; Unitt 1987). The spring migration of southwestern willow flycatcher is earlier than that of the northern subspecies (Unitt 1987; USFWS 1993b). As a result, surveys for nesting southwestern willow flycatcher are complicated by the presence of more abundant subspecies migrating through its range during its breeding season.

The final rule designating critical habitat for the southwestern willow flycatcher includes 7,212 acres in Kern, Santa Barbara, San Bernardino, and San Diego Counties in California (USFWS 2005b). Although this designation is still current, a proposed revision to this critical habitat was published on August 15, 2011 (USFWS 2011b). The revised critical habitat includes stream segments not previously included as critical habitat since they were not occupied by the southwestern willow flycatcher at the time of listing, but are considered to be essential for the long-term conservation of the species. These new stream segments include Castaic Creek (3.0 miles), Little Tujunga (1.4 miles), Big Tujunga (3.0 miles), and the San Gabriel River (8.8 miles) (USFWS 2011b). Three Castaic Creek channel reaches (Reaches 87, 97, and 104), four Santa Clara River channel reaches (Reaches 71, 80, 82, and 109), and one San Gabriel River channel reach (Reach 39) are located within this proposed revised critical habitat.

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SECTION 2.0 SURVEY METHODOLOGIES

BonTerra Consulting has worked with the LACDPW since 1997 to provide biological monitoring of flood control channel maintenance work in soft-bottom channel reaches. In addition to the biological monitoring of the maintenance work, pre-clearing and post-clearing photos have been taken every year to document the biological resources in these channel reaches in compliance with the mitigation requirements of existing permits from the USACE, RWQCB, and CDFG. BonTerra Consulting has assisted the LADPW in preparation of their maintenance plan for the channels, which follows permit conditions from the USACE, RWQCB, and CDFG. These permit conditions recommend surveys for arroyo toad, least Bell's vireo, and southwestern willow flycatcher where there is suitable habitat for these species; these conditions have been incorporated into the LACDPW's 2005 Maintenance Plan for Annual Clearing of Soft-bottom Flood Control Channels.

For each species surveyed, the surveys were conducted according to USFWS protocols. The biologists conducted the surveys at the most appropriate time of day to ensure maximum opportunity to observe the species.

2.1 SPECIAL STATUS AMPHIBIAN SPECIES

2.1.1 ARROYO TOAD

The initial studies conducted in 2002 included a background literature review and habitat assessment for each of the soft-bottom channel reaches that represented suitable arroyo toad breeding and/or upland habitat. The literature review included the documentation of relevant literature on the presence of the arroyo toad within and/or adjacent to each reach including areas both upstream and downstream. This included review of *Federal Register* listings, protocols, and species data provided by the USFWS, CDFG's California Natural Diversity Database (CNDDDB); consultation with qualified experts familiar with the distribution and natural history of the arroyo toad; and review of unpublished biological resource letter reports and assessments conducted within the region.

Focused surveys for the arroyo toad were conducted in 2011 at 11 channel reaches: Castaic Creek Reaches 86, 87, and 97, and Reach 104 in the Castaic Creek watershed; San Francisquito Wash Reach 105; South Fork Santa Clara River Reaches 75 (but only the northern part of Reach 75 from Magic Mountain Parkway upstream to the Via Princessa bridge) and 79; Reach 80 at the confluence of the Santa Clara and South Fork Santa Clara Rivers; and Santa Clara River Reaches 71, 82, and 109.

The surveys followed the guidelines presented in the USFWS' *Survey Protocol for the Arroyo Toad* (1999b). Each of the channel reaches were surveyed on foot to characterize aquatic (breeding) and upland habitat (refugia) types and to document any characteristic sign (clutches, larvae, juveniles, adults). Also, as stated in the USFWS protocol, areas within 0.6-mile of documented arroyo toad sites (previously documented by the presence of eggs, larvae, juveniles, or adults) that have suitable habitat would be presumed to have arroyo toads (USFWS 1999b). In addition to following the guidelines outlined above, all field surveys adhered to recommended equipment decontamination procedures outlined in Appendix B of the California Red-legged Frog survey guidelines (USFWS 2005c).

Six surveys following USFWS recommended protocol were conducted at each of the channel reaches. These surveys included both a diurnal and nocturnal component. The initial (diurnal) surveys included walking each reach in an effort to assess and document the suitability of breeding and upland habitat for the arroyo toad. These initial surveys also focused on locating any areas of inundation that may have represented suitable breeding pools (egg clutches

and/or tadpoles). These surveys identified portions within each reach with the highest probability to support the arroyo toad. Following the initial surveys, areas identified during the daytime surveys were visited again at night in order to detect active toads. The same routes were covered repeatedly throughout the evening to ensure that no individuals went undetected. A list of all wildlife species encountered during these surveys is included in Appendix B.

2.2 SPECIAL STATUS BIRD SPECIES

The initial literature review in 2002 included all relevant and available documentation on the presence of the least Bell's vireo and southwestern willow flycatcher in Los Angeles County. This included review of Federal Register listings, protocols, and species data provided by the USFWS; the CDFG's CNDDDB; consultation with qualified experts familiar with the distribution and natural history of the least Bell's vireo and southwestern willow flycatcher; and review of unpublished biological resource letter reports and assessments.

Based on the results of prior BonTerra Consulting surveys (2009 focused surveys and annual monitoring surveys) of the channel reaches, 2011 focused surveys for the least Bell's vireo and southwestern willow flycatcher were conducted at a total of 21 channel reaches where they have potential to occur: 4 channel reaches in the Los Angeles River/San Pedro Bay/Santa Monica Bay area (Reaches 12, 14, 27, and 28); 4 channel reaches in the San Gabriel River (Reaches 39, 40b, 43a, and 43b); and 13 channel reaches in the Santa Clara River and Castaic Creek drainages (Reaches 71, 75, 79, 80, 82, 87, 97, 103, 104, 105, 106, 109, and 110). The channel reaches were surveyed by BonTerra Consulting Biologists Brian Daniels (Scientific Permit No. 821401-3), Lindsay Messett, and Amber Oneal (Scientific Permit No. 148554-1), and Consulting Biologist James Pike (Scientific Permit No. 832946-3). Surveys followed the USFWS protocol for both species.

The USFWS survey protocol for southwestern willow flycatcher was updated in June 2010 (Sogge et al. 2010). The changes affected the timing of surveys, not the number or method of conducting each survey. A minimum of five surveys must still be performed to determine absence from a project site. As previously, the five surveys must be performed within three specified time periods at least five days apart. As before, the first survey must still be conducted between May 15 and May 31, but now two surveys are required in the second survey window which has been increased in length by three days from June 1 to June 24. The third survey window is now three days shorter, but only two surveys need to be conducted between June 25 and July 17. The survey protocol for least Bell's vireo remains the same with a minimum of eight surveys being conducted at least ten days apart between April 10 and July 31. Surveys for the least Bell's vireo and southwestern willow flycatcher can be performed simultaneously because of their similar habitat requirements.

The survey area consisted of all riparian habitats in each reach. The riparian habitat was systematically surveyed by walking slowly and methodically along two transects (downstream then upstream or the reverse) with some variance depending on streambed width. Recorded vocalizations of southwestern willow flycatcher were used to elicit a response from any potentially territorial southwestern willow flycatcher; recorded vocalizations of least Bell's vireo were not used according to the protocol for this species. If no southwestern willow flycatchers were detected after the initial playing of the vocalization, the recording was usually replayed at least once. Any observations of willow flycatcher (all subspecies) and least Bell's vireo, including any pertinent behavior, were recorded and their locations mapped in the field. It should be noted that all subspecies of the willow flycatcher breeding in California are listed as State Endangered species; however, only breeding locations are protected.

The surveys were conducted under optimal weather conditions and during the early morning hours when bird activity is at its peak. Numbers were recorded for all bird species detected during the surveys, including notable observations of any special status species or other birds such as the brown-headed cowbird. Daily tallies of all bird species recorded during these surveys are included in Appendix A.

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SECTION 3.0 SURVEY RESULTS

The following section presents the results of the biological surveys conducted within each channel reach. Channel reaches are grouped by watershed and include Los Angeles River/San Pedro Bay, Santa Monica Bay, San Gabriel River, and the Santa Clara River. Table ES-1 above summarizes the results of these 2011 surveys.

3.1 LOS ANGELES RIVER/SAN PEDRO BAY AREA

3.1.1 REACH 12 – HAINES CANYON MAIN CHANNEL OUTLET

Project Location

Reach 12, Haines Canyon Main Channel Outlet, is located within the Tujunga Wash watershed, approximately one mile northwest of the Mount Gleason Avenue and Foothill Boulevard intersection, in the community of Sunland in the City of Los Angeles (Exhibit 1). The limits of Reach 12 are approximately 791 feet downstream of Wentworth Street to approximately 1,228 feet downstream of Wentworth Street. Reach 12 is 437 feet in total length. The reach is found on the U.S. Geological Survey’s (USGS’) Sunland 7.5-minute quadrangle map (Also, refer to Thomas Guide, Los Angeles County, page 503-F2).

**TABLE 2
REACH 12 – HAINES CANYON MAIN CHANNEL OUTLET**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 4 and 26; May 6 and 27	Lindsay Messett
	May 18; June 7, 17, and 30; and July 12	Brian Daniels

Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 12 during these surveys.

Southwestern Willow Flycatcher

Migrant willow flycatchers were observed in Reach 12 on June 7 and 30, 2011 (see Appendix A). Two singing willow flycatchers were present on June 7 at the downstream end of the channel reach. Based on behavior, song type, and plumage characteristics, these birds were judged as migrants. A willow flycatcher on June 30 at the upstream end of the channel reach was unexpected. This flycatcher was found foraging in scrubby willows adjacent to the pond at the mouth of the concrete channel outlet. It was essentially quiet, but sang once about one hour after the initial observation. Behavior appeared consistent with a migratory bird, and since no willow flycatchers were detected on the previous survey of June 17 or on the last survey of July 12, this willow flycatcher was judged to be a very late migrant.



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Project Location

Reach #12 - Haines Canyon Main Channel Outlet



Exhibit 1



3.1.2 REACH 14 – MAY CHANNEL (MAIN CHANNEL OUTLET INTO PACOIMA CANYON)

Project Location

Reach 14, May Channel (Main Channel Outlet into Pacoima Canyon), is located within the Pacoima Wash watershed, approximately 1.25 miles east of the Foothill (I-210) Freeway and Hubbard Street intersection in the City of Los Angeles (Exhibit 2). The limits of Reach 14 are 3,038 feet downstream of Hubbard Street to approximately 3,728 feet downstream of the confluence of Hubbard Street with Pacoima Canyon. Reach 14 is 690 feet in total length. The reach is found on the USGS San Fernando 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 482-E3).

**TABLE 3
REACH 14 – MAY CHANNEL
(MAIN CHANNEL OUTLET INTO PACOIMA CANYON)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 18 and 28; May 10 and 20; June 1, 11, and 21; July 5 and 14, 2011	Brian Daniels

Least Bell’s Vireo

Three least Bell’s vireo territories were established in Reach 14 during these surveys. Each of these 3 males paired with females and nests were located (see Exhibits 3 and 4). Two males established territories and paired with females in the side drainages on the opposite side of Pacoima Wash from Reach 14. The nest of Pair #1 was in mule fat and contained two eggs on May 10, but on June 1 it held just one cold cowbird egg that was removed. Pair # 1 was still present on June 1 and presumed to be nesting in an area of dense willows that precluded searching for the new nest. The nest of Pair #2 was also in mule fat and contained two nestlings on June 11; two fledglings were observed in this territory being fed by the adults on June 21. A singing male in the willows of Reach 14 was followed to the southeast corner of the alluvial sage scrub “field” where it joined a female least Bell’s vireo. A nest was found at the southeast corner of this field in a blue elderberry (*Sambucus nigra*) on June 11 that contained a two- or three-day old cowbird nestling (removed) and four least Bell’s vireo eggs. This nest contained no eggs on June 21, but the adults were in the willows of Reach 14 without any fledglings. Also, in the willows of Reach 14 on June 21, an adult female least Bell’s vireo was actively feeding an older cowbird fledgling that was presumably from the Pair #1 territory on the other side of Pacoima Wash. A male feeding a full-grown, begging juvenile in the willows of Reach 14 was presumed to be from the territory of Pair #2.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 14 during these surveys.

3.1.3 REACH 27 – WILMINGTON DRAIN

Project Location

Reach 27, Wilmington Drain, is located within the San Pedro Bay watershed in unincorporated Los Angeles County and within the Wilmington community of the City of Los Angeles (Exhibit 5). The limits of Reach 27 are the Harbor (I-110) Freeway to Pacific Coast Highway. Reach 27 is approximately 3,584 feet in total length. The reach is found on the USGS Torrance 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 794-B4 to 794-B5).



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Project Location

Reach #14 - May Channel (Main Channel Outlet into Pacoima Canyon)

Exhibit 2



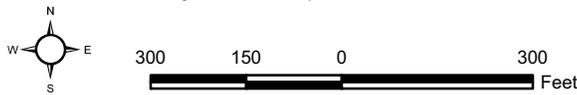


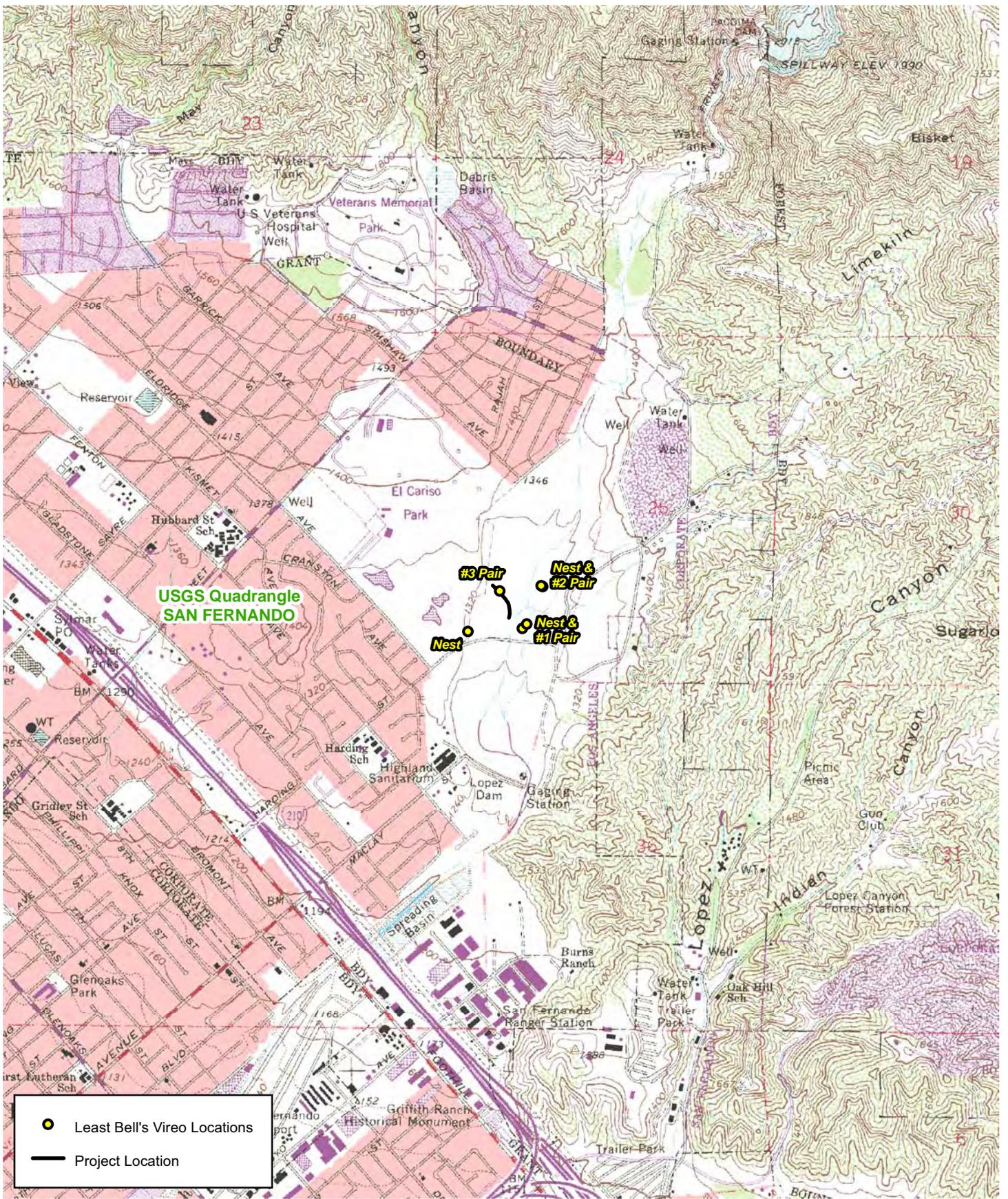
Least Bell's Vireo Locations
 Project Location

Least Bell's Vireo Locations

Exhibit 3

Reach #14 - May Channel (Main Channel Outlet into Pacoima Canyon)





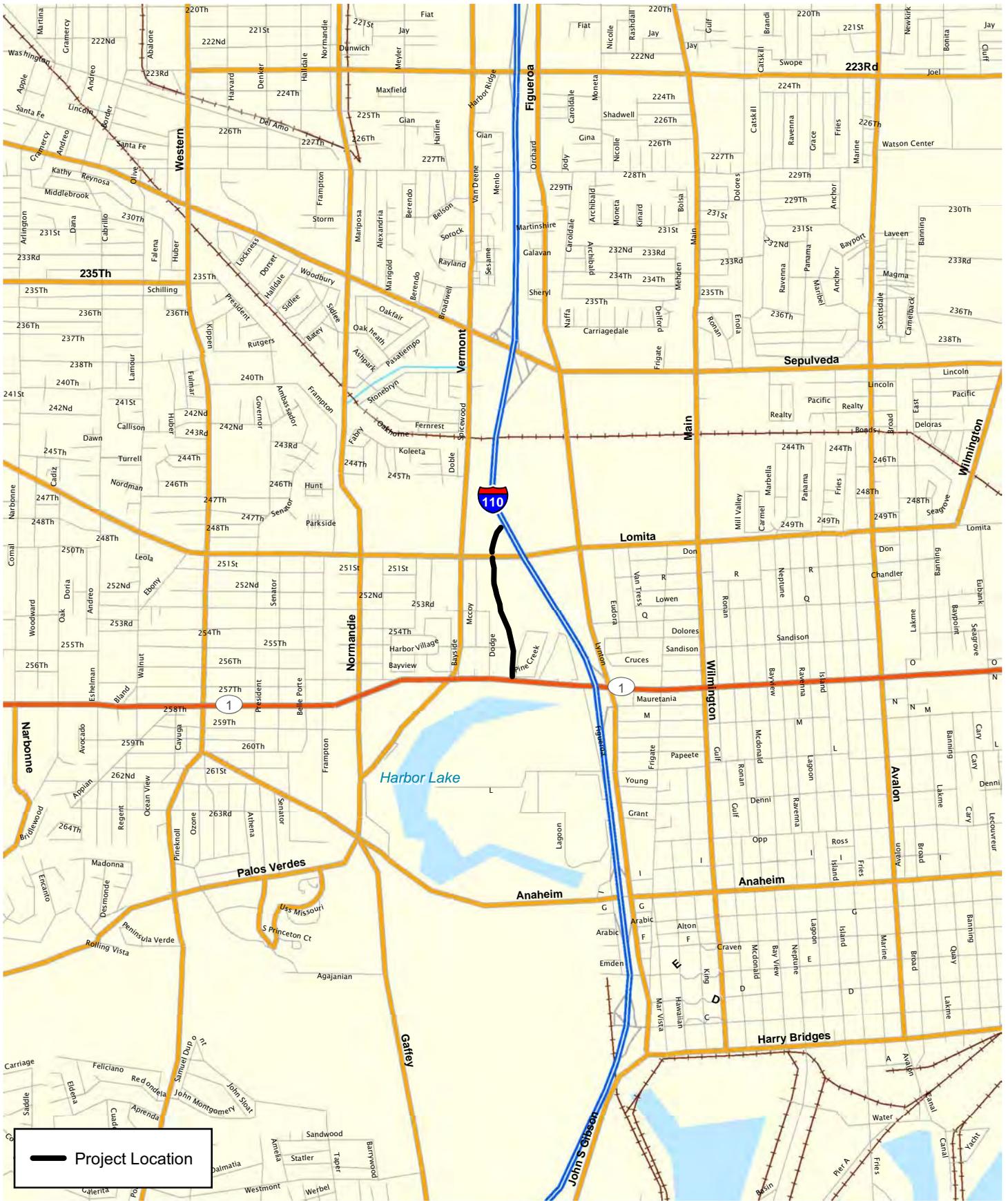
Least Bell's Vireo Location

Reach #14 - May Channel (Main Channel Outlet into Pacoima Canyon)



Exhibit 4

Bonterra
CONSULTING



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Project Location

Reach #27 - Wilmington Drain



Exhibit 5



**TABLE 4
REACH 27 – WILMINGTON DRAIN**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 13 and 26; May 6, 16, and 26; June 6, 16, and 29; and July 11, 2011	Brian Daniels

Least Bell's Vireo

One least Bell's vireo territory was established in Reach 27 during these surveys. This territory consisted of a late arriving male that was first detected on May 26 and remained until at least June 26 (see Exhibits 6 and 7). This male remained a bachelor throughout its stay at Reach 27.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 27 during these surveys.

3.2 SANTA MONICA BAY AREA

3.2.1 REACH 28 – TRIUNFO CREEK (PD T2200)

Project Location

Reach 28, Triunfo Creek (PD T2200), is located within the Malibu Creek watershed in unincorporated Los Angeles County, approximately 0.1-mile east of the Mulholland Highway and Troutdale Drive intersection (Exhibit 8). The limits of Reach 28 are approximately 384 feet upstream of Mulholland Highway to the downstream edge of Mulholland Highway. Reach 28 is approximately 474 feet in total length. The reach is found on the USGS Point Dume 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 587-H3).

**TABLE 5
REACH 28 – TRIUNFO CREEK
(PD T2200)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 13 and 26; May 6, 16, and 26; June 6, 16, and 29; and July 11, 2011	Brian Daniels

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 28 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 28 during these surveys.



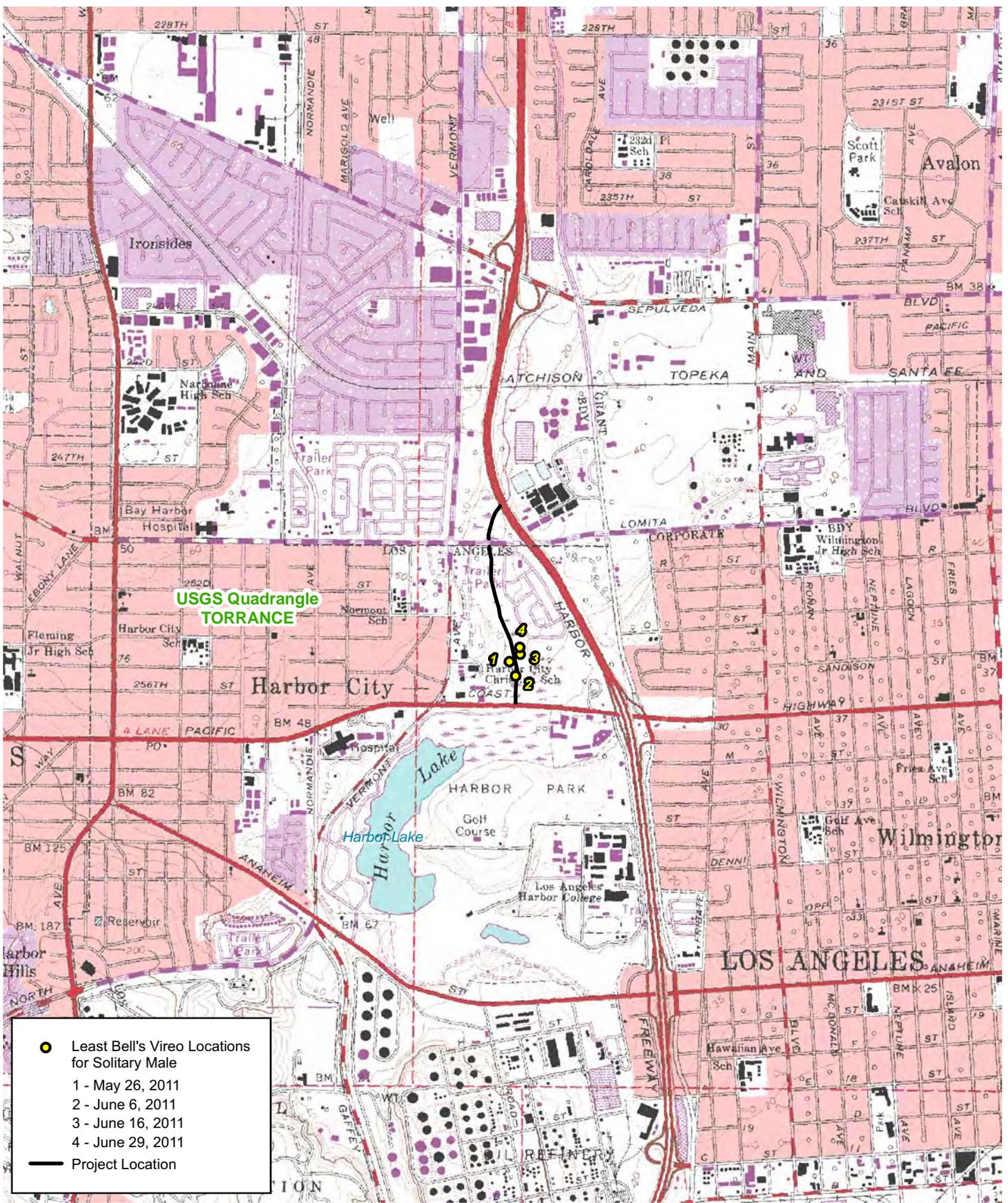
● Least Bell's Vireo Locations for Solitary Male
1 - May 26, 2011
2 - June 6, 2011
3 - June 16, 2011
4 - June 29, 2011
— Project Location

Least Bell's Vireo Locations

Exhibit 6

Reach #27 - Wilmington Drain





Least Bell's Vireo Location

Reach #27 - Wilmington Drain

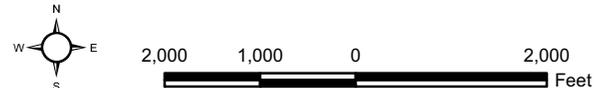
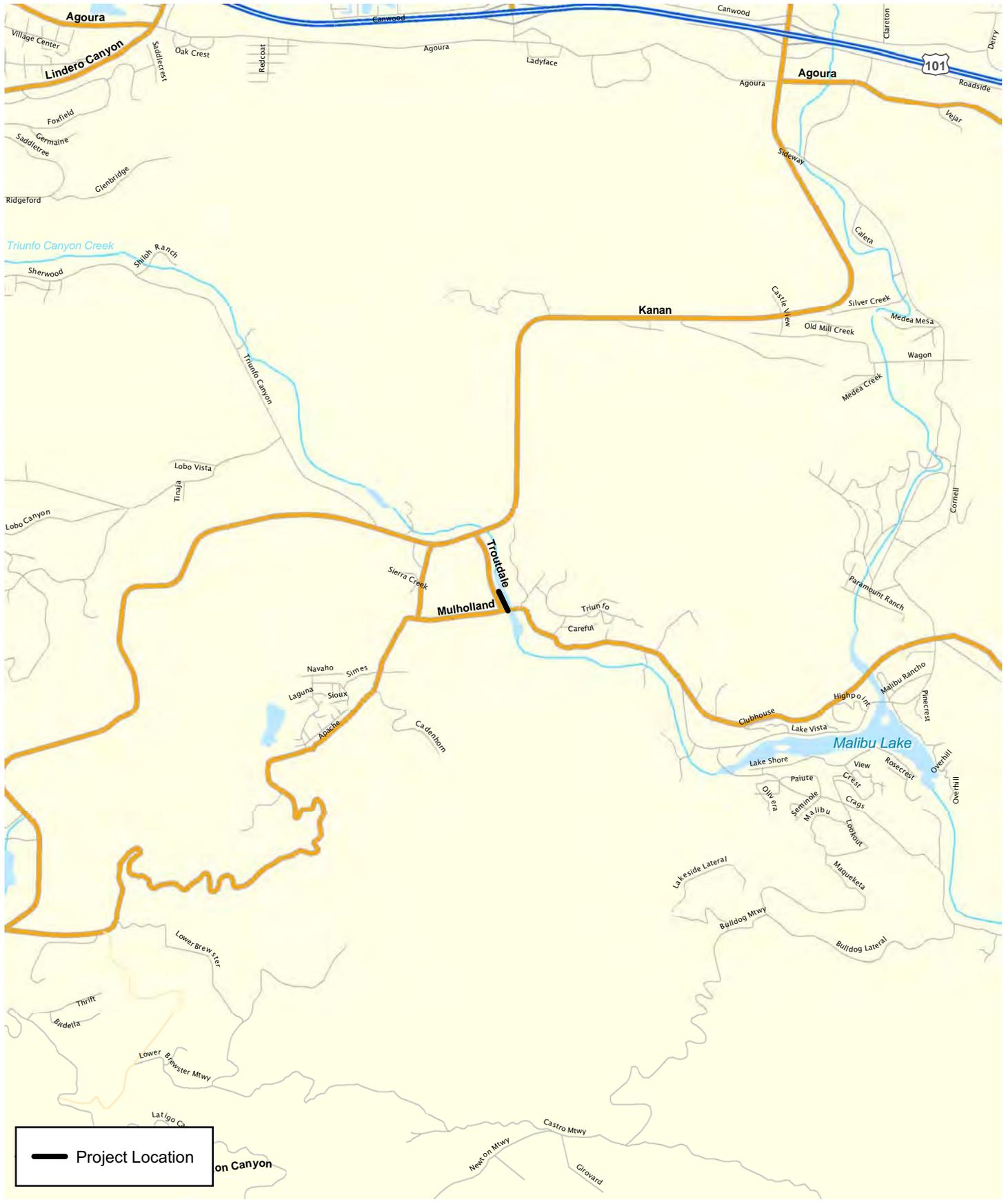


Exhibit 7



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Project Location

Reach #28 - Triunfo Creek



Exhibit 8



3.3 **SAN GABRIEL RIVER AREA**

3.3.1 **REACH 39 – BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER (25+99.00+50')**

Project Location

Reach 39, Beatty Channel Outlet at San Gabriel River 25+99.00±50', is located within the San Gabriel River watershed, approximately 0.8-mile north of the Foothill Boulevard and Irwindale Avenue intersection in the City of Azusa (Exhibit 9). The limits of Reach 39 are approximately 2,323 feet downstream of Todd Avenue to approximately 2,415 feet downstream of Todd Avenue. Reach 39 is 145 feet in total length. The reach is found on the USGS Azusa 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 568-F4).

**TABLE 6
REACH 39 – BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER
(25+99.00+50')**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 4 and 26; May 6 and 27	Lindsay Messett
	May 18; June 7, 17, and 30; and July 12	Brian Daniels

Least Bell's Vireo

Three least Bell's vireo territories were established in Reach 39 during these surveys (see Exhibits 10 and 11). All three were established in April, but breeding success was first detected with Pair #3 on July 12 when the male was observed feeding at least one begging juvenile. The nest of Pair #1 was first detected on June 1 when the adults were observed constructing a nest in an ash (*Fraxinus* sp.) tree. This nest was complete and contained three least Bell's vireo eggs on June 17, but on June 30 it held just one cold cowbird egg that was removed. Pair #1 was still present on June 30 and was observed taking nesting material into nearby dense clump of willows and mule fat. The male of Pair #2 was last observed on June 17 with no positive or negative information collected on nesting success.

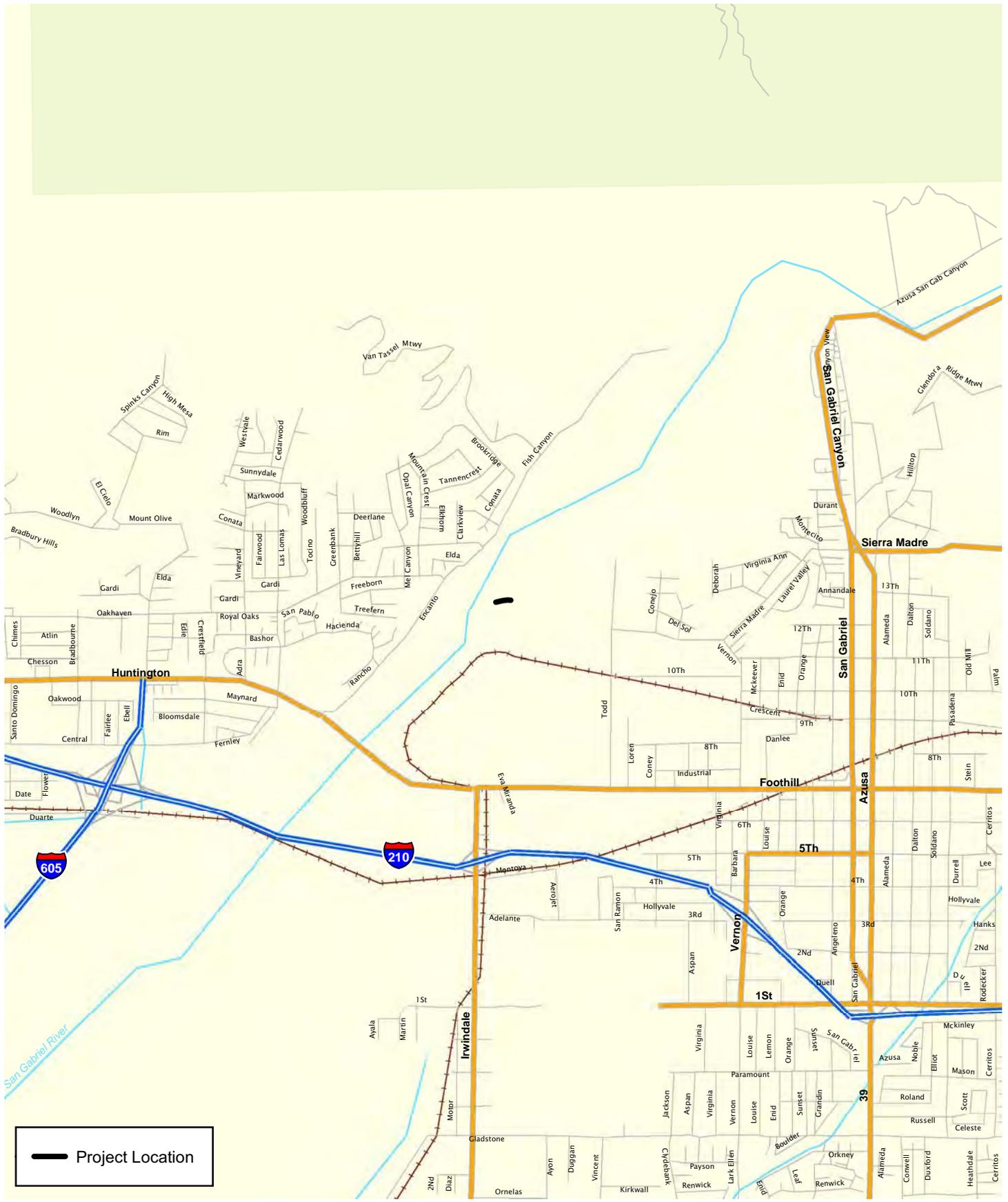
Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 39 during these surveys, but one migrant willow flycatcher was detected on June 7 (see Appendix A).

3.3.2 **REACH 40B – SAN GABRIEL RIVER/SANTA MONICA (I-10) FREEWAY TO THIENES AVENUE**

Project Location

Reach 40b, San Gabriel River, is located within the San Gabriel River watershed, in the San Gabriel Valley area (Exhibit 12). The limits of Reach 40b are the Santa Monica (I-10) Freeway (upstream) and Thienes Avenue (downstream). Reach 40b has a total length of approximately 10,800 feet. The reach is found on the USGS Baldwin Park 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 637-G1 to 637-D5).



 Project Location

Project Location

Reach #39 - Beatty Channel Outlet at San Gabriel River (25+99.00+50')



Exhibit 9

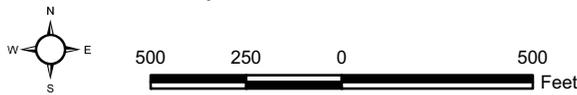


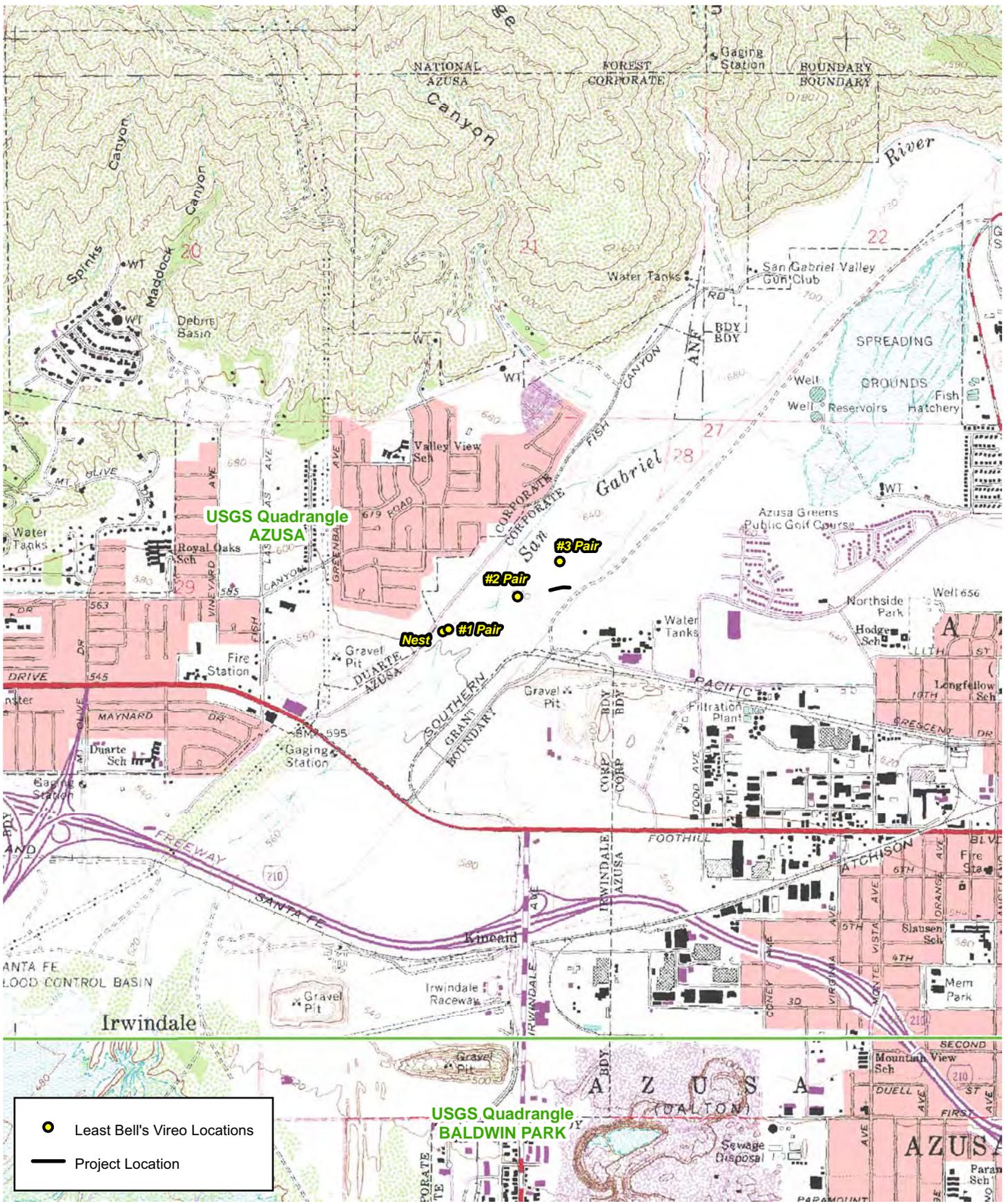


Least Bell's Vireo Locations

Exhibit 10

Reach #39 - Beatty Channel Outlet at San Gabriel River (25+99.00+50')





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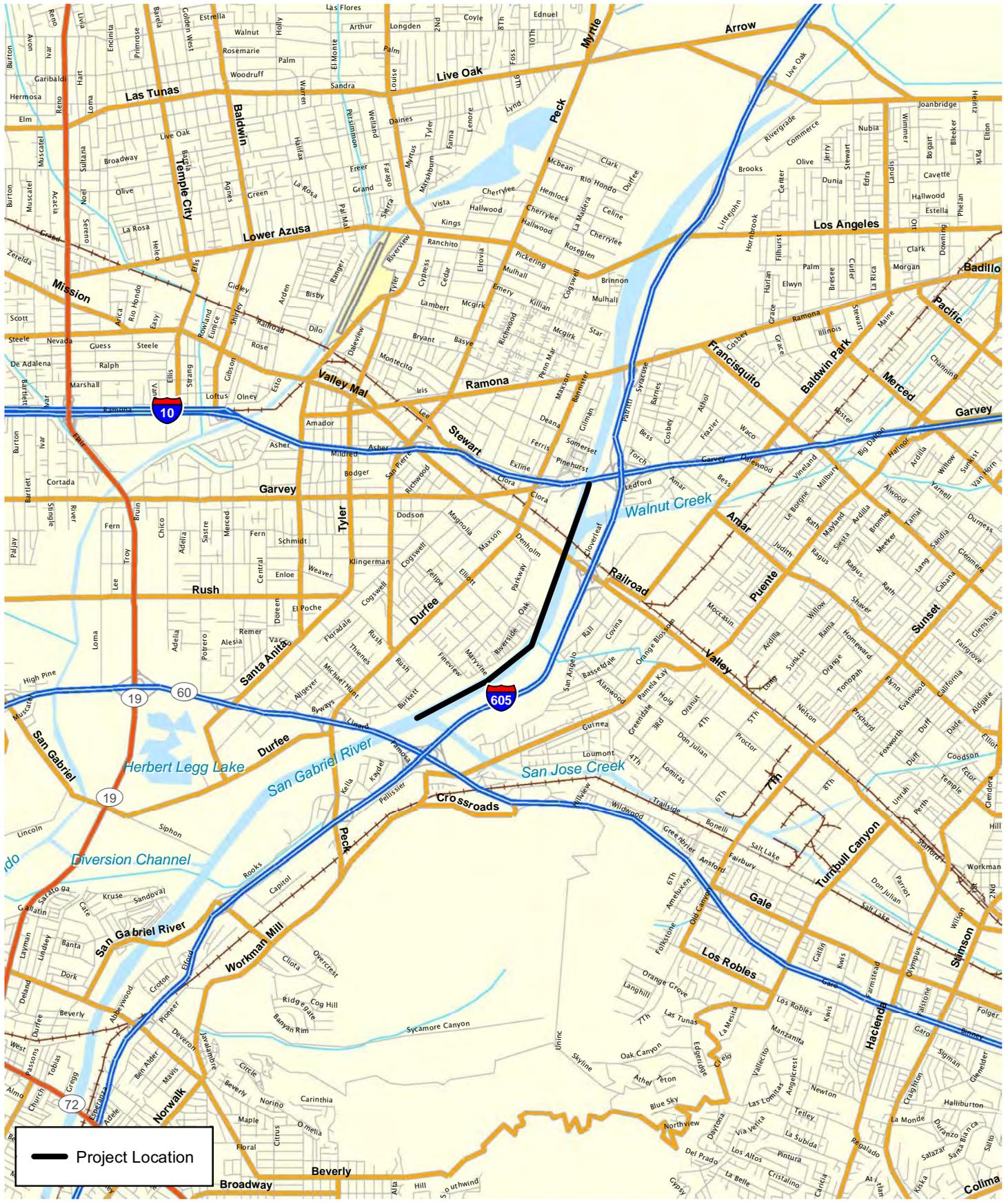
Least Bell's Vireo Location

Reach #39 - Beatty Channel Outlet at San Gabriel River (25+99.00+50')

Exhibit 11



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Project Location

Reach #40b - I-10 Freeway to Thienes Avenue

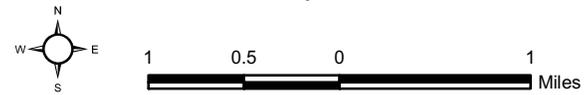


Exhibit 12



**TABLE 7
REACH 40B – SAN GABRIEL RIVER/SANTA MONICA (I-10) FREEWAY TO
THIENES AVENUE**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 11 and 24; May 12 and 22; June 1, 12, and 22; July 2 and 17, 2011	James Pike

Least Bell's Vireo

Four least Bell's vireo territories were established in Reach 40b during these surveys. Each of the four males paired with females and nests were located during these surveys (see Exhibits 13 and 14). The nest of Pair #1 was in a narrow-leaved willow (*Salix exigua*) and contained four eggs on May 12, but was found to have been depredated on June 1. No additional nests were found in this territory. On May 22, the nest of Pair #2, also in a narrow-leaved willow, contained four 3-day-old nestlings, and four fledglings were present on June 1. The nest of Pair #3 was also in a narrow-leaved willow and held four 5-day-old nestlings on June 1; four fledglings were present in this territory on June 12. The fourth territory was established by a bachelor or solitary male, but two young fledglings present on July 17 indicated a coupling occurred, possibly with the female from Pair #3.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 40b during these surveys.

3.3.3 REACH 43A – SAN GABRIEL RIVER – UPPER

Project Location

Reach 43a, San Gabriel River – Upper, is located within the San Gabriel River watershed, in the San Gabriel Valley area (Exhibit 15). The limits of Reach 43a are between Whittier Narrows Dam and San Gabriel River Parkway. Reach 43a has a total length of approximately 3,450 feet. The reach is found on the USGS Whittier 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 677-A1 and 676-J2).

**TABLE 8
REACH 43A – SAN GABRIEL RIVER – UPPER**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 11 and 24; May 12 and 22; June 1, 12, and 22; July 2 and 17, 2011	James Pike

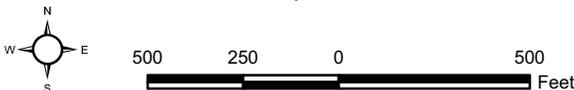
Least Bell's Vireo

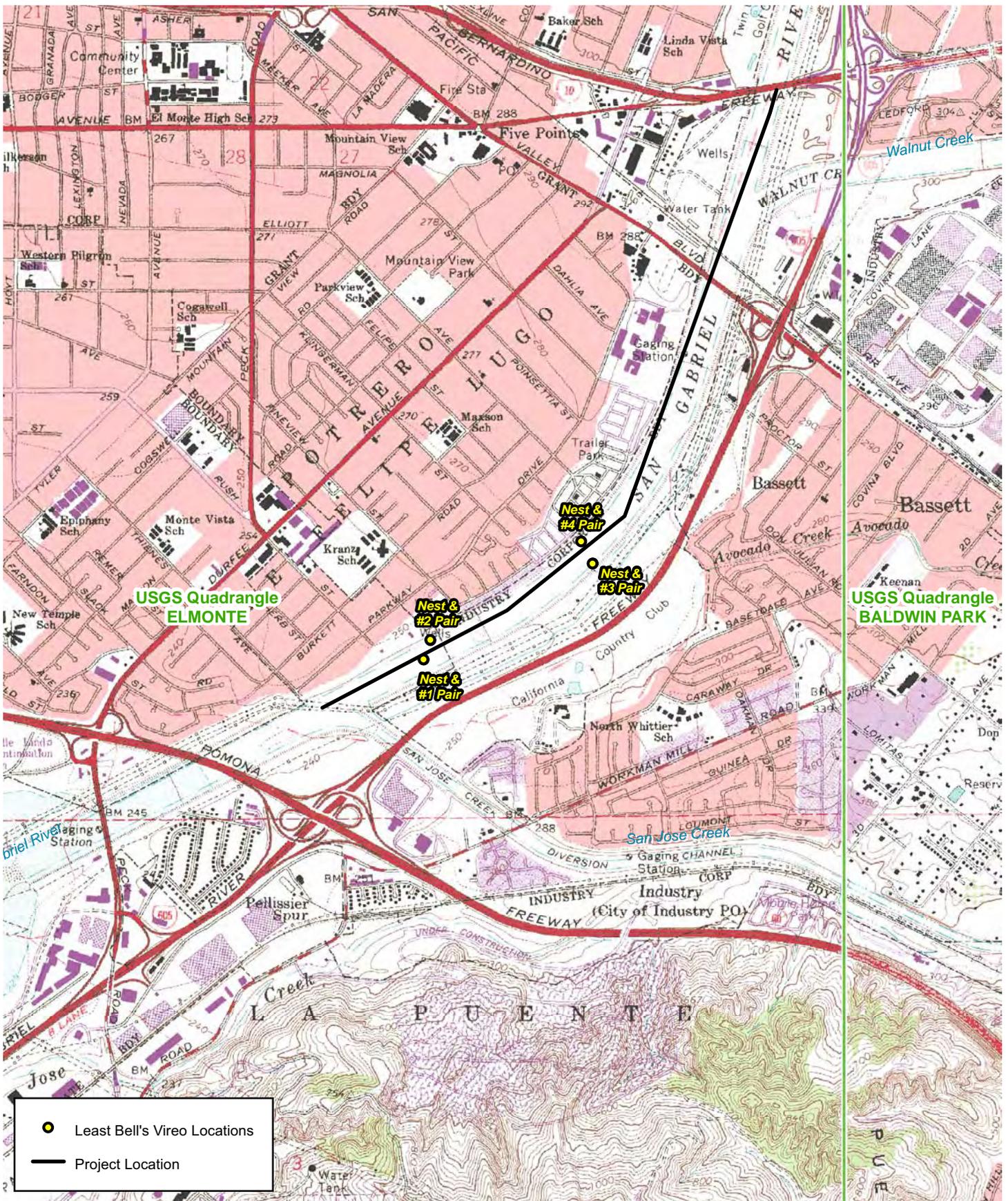
Four least Bell's vireo territories were established in Reach 43a during these surveys. Two of the four territories consisted of paired males, but the other two males remained unpaired (i.e., solitary) during these surveys (see Exhibits 16 and 17). The nest was not located but the male of Pair #2 was found with two fledglings on May 22. The nest of Pair #3 was found in a blue elderberry and contained three eggs on May 12. This nest held four eggs on May 22 followed by four 5-day old nestlings on June 1. Four fledglings were observed in this territory on June 12.



Least Bell's Vireo Locations

Reach #40b - I-10 Freeway to Thienes Avenue





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	Least Bell's Vireo Locations
	Project Location

Least Bell's Vireo Location

Reach #40b - I-10 Freeway to Thienes Avenue

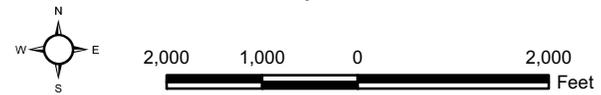
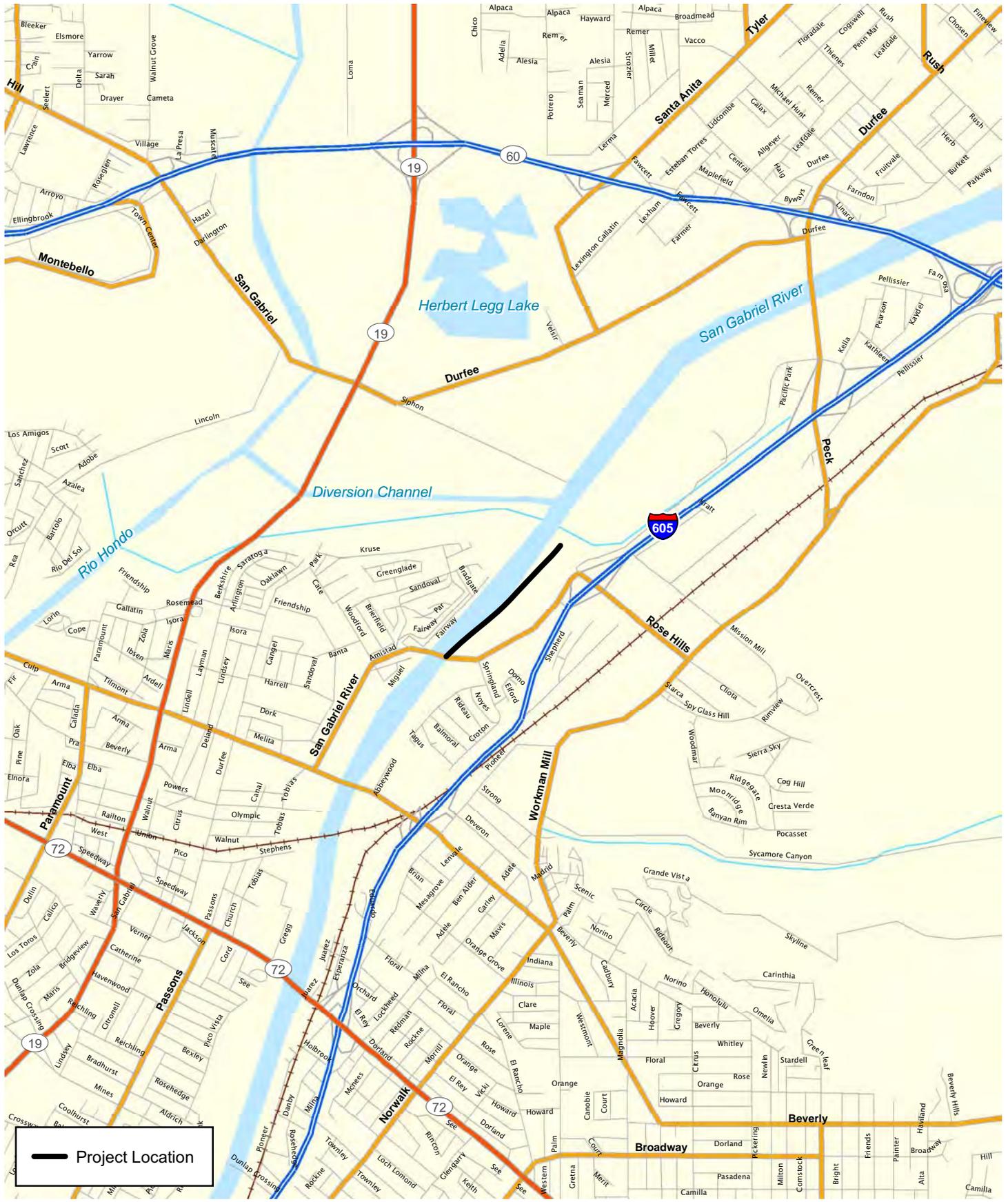


Exhibit 14



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Project Location

Reach #43a - San Gabriel River - Upper



Exhibit 15

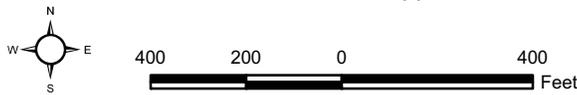


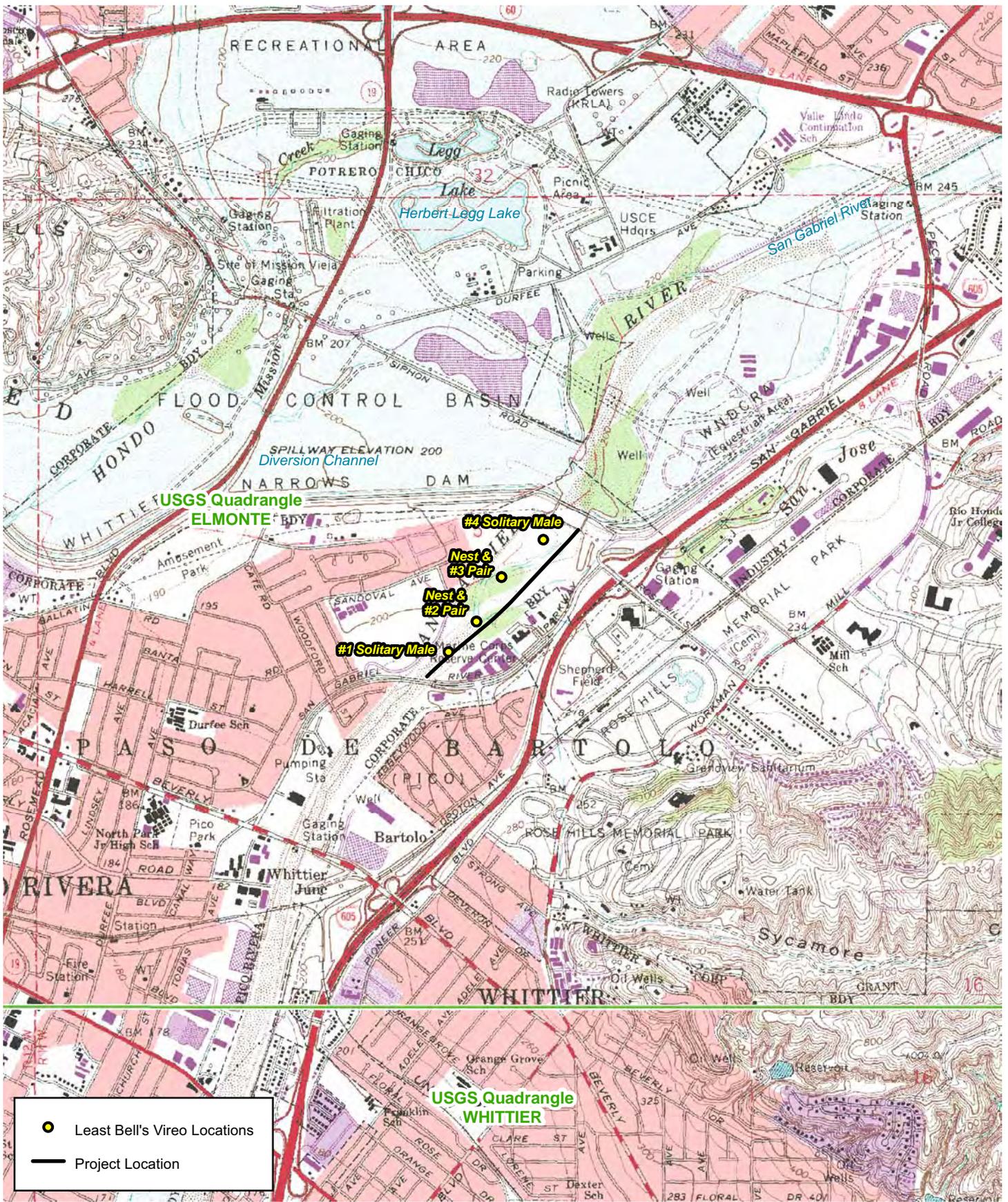


Least Bell's Vireo Locations
 Project Location

Least Bell's Vireo Locations

Reach #43a - San Gabriel River - Upper





Least Bell's Vireo Location

Reach #43a - San Gabriel River - Upper



Exhibit 17



Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 43a during these surveys.

3.3.4 REACH 43B – SAN GABRIEL RIVER – LOWER

Project Location

Reach 43b, San Gabriel River – Lower, is located within the San Gabriel River watershed, in the San Gabriel Valley area (Exhibit 18). The limits of Reach 43b are San Gabriel River Parkway (upstream) and Beverly Boulevard (downstream). Reach 43b has a total length of approximately 3,050 feet. The reach is found on the USGS Whittier 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 677-A1 and 676-J2).

**TABLE 9
REACH 43B – SAN GABRIEL RIVER – LOWER**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 11 and 24; May 12 and 22; June 1, 12, and 22; July 2 and 17, 2011	James Pike

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 43b during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 43b during these surveys.

3.4 SANTA CLARA RIVER AREA

3.4.1 REACH 71 – SANTA CLARA RIVER MAIN CHANNEL (PD 1946)

Project Location

Reach 71, Santa Clara River Main Channel (PD 1946), is located within the Santa Clara River-South Fork watershed in the City of Santa Clarita (Exhibit 19). The limits of Reach 71 are approximately 276 feet upstream of McBean Parkway (at the confluence with the South Fork of the Santa Clara River) to the downstream edge of McBean Parkway. Reach 71 is 346 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-E2).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.



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Project Location

Reach #43b - San Gabriel River - Lower

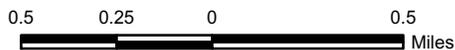


Exhibit 18





Project Location

Exhibit 19

Reach #71 - Santa Clara River Main Channel (PD 1946)



**TABLE 10
REACH 71 – SANTA CLARA RIVER MAIN CHANNEL (PD 1946)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	March 30; April 28; May 11, and 24, 2011	Sam Stewart and Jason Mintzer
	June 8, 2011	Sam Stewart and Jonas Winbolt
	June 23, 2011	James Huelsman and Jason Mintzer
Focused survey for the least Bell's Vireo and southwestern willow flycatcher	April 10 and 23; May 4, 21, 31; June 11 and 21; July 3 and 16, 2011	James Pike

Arroyo Toad

The arroyo toad was not observed in Reach 71 during these surveys.

Least Bell's Vireo

A singing male least Bell's vireo was present on May 21 on the north side of the river at Reach 71 for just a moment ("sang for 20 seconds") before, apparently, moving on (see Exhibits 20 and 21).

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 71 during these surveys.

3.4.2 REACH 75 – SOUTH FORK-SANTA CLARA RIVER (PDS 725, 916, 1041, 1300)

Project Location

Reach 75, South Fork – Santa Clara River (PDs 725, 916, 1041, 1300), is located within the Santa Clara River-South Fork watershed in the City of Santa Clarita (Exhibit 22). The limits of Reach 75 are approximately 255 feet downstream of Lyons Avenue to the downstream edge of Magic Mountain Parkway. Reach 75 is 13,965 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, pages 4640-F1 to 4550-G2).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 11
REACH 75 – SOUTH FORK – SANTA CLARA RIVER
(PDS 725, 916, 1041, AND 1300)**

Survey Type	Survey Dates	Surveying Biologist
Focused Survey for the arroyo toad	March 30; April 28; May 11 and 24, 2011	Sam Stewart and Jason Mintzer
	June 8, 2011	Sam Stewart and Jonas Winbolt
	June 23, 2011	James Huelsman and Jason Mintzer
Focused Survey for the least Bell's vireo and southwestern willow flycatcher	April 10 and 23; May 4, 21, and 31; June 11 and 21; July 3 and 16, 2011	James Pike



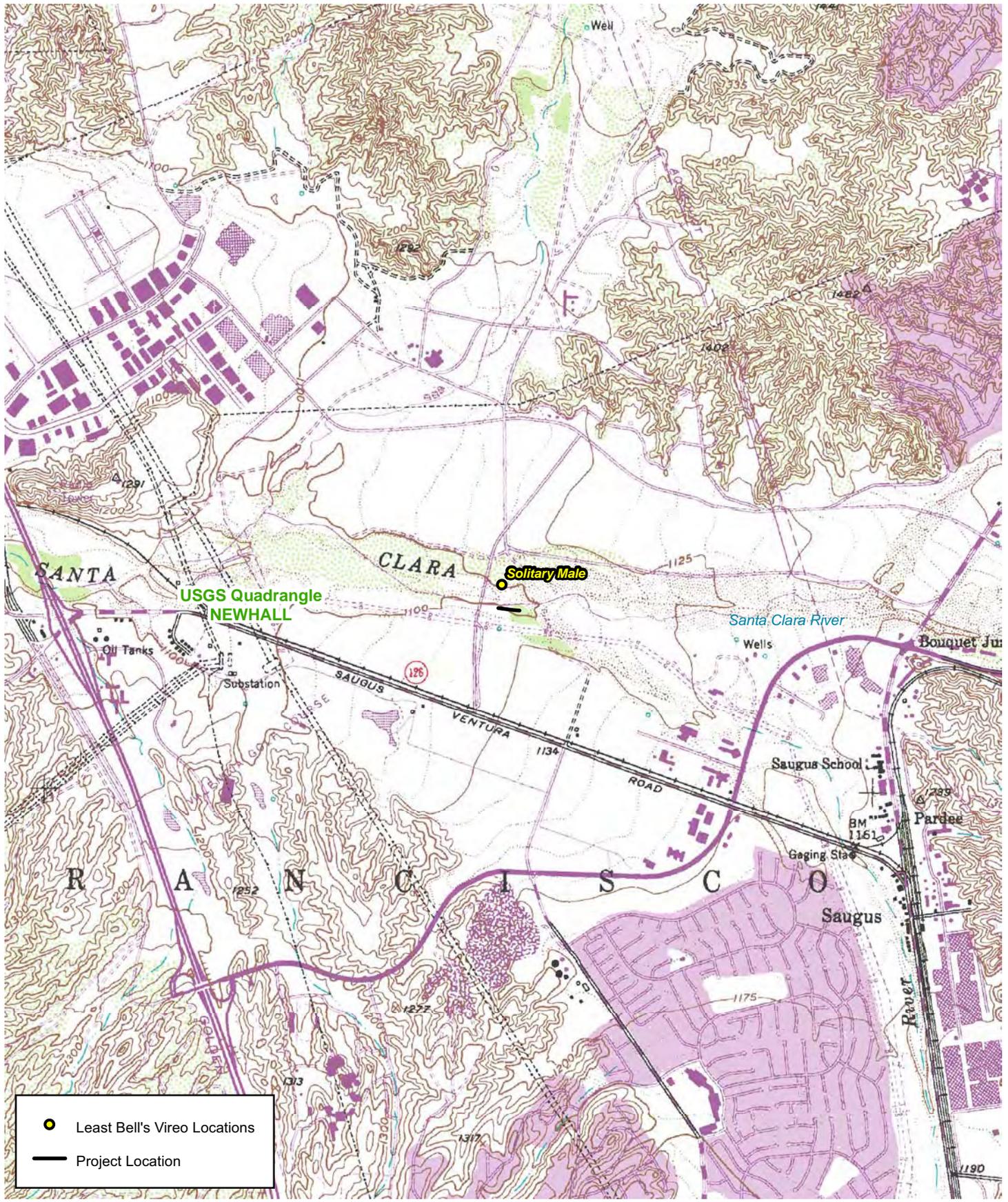
Least Bell's Vireo Locations

Exhibit 20

Reach #71 - Santa Clara River Main Channel (PD 1946)



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Least Bell's Vireo Location

Reach #71 - Santa Clara River Main Channel (PD 1946)

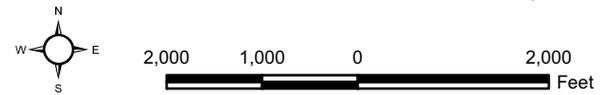


Exhibit 21





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Project Location

Reach #75 - South Fork - Santa Clara River (PDs 725, 916, 1041, 1300)

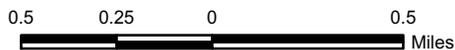


Exhibit 22



Arroyo Toad

The arroyo toad was not observed in Reach 75 during these surveys.

Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 75 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 75 during these surveys.

3.4.3 REACH 79 – SOUTH FORK – SANTA CLARA RIVER (VALENCIA BOULEVARD BRIDGE STABILIZER)

Project Location

Reach 79, South Fork-Santa Clara River (Valencia Boulevard Bridge Stabilizer), is located within the Santa Clara River-South Fork watershed (Exhibit 23). The limits of Reach 79 are the downstream edge of Valencia Boulevard to approximately 167 feet downstream of Valencia Boulevard. Reach 79 is 167 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-G3).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 12
REACH 79 – SOUTH FORK – SANTA CLARA RIVER
(VALENCIA BOULEVARD BRIDGE STABILIZER)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for arroyo toad	March 30; April 28; May 11 and 24, 2011	Sam Stewart and Jason Mintzer
	June 8, 2011	Sam Stewart and Jonas Winbolt
	June 23, 2011	James Huelsman and Jason Mintzer
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 10 and 23; May 4, 21, and 31; June 11 and 21; July 3 and 16, 2011	James Pike

Arroyo Toad

The arroyo toad was not observed in Reach 79 during these surveys.

Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 79 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 79 during these surveys.

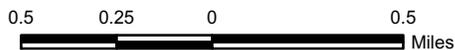


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Project Location

Reach #79 - South Fork - Santa Clara River (Valencia Boulevard Bridge Stabilizer)

Exhibit 23



3.4.4 REACH 80 – SOUTH FORK-SANTA CLARA RIVER (PDS 1947 AND 1946)

Project Location

Reach 80, South Fork-Santa Clara River (PDs 1947 and 1946), is located within the Santa Clara River-South Fork watershed (Exhibit 24). The limits of Reach 80 are approximately 3,080 feet upstream of McBean Parkway to approximately 276 feet upstream of McBean Parkway and the confluence with Santa Clara River. Reach 80 is 2,804 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-F2).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 13
REACH 80 – SOUTH FORK – SANTA CLARA RIVER (PDS 1947 AND 1946)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	March 30; April 28; May 11 and 24, 2011	Sam Stewart and Jason Mintzer
	June 8, 2011	Sam Stewart and Jonas Winbolt
	June 23, 2011	James Huelsman and Jason Mintzer
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 10 and 23; May 4, 21, and 31; June 11 and 21; July 3, and 16, 2011	James Pike

Arroyo Toad

The arroyo toad was not observed in Reach 80 during these surveys.

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 80 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 80 during these surveys.

3.4.5 REACH 82 – SANTA CLARA RIVER MAIN CHANNEL (PD 2278)

Project Location

Reach 82, Santa Clara River Main Channel (PD 2278), is located within the Santa Clara River watershed, approximately 0.75-mile east of the I-5 and Magic Mountain Parkway intersection in the City of Santa Clarita (Exhibit 25). The upstream limits of Reach 82 are approximately 740 feet southeast of the intersection of Hopkins Avenue and Rockefeller Avenue to just south of the intersection of Hopkins Avenue and Rockefeller Avenue. Reach 82 is 865 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-D1).



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Project Location

Reach #80 - South Fork - Santa Clara River (PDs 1947 and 1946)

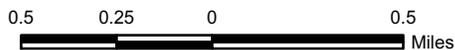


Exhibit 24





Project Location

Reach #82 - Santa Clara River Main Channel (PD 2278)



Exhibit 25



Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 14
REACH 82 – SANTA CLARA RIVER MAIN CHANNEL (PD 2278)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	March 30; April 28; May 11 and 24, 2011	Sam Stewart and Jason Mintzer
	June 8, 2011	Sam Stewart and Jonas Winbolt
	June 23, 2011	James Huelsman and Jason Mintzer
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 15 and 27; May 9 and 31, 2011,	Lindsay Messett
	May 19; June 10 and 20; July 1 and 13, 2011	Brian Daniels

Arroyo Toad

The arroyo toad was not observed in Reach 82 during these surveys.

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 82 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 82 during these surveys.

3.4.6 REACH 86 – VIOLIN CANYON MAIN CHANNEL OUTLET**Project Location**

Reach 86, Violin Canyon Main Channel Outlet, is located within the Castaic Creek watershed in the community of Castaic in unincorporated Los Angeles County, approximately 0.5 mile southeast of the I-5 and Lake Hughes Road intersection (Exhibit 26). The limits of Reach 86 are approximately 1,021 feet downstream of Ridge Route Road to the confluence with Castaic Creek. Reach 86 is 946 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4369-J7).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 15
REACH 86 – VIOLIN CANYON MAIN CHANNEL OUTLET**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	April 6; May 2; May 12 and 23; June 6 and 21, 2011	Sam Stewart and Jason Mintzer

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— Project Location

Project Location

Reach #86 - Violin Canyon Main Channel Outlet

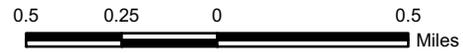


Exhibit 26



Arroyo Toad

The arroyo toad was not observed in Reach 86 during these surveys.

3.4.7 REACH 87 – CASTAIC-OLD ROAD DRAIN (CDR 525.021D) OUTLET

Project Location

Reach 87, Castaic – Old Road Drain (CDR 525.021D) Outlet, is located within the Castaic Creek watershed, approximately one mile northwest of the I-5 and Henry Mayo Drive (Highway 126) in the Castaic Junction community of unincorporated Los Angeles County (Exhibit 27). The limits of Reach 87 are approximately 610 feet downstream of the intersection of Hasley Canyon Road and Old Road to the confluence with Castaic Creek. Reach 87 is 240 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4459-H5).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 16
REACH 87 – CASTAIC-OLD ROAD DRAIN (CDR 525.021D) OUTLET**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	April 6; May 2; May 12 and 23; June 6 and 21, 2011	Sam Stewart and Jason Mintzer
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 11 and 22; May 2 and 24; June 6, 16, and 28; and July 14, 2011	Amber Oneal

Arroyo Toad

The arroyo toad was not observed within Reach 87 during these surveys.

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 87 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 87 during these surveys.

3.4.8 REACH 97 – CASTAIC CREEK – THE OLD ROAD (PD 1982)

Project Location

Reach 97, Castaic Creek – The Old Road (PD 1982), is located within the Castaic Creek watershed in the Castaic Junction community of unincorporated Los Angeles County (Exhibit 28). The limits of Reach 97 are approximately 300 feet downstream to 2,300 feet downstream of The Old Road. Reach 97 is 2,000 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle maps (Refer to Thomas Guide, Los Angeles County, page 4459-H5 to 4459-H6).



— Project Location

Project Location

Reach #87 - Castaic Creek - Old Road Drain (CDR 525.021D) Outlet

Exhibit 27





Project Location

Exhibit 28

Reach #97 - Castaic Creek - The Old Road (PD 1982)



Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 17
REACH 97 – CASTAIC CREEK – THE OLD ROAD (PD 1982)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	April 6; May 2; May 12 and 23; June 6 and 21, 2011	Sam Stewart and Jason Mintzer
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 11 and 22; May 2 and 24; June 6, 16, and 28; and July 14, 2011	Amber Oneal

Arroyo Toad

The arroyo toad was not observed within Reach 97 during these surveys.

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 97 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 97 during these surveys.

3.4.9 REACH 103 – BOUQUET CANYON CHANNEL (PD 2225)**Project Location**

Reach 103, Bouquet Canyon Channel (PD 2225), is located within the Santa Clara River watershed (Exhibit 29). The limits of Reach 103 are approximately 173 feet downstream of the centerline of Newhall Ranch Road (beginning of Grouted Stone Toe) to the Metropolitan Water District Fee Right-of-Way on the right bank and the embankment turn at the Santa Clara River on the left bank. Reach 103 is 1,824 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-H1, 4550-H2, and 4550-G2).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 18
REACH 103 – BOUQUET CANYON CHANNEL (PD 2225)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 10 and 23; May 4, 21, and 31; June 11 and 21; July 3 and 16, 2011	James Pike



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Project Location

Reach #103 - Bouquet Canyon Channel (PD 2225)

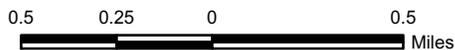


Exhibit 29



Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 103 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 103 during these surveys.

3.4.10 REACH 104 – CASTAIC CREEK (PD 2441 – UNITS 1 AND 2)

Project Location

Reach 104, Castaic Creek (PD 2441 – Unit 2), is located within the Castaic Creek watershed. The limits of Reach 104 are approximately 669 feet upstream of the Muirfield Lane Centerline to 478 feet downstream of the Turnberry Lane Centerline (Exhibit 30). Reach 104 is 2,186 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4459- H6 to 4459-H7).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 19
REACH 104 – CASTAIC CREEK (PD 2441 – UNIT 2)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	April 6; May 2; May 12 and 23; June 6 and 21, 2011	Sam Stewart and Jason Mintzer
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 11 and 22; May 2 and 24; June 6, 16, and 28; and July 14, 2011	Amber Oneal

Arroyo Toad

The arroyo toad was not observed within Reach 104 during these surveys.

Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 104 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 104 during these surveys.

3.4.11 REACH 105 – SAN FRANCISQUITO CHANNEL (PD 2456)

Project Location

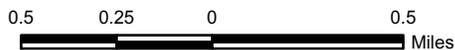
Reach 105, San Francisquito Channel (PD 2456), is located within the Santa Clara River watershed in unincorporated Los Angeles County (Exhibit 31). The limits of Reach 105 are approximately 417 feet upstream of the Decoro Drive Centerline to 416 feet downstream of the Decoro Drive Centerline. Reach 105 is 833 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4460-F6).



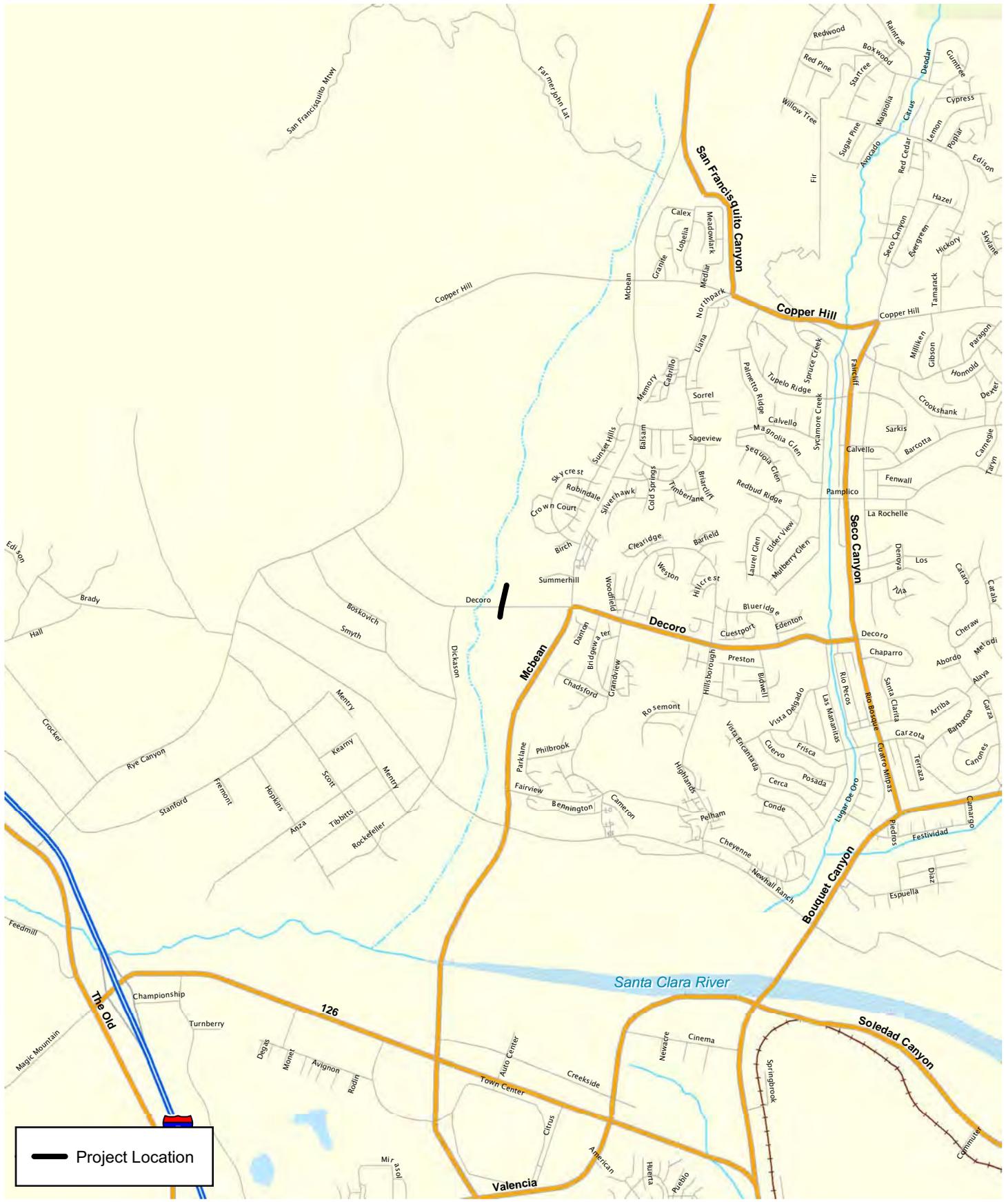
Project Location

Exhibit 30

Reach #104 - Castaic Creek (PD 2441 Units 1 and 2)



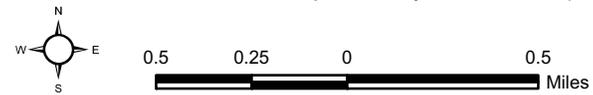
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Project Location

Exhibit 31

Reach #105 - San Francisquito Canyon Channel (PD 2456)



Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 20
REACH 105 – SAN FRANCISQUITO CHANNEL (PD 2456)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	April 6; May 2, 3, 12, 13, and 23; June 6 and 21, 2011	Sam Stewart and Jason Mintzer
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 15 and 27; May 9 and 31, 2011	Lindsay Messett
	May 19; June 10 and 20; July 1 and 13, 2011	Brian Daniels

Arroyo Toad

The arroyo toad was not observed in Reach 105 during these surveys.

Least Bell’s Vireo

A singing male least Bell’s vireo was present on June 10 on the west side of the wash at Reach 105 (see Exhibits 32 and 33). This male sang persistently from one patch of riparian vegetation during the course of this survey, but was not present on subsequent survey dates.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 105 during these surveys.

3.4.12 REACH 106 – CASTAIC DRAIN OUTLET (RMD CHANNEL)

Project Location

Reach 106, Castaic Drain Outlet (RMD Channel), is located within the Santa Clara River watershed. The limits of Reach 106 are approximately the toe of grouted rip-rap apron to approximately 147 feet downstream of grouted rip-rap apron (Exhibit 34). Reach 106 is 147 feet in total length. The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4459-H1).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 21
REACH 106 – CASTAIC DRAIN OUTLET (RMD CHANNEL)**

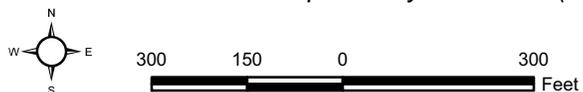
Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 11 and 22; May 2 and 24; June 6, 16, and 28; and July 14, 2011	Amber Oneal



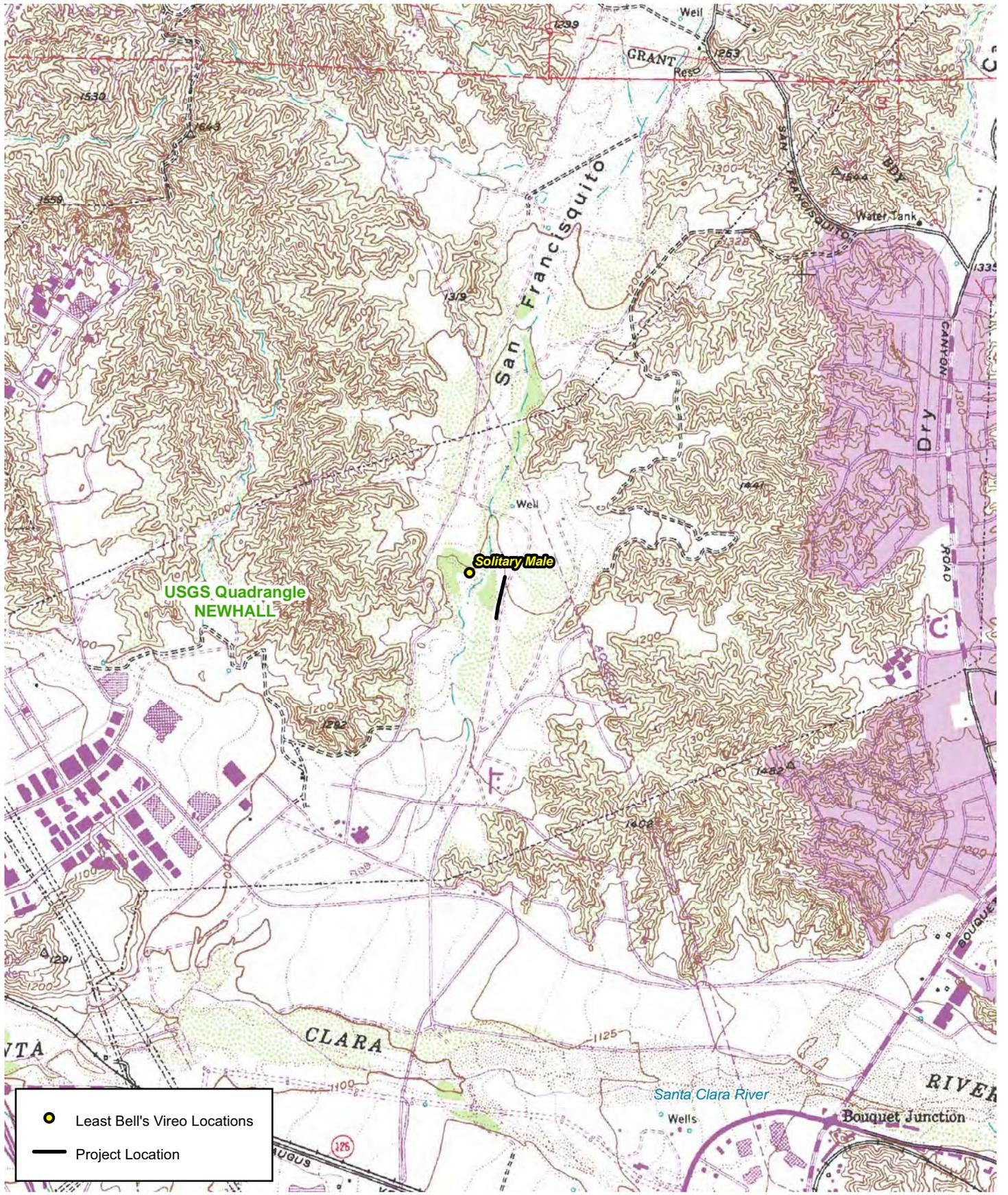
Least Bell's Vireo Locations

Exhibit 32

Reach #105 - San Francisquito Canyon Channel (PD 2456)



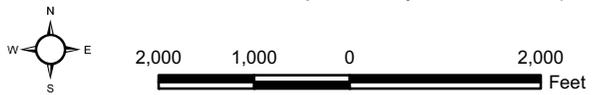
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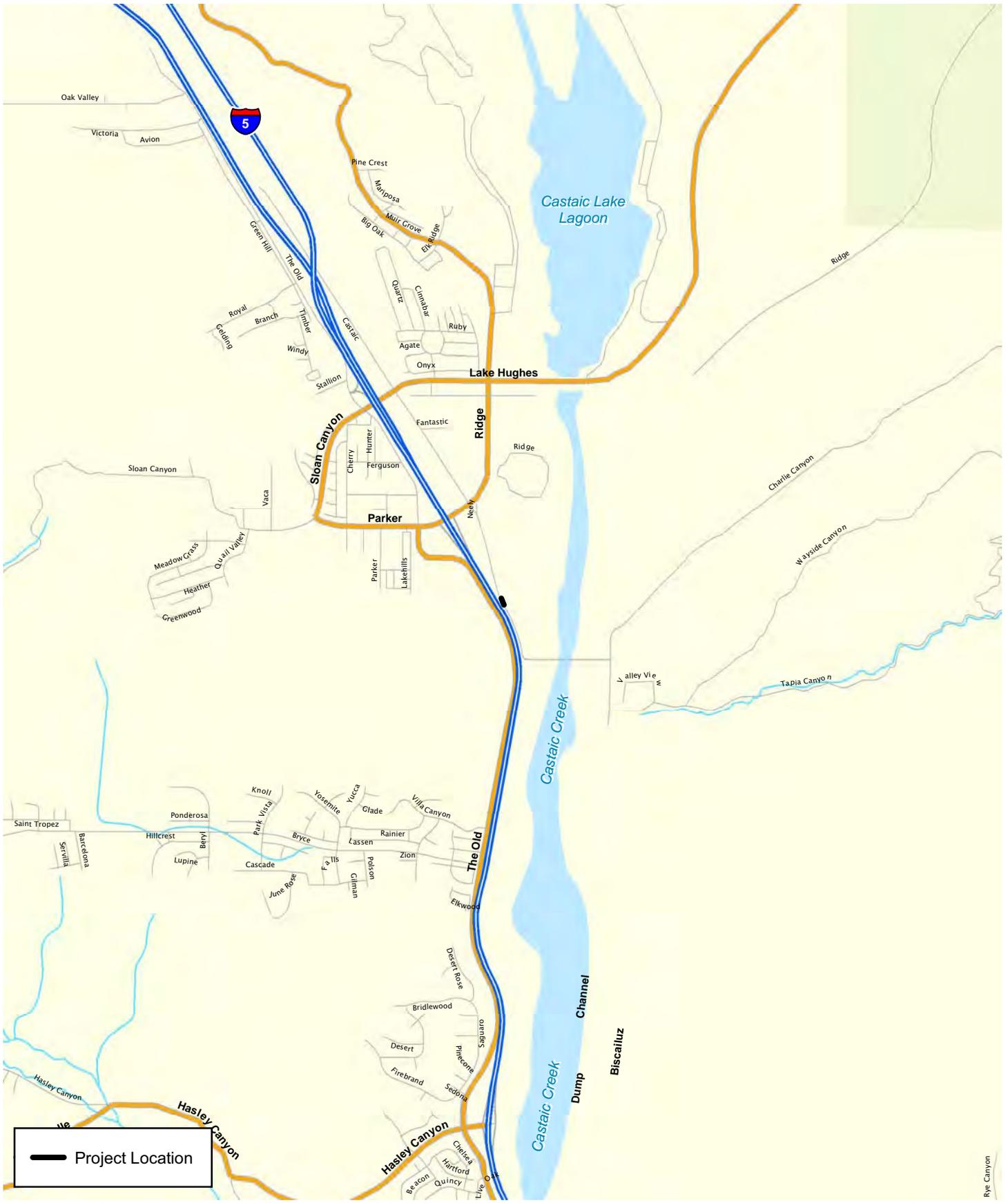
Least Bell's Vireo Location

Reach #105 - San Francisquito Canyon Channel (PD 2456)

Exhibit 33



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 Project Location

Project Location

Reach #106 - Castaic Drain Outlet (RMD Channel)



Exhibit 34



Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 106 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 106 during these surveys.

3.4.13 REACH 109 – SANTA CLARA RIVER – SOUTH BANK WEST OF MCBEAN PARKWAY (MTD 1510)

Project Location

Reach 109, Santa Clara River – South Bank West of McBean Parkway (MTD 1510), is an outlet located on the south bank (concrete levee) just west or downstream of McBean Parkway (Exhibit 35). The limits of Reach 109 are from the outlet, approximately 300 feet downstream of the McBean Parkway centerline, downstream 371 feet (Exhibit 35). The reach is found on the USGS Newhall 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4550-E2).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

**TABLE 22
REACH 109 – SANTA CLARA RIVER – SOUTH BANK WEST OF MCBEAN PARKWAY (MTD 1510)**

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the arroyo toad	March 30; April 28; May 11 and 24, 2011	Sam Stewart and Jason Mintzer
	June 8, 2011	Sam Stewart and Jonas Winbolt
	June 23, 2011	James Huelsman and Jason Mintzer
Focused survey for the least Bell’s vireo and southwestern willow flycatcher	April 15 and 27; May 9 and 31, 2011	Lindsay Messett
	May 19; June 10 and 20; July 1 and 13, 2011	Brian Daniels

Arroyo Toad

The arroyo toad was not observed in Reach 109 during these surveys.

Least Bell’s Vireo

The least Bell’s vireo was not observed in Reach 109 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 109 during these surveys.



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Project Location

Reach #109 - Santa Clara River - South Bank West of McBean Pkwy (MTD 1510)

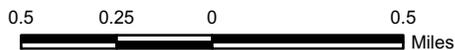


Exhibit 35

Bonterra
CONSULTING

3.4.14 REACH 110 – HASLEY CANYON CHANNEL (PD 2262)

Project Location

Reach 110, Hasley Canyon Channel (PD 2262), is located within the Santa Clara River watershed (Exhibit 36). It is a narrow channel of about ½ mile long with a relatively steep gradient. The reach is found on the USGS Val Verde (and close to the edge of Newhall) 7.5-minute quadrangle map (Refer to Thomas Guide, Los Angeles County, page 4459-G6).

Survey Results

The table below summarizes the type of surveys completed, survey dates, and surveying biologist for each survey within this reach.

TABLE 23
REACH 111 – HASLEY CANYON CHANNEL (PD 2262)

Survey Type	Survey Dates	Surveying Biologist
Focused survey for the least Bell's vireo and southwestern willow flycatcher	April 15 and 27; May 9 and 31, 2011	Lindsay Messett
	May 19; June 10 and 20; July 1 and 13, 2011	Brian Daniels

Least Bell's Vireo

The least Bell's vireo was not observed in Reach 110 during these surveys.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was not observed in Reach 110 during these surveys.



Project Location

Reach #110 - Hasley Canyon Channel (PD 2262)

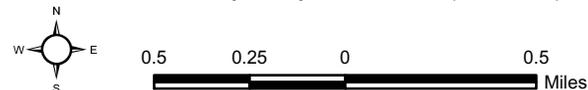


Exhibit 36



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APPENDIX A
BIRD COMPENDIA

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**REACH 12
HAINES CANYON MAIN CHANNEL OUTLET**

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Mallard (<i>Anas platyrhynchos</i>)	4	3	2	20	2	3	5		1
California Quail (<i>Callipepla californica</i>)						1		1	
Green Heron (<i>Butorides virescens</i>)				1				1	
Turkey Vulture (<i>Cathartes aura</i>)					1				
Cooper's Hawk (<i>Accipiter cooperii</i>)							1		
Red-shouldered Hawk (<i>Buteo lineatus</i>)					1	1		1	1
Red-tailed Hawk (<i>Buteo jamaicensis</i>)							1	2	
Killdeer (<i>Charadrius vociferous</i>)	2	1	1						
Western Gull (<i>Larus occidentalis</i>)					5				
Mourning Dove (<i>Zenaidura macroura</i>)						1		5	2
Greater Roadrunner (<i>Geococcyx californianus</i>)					1				
Black-chinned Hummingbird (<i>Archilochus alexandri</i>)								1	1
Anna's Hummingbird (<i>Calypte anna</i>)	4		2	5	3			1	1
Costa's Hummingbird (<i>Calypte costae</i>)						1			
Allen's Hummingbird (<i>Selasphorus sasin</i>) - males						1			
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)	2	2		1		3		3	6
Nuttall's Woodpecker (<i>Picooides nuttallii</i>)						2	1	1	
Western Wood-Pewee (<i>Contopus sordidulus</i>)				1		1			
Willow Flycatcher (<i>Empidonax traillii</i>)						2		1	
Black Phoebe (<i>Sayornis nigricans</i>)	2	2	3	1	4	2	1	2	4
Say's Phoebe (<i>Sayornis saya</i>)						1			
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)						2	1	2	
Cassin's Kingbird (<i>Tyrannus vociferans</i>)			2					1	5
Western Kingbird (<i>Tyrannus verticalis</i>)	2								2
Warbling Vireo (<i>Vireo gilvus</i>)				1		1			

REACH 12 (Continued)
HAINES CANYON MAIN CHANNEL OUTLET

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Western Scrub-Jay (<i>Aphelocoma insularis</i>)				2		1	1	2	1
American Crow (<i>Corvus brachyrhynchos</i>)	3					2	5		5
Common Raven (<i>Corvus corax</i>)	1		2		3	2	6	2	5
Violet-green Swallow (<i>Tachycineta thalassina</i>)				1					
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	4	5	5	4		5	5	6	2
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)				5		2	10		2
Barn Swallow (<i>Hirundo rustica</i>)									10
Bushtit (<i>Psaltriparus minimus</i>)				10		2		2	25
Bewick's Wren (<i>Thryomanes bewickii</i>)	4		5		2	1	1	2	2
Western Bluebird (<i>Sialia mexicana</i>)				1		2			
Swainson's Thrush (<i>Catharus ustulatus</i>)				1					
American Robin (<i>Turdus migratorius</i>)							1		
Northern Mockingbird (<i>Mimus polyglottos</i>)				2		1	2	4	6
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	2							1	
Common Yellowthroat (<i>Geothlypis trichas</i>)	2	2		1	2	1	2	5	6
Yellow Warbler (<i>Setophaga petechia</i>)		6		3		3	1	3	3
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	15								
Wilson's Warbler (<i>Wilsonia pusilla</i>)	2	2							
Spotted Towhee (<i>Pipilo maculatus</i>)		2	3			1	1	1	
California Towhee (<i>Melospiza crissalis</i>)	6	6	5	2	5	2	4	2	4
Song Sparrow (<i>Melospiza lincolni</i>)	2	4	4	2	3	4	6	3	4
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	15	5							
Western Tanager (<i>Piranga ludoviciana</i>)				11		4			
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)				1		1		2	
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)						1			

**REACH 12 (Continued)
HAINES CANYON MAIN CHANNEL OUTLET**

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Brown-headed Cowbird (<i>Molothrus ater</i>)									1
Hooded Oriole (<i>Icterus cucullatus</i>)	1					1	1	2	2
Bullock's Oriole (<i>Icterus bullockii</i>)	2	2					1	1	1
House Finch (<i>Carpodacus mexicanus</i>)	12	5	10	8	10	4	5	10	25
Lesser Goldfinch (<i>Spinus psaltria</i>)	11	6	13	8	5	8	1	5	2
American Goldfinch (<i>Spinus tristis</i>)						2		1	
House Sparrow (<i>Passer domesticus</i>)*				2		2			5
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 14
MAY CHANNEL
(MAIN CHANNEL OUTLET INTO PACOIMA CANYON)**

Species	Survey Dates - 2011								
	18-Apr	28-Apr	10-May	20-May	1-Jun	11-Jun	21-Jun	5-Jul	14-Jul
Canada Goose (<i>Branta canadensis</i>)		2	12						15
Mallard (<i>Anas platyrhynchos</i>)	2		1	3	2				
California Quail (<i>Callipepla californica</i>)				1	4		2		
Red-shouldered Hawk (<i>Buteo lineatus</i>)		1		1		1	2	1	1
Mourning Dove (<i>Zenaida macroura</i>)		1		1	3			1	
Barn Owl (<i>Tyto alba</i>)		1							
Vaux's Swift (<i>Chaetura vauxi</i>)			5	4					
White-throated Swift (<i>Aeronautes saxatalis</i>)					2		1		
Black-chinned Hummingbird (<i>Archilochus alexandri</i>)		4	3	1	2	3	3	1	2
Anna's Hummingbird (<i>Calypte anna</i>)	1	2	2	1	4		1		1
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)		2		1		1		1	2
Nuttall's Woodpecker (<i>Picooides nuttallii</i>)				1				2	2
Downy Woodpecker (<i>Picooides pubescens</i>)							1	1	
Black Phoebe (<i>Sayornis nigricans</i>)			8				2	2	1
Say's Phoebe (<i>Sayornis saya</i>)	1	1	1			2			
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)		6		1			1		
Cassin's Kingbird (<i>Tyrannus vociferans</i>)	2								
Western Kingbird (<i>Tyrannus verticalis</i>)		1		1					
Bell's Vireo (<i>Vireo bellii</i>)	3	3	4	4	4	6	7	4	3
Warbling Vireo (<i>Vireo gilvus</i>)		2		1					
Western Scrub-Jay (<i>Aphelocoma insularis</i>)							2		
American Crow (<i>Corvus brachyrhynchos</i>)	3	9	3	3	4	2	6	1	7
Common Raven (<i>Corvus corax</i>)	1	1			1				2
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)				2	1	2	4		

REACH 14 (Continued)
MAY CHANNEL
(MAIN CHANNEL OUTLET INTO PACOIMA CANYON)

Species	Survey Dates - 2011								
	18-Apr	28-Apr	10-May	20-May	1-Jun	11-Jun	21-Jun	5-Jul	14-Jul
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)	5	1	4	5	8	10	2	2	5
Barn Swallow (<i>Hirundo rustica</i>)	1								
Bushtit (<i>Psaltriparus minimus</i>)	2	3	2	18	1	2		20	
Bewick's Wren (<i>Thryomanes bewickii</i>)	2	2	3	3	3	3	3	4	5
House Wren (<i>Troglodytes aedon</i>)					1				
American Robin (<i>Turdus migratorius</i>)			1	1		1			
Wrentit (<i>Chamaea fasciata</i>)	1	1		1	1	2	1	1	1
Northern Mockingbird (<i>Mimus polyglottos</i>)	1					1			
California Thrasher (<i>Toxostoma redivivum</i>)	1				2				1
European Starling (<i>Sturnus vulgaris</i>)*	1								
Phainopepla (<i>Phainopepla nitens</i>)		3			1				
Orange-crowned Warbler (<i>Oreothlypis celata</i>)		2							
Nashville Warbler (<i>Oreothlypis ruficapilla</i>)		1							
Common Yellowthroat (<i>Geothlypis trichas</i>)	4	2	3						
Yellow Warbler (<i>Setophaga petechia</i>)	1	1		2			1		
Yellow-rumped Warbler (<i>Setophaga coronata</i>)		2							
Wilson's Warbler (<i>Wilsonia pusilla</i>)	1	6		2					
Yellow-breasted Chat (<i>Icteria virens</i>)				1	1	1	1		
Spotted Towhee (<i>Pipilo maculatus</i>)	4	1	2	4	3	3	1	1	5
California Towhee (<i>Melospiza crissalis</i>)	9	3	2	5	7	6	3	1	4
Lark Sparrow (<i>Chondestes grammacus</i>)				2					
Song Sparrow (<i>Melospiza lincolni</i>)	8	7	6	3	3	4	6	5	1
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)		3							
Western Tanager (<i>Piranga ludoviciana</i>)		1	1	1					
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)			1				1		

REACH 14 (Continued)
MAY CHANNEL
(MAIN CHANNEL OUTLET INTO PACOIMA CANYON)

Species	Survey Dates - 2011								
	18-Apr	28-Apr	10-May	20-May	1-Jun	11-Jun	21-Jun	5-Jul	14-Jul
Blue Grosbeak (<i>Passerina caerulea</i>)	1	3		1		2	1		1
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)				3					
Western Meadowlark (<i>Sturnella neglecta</i>)									1
Brown-headed Cowbird (<i>Molothrus ater</i>)	3	1	2	2	1	1			
Hooded Oriole (<i>Icterus cucullatus</i>)			1					1	
Bullock's Oriole (<i>Icterus bullockii</i>)		2	1				1		
House Finch (<i>Carpodacus mexicanus</i>)	5	2	35	40	25	14	22	16	30
Lesser Goldfinch (<i>Spinus psaltria</i>)	7	6	11	12	17	10	11	7	2
Lawrence's Goldfinch (<i>Spinus lawrencei</i>)						1	2		
American Goldfinch (<i>Spinus tristis</i>)	6	5	6	7	4	2	5	1	1
House Sparrow (<i>Passer domesticus</i>)*				1					
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 27
WILMINGTON DRAIN**

Species	Survey Dates - 2011								
	13-Apr	26-Apr	6-May	16-May	26-May	6-Jun	16-Jun	29-Jun	11-Jul
Canada Goose (<i>Branta canadensis</i>)				2					
Wood Duck (<i>Aix sponsa</i>)		1							
Mallard (<i>Anas platyrhynchos</i>)	10	12	25	22	12	15	1	2	
Cinnamon Teal (<i>Anas cyanoptera</i>)	4								
Pied-billed Grebe (<i>Podilymbus podiceps</i>)		1	1						
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	1		1	3			1		
Great Blue Heron (<i>Ardea herodias</i>)	2	1	2		1	3		1	1
Great Egret (<i>Ardea alba</i>)	3	1		2	1	1	1	2	
Snowy Egret (<i>Egretta thula</i>)	2	3	1	1		3	3	3	
Cattle Egret (<i>Bubulcus ibis</i>)						1			
Green Heron (<i>Butorides virescens</i>)	1			2	1				
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)						2			
Cooper's Hawk (<i>Accipiter cooperii</i>)								1	
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1	1		1	1	2		1	1
American Coot (<i>Fulica americana</i>)	7			1				1	1
Western Gull (<i>Larus occidentalis</i>)	1	2	1	4	2	3	5	1	3
Rock Pigeon (<i>Columba livia</i>)*	4	1	1	8	2	2		3	2
Mourning Dove (<i>Zenaida macroura</i>)	10	4	2	4	5	1		1	
Vaux's Swift (<i>Chaetura vauxi</i>)				3					
White-throated Swift (<i>Aeronautes saxatalis</i>)						1			
Anna's Hummingbird (<i>Calypte anna</i>)	2	3	4	1	2			1	
Allen's Hummingbird (<i>Selasphorus sasin</i>) - male	2	2	1	2	1			1	
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)	4	5	5	7	4	7	5	4	4
Belted Kingfisher (<i>Ceryle alcyon</i>)			1						
Downy Woodpecker (<i>Picoides pubescens</i>)	2	1		1	2		1		1

**REACH 27 (Continued)
WILMINGTON DRAIN**

Species	Survey Dates - 2011								
	13-Apr	26-Apr	6-May	16-May	26-May	6-Jun	16-Jun	29-Jun	11-Jul
Western Wood-Pewee (<i>Contopus sordidulus</i>)						1			
Black Phoebe (<i>Sayornis nigricans</i>)	4	7	6	5	6	10	7	6	7
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)							1		
Western Kingbird (<i>Tyrannus verticalis</i>)	1								
Bell's Vireo (<i>Vireo bellii</i>)					1	1	1	1	
Warbling Vireo (<i>Vireo gilvus</i>)		1	2	6	10	1			
Western Scrub-Jay (<i>Aphelocoma insularis</i>)				1					
American Crow (<i>Corvus brachyrhynchos</i>)	1	1		1	2		8	10	3
Common Raven (<i>Corvus corax</i>)		2				1	2		
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	4	2	2	1	1			2	
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)						2			
Barn Swallow (<i>Hirundo rustica</i>)	12	12	8	7	4	6	5	10	10
Bushtit (<i>Psaltriparus minimus</i>)	10	9	10	16	15	15	25	10	10
Marsh Wren (<i>Cistothorus palustris</i>)				2	1	2	2		
Swainson's Thrush (<i>Catharus ustulatus</i>)				1					
Northern Mockingbird (<i>Mimus polyglottos</i>)	1	2	2	3	4	1	3	2	1
European Starling (<i>Sturnus vulgaris</i>)*	13	4	4	22	15	4	7	1	1
Cedar Waxwing (<i>Bombycilla cedrorum</i>)			25		15				
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	5	10	4	4	4		2	2	
Nashville Warbler (<i>Oreothlypis ruficapilla</i>)		4							
Common Yellowthroat (<i>Geothlypis trichas</i>)	5	6	12	8	12	5	6	7	8
Yellow Warbler (<i>Setophaga petechia</i>)	2	2	2	11	21	6	3	3	2
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	30	12	6						
Black-throated Gray Warbler (<i>Setophaga nigrescens</i>)			1						
Townsend's Warbler (<i>Setophaga townsendi</i>)		5		5					

**REACH 27 (Continued)
WILMINGTON DRAIN**

Species	Survey Dates - 2011								
	13-Apr	26-Apr	6-May	16-May	26-May	6-Jun	16-Jun	29-Jun	11-Jul
Hermit Warbler (<i>Setophaga occidentalis</i>)		1		2					
Wilson's Warbler (<i>Wilsonia pusilla</i>)		1	9	2	1				
Yellow-breasted Chat (<i>Icteria virens</i>)				1	1				
California Towhee (<i>Melospiza crissalis</i>)	6	4	4	7	5	7	5	7	4
Song Sparrow (<i>Melospiza lincolni</i>)	5	8	6	8	7	6	1	1	3
Western Tanager (<i>Piranga ludoviciana</i>)			7	8	5	1			
Lazuli Bunting (<i>Passerina amoena</i>)		1	1	1					
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)				1					2
Brown-headed Cowbird (<i>Molothrus ater</i>)	4	3	7	6	5	4	3		2
Hooded Oriole (<i>Icterus cucullatus</i>)	2	4	2	2	3	3	1	3	5
Bullock's Oriole (<i>Icterus bullockii</i>)	3	5	3	3	4	3	5	3	1
House Finch (<i>Carpodacus mexicanus</i>)	8	20	14	13	32	36	20	30	35
Lesser Goldfinch (<i>Spinus psaltria</i>)		3	8	9	6	3	3		
American Goldfinch (<i>Spinus tristis</i>)	18	6	3	3	4		1	2	
House Sparrow (<i>Passer domesticus</i>)*	12	5	10	9	3	3	5	14	1
Nutmeg Mannikin (<i>Lonchura punctulata</i>)**			1		4	27	5	8	5
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 28
TRIUNFO CREEK (PD T2200)**

Species	Survey Dates - 2011								
	13-Apr	26-Apr	6-May	16-May	26-May	6-Jun	16-Jun	29-Jun	11-Jul
Canada Goose (<i>Branta canadensis</i>)		2							
Wood Duck (<i>Aix sponsa</i>)	1	1							
Mallard (<i>Anas platyrhynchos</i>)	5	2	12		1	1	2	2	4
California Quail (<i>Callipepla californica</i>)									10
Common Peafowl (<i>Pavo cristatus</i>)**	5	2	4	2	2	6	6	15	12
Great Blue Heron (<i>Ardea herodias</i>)				1			1		1
Green Heron (<i>Butorides virescens</i>)			1	1			1	2	1
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)								1	
Cooper's Hawk (<i>Accipiter cooperii</i>)	1		2		1				1
Red-shouldered Hawk (<i>Buteo lineatus</i>)		1	1		1	2	1	1	2
Red-tailed Hawk (<i>Buteo jamaicensis</i>)				2					
American Coot (<i>Fulica americana</i>)	1								
Band-tailed Pigeon (<i>Patagioenas fasciata</i>)	3								
Mourning Dove (<i>Zenaida macroura</i>)	4	1	1				1		
Black-hooded Parakeet (<i>Nandayus nenday</i>)**	16	15	30	7	10	4		5	5
Vaux's Swift (<i>Chaetura vauxi</i>)				1					
White-throated Swift (<i>Aeronautes saxatalis</i>)				2					
Anna's Hummingbird (<i>Calypte anna</i>)					1				1
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)							1		1
Belted Kingfisher (<i>Ceryle alcyon</i>)								1	
Acorn Woodpecker (<i>Melanerpes formicivorus</i>)	6	2	3	5	4	2		4	5
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	2	2	4	3	2	2	3	1	3
Northern Flicker (<i>Colaptes auratus</i>)	1	1	1			1			
Pacific-slope Flycatcher (<i>Empidonax difficilis</i>)		1		1	1	2	1	1	
Black Phoebe (<i>Sayornis nigricans</i>)	2	2	3	2	2		2	2	3

REACH 28 (Continued)
TRIUNFO CREEK (PD T2200)

Species	Survey Dates - 2011								
	13-Apr	26-Apr	6-May	16-May	26-May	6-Jun	16-Jun	29-Jun	11-Jul
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)		1					2	1	1
Warbling Vireo (<i>Vireo gilvus</i>)				1					
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	2	4	4	2	2			1	2
American Crow (<i>Corvus brachyrhynchos</i>)	25	11	20	15	40	8	18	18	25
Violet-green Swallow (<i>Tachycineta thalassina</i>)		6		2					
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)		2	2	1	3	2	1	3	
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)								1	
Oak Titmouse (<i>Baeolophus inornatus</i>)	5	4	3	4	1	4	4	8	3
Bushtit (<i>Psaltriparus minimus</i>)					6		4	10	
White-breasted Nuthatch (<i>Sitta carolinensis</i>)	1	4			2		4	3	3
Bewick's Wren (<i>Thryomanes bewickii</i>)	2	2		2					3
House Wren (<i>Troglodytes aedon</i>)	10	8	7	4	3	5	7	7	3
Western Bluebird (<i>Sialia mexicana</i>)	1				1		2		2
American Robin (<i>Turdus migratorius</i>)	2	1	1			1			
Wrentit (<i>Chamaea fasciata</i>)			1	1	1	2	2	4	2
European Starling (<i>Sturnus vulgaris</i>)*	15	14	11	8	6	5	4	5	2
Cedar Waxwing (<i>Bombycilla cedrorum</i>)			12						
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	1	1	3		1		1		
Common Yellowthroat (<i>Geothlypis trichas</i>)							2	3	2
Yellow Warbler (<i>Setophaga petechia</i>)			1	1	1		1		
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	5								
Spotted Towhee (<i>Pipilo maculatus</i>)	5	2	5	4	1	6	4	6	4
California Towhee (<i>Melospiza crissalis</i>)	3	3	5	5	1	2	5	3	2
Song Sparrow (<i>Melospiza lincolnii</i>)	8	7	10	9	7	4	10	6	6
Dark-eyed Junco (<i>Junco hyemalis</i>)	1	1	2		1	1	2	1	1

REACH 28 (Continued)
TRIUNFO CREEK (PD T2200)

Species	Survey Dates - 2011								
	13-Apr	26-Apr	6-May	16-May	26-May	6-Jun	16-Jun	29-Jun	11-Jul
Western Tanager (<i>Piranga ludoviciana</i>)					1				
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)		1	3	4	4	3	5		
Brown-headed Cowbird (<i>Molothrus ater</i>)	4	1	1	2	3	3	2		2
Hooded Oriole (<i>Icterus cucullatus</i>)	2	1			3	2	3	3	2
Bullock's Oriole (<i>Icterus bullockii</i>)	1	3	2	2	6	2	6	2	2
House Finch (<i>Carpodacus mexicanus</i>)	2	2	7	3	4	4	5	10	7
Lesser Goldfinch (<i>Spinus psaltria</i>)	4		4	5	2		1		7
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 39
BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER
25+99.00+50'**

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Mallard (<i>Anas platyrhynchos</i>)	8	7	4	15	4	10	6	30	20
California Quail (<i>Callipepla californica</i>)	17	7	10	7	10	3	5	2	1
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)		1				1	1		
Great Blue Heron (<i>Ardea herodias</i>)								1	
Great Egret (<i>Ardea alba</i>)					1		1	2	
Snowy Egret (<i>Egretta thula</i>)				1		2		3	1
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)								6	
Turkey Vulture (<i>Cathartes aura</i>)		4	2	11	2	4			1
Osprey (<i>Pandion haliaetus</i>)								1	
Cooper's Hawk (<i>Accipiter cooperii</i>)	1		1	1	1				
Red-tailed Hawk (<i>Buteo jamaicensis</i>)						1			
Virginia Rail (<i>Rallus limicola</i>)							1		
American Coot (<i>Fulica americana</i>)		11		1					
Killdeer (<i>Charadrius vociferous</i>)	4	4	3	1	2	2	1	1	2
Rock Pigeon (<i>Columba livia</i>)*		5				1			
Band-tailed Pigeon (<i>Patagioenas fasciata</i>)							1		
Mourning Dove (<i>Zenaida macroura</i>)	9	10	6	14	6	6	8	5	7
Red-crowned Parrot (<i>Amazona viridigenalis</i>)*				6		5			
Lesser Nighthawk (<i>Chordeiles acutipennis</i>)								1	
Vaux's Swift (<i>Chaetura vauxi</i>)				1					
White-throated Swift (<i>Aeronautes saxatalis</i>)	6	10		8	5			3	
Black-chinned Hummingbird (<i>Archilochus alexandri</i>)				1		1	1		2
Anna's Hummingbird (<i>Calypte anna</i>)	7	4		2		2	2	1	2
Costa's Hummingbird (<i>Calypte costae</i>)						1		1	

REACH 39 (Continued)
BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER
25+99.00+50'

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Allen's Hummingbird (<i>Selasphorus sasin</i>) - males						1			
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)		2		1			1	3	3
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)		2		2		2	1	1	1
Downy Woodpecker (<i>Picoides pubescens</i>)									1
Western Wood-Pewee (<i>Contopus sordidulus</i>)				1					
Willow Flycatcher (<i>Empidonax traillii</i>)						1			
Black Phoebe (<i>Sayornis nigricans</i>)	6	6	5	5	4	6	11	4	7
Say's Phoebe (<i>Sayornis saya</i>)		2				1			
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)								1	2
Cassin's Kingbird (<i>Tyrannus vociferans</i>)							1		2
Western Kingbird (<i>Tyrannus verticalis</i>)				2		2		1	4
Bell's Vireo (<i>Vireo bellii</i>)	1	3	3	5	3	4	4	3	3
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	5	6	4	3	6	4	4	3	2
American Crow (<i>Corvus brachyrhynchos</i>)	5	2		2	3	2			
Common Raven (<i>Corvus corax</i>)	12	6	5		4	2		5	
Violet-green Swallow (<i>Tachycineta thalassina</i>)				12					
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	10			8		5	12	30	2
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)	20	10	9	20	14	8	10	5	15
Barn Swallow (<i>Hirundo rustica</i>)	8			2		1	2		
Bushtit (<i>Psaltriparus minimus</i>)	10	21	8	10	12	25	20	10	10
Bewick's Wren (<i>Thryomanes bewickii</i>)	15	10		5	6	4	8	8	5
House Wren (<i>Troglodytes aedon</i>)				2					
Swainson's Thrush (<i>Catharus ustulatus</i>)				1					
Wrentit (<i>Chamaea fasciata</i>)	2	3		5		6	8	8	7

REACH 39 (Continued)
BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER
25+99.00+50'

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Northern Mockingbird (<i>Mimus polyglottos</i>)	4	5		4	5	4	4	10	5
California Thrasher (<i>Toxostoma redivivum</i>)					2	2	2	2	3
European Starling (<i>Sturnus vulgaris</i>)*							2		
Red-whiskered Bulbul (<i>Pycnonotus jocosus</i>)**						5	2		1
Phainopepla (<i>Phainopepla nitens</i>)				1		1		1	7
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	2	2	2				2		
Common Yellowthroat (<i>Geothlypis trichas</i>)	12	10	13	12	8	8	12	9	13
Yellow Warbler (<i>Setophaga petechia</i>)		2		7		3	4	4	1
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	8	6							
Yellow-breasted Chat (<i>Icteria virens</i>)	1	1	1	2	1	4	4	3	2
Spotted Towhee (<i>Pipilo maculatus</i>)	9	8	5	6	6	7	3	9	2
California Towhee (<i>Melospiza crissalis</i>)	10		11	9	10	10	14	11	6
Song Sparrow (<i>Melospiza lincolni</i>)	18	18	15	27	11	25	34	13	6
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	4	4							
Western Tanager (<i>Piranga ludoviciana</i>)				2		1			
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)	3	5	2	2	2	2	1	1	1
Blue Grosbeak (<i>Passerina caerulea</i>)		2		1		1	1		2
Red-winged Blackbird (<i>Agelaius phoeniceus</i>)	20	14	15	9	10	4	13	4	10
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)		2						1	
Brown-headed Cowbird (<i>Molothrus ater</i>)		4	2	2		6	6	9	5
Hooded Oriole (<i>Icterus cucullatus</i>)						1	1	2	
Bullock's Oriole (<i>Icterus bullockii</i>)	4	3			2			1	
Purple Finch (<i>Carpodacus purpureus</i>)				1		2	1		
House Finch (<i>Carpodacus mexicanus</i>)			11	8		15	30		12

REACH 39 (Continued)
BEATTY CHANNEL OUTLET AT SAN GABRIEL RIVER
25+99.00+50'

Species	Survey Dates - 2011								
	14-Apr	26-Apr	6-May	18-May	27-May	7-Jun	17-Jun	30-Jun	12-Jul
Lesser Goldfinch (<i>Spinus psaltria</i>)	10		10	6	10	12	9	2	
American Goldfinch (<i>Spinus tristis</i>)				10		7	9	7	3
House Sparrow (<i>Passer domesticus</i>)*							15		
Nutmeg Mannikin (<i>Lonchura punctulata</i> **)							1	2	1
Orange Bishop (<i>Euplectes franciscanus</i> **)						2		1	
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

REACH 40B
SAN GABRIEL RIVER – I-10 FREEWAY TO THIENES AVENUE

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Canada Goose (<i>Branta canadensis</i>)	2		2						
Egyptian Goose (<i>Alopochen aegyptiacus</i>)**	2								
Gadwall (<i>Anas strepera</i>)	9			2	1				
Mallard (<i>Anas platyrhynchos</i>)	20	15	20	12	12	15	2	7	
Cinnamon Teal (<i>Anas cyanoptera</i>)	2	2	2		1	2			
Bufflehead (<i>Bucephala albeola</i>)	10								
Ruddy Duck (<i>Oxyura jamaicensis</i>)	12	8							
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	1		1	1	2	2	3	2	3
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	2	1	2	2	2	3	1	5	
Great Blue Heron (<i>Ardea herodias</i>)			1		1	2	1		1
Great Egret (<i>Ardea alba</i>)	1					2			
Snowy Egret (<i>Egretta thula</i>)	2				1	3	2		1
Green Heron (<i>Butorides virescens</i>)		2	1	1			2		
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)	2	1			1	6			
Turkey Vulture (<i>Cathartes aura</i>)						1			
Red-tailed Hawk (<i>Buteo jamaicensis</i>)			1		2	2	1		
American Kestrel (<i>Falco sparverius</i>)	1		1	1	1	1	1		
Common Gallinule (<i>Gallinula galeata</i>)	1				1			1	
American Coot (<i>Fulica americana</i>)	30	18	2	2	2	8	8	10	8
Killdeer (<i>Charadrius vociferous</i>)	7	7	5	2	6	10	5	4	3
Black-necked Stilt (<i>Himantopus mexicanus</i>)	14	8	5	2	2				
American Avocet (<i>Recurvirostra americana</i>)	2	2	1	2					
Greater Yellowlegs (<i>Tringa melanoleuca</i>)		2							1
Whimbrel (<i>Numenius phaeopus</i>)	2								
Least Sandpiper (<i>Calidris minutilla</i>)	3								

REACH 40B (Continued)
SAN GABRIEL RIVER – I-10 FREEWAY TO THIENES AVENUE

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Long-billed Dowitcher (<i>Limnodromus scolopaceus</i>)	35	5							
Western Gull (<i>Larus occidentalis</i>)	4	3		2		2	2		
California Gull (<i>Larus californicus</i>)	20	50		180			1		
Forster's Tern (<i>Sterna forsteri</i>)						3	4		
Rock Pigeon (<i>Columba livia</i>)*	5	16		1		2	6		5
Band-tailed Pigeon (<i>Patagioenas fasciata</i>)									
Eurasian Collared-Dove (<i>Streptopelia decaocto</i>)*		1	1	1	2	2	1	2	10
Mourning Dove (<i>Zenaida macroura</i>)		5	3	1	3	8	6	2	6
Yellow-chevroned Parakeet (<i>Brotogeris chiriri</i>)**			4				6	3	
Red-crowned Parrot (<i>Amazona viridigenalis</i>)*				18	6	11	4		
White-throated Swift (<i>Aeronautes saxatalis</i>)				3		1	1		
Anna's Hummingbird (<i>Calypte anna</i>)	4	5	3	2	2	1	1	3	2
Allen's Hummingbird (<i>Selasphorus sasin</i>)		2		1					
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)	1	1				1	1	2	4
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	1						1	1	2
Downy Woodpecker (<i>Picoides pubescens</i>)	2	1	1	1			1	1	
Black Phoebe (<i>Sayornis nigricans</i>)	6	4	3	5	5	5	5	7	4
Cassin's Kingbird (<i>Tyrannus vociferans</i>)	2	1	3	3	2	1	1		
Western Kingbird (<i>Tyrannus verticalis</i>)		3							
Bell's Vireo (<i>Vireo bellii</i>)	1	4	3	4	3	3	4	4	4
Warbling Vireo (<i>Vireo gilvus</i>)			1	2					
American Crow (<i>Corvus brachyrhynchos</i>)	2	5	1	2	3	3	1	2	
Common Raven (<i>Corvus corax</i>)	1		1						
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	6	20	2	2	5	6	12	12	6
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)	50	35	10	25	12	35	30	5	20

REACH 40B (Continued)
SAN GABRIEL RIVER – I-10 FREEWAY TO THIENES AVENUE

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Barn Swallow (<i>Hirundo rustica</i>)	8	24	2	5	6	6	5	12	12
Bushtit (<i>Psaltriparus minimus</i>)	16	16	22	30	22	22	30	22	18
American Robin (<i>Turdus migratorius</i>)		1			1				
Northern Mockingbird (<i>Mimus polyglottos</i>)	2	2	2	8	2	2	3	3	8
European Starling (<i>Sturnus vulgaris</i>)*	3	8	4	4	25	4	15	50	10
American Pipit (<i>Anthus rubescens</i>)	2								
Cedar Waxwing (<i>Bombycilla cedrorum</i>)		10	3	1					
Phainopepla (<i>Phainopepla nitens</i>)				1					
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	1	4							
Nashville Warbler (<i>Oreothlypis ruficapilla</i>)		1							
Common Yellowthroat (<i>Geothlypis trichas</i>)	11	8	12	11	16	20	16	12	10
Yellow Warbler (<i>Setophaga petechia</i>)	5	8	10	16	9	10	8	8	7
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	8	2							
Black-throated Gray Warbler (<i>Setophaga nigrescens</i>)		1							
Townsend's Warbler (<i>Setophaga townsendi</i>)		1	2	1					
Wilson's Warbler (<i>Wilsonia pusilla</i>)	1	1	7	2					
Yellow-breasted Chat (<i>Icteria virens</i>)									1
California Towhee (<i>Melospiza crissalis</i>)	2	5	6	6	4	8	6	4	6
Song Sparrow (<i>Melospiza lincolni</i>)	16	14	20	16	30	24	18	10	8
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	12								
Western Tanager (<i>Piranga ludoviciana</i>)				5	1				
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)			1	1	3	1			
Blue Grosbeak (<i>Passerina caerulea</i>)		1		2		1	1	2	2
Lazuli Bunting (<i>Passerina amoena</i>)			1						
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)	6	10	15	10		10	15	4	

REACH 40B (Continued)
SAN GABRIEL RIVER – I-10 FREEWAY TO THIENES AVENUE

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)	12	16	15	15	15	12		8	5
Brown-headed Cowbird (<i>Molothrus ater</i>)	3	7	3	2	4		1	2	3
Hooded Oriole (<i>Icterus cucullatus</i>)	1	1						1	
Bullock's Oriole (<i>Icterus bullockii</i>)	2	3	4	2	4	5	4	7	1
House Finch (<i>Carpodacus mexicanus</i>)	14	45	14	20	22	24	20	12	25
Lesser Goldfinch (<i>Spinus psaltria</i>)	5	12	5		8		5	4	6
American Goldfinch (<i>Spinus tristis</i>)	3	2	5	4	5	5	5	2	13
House Sparrow (<i>Passer domesticus</i>)*	18	5	22	16	70	45	35	30	35
Orange Bishop (<i>Euplectes franciscanus</i>)**							1	1	1
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 43A
SAN GABRIEL RIVER – UPPER**

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Gadwall (<i>Anas strepera</i>)	2								
Mallard (<i>Anas platyrhynchos</i>)	5	5	2	3	3	2	1		3
Cinnamon Teal (<i>Anas cyanoptera</i>)		1	1	1		1		1	
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	1		1	2	3	1			
Great Blue Heron (<i>Ardea herodias</i>)	1	1	1	1	1				5
Great Egret (<i>Ardea alba</i>)		1	1			1		1	5
Snowy Egret (<i>Egretta thula</i>)	2		1	2	2	2			16
Green Heron (<i>Butorides virescens</i>)	1		1	1				1	1
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)		1	1	1	2				
Cooper's Hawk (<i>Accipiter cooperii</i>)					2				
Red-tailed Hawk (<i>Buteo jamaicensis</i>)							1		
Common Gallinule (<i>Gallinula galeata</i>)			1			1		1	
Killdeer (<i>Charadrius vociferous</i>)					1				
Western Gull (<i>Larus occidentalis</i>)				1					
California Gull (<i>Larus californicus</i>)	2	5		60					
Caspian Tern (<i>Hydroprogne caspia</i>)						1			
Forster's Tern (<i>Sterna forsteri</i>)				1		8			
Rock Pigeon (<i>Columba livia</i>)*	20	10	15	5		2	8	1	3
Eurasian Collared-Dove (<i>Streptopelia decaocta</i>)				1					
Mourning Dove (<i>Zenaida macroura</i>)	3	6	1	3	3	2	4	2	2
White-throated Swift (<i>Aeronautes saxatalis</i>)								2	
Black-chinned Hummingbird (<i>Archilochus alexandri</i>)					1				
Anna's Hummingbird (<i>Calypte anna</i>)	5	5	1	2	2	1		2	
Allen's Hummingbird (<i>Selasphorus sasin</i>)				3	1				
Allen's/Rufous Hummingbird (<i>Selasphorus sp.</i>)						1	2	4	6
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	1	2				1			1

REACH 43A (Continued)
SAN GABRIEL RIVER – UPPER

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Downy Woodpecker (<i>Picoides pubescens</i>)		1		2	1		2	1	1
Western Wood-Pewee (<i>Contopus sordidulus</i>)				1					
Black Phoebe (<i>Sayornis nigricans</i>)	2	1	5	4	5	4	4	2	2
Say's Phoebe (<i>Sayornis saya</i>)			1						
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)		1				2			
Cassin's Kingbird (<i>Tyrannus vociferans</i>)		1	1				1	1	
Western Kingbird (<i>Tyrannus verticalis</i>)			1						
Bell's Vireo (<i>Vireo bellii</i>)	1	2	4	4	4	4	4	2	4
Hutton's Vireo (<i>Vireo huttoni</i>)				1	2			1	1
Warbling Vireo (<i>Vireo gilvus</i>)		1	4	1	3				
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	1								
American Crow (<i>Corvus brachyrhynchos</i>)				1					
Common Raven (<i>Corvus corax</i>)	2		1						
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)			3		2	2		3	2
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)	15		40	15	4		25	15	35
Barn Swallow (<i>Hirundo rustica</i>)	2	2	6		2	1	5	7	10
Bushtit (<i>Psaltriparus minimus</i>)	10	20	28	25	20	24	30	26	25
Bewick's Wren (<i>Thryomanes bewickii</i>)		1		1		1		1	1
House Wren (<i>Troglodytes aedon</i>)	2	1				1			
Swainson's Thrush (<i>Catharus ustulatus</i>)			1	4		1		1	
American Robin (<i>Turdus migratorius</i>)		2		2	1			3	
Northern Mockingbird (<i>Mimus polyglottos</i>)									1
European Starling (<i>Sturnus vulgaris</i>)*							12		
Cedar Waxwing (<i>Bombycilla cedrorum</i>)			8						
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	1	2				1	1	1	
Yellow Warbler (<i>Setophaga petechia</i>)	12	14	13	14	14	18	15	17	14

REACH 43A (Continued)
SAN GABRIEL RIVER – UPPER

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Common Yellowthroat (<i>Geothlypis trichas</i>)	18	15	18	14	15	16	13	8	4
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	12	1							
Townsend's Warbler (<i>Setophaga townsendi</i>)				1					
Wilson's Warbler (<i>Wilsonia pusilla</i>)	3	4	3	4					
Yellow-breasted Chat (<i>Icteria virens</i>)		2	4	3	3	3	3	3	3
Spotted Towhee (<i>Pipilo maculatus</i>)	5	5	4	3	4	5	5	4	5
California Towhee (<i>Melospiza crissalis</i>)	2	3	6	4	4	6	5	3	2
Chipping Sparrow (<i>Spizella passerina</i>)			1						
Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	1								
Song Sparrow (<i>Melospiza lincolnii</i>)	21	24	22	16	20	29	16	7	2
Western Tanager (<i>Piranga ludoviciana</i>)				2	2				
Northern Cardinal (<i>Cardinalis cardinalis</i>)*		2	1	1	1	1	1	1	1
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)		5	5	3	2	2	2	2	2
Blue Grosbeak (<i>Passerina caerulea</i>)			1	2	3	1	1	2	2
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)	1					6			
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)				1	1				
Brown-headed Cowbird (<i>Molothrus ater</i>)	1		3	1	4	1	2	1	3
Hooded Oriole (<i>Icterus cucullatus</i>)	1	1				2	1		1
Bullock's Oriole (<i>Icterus bullockii</i>)	1	2	2	2	5		3	2	
House Finch (<i>Carpodacus mexicanus</i>)	12	30	22	18	25	28	20	30	30
Lesser Goldfinch (<i>Spinus psaltria</i>)	10	25	20	16	20	25	8	25	25
American Goldfinch (<i>Spinus tristis</i>)	10	5	14	6	4	5	16		3
House Sparrow (<i>Passer domesticus</i>)*								2	
Nutmeg Mannikin (<i>Lonchura punctulata</i>)**			1					1	1
Orange Bishop (<i>Euplectes franciscanus</i>)**				1		1	1		

* Introduced non-native species with established breeding population in California
** Exotic or escaped non-native species that may or many not be breeding in California

**REACH 43B
SAN GABRIEL RIVER – LOWER**

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Canada Goose (<i>Branta canadensis</i>)	3	3	3						14
Gadwall (<i>Anas strepera</i>)		2	2						
American Wigeon (<i>Anas americana</i>)	10	12	12						
Mallard (<i>Anas platyrhynchos</i>)	25	25	25	40	40	35	30	28	45
Cinnamon Teal (<i>Anas cyanoptera</i>)	8								
Pied-billed Grebe (<i>Podilymbus podiceps</i>)		1	2		2	3	1	1	1
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	4	3	8	5	6	5	6	8	14
Great Blue Heron (<i>Ardea herodias</i>)	1		1			1	1		3
Great Egret (<i>Ardea alba</i>)	1				1				3
Snowy Egret (<i>Egretta thula</i>)	16	3		1	3	1	2	1	1
Green Heron (<i>Butorides virescens</i>)		3			2			2	2
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)	1	1	3	3	3	12	3		4
Cooper's Hawk (<i>Accipiter cooperii</i>)	1				1				3
American Kestrel (<i>Falco sparverius</i>)	1								
Common Gallinule (<i>Gallinula galeata</i>)			1	2	2	4	4	1	4
American Coot (<i>Fulica americana</i>)	30	6	2	2	1	6	2	1	3
Killdeer (<i>Charadrius vociferous</i>)	3	8	5	2	8	3			1
Black-necked Stilt (<i>Himantopus mexicanus</i>)					2				
Western Gull (<i>Larus occidentalis</i>)		10	1	25	8	1	3		4
California Gull (<i>Larus californicus</i>)	6	7		75	1				
Caspian Tern (<i>Hydroprogne caspia</i>)				1		1			
Forster's Tern (<i>Sterna forsteri</i>)				2		4			
Rock Pigeon (<i>Columba livia</i>)*	10	17	5	2	4	20	3	8	16
Eurasian Collared-Dove (<i>Streptopelia decaocto</i>)			1	2		1			3
Mourning Dove (<i>Zenaida macroura</i>)	6	5	2	3	2	4	3		

REACH 43B (Continued)
SAN GABRIEL RIVER – LOWER

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Red-crowned Parrot (<i>Amazona viridigenalis</i>)*		1							
Anna's Hummingbird (<i>Calypte anna</i>)	3	3	2	3	2		1		
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)	1					1			5
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)						1		1	
Downy Woodpecker (<i>Picoides pubescens</i>)								1	
Western Wood-Pewee (<i>Contopus sordidulus</i>)					1				
Black Phoebe (<i>Sayornis nigricans</i>)	2	2	4	3	3	3	3	3	4
Cassin's Kingbird (<i>Tyrannus vociferans</i>)			2	1	1	2		1	3
Western Kingbird (<i>Tyrannus verticalis</i>)	1		1						2
Warbling Vireo (<i>Vireo gilvus</i>)				2	1				
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	1	1							
American Crow (<i>Corvus brachyrhynchos</i>)	1				2	2	11	11	1
Common Raven (<i>Corvus corax</i>)		2							
Tree Swallow (<i>Tachycineta bicolor</i>)		2	2	1	1		1	1	
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	5	12	3	4	1	3	5	2	5
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)	50	25	12	60	65	50	8	20	60
Barn Swallow (<i>Hirundo rustica</i>)		2	1		8	2	12	10	25
Bushtit (<i>Psaltriparus minimus</i>)	2	12	12	20	15	28	20	12	8
Swainson's Thrush (<i>Catharus ustulatus</i>)				1					
Northern Mockingbird (<i>Mimus polyglottos</i>)	2	4	2	3	3	2	5	4	2
European Starling (<i>Sturnus vulgaris</i>)*	5	4	2	2	3	15	1	1	3
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	1	1							
Common Yellowthroat (<i>Geothlypis trichas</i>)	3	4	4	5	5	4	7	4	4
Yellow Warbler (<i>Setophaga petechia</i>)	2	8	8	9	7	7	7	7	7
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	18	2	1						

REACH 43B (Continued)
SAN GABRIEL RIVER – LOWER

Species	Survey Dates - 2011								
	11-Apr	24-Apr	12-May	22-May	1-Jun	12-Jun	22-Jun	2-Jul	17-Jul
Black-throated Gray Warbler (<i>Setophaga nigrescens</i>)				1					
Wilson's Warbler (<i>Wilsonia pusilla</i>)	1	1	1						
Yellow-breasted Chat (<i>Icteria virens</i>)			1						
Spotted Towhee (<i>Pipilo maculatus</i>)					1				
California Towhee (<i>Melospiza crissalis</i>)	4	3	7	4	3	3	5	1	3
Song Sparrow (<i>Melospiza lincolni</i>)	6	14	14	6	9	11	11	8	2
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	4								
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)		1	1						
Blue Grosbeak (<i>Passerina caerulea</i>)				1	2	2		1	1
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)	30	35	25	20	20	30	40	6	5
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)		3			1				
Brown-headed Cowbird (<i>Molothrus ater</i>)	2	3	4	2	4	2	1	3	
Hooded Oriole (<i>Icterus cucullatus</i>)	1	1	1	1	1	3	1	1	
Bullock's Oriole (<i>Icterus bullockii</i>)		1		2				2	
House Finch (<i>Carpodacus mexicanus</i>)	10	12	18	10	15	14	15	8	13
Lesser Goldfinch (<i>Spinus psaltria</i>)	5	1	6	4	5	3	5	6	3
American Goldfinch (<i>Spinus tristis</i>)		6	3	1	3	4	5	2	2
House Sparrow (<i>Passer domesticus</i>)*	3			8		5		4	
Nutmeg Mannikin (<i>Lonchura punctulata</i>)**				1	2			1	1
Orange Bishop (<i>Euplectes franciscanus</i>)**							1	1	1
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 71, 79, AND 80
SANTA CLARA RIVER MAIN CHANNEL (PD 1946)
SOUTH FORK – SANTA CLARA RIVER (VALENCIA BLVD. BRIDGE STABILIZER)
SOUTH FORK – SANTA CLARA RIVER (PD's 1947 & 1946)**

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Canada Goose (<i>Branta canadensis</i>)	4	2							
Mallard (<i>Anas platyrhynchos</i>)	4	2			1				
California Quail (<i>Callipepla californica</i>)	3	5	8	12	8	10	4	5	3
Cooper's Hawk (<i>Accipiter cooperii</i>)						1	1		1
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1		1		1			1	
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	1	2		3	1	3	2	1	1
American Kestrel (<i>Falco sparverius</i>)									
Killdeer (<i>Charadrius vociferous</i>)	2	1	1	2	1		2		1
Western Gull (<i>Larus occidentalis</i>)		1			1				
Rock Pigeon (<i>Columba livia</i>)*					8	1			
Mourning Dove (<i>Zenaidura macroura</i>)	6	82	6	5	8	10	5	20	12
Anna's Hummingbird (<i>Calypte anna</i>)	5	5	3	4	5	2	2		1
Allen's Hummingbird (<i>Selasphorus sasin</i>) – males								3	
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)								2	
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	2	2	3	3	3	1	1	3	1
Downy Woodpecker (<i>Picoides pubescens</i>)							1		
Black Phoebe (<i>Sayornis nigricans</i>)	4	1	1	1	5	2	2		2
Say's Phoebe (<i>Sayornis saya</i>)	1		1	2	2	1		1	
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)			3	1		1	1	2	
Cassin's Kingbird (<i>Tyrannus vociferans</i>)	3	1	3	3	3	3	3	5	3
Western Kingbird (<i>Tyrannus verticalis</i>)	2	1	2	6	2	1	2	2	1
Bell's Vireo (<i>Vireo bellii</i>)				1					
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	8	5	6	6	5	4	3	4	3
American Crow (<i>Corvus brachyrhynchos</i>)					3		4	10	

REACH 71, 79, AND 80 (Continued)
SANTA CLARA RIVER MAIN CHANNEL (PD 1946)
SOUTH FORK – SANTA CLARA RIVER (VALENCIA BLVD. BRIDGE STABILIZER)
SOUTH FORK – SANTA CLARA RIVER (PD's 1947 & 1946)

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Common Raven (<i>Corvus corax</i>)	6	2	5	8	4	2	1	2	3
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	3	5	3	8	1	3	5	3	2
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)		1		6	18	32	1	5	
Oak Titmouse (<i>Baeolophus inornatus</i>)	1	1	1	1	2	5	2	2	4
Bushtit (<i>Psaltriparus minimus</i>)	4	14	10	18	10	20	14	24	
Bewick's Wren (<i>Thryomanes bewickii</i>)	9	11	6	12	9	4	8	12	5
Western Bluebird (<i>Sialia mexicana</i>)							1		
Swainson's Thrush (<i>Catharus ustulatus</i>)				1					
American Robin (<i>Turdus migratorius</i>)					2				
Northern Mockingbird (<i>Mimus polyglottos</i>)	6	4	3	3	3	3	1	2	2
California Thrasher (<i>Toxostoma redivivum</i>)	3	1	3	1	1		2	2	
European Starling (<i>Sturnus vulgaris</i>)*	5	4	6	8	4	46	7		
Cedar Waxwing (<i>Bombycilla cedrorum</i>)			3						
Phainopepla (<i>Phainopepla nitens</i>)			2	11	5	3			
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	4	1							
Nashville Warbler (<i>Oreothlypis ruficapilla</i>)			2						
Common Yellowthroat (<i>Geothlypis trichas</i>)	2	1	1						
Yellow Warbler (<i>Setophaga petechia</i>)	1	2		7	4	1	2	2	1
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	4	4							
Wilson's Warbler (<i>Wilsonia pusilla</i>)	1	2	2		3				
Spotted Towhee (<i>Pipilo maculatus</i>)	2	4	4	2			3	3	1
California Towhee (<i>Melospiza crissalis</i>)	3	3	5	3	5	6	6	5	1
Song Sparrow (<i>Melospiza lincolni</i>)	8	4	2	3	3	1	1		
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	1	1							

REACH 71, 79, AND 80 (Continued)
SANTA CLARA RIVER MAIN CHANNEL (PD 1946)
SOUTH FORK – SANTA CLARA RIVER (VALENCIA BLVD. BRIDGE STABILIZER)
SOUTH FORK – SANTA CLARA RIVER (PD's 1947 & 1946)

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)	1	2	3	2	3	1	1	3	1
Blue Grosbeak (<i>Passerina caerulea</i>)					1				
Lazuli Bunting (<i>Passerina amoena</i>)				1					
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)	1		1						20
Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)	2	2		2	6	5	2		
Hooded Oriole (<i>Icterus cucullatus</i>)	1	1				1			
Bullock's Oriole (<i>Icterus bullockii</i>)	3		2	1	1	1	1	2	
House Finch (<i>Carpodacus mexicanus</i>)	12	12	24	18	40	22	32	30	12
Lesser Goldfinch (<i>Spinus psaltria</i>)	3	6	4	6	2	2	3	4	2
Lawrence's Goldfinch (<i>Spinus lawrencei</i>)	1								
American Goldfinch (<i>Spinus tristis</i>)	25	2							
House Sparrow (<i>Passer domesticus</i>)*			3					4	
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

REACH 75
SOUTH FORK – SCR (PD's 725, 916, 1041 ,& 1300)

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Mallard (<i>Anas platyrhynchos</i>)				1					1
California Quail (<i>Callipepla californica</i>)	3	12	6	8	8	8	3	2	
Great Egret (<i>Ardea alba</i>)	1								
Turkey Vulture (<i>Cathartes aura</i>)	5	1			1	4			
Cooper's Hawk (<i>Accipiter cooperii</i>)									1
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1								
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	1					1	1		
Killdeer (<i>Charadrius vociferous</i>)		1			2				
Rock Pigeon (<i>Columba livia</i>)*	3				3	10			
Mourning Dove (<i>Zenaidura macroura</i>)	6	6	2	1	3	4	5	3	1
Greater Roadrunner (<i>Geococcyx californianus</i>)					1				
White-throated Swift (<i>Aeronautes saxatalis</i>)	9	3	3	6	3	4		5	8
Black-chinned Hummingbird (<i>Archilochus alexandri</i>)		1	3	1	2	2	1		1
Anna's Hummingbird (<i>Calypte anna</i>)	4	6	4	2	4	2	3	4	4
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)							1	3	6
Nuttall's Woodpecker (<i>Picooides nuttallii</i>)	3	1		2	1	3	3	2	2
Western Wood-Pewee (<i>Contopus sordidulus</i>)				1	1				
Black Phoebe (<i>Sayornis nigricans</i>)	3	1	7	5	14	6	8	8	5
Say's Phoebe (<i>Sayornis saya</i>)	1								
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)					1				
Cassin's Kingbird (<i>Tyrannus vociferans</i>)	4	2	2	3		2	3	3	1
Western Kingbird (<i>Tyrannus verticalis</i>)	3	1		2	2				
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	5	5	4	1	3	4	2	2	2
American Crow (<i>Corvus brachyrhynchos</i>)			10	3	3	2	1	2	7

REACH 75 (Continued)
SOUTH FORK – SCR (PD's 725, 916, 1041 ,& 1300)

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Common Raven (<i>Corvus corax</i>)	6	3	5	5	5	2	1	2	3
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	4	3	7	6	7	2	2		3
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)					6			2	
Barn Swallow (<i>Hirundo rustica</i>)		2							
Oak Titmouse (<i>Baeolophus inornatus</i>)	3	2	3	3	9	6	8	3	2
Bushtit (<i>Psaltiriparus minimus</i>)	6	12	12	16	14	22	12	22	12
Bewick's Wren (<i>Thryomanes bewickii</i>)	6	14	10	12	9	5	7	6	3
House Wren (<i>Troglodytes aedon</i>)									
Western Bluebird (<i>Sialia mexicana</i>)	1			3	2			2	1
American Robin (<i>Turdus migratorius</i>)				1		3	2		
Wrentit (<i>Chamaea fasciata</i>)	1	1	1	1		1	2	1	1
Northern Mockingbird (<i>Mimus polyglottos</i>)	4	6	2	4	4	4	3	5	4
California Thrasher (<i>Toxostoma redivivum</i>)	3	3	8	3	1	4	3	4	1
European Starling (<i>Sturnus vulgaris</i>)*				2					1
Cedar Waxwing (<i>Bombycilla cedrorum</i>)			1						
Nashville Warbler (<i>Oreothlypis ruficapilla</i>)			1						
Common Yellowthroat (<i>Geothlypis trichas</i>)	1	2							
Yellow Warbler (<i>Setophaga petechia</i>)	1	3	1	1	4				
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	6	3							
Wilson's Warbler (<i>Wilsonia pusilla</i>)			1	3					
Yellow-breasted Chat (<i>Icteria virens</i>)									
Spotted Towhee (<i>Pipilo maculatus</i>)	2	4	4	3	4	1	2	3	5
California Towhee (<i>Melospiza crissalis</i>)	5	5	5	9	5	5	6	6	2
Song Sparrow (<i>Melospiza lincolni</i>)	4	4	2	1	4	4	2	3	2
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	8								

REACH 75 (Continued)
SOUTH FORK – SCR (PD's 725, 916, 1041 ,& 1300)

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Western Tanager (<i>Piranga ludoviciana</i>)			2	5	5	1			
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)		4		2	4	2	2	2	1
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)		2		1					
Brown-headed Cowbird (<i>Molothrus ater</i>)		2				1	1		2
Hooded Oriole (<i>Icterus cucullatus</i>)	1	2		2	1	2	1	1	2
Bullock's Oriole (<i>Icterus bullockii</i>)	2	3	2	2	2	4	5	3	2
House Finch (<i>Carpodacus mexicanus</i>)	8	10	12	16	25	18	16	18	15
Lesser Goldfinch (<i>Spinus psaltria</i>)	3		4	6	3	3	5	8	3
Lawrence's Goldfinch (<i>Spinus lawrencei</i>)			1	2				1	
American Goldfinch (<i>Spinus tristis</i>)	50	18	2						
House Sparrow (<i>Passer domesticus</i>)*	1			8	6	6	14	3	5
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACHES 82 AND 109
SANTA CLARA RIVER MAIN CHANNEL (PD 2278)
AND
SANTA CLARA RIVER – SOUTH BANK WEST OF MCBRAN PKWY (MTD 1510)**

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
Mallard (<i>Anas platyrhynchos</i>)				2		2			
California Quail (<i>Callipepla californica</i>)	10	14				2	3	2	
Turkey Vulture (<i>Cathartes aura</i>)		2							
White-tailed Kite (<i>Elanus leucurus</i>)				1					
Cooper's Hawk (<i>Accipiter cooperii</i>)				1		1		1	4
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1	2	1	1			1		2
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	2	1							
Killdeer (<i>Charadrius vociferous</i>)	2	2				2	2	2	
Rock Pigeon (<i>Columba livia</i>)*				3			3		
Mourning Dove (<i>Zenaida macroura</i>)	2	4	3		5	2	1		7
Greater Roadrunner (<i>Geococcyx californianus</i>)				1					
White-throated Swift (<i>Aeronautes saxatalis</i>)	6	6	6						
Anna's Hummingbird (<i>Calypte anna</i>)	5	5	5	2	8	1	1		1
Acorn Woodpecker (<i>Melanerpes formicivorus</i>)				2		4			
Nuttall's Woodpecker (<i>Picooides nuttallii</i>)	2	4	4	6	2		6	5	2
Downy Woodpecker (<i>Picooides pubescens</i>)	3	2	1				3		
Hairy Woodpecker (<i>Picooides villosus</i>)							1		1
Pacific-slope Flycatcher (<i>Empidonax difficilis</i>)	3		2		3				
Black Phoebe (<i>Sayornis nigricans</i>)	4	4	3	4	2	5	2	4	8
Say's Phoebe (<i>Sayornis saya</i>)									1
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)	4	2	4	4	2	2	2	8	5
Hutton's Vireo (<i>Vireo huttoni</i>)				1					
Warbling Vireo (<i>Vireo gilvus</i>)	8	4		1					
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	4	3	2	9	2	6	3	3	4

REACHES 82 AND 109 (Continued)
SANTA CLARA RIVER MAIN CHANNEL (PD 2278)
AND
SANTA CLARA RIVER – SOUTH BANK WEST OF MCBRAN PKWY (MTD 1510)

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
American Crow (<i>Corvus brachyrhynchos</i>)	2	2	3	7		30	7	2	60
Common Raven (<i>Corvus corax</i>)	4		6	12	11	3	9		3
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)				2	5	4	12	2	2
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)	6	6		8		2		4	5
Barn Swallow (<i>Hirundo rustica</i>)								1	
Oak Titmouse (<i>Baeolophus inornatus</i>)	2	4		4		4	3	2	2
Bushtit (<i>Psaltriparus minimus</i>)	5	5	6	7	6	15	12	20	10
White-breasted Nuthatch (<i>Sitta carolinensis</i>)								2	2
Bewick's Wren (<i>Thryomanes bewickii</i>)			6	23	9	16	18	13	17
House Wren (<i>Troglodytes aedon</i>)	6								3
Western Bluebird (<i>Sialia mexicana</i>)									1
Swainson's Thrush (<i>Catharus ustulatus</i>)				2					
Northern Mockingbird (<i>Mimus polyglottos</i>)	4	4		4	2	2	1	1	1
California Thrasher (<i>Toxostoma redivivum</i>)	2	1		8		3	7	5	6
European Starling (<i>Sturnus vulgaris</i>)*	8	6		2					
Cedar Waxwing (<i>Bombycilla cedrorum</i>)				15					
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	7	8							
Common Yellowthroat (<i>Geothlypis trichas</i>)	6	4	8	4	9	2	9	3	
Yellow Warbler (<i>Setophaga petechia</i>)	3	2	2	14	1	9	6	7	3
Black-throated Gray Warbler (<i>Setophaga nigrescens</i>)	4	4							
Wilson's Warbler (<i>Wilsonia pusilla</i>)	9			1					
Spotted Towhee (<i>Pipilo maculatus</i>)	6		6	15	4	9	11	11	12
California Towhee (<i>Melospiza crissalis</i>)			5	3	9	4	2		3
Song Sparrow (<i>Melospiza lincolni</i>)	12	11	10	25	6	21	16	7	5

REACHES 82 AND 109 (Continued)
SANTA CLARA RIVER MAIN CHANNEL (PD 2278)
AND
SANTA CLARA RIVER – SOUTH BANK WEST OF MCBRAN PKWY (MTD 1510)

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
Western Tanager (<i>Piranga ludoviciana</i>)	2	2		1					
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)	6	6	3	10	1	10	11	9	6
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)							3		
Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)	5				5				1
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)				1				1	
Brown-headed Cowbird (<i>Molothrus ater</i>)				2		1	2	1	
Hooded Oriole (<i>Icterus cucullatus</i>)		4							
Bullock's Oriole (<i>Icterus bullockii</i>)	6	3							
House Finch (<i>Carpodacus mexicanus</i>)	6	10	9	11	17	18	17	22	14
Lesser Goldfinch (<i>Spinus psaltria</i>)	15	15	15	7	20	5	6	8	1
American Goldfinch (<i>Spinus tristis</i>)				1					1
House Sparrow (<i>Passer domesticus</i>)*	6	5							
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACHES 87 AND 97
CASTAIC – OLD ROAD DRAIN (CDR 525.012D) OUTLET
AND
CASTAIC CREEK – THE OLD ROAD 2**

Species	Survey Dates - 2011							
	11-Apr	22-Apr	2-May	24-May	6-Jun	16-Jun	28-Jun	14-Jul
Mallard (<i>Anas platyrhynchos</i>)	1	2	1				1	
California Quail (<i>Callipepla californica</i>)	4	4	1					2
Great Blue Heron (<i>Ardea herodias</i>)				1				
Green Heron (<i>Butorides virescens</i>)				1			1	
Cooper's Hawk (<i>Accipiter cooperii</i>)				1				
Red-shouldered Hawk (<i>Buteo lineatus</i>)			1			1	1	1
Killdeer (<i>Charadrius vociferous</i>)	2							
Mourning Dove (<i>Zenaida macroura</i>)	9	19	1	2	1	2	2	3
Greater Roadrunner (<i>Geococcyx californianus</i>)	1						1	
Anna's Hummingbird (<i>Calypte anna</i>)	6	2	2	5	2	1	1	5
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	1		1	1		1	2	2
Downy Woodpecker (<i>Picoides pubescens</i>)					1	1	1	1
Pacific-slope Flycatcher (<i>Empidonax difficilis</i>)					1			
Black Phoebe (<i>Sayornis nigricans</i>)	1	2	1	1	2	9	4	4
Say's Phoebe (<i>Sayornis saya</i>)	1					1		
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)							2	
Western Kingbird (<i>Tyrannus verticalis</i>)				1	1			
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	5	4	3	4	7	8	2	3
American Crow (<i>Corvus brachyrhynchos</i>)	3	1	3	1	8	4	6	5
Common Raven (<i>Corvus corax</i>)			3		5			
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	3			1	6	7	2	
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)					4	3		5
Oak Titmouse (<i>Baeolophus inornatus</i>)						2	2	1

REACHES 87 AND 97 (Continued)
CASTAIC – OLD ROAD DRAIN (CDR 525.012D) OUTLET
PD 1992

Species	Survey Dates - 2011							
	11-Apr	22-Apr	2-May	24-May	6-Jun	16-Jun	28-Jun	14-Jul
Bushtit (<i>Psaltriparus minimus</i>)	1	5		1	3	1	2	4
Bewick's Wren (<i>Thryomanes bewickii</i>)	2	3	1	2	2	1	2	3
House Wren (<i>Troglodytes aedon</i>)						1		
Western Bluebird (<i>Sialia mexicana</i>)	2							
Northern Mockingbird (<i>Mimus polyglottos</i>)			1					
California Thrasher (<i>Toxostoma redivivum</i>)	1	1						
European Starling (<i>Sturnus vulgaris</i>)*				13			1	
Common Yellowthroat (<i>Geothlypis trichas</i>)	2	1		1	3	2	3	
Yellow-rumped Warbler (<i>Setophaga coronata</i>)		1						
Spotted Towhee (<i>Pipilo maculatus</i>)	4	3	1	1	2	2	3	1
California Towhee (<i>Melospiza crissalis</i>)	1	3	1			6	4	2
Song Sparrow (<i>Melospiza lincolni</i>)	4	3	1		2			
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	12							
Western Tanager (<i>Piranga ludoviciana</i>)				2				
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)				2	2		1	2
Blue Grosbeak (<i>Passerina caerulea</i>)					1			
House Finch (<i>Carpodacus mexicanus</i>)	6	5	3	4	4	7	7	13
Lesser Goldfinch (<i>Spinus psaltria</i>)		1			2		1	1
American Goldfinch (<i>Spinus tristis</i>)	2							
House Sparrow (<i>Passer domesticus</i>)*	2				3			
* Introduced non-native species with established breeding population in California								
** Exotic or escaped non-native species that may or many not be breeding in California								

**REACH 103
BOUQUET CANYON CHANNEL (PD 2225)**

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
Mallard (<i>Anas platyrhynchos</i>)			2		1		1		2
California Quail (<i>Callipepla californica</i>)		2	2				2		
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1								1
Rock Pigeon (<i>Columba livia</i>)*	2								
Mourning Dove (<i>Zenaida macroura</i>)			2			1		1	2
Barn Owl (<i>Tyto alba</i>)									
Anna's Hummingbird (<i>Calypte anna</i>)	2	2	3	3	3	1	2	1	2
Costa's Hummingbird (<i>Calypte costae</i>)				1		1			
Allen's Hummingbird (<i>Selasphorus sasin</i>) - male							1		
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)							1	1	
Nuttall's Woodpecker (<i>Picooides nuttallii</i>)				1		1		1	1
Black Phoebe (<i>Sayornis nigricans</i>)	2		1	1	1	3	2	4	2
Say's Phoebe (<i>Sayornis saya</i>)			1	1					
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)			1						
Cassin's Kingbird (<i>Tyrannus vociferans</i>)	7								
Western Kingbird (<i>Tyrannus verticalis</i>)	1								
Western Scrub-Jay (<i>Aphelocoma insularis</i>)		1	1	1					
American Crow (<i>Corvus brachyrhynchos</i>)			1		1				10
Common Raven (<i>Corvus corax</i>)	18	2	2	2	5	8	6	4	30
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	2	4	4	5	2	7	3		3
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)				2			1	4	1
Bushtit (<i>Psaltriparus minimus</i>)	2	10	6	6	6	10	8		8
Bewick's Wren (<i>Thryomanes bewickii</i>)	3	4		2	2	1	3	2	
California Thrasher (<i>Toxostoma redivivum</i>)	1				1				

REACH 103 (Continued)
BOUQUET CANYON CHANNEL (PD 2225)

Species	Survey Dates - 2011								
	10-Apr	23-Apr	4-May	21-May	31-May	11-Jun	21-Jun	3-Jul	16-Jul
European Starling (<i>Sturnus vulgaris</i>)*	8								
Yellow Warbler (<i>Dendroica petechia</i>)						1			
Common Yellowthroat (<i>Geothlypis trichas</i>)			1			1			3
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	1								
Wilson's Warbler (<i>Wilsonia pusilla</i>)				1					
Spotted Towhee (<i>Pipilo maculatus</i>)				1	1				
California Towhee (<i>Melospiza crissalis</i>)				1					
Song Sparrow (<i>Melospiza lincolni</i>)	7	4	7	5	6	10	6	4	4
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)		2	3	2	1	1	1	2	2
Lazuli Bunting (<i>Passerina amoena</i>)		1							
Red-winged Blackbird (<i>Agelaius phoeniceus</i>)									2
Brown-headed Cowbird (<i>Molothrus ater</i>)		1						1	
House Finch (<i>Carpodacus mexicanus</i>)	3	3	8	6	12	14	18	12	12
Lesser Goldfinch (<i>Spinus psaltria</i>)	3	2	5	5	5	3	2	3	3
American Goldfinch (<i>Spinus tristis</i>)	5								
House Sparrow (<i>Passer domesticus</i>)*	3				2		4		2
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 104
CASTAIC CREEK (PD 2441 UNITS 1 AND 2)**

Species	Survey Dates - 2011							
	11-Apr	22-Apr	2-May	24-May	6-Jun	16-Jun	28-Jun	14-Jul
California Quail (<i>Callipepla californica</i>)		3	4	3	2	2	2	8
Great Egret (<i>Ardea alba</i>)						1		
Cooper's Hawk (<i>Accipiter cooperii</i>)	1			1			1	1
Red-shouldered Hawk (<i>Buteo lineatus</i>)	1		1	1		2		
Killdeer (<i>Charadrius vociferous</i>)				1		1	1	
Mourning Dove (<i>Zenaida macroura</i>)							1	
Anna's Hummingbird (<i>Calypte anna</i>)	4	3	2	5		2	4	6
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)		1	2	2	2	2	2	
Downy Woodpecker (<i>Picoides pubescens</i>)		1	1			1	1	
Pacific-slope Flycatcher (<i>Empidonax difficilis</i>)			1		2			
Black Phoebe (<i>Sayornis nigricans</i>)	3				2	1	2	1
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)			1		1	2	3	4
Western Kingbird (<i>Tyrannus verticalis</i>)				1				
Warbling Vireo (<i>Vireo gilvus</i>)				2				
Western Scrub-Jay (<i>Aphelocoma insularis</i>)	2	2	4	6	2	5	3	
American Crow (<i>Corvus brachyrhynchos</i>)						3	2	
Common Raven (<i>Corvus corax</i>)		4		5		5	4	
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)						10		
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)								4
Oak Titmouse (<i>Baeolophus inornatus</i>)	1	1		3	4	3	5	3
Bushtit (<i>Psaltriparus minimus</i>)		1		12	3	10	8	4
Bewick's Wren (<i>Thryomanes bewickii</i>)	3	7	1	5	1	12	5	2
House Wren (<i>Troglodytes aedon</i>)					2			
Western Bluebird (<i>Sialia mexicana</i>)		2		2		2		
American Robin (<i>Turdus migratorius</i>)				1				

REACH 104 (Continued)
CASTAIC CREEK (PD 2441 UNITS 1 AND 2)

Species	Survey Dates - 2011							
	11-Apr	22-Apr	2-May	24-May	6-Jun	16-Jun	28-Jun	14-Jul
Northern Mockingbird (<i>Mimus polyglottos</i>)	1			1				
California Thrasher (<i>Toxostoma redivivum</i>)	1	1						
Orange-crowned Warbler (<i>Oreothlypis celata</i>)		1						
Spotted Towhee (<i>Pipilo maculatus</i>)		4		5	2	12	6	2
California Towhee (<i>Melospiza crissalis</i>)	1	5	2	2	1	7	3	4
Song Sparrow (<i>Melospiza lincolni</i>)	1	1						
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	2							
Western Tanager (<i>Piranga ludoviciana</i>)				3				
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)			2	2	1	1	3	
Blue Grosbeak (<i>Passerina caerulea</i>)								1
Brown-headed Cowbird (<i>Molothrus ater</i>)				1				
Bullock's Oriole (<i>Icterus bullockii</i>)		1						
House Finch (<i>Carpodacus mexicanus</i>)	2		1			1	3	32
Lesser Goldfinch (<i>Spinus psaltria</i>)	2	2	2	4	2	5	6	2
American Goldfinch (<i>Spinus tristis</i>)	1		1			3	2	1
* Introduced non-native species with established breeding population in California								
** Exotic or escaped non-native species that may or many not be breeding in California								

**REACH 105
SAN FRANCISQUITO CANYON CHANNEL (PD 2456)**

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
Mallard (<i>Anas platyrhynchos</i>)				2					
California Quail (<i>Callipepla californica</i>)	5	10	8	5	5	1	4		
Great Blue Heron (<i>Ardea herodias</i>)						1			
Turkey Vulture (<i>Cathartes aura</i>)		3							
Red-shouldered Hawk (<i>Buteo lineatus</i>)				1		1	1	1	1
American Kestrel (<i>Falco sparverius</i>)	1		2	1		1	1		
Killdeer (<i>Charadrius vociferous</i>)				1					
Mourning Dove (<i>Zenaida macroura</i>)	4	4	3	3	2	1	7	5	3
Common Ground-Dove (<i>Columbina passerina</i>)	2								
White-throated Swift (<i>Aeronautes saxatalis</i>)					5				
Anna's Hummingbird (<i>Calypte anna</i>)	2	2		4	3		1		
Allen's/Rufous Hummingbird (<i>Selasphorus</i> sp.)	1								
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)						1	1	2	1
Black Phoebe (<i>Sayornis nigricans</i>)	2	2		2			3	2	2
Say's Phoebe (<i>Sayornis saya</i>)		1		1		1	1	2	
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)	2	2		1			2		1
Bell's Vireo (<i>Vireo bellii</i>)						1			
Warbling Vireo (<i>Vireo gilvus</i>)	2								
Western Scrub-Jay (<i>Aphelocoma insularis</i>)							2	3	5
American Crow (<i>Corvus brachyrhynchos</i>)							4		
Common Raven (<i>Corvus corax</i>)	2		2		4	1	4	2	1
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	5				3	4	2	2	
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)				3		1	2	10	
Barn Swallow (<i>Hirundo rustica</i>)	3		4	2		1		3	2

REACH 105 (Continued)
SAN FRANCISQUITO CANYON CHANNEL (PD 2456)

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
Oak Titmouse (<i>Baeolophus inornatus</i>)									2
Bushtit (<i>Psaltriparus minimus</i>)	4	5	5	2	10	10	8		10
Bewick's Wren (<i>Thryomanes bewickii</i>)		2		2	3	1		7	5
Northern Mockingbird (<i>Mimus polyglottos</i>)			2	1	4	1	1	1	2
California Thrasher (<i>Toxostoma redivivum</i>)				1		1	2	2	2
European Starling (<i>Sturnus vulgaris</i>)*						1	3		
Orange-crowned Warbler (<i>Oreothlypis celata</i>)	2	1							
Common Yellowthroat (<i>Geothlypis trichas</i>)	3	2				1			
Yellow Warbler (<i>Setophaga petechia</i>)	2	2		2	1		2		
Spotted Towhee (<i>Pipilo maculatus</i>)							1		1
California Towhee (<i>Melospiza crissalis</i>)	4	3	4	3	2	4	6	4	2
Song Sparrow (<i>Melospiza lincolni</i>)			6		5	1	1		
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)					1				
Blue Grosbeak (<i>Passerina caerulea</i>)						1	1		
Great-tailed Grackle (<i>Quiscalus mexicanus</i>)						1			
House Finch (<i>Carpodacus mexicanus</i>)	6	10		8		6	6	12	12
Lesser Goldfinch (<i>Spinus psaltria</i>)	9	8	9	10	6	2	2	2	6
American Goldfinch (<i>Spinus tristis</i>)				1					
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

**REACH 106
CASTAIC DRAIN OUTLET (RMD CHANNELS)**

Species	Survey Dates - 2011							
	11-Apr	22-Apr	2-May	24-May	6-Jun	16-Jun	28-Jun	14-Jul
Red-shouldered Hawk (<i>Buteo lineatus</i>)								1
Killdeer (<i>Charadrius vociferous</i>)	1							
Rock Pigeon (<i>Columba livia</i>)*	2							
Eurasian Collared-Dove (<i>Streptopelia decaocto</i>)*							1	
Mourning Dove (<i>Zenaida macroura</i>)		1	1			1		1
Anna's Hummingbird (<i>Calypte anna</i>)	1		2	1		1		1
Nuttall's Woodpecker (<i>Picooides nuttallii</i>)		1						
Black Phoebe (<i>Sayornis nigricans</i>)	1	1	1	2	2	2	1	2
Western Kingbird (<i>Tyrannus verticalis</i>)								2
Western Scrub-Jay (<i>Aphelocoma insularis</i>)			1					
American Crow (<i>Corvus brachyrhynchos</i>)	8			3		1		
Common Raven (<i>Corvus corax</i>)	1				1			11
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)				1	4	1		
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)								3
Barn Swallow (<i>Hirundo rustica</i>)		3	5	2		1	1	2
Bushtit (<i>Psaltriparus minimus</i>)			1					
Bewick's Wren (<i>Thryomanes bewickii</i>)					1			
Western Bluebird (<i>Sialia mexicana</i>)				1				
California Thrasher (<i>Toxostoma redivivum</i>)						1		
European Starling (<i>Sturnus vulgaris</i>)*	1	3		1				30
Yellow Warbler (<i>Setophaga petechia</i>)		1	1	1				
Yellow-rumped Warbler (<i>Setophaga coronata</i>)	1							
California Towhee (<i>Melospiza crissalis</i>)				1	1	1	2	4
Song Sparrow (<i>Melospiza lincolni</i>)	1	2	2	4	3	5	1	
Red-winged Blackbird (<i>Agelaius phoeniceus</i>)								20

REACH 106 (Continued)
CASTAIC DRAIN OUTLET (RMD CHANNELS)

Species	Survey Dates - 2011							
	11-Apr	22-Apr	2-May	24-May	6-Jun	16-Jun	28-Jun	14-Jul
Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)			2			10		20
Brown-headed Cowbird (<i>Molothrus ater</i>)				1				
House Finch (<i>Carpodacus mexicanus</i>)	1	1	1	1	1		2	22
Lesser Goldfinch (<i>Spinus psaltria</i>)	2					2	2	6
Lawrence's Goldfinch (<i>Spinus lawrencei</i>)								3
* Introduced non-native species with established breeding population in California								
** Exotic or escaped non-native species that may or many not be breeding in California								

**REACH 110
HASLEY CANYON CHANNEL (PD 2262)**

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
California Quail (<i>Callipepla californica</i>)					8	1	1		2
Turkey Vulture (<i>Cathartes aura</i>)	3		5		1				
Cooper's Hawk (<i>Accipiter cooperii</i>)				1					
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	1			1	1	1			
Western Gull (<i>Larus occidentalis</i>)									1
Mourning Dove (<i>Zenaida macroura</i>)	4	2	6	1	3		2	3	1
White-throated Swift (<i>Aeronautes saxatalis</i>)	10								
Anna's Hummingbird (<i>Calypte anna</i>)	3	2	4		4		1		1
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	3						1		
Black Phoebe (<i>Sayornis nigricans</i>)	2	4	3		2	1	1		
Say's Phoebe (<i>Sayornis saya</i>)		1		1		1		1	1
Ash-throated Flycatcher (<i>Myiarchus cinerascens</i>)		2			2	1			
Cassin's Kingbird (<i>Tyrannus vociferans</i>)								2	
Western Kingbird (<i>Tyrannus verticalis</i>)							2		
Western Scrub-Jay (<i>Aphelocoma insularis</i>)				2		4	2	1	
American Crow (<i>Corvus brachyrhynchos</i>)	5	6	4			5	1		4
Common Raven (<i>Corvus corax</i>)		3		17		3	6	5	3
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	4		6				1		
Cliff Swallow (<i>Petrochelidon pyrrhonota</i>)				6		2	2		
Oak Titmouse (<i>Baeolophus inornatus</i>)							2		
Bushtit (<i>Psaltriparus minimus</i>)				8		10	2	6	
Bewick's Wren (<i>Thryomanes bewickii</i>)	4	4	6	4	3	3	3	3	1
House Wren (<i>Troglodytes aedon</i>)	2	1							
Wrentit (<i>Chamaea fasciata</i>)						1	2		
Northern Mockingbird (<i>Mimus polyglottos</i>)						1	1		

REACH 110 (Continued)
HASLEY CANYON CHANNEL (PD 2262)

Species	Survey Dates - 2011								
	15-Apr	27-Apr	9-May	19-May	31-May	10-Jun	20-Jun	1-Jul	13-Jul
California Thrasher (<i>Toxostoma redivivum</i>)				2			1	1	1
Common Yellowthroat (<i>Geothlypis trichas</i>)	3	5	5		9				
Yellow Warbler (<i>Setophaga petechia</i>)				4					
Spotted Towhee (<i>Pipilo maculatus</i>)				2		3	2	3	1
Rufous-crowned Sparrow (<i>Aimophila ruficeps</i>)								2	
California Towhee (<i>Melospiza crissalis</i>)	6	5	3	4	4	2	1	2	1
Lark Sparrow (<i>Chondestes grammacus</i>)								2	11
Song Sparrow (<i>Melospiza lincolnii</i>)				2	6	1			
Western Tanager (<i>Piranga ludoviciana</i>)	1			1					
Black-headed Grosbeak (<i>Pheucticus melanocephalus</i>)				1		3	1	4	
Blue Grosbeak (<i>Passerina caerulea</i>)							1		
Red-winged Blackbird (<i>Ageaius phoeniceus</i>)					5				
Brewer's Blackbird (<i>Euphagus cyanocephalus</i>)			5		5				
Brown-headed Cowbird (<i>Molothrus ater</i>)	3								
Bullock's Oriole (<i>Icterus bullockii</i>)					2		1	1	
House Finch (<i>Carpodacus mexicanus</i>)				8	10	20	20	20	35
Lesser Goldfinch (<i>Spinus psaltria</i>)	10	12	13	3		2	5	5	2
House Sparrow (<i>Passer domesticus</i>)*									2
* Introduced non-native species with established breeding population in California									
** Exotic or escaped non-native species that may or many not be breeding in California									

APPENDIX B
WILDLIFE COMPENDIA
(ARROYO TOAD SURVEYS)

**TABLE 2
WILDLIFE COMPENDIA (ARROYO TOAD SURVEYS)**

Scientific Name	Common Name	Status		Channel Reach Survey Area ¹
		USFWS	CDFG	
Fish				
CYPRINIDAE – MINNOWS				
<i>Cyprinus carpio</i> *	common carp	-	-	Reach 97
<i>Gila orcutti</i>	arroyo chub	-	SSC	Reach 97 (at the base of the concrete levee within the maintenance area) Reach 109 (in the pool at the base of the outlet structure within the maintenance area) Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
<i>Rhinichthys osailolus</i>	Santa Ana speckled dace	-	SSC	Reach 97 (within Castaic Creek at the base of the concrete levee) Reach 109 (within the Santa Clara River at the outlet structure) Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
<i>Catostomus santaanae</i> ²	Santa Ana sucker	-	-	Reach 97 (within Castaic Creek at the base of the concrete levee) Reach 109 (within the Santa Clara River at the outlet structure) Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
LORRICARIIDAE – ARMoured CATFISHES				
<i>Hypostomus plecostomus</i> *	plecostomus sucker	-	-	Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
ICTALURIDAE – CATFISHES				
<i>Ameiurus nebulosus</i> *	brown bullhead	-	-	Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
POECILIDAE - LIVEBEARERS				
<i>Gambusia affinis</i> *	western mosquitofish	-	-	Reaches 75, 80, 86, 87, 97, 104, 109 Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
GASTEROSTERIDAE - STICKLEBACKS				
<i>Gasterosteus aculeatus</i>	unarmored threespine stickleback	E	E, FP	Reach 109 (within Santa Clara River approximately 250 meters northwest of maintenance area - 11S 356094, 3810408)

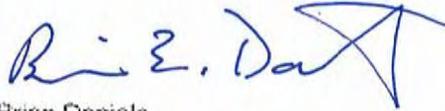
**TABLE 2 (Continued)
WILDLIFE COMPENDIA (ARROYO TOAD SURVEYS)**

CICHLIDAE - CICHLIDS				
<i>Amatitlania nigrofasciata</i> *	convict cichlid	-	-	Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
Amphibians				
BUFONIDAE – TRUE TOADS				
<i>Anaxyrus boreas</i>	western toad	-	-	All Reaches
HYLIDAE – TREEFROGS				
<i>Pseudacris hypochondriaca</i>	Baja California treefrog	-	-	All Reaches
RANIDAE – TRUE FROGS				
<i>Lithobates catesbeiana</i> *	American bullfrog	-	-	Reaches 87, 97, 109
PIPIDAE – TONGUELESS FROGS				
<i>Xenopus laevis</i> *	African clawed frog	-	-	Reaches 79, 82, 87, 97, 105, 109 Reach 79 (within Santa Clara River approximately 900 meters northeast of maintenance area - Saugus Newhall Reclamation Plant outflow)
Reptiles				
EMYDIDAE – WATER AND BOX TURTLES				
<i>Emys marmorata</i>	western pond turtle	-	SSC	Reach 109 (within Santa Clara River approximately 530 meters downstream [west] of maintenance area)
ANNIELLIDAE - LEGLESS LIZARDS				
<i>Anniella pulchra</i>	silvery legless lizard	-	SSC	Reach 79 (north bank of Santa Clara River approximately 100 meters northeast of maintenance area) Reach 80 (north bank of Santa Clara River approximately 80 meters northeast of maintenance area)
Mammals				
MYOCASTORIDAE – COYPU AND NUTRIA				
<i>Myocastor coypus</i> *	Nutria	-	-	Santa Clara River between Reaches 82 and 109
Federal Designations				
FE Listed by the federal government as an Endangered species				
S Listed by the U.S. Forest Service as "Sensitive"				
State Designations				
SE Listed by the state government as an Endangered species				
SSC Species of Special Concern				
FP Fully Protected				
* Introduced species.				
¹ Focused surveys for arroyo toad extend up to 1 kilometer from the maintenance areas. Specific locations are provided where special status species were observed.				
² The population of Santa Ana sucker in the Santa Clara River is currently considered introduced and is not listed as special status by state and/or federal resources agencies.				

APPENDIX C
SURVEYOR CERTIFICATE STATEMENT

APPENDIX C
SURVEYOR CERTIFICATION STATEMENT

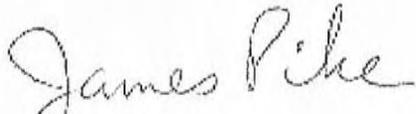
We certify that the information in this survey report and enclosed exhibits fully and accurately present our work.



Brian Daniels
Senior Biologist
(TE-821401-3)



Amber S. Oneal
Senior Biologist
(TE-148554-1)



James Pike
Consulting Biologist
(TE-832948-3)

APPENDIX D
CALIFORNIA NATURAL DIVERSITY DATABASE
(CNDDDB) FIELD SURVEY FORMS

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 04/24/2011

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 17 Subsequent Visit? yes no

Is this an existing NDDB occurrence? _____
Yes, Occ. # no unk.

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike

Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648

E-mail Address: jpika44@earthlink.net

Phone: (714) 968-7977

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

7 10 _____
adults # juveniles # larvae # egg masses # unknown
 winterring breeding nesting rookery burrow site other

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

Tall black willows and islands of narrow-leaved willow bordering the San Gabriel River

County: Los Angeles Landowner / Mgr.: Department of Public Works

Quad Name: _____ Elevation: _____

T _____ R _____ Sec _____, _____ ¼ of _____ 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 60CSx

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters _____ meters/feet

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

Coordinates: 11S 0405702 3767220

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):

Four territorial males throughout the season. Three nests found in narrow-leaved willow, with a fourth nesting effort almost certainly in the same plant species. Three of the four known nesting efforts were successful, producing a minimum of 10 young.

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: Urban and horse stables

Visible disturbances: Homeless encampments

Threats: Brown-headed cowbirds and widely fluctuating water levels

Comments:

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: Bird expert and professional vireo biologist

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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/12/2011

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 6 Subsequent Visit? yes no

Is this an existing NDDB occurrence? _____ no unk.
Yes, Occ. # _____

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike

Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648

E-mail Address: jpika44@earthlink.net

Phone: (714) 968-7977

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

6 # adults 6 # 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)

Multi-strata riparian vegetation bordering the streambed

County: Los Angeles Landowner / Mgr.: Department of Public Works

Quad Name: _____ Elevation: _____

T _____ R _____ Sec _____, _____ ¼ of _____ 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 60 CSx

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters meters/feet

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

Coordinates: 11S 0402147 3764443

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):

Territorial singing by four male vireos throughout the survey season. One pair eventually observed with at least two fledglings. Nest of another pair found in elderberry with four eggs, eventually yielding four fledglings.

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: Bordered by industrial and a golf course.

Visible disturbances: Homeless encampment

Threats: Invasive vegetation and paintball games

Comments: Relatively good quality habitat for riparian species

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: Bird expert and professional vireo biologist

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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/18/2011

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 5 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County/ Army Corps of Engineers
Quad Name: Asuza Elevation: 609 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 413877 3778455

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):

Three territorial males and at least 2 females present during survey season. Survey area extends from pedestrian bridge upstream to second drop structure. Habitat is southern willow scrub with mule fat being dominant in many areas. The vireos tend to occupy areas with willow clumps. As of last survey on July 12, only one of three territories successfully fledged young. The vireo pair next to pedestrian bridge had at least one nest parasitized by Brown-headed Cowbirds.

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: Mix of open space, residential to west, and quarry operations to east and north.

Visible disturbances: Homeless encampments at willow clumps

Threats: Nothing imminent

Comments: Levels of human disturbance higher this year than previous years. The side drainage on east side (Beatty Channel - Reach 39) is maintained by the County of LA Department of Pubic Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/20/2011

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 7 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: bdaniels@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

7
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)

County: Los Angeles Landowner / Mgr.: Los Angeles County

Quad Name: San Fernando Elevation: 1,300 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth

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: 11S 379294 3797534

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):

Four territorial males and 3 females present during survey season with these birds occupying northwest corner of Lopez Debris Basin (next to model plane airport) and three side drainages of Pacoima Wash upstream of Maclay St (two one east and one on west side of main Pacoima drainage). The main drainage supports alluvial sage scrub. All four males paired (one female switched mates during season) but only one pair successfully fledged least Bell's vireo (two fledglings), with two other observed nests being parasitized by Brown-headed Cowbirds by end of surveys (July 14).

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: mix of open space, residential, and golf course

Visible disturbances: Relatively high use levels of wash by humans for various activities; more limited in basin

Threats: Nothing imminent

Comments: High levels of disturbance especially upstream of Maclay Street including illegal dumping, off-road motorcycles, etc. The side drainage on west side of Pacoima Wash is May Channel Outlet (Channel Reach 13) that is maintained by the County of LA Department of Public Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/21/2011

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: Jim Pike
Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648
E-mail Address: jpika44@earthlink.net
Phone: (714) 968-7977

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

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

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

Mulefat and willows bordering the dry Santa Clara River

County: Ventura Landowner / Mgr.: Department of Public Works
Quad Name: _____ Elevation: _____
T _____ R _____ Sec _____, _____ ¼ of _____ 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 60CSx
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 0356533 3810356

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):

Sang for about 30 seconds but was gone by the time I had reached the location of the singing.

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: Urban

Visible disturbances:

Threats: Dropping water table

Comments: Vegetative diversity, composition and distribution throughout this upper portion of the Santa Clara River looks appropriate for this species. However, the absence of this species from this area is likely due to the overly xeric conditions.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: Bird expert and professional vireo biologist

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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 06/10/2011

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: Brian E. Daniels

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: bdaniels@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

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

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

County: Los Angeles Landowner / Mgr.: Los Angeles County

Quad Name: Newhall Elevation: 1,148 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth

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: 11S 356739 3812673

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):

One singing male present on this survey date during focused surveys for this species within few hundred feet either side of Decoro Road bridge. This male sang persistently from one patch of southern willow scrub habitat on west side of the wash, upstream of the bridge. It was not present on subsequent survey dates. Except for pooling water at mouth of two outlets on east side of channel, this is a dry wash in vicinity of the Decoro Road bridge. The riparian habitats are dominated by mule fat, but there are a few willow clumps. A few cottonwoods are also present.

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: Residential areas border both sides of channel in vicinity of Decoro Road bridge.

Visible disturbances: None

Threats: None

Comments:

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.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): 06/16/2011

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 _____ Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Torrance Elevation: 15 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 380804 3739914

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):

One territorial male was present in the willow riparian habitats of Wilmington Drain upstream from Pacific Coast Highway (and downstream from Lomita Blvd). This bird was found during focused least Bell's vireo surveys on the late date of May 26 and remained on territory as a bachelor to at least June 29. The riparian habitat of Wilmington Drain is dominated by willows but there are substantial amounts of non-native trees present, particularly ash (*Fraxinus* sp.).

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: mix of residential and commercial; downstream across PCH is Ken Malloy Regional Park

Visible disturbances: The drainage has long history of use by homeless, but these encampments were cleared prior to surveys in March 2011.

Threats: Nothing imminent

Comments: Wilmington Drain (Reach 27) from the I-110 Fwy to PCH is maintained by the County of LA Department of Pubic Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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

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1807 13th Street, Suite 202
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EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/16/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Cistothorus palustris clarkae*

Common Name: Clark's Marsh Wren

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: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste. 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Torrance Elevation: 16 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 380693 3740276

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):

Two territorial males present during least Bell's vireo surveys of willow riparian habitats of Wilmington Drain from Pacific Coast Highway upstream to I-110 Freeway. The two males first appeared on May 16, singing from the reed beds of freshwater marsh habitat on channel bottom. Both shifted upstream of the island (between PCH and Lomita Blvd) and continued to sing until at least June 16. No nests found. This species breeds at Ken Malloy Regional Park on other side of PCH.

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: Mix of residential and commercial (small amount of industrial - oil property); Regional Park south of PCH.

Visible disturbances: History of homeless use at this drainage - encampments removed prior to these surveys in March 2011.

Threats: Nothing imminent

Comments: Wilmington Drain (Reach 27) from the I-110 Fwy to PCH is maintained by the County of LA Department of Public Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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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Sacramento, CA 95811
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EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 04/23/2011

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 2 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike
Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648
E-mail Address: jpika44@earthlink.net
Phone: (714) 968-7977

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)

Tall cottonwoods and willows adjacent to outlet for urban runoff

County: Ventura Landowner / Mgr.: Department of Public Works
Quad Name: _____ Elevation: _____
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model Garmin 60CSx
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 0356226 3810298

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):

Territorial singing throughout the survey season

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: Urban

Visible disturbances:

Threats: Dropping water table

Comments:

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

- Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: Bird expert and professional viro biologist

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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Date of Field Work (mm/dd/yyyy): 04/24/2011

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 14 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike
Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648
E-mail Address: jpik44@earthlink.net
Phone: (714) 968-7977

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

14
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)

Multi-strata riparian vegetation bordering the streambed

County: Los Angeles Landowner / Mgr.: Department of Public Works
Quad Name: _____ Elevation: _____
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model Garmin 60CSx
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters _____ meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 0402314 3764521

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):

Territorial singing throughout the series of surveys that were conducted

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: Bordered by industrial and a golf course

Visible disturbances: Homeless encampment

Threats: Invasive vegetation and paintball games

Comments: Relatively good quality habitat for riparian species

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

- Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: Bird expert and professional vireo biologist

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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Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 04/24/2011

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 8 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike
Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648
E-mail Address: jpik44@earthlink.net
Phone: (714) 968-7977

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

8
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)

Tall black willows and islands of narrow-leaved willow bordering the San Gabriel River

County: Los Angeles Landowner / Mgr.: Department of Public Works
Quad Name: _____ Elevation: _____
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S
Source of Coordinates (GPS, topo. map & type): GPS
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S
GPS Make & Model Garmin 60CSx
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 0405382 3767017

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):

Territorial singing throughout the survey season

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: Urban and horse stables

Visible disturbances: Homeless encampments

Threats: Brown-headed cowbirds

Comments:

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: Bird expert and professional viro biologist

Photographs: (check one or more)

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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Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 04/24/2011

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 14 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. #
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike
Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648
E-mail Address: jpika44@earthlink.net
Phone: (714) 968-7977

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

14
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)

Multi-strata riparian vegetation bordering the streambed

County: Los Angeles Landowner / Mgr.: Department of Public Works
Quad Name: _____ Elevation: _____
T _____ R _____ Sec _____, _____ ¼ of _____ 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 60CSx
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters _____ meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 0402314 3764521

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):

Territorial singing throughout the series of surveys that were conducted

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: Bordered by industrial and a golf course

Visible disturbances: Homeless encampment

Threats: Invasive vegetation and paintball games

Comments: Relatively good quality habitat for riparian species

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

- Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: Bird expert and professional vireo biologist

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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EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 06/10/2011

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 7 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
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Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

7
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)

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Newhall Elevation: 1,091 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 378348 3792716

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):

At least 7 territorial males in Santa Clara River west (downstream) of McBean Pkwy bridge present during focused surveys for least Bell's vireo. Survey area is the confluence of San Francisquito Wash and Santa Clara River. Habitats include young southern willow scrub to old growth riparian forest dominated by stands of cottonwoods. Surface water present throughout surveys.

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: Mix of commercial, residential, and light industrial.

Visible disturbances: none

Threats: none

Comments: These surveys are for flood control facilities managed by the County of LA Department of Pubic Works. Maintenance activities are limited to toe of concrete levee at confluence with San Francisquito Wash and are governed by regulatory permits including biological opinion for unarmored threespine stickleback and arroyo toad.

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

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

Photographs: (check one or more)

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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Date of Field Work (mm/dd/yyyy): 06/16/2011

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 3 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste. 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Torrance Elevation: 22 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 380631 3740591

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):

Two territorial males present during least Bell's vireo surveys of willow riparian habitats of Wilmington Drain from Pacific Coast Highway upstream to I-110 Freeway. Both territories on west side of channel with one pair downstream of Lomita Blvd and the other territory upstream of Lomita Blvd. The riparian habitat dominated by willows but substantial number of ornamental trees including ash (Fraxinus sp.) and eucalyptus.

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: Mix of residential and commercial (small amount of industrial - oil property); Regional Park south of PCH.

Visible disturbances: History of homeless use at this drainage - encampments removed prior to these surveys in March 2011.

Threats: Nothing imminent

Comments: Wilmington Drain (Reach 27) from the I-110 Fwy to PCH is maintained by the County of LA Department of Public Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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

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Date of Field Work (mm/dd/yyyy): 06/20/2011

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 2 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Newhall Elevation: 1,155 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 356893 3812674

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):

Two singing males present during focused surveys for least Bell's vireo. The survey area included riparian habitats within few hundred feet either side of Decoro Road bridge. Both males were upstream of the bridge. Except for pooling water at mouth of two outlets on east side of channel, this is a dry wash in vicinity of the Decoro Road bridge. The riparian habitats are dominated by mule fat, but there are a few willow clumps and cottonwoods.

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: Residential areas border both sides of channel in vicinity of Decoro Road bridge.

Visible disturbances: None

Threats: None

Comments:

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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

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Department of Fish and Game
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Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

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Date of Field Work (mm/dd/yyyy): 06/30/2011

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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 4 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

4
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)

County: Los Angeles Landowner / Mgr.: Los Angeles County/ Army Corps of Engineers
Quad Name: Asuza Elevation: 609 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 413877 3778455

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):

Three territorial males and at least 2 paired during focused surveys for least Bell's vireo. Survey area extends from pedestrian bridge upstream to second drop structure. Habitat is southern willow scrub with mule fat being dominant in many areas. The yellow warbler territories were in vicinity of vireo 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: Mix of open space, residential to west, and quarry operations to east and north.

Visible disturbances: Homeless encampments at willow clumps

Threats: Nothing imminent

Comments: Levels of human disturbance higher this year than previous years. The side drainage on east side (Beatty Channel - Reach 39) is maintained by the County of LA Department of Pubic Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.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): 06/30/2011

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 3 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels

Address: 3452 E. Foothill Blvd., Ste. 420
Pasadena, CA. 91107

E-mail Address: bdaniels@bonterraconsulting.com

Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County

Quad Name: Sunland Elevation: 2,1254 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth

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: 11S 378348 3792716

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):

Two territorial males present during least Bell's vireo surveys of riparian habitat at mouth of Haines Channel Outlet in Tujunga Wash. At least one of two males paired and nested successfully as one fledgling was observed. The survey area is about 200 feet from outlet of concrete channel and is dominated by tall trees including willows, cottonwoods, eucalyptus and several other ornamental trees.

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: Residential, alluvial sage scrub habitats of Tujunga Wash, and golf course at downstream end of survey area.

Visible disturbances: human traffic

Threats: nothing imminent

Comments: this is Channel Reach 12 that is maintained by the County of LA Department of Public Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/22/2011

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 3 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Jim Pike
Address: 18744 Beach Blvd, #E
Huntington Beach, CA, 92648
E-mail Address: jpika44@earthlink.net
Phone: (714) 968-7977

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)

Multi-strata riparian vegetation bordering the streambed

County: Los Angeles Landowner / Mgr.: Department of Public Works
Quad Name: _____ Elevation: _____
T _____ R _____ Sec _____, _____ ¼ of _____ 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 60CSx
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters _____ meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 0402147 3764444

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):

Territorial singing throughout the series of surveys that were conducted

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: Bordered by industrial and a golf course

Visible disturbances: Homeless encampment

Threats: Invasive vegetation and paintball games

Comments: Relatively good quality habitat for riparian species

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

- Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: Bird expert and professional vireo biologist

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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.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): 06/07/2011

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 4 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Brian E. Daniels
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

4
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)

County: Los Angeles Landowner / Mgr.: Los Angeles County/ Army Corps of Engineers
Quad Name: Asuza Elevation: 609 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 413877 3778455

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):

Three territorial males of which at least two were paired during focused surveys for least Bell's vireo. Survey area extends from pedestrian bridge upstream to second drop structure. Habitat is southern willow scrub with mule fat being dominant in many areas. The three chat territories were in vicinity of vireo 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: Mix of open space, residential to west, and quarry operations to east and north.

Visible disturbances: Homeless encampments at willow clumps

Threats: Nothing imminent

Comments: Levels of human disturbance higher this year than previous years. The side drainage on east side (Beatty Channel - Reach 39) is maintained by the County of LA Department of Pubic Works. Annual clearing of vegetation occurs in compliance with regulatory permits.

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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:
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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.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): 06/21/2011

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: Brian E. Daniels
Address: 3452 E. Foothill Blvd, Ste 420
Pasadena, CA 91107
E-mail Address: bdaniels@bonterraconsulting.com
Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Unknown
Quad Name: San Fernando Elevation: 1,312 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ ¼, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GoogleEarth
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: 11S 370418 3797621

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):

One pair present during focused surveys for least Bell's vireo in Pacoima Wash upstream of Gavina Avenue. This part of Pacoima Wash was impacted by November 2008 Sayre Fire but has since recovered. The wash supports a mix of willow scrub, sycamore woodland, and alluvial sage scrub habitats. This pair was in a thicket of mixed vegetation that included mule fat, blue elderberry, laurel sumac and Davidson's bushmallow underneath sycamore trees.

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: residential two west; open spaces to east and north; south is Pacoima Wash

Visible disturbances: None other than scars from wildfire and past dumping (area now behind locked gate)

Threats: no imminent threats

Comments:

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

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- 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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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/11/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Gila orcutti

Common Name: arroyo chub

Species Found? Yes No If not, why? _____

Total No. Individuals 20 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Sam Stewart

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: sstewart@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

20
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)

County: Los Angeles

Landowner / Mgr.: Los Angeles County

Quad Name: Newhall

Elevation: 1,153ft.

T _____ R _____ Sec _____, _____ ¼ of _____ 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 Vista H

DATUM: NAD27 NAD83 WGS84

Horizontal Accuracy 10 feet _____ meters/feet

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

Coordinates: 11S 358420, 3810219

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 chub observed in pool approximately 15 feet in diameter at outlet of Saugus Newhall Reclamation Plant outflow pipe. Dense cottonwood and sycamore riparian habitat immediately downstream of pool. Other native fish species detected include Santa Ana sucker (*Catostomus santaanae*) and Santa Ana speckled dace (*Rhinichthys osailolus*).

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: River wash bordered to south by retail land uses.

Visible disturbances: Great deal of litter in wash from urban runoff. Concrete bike path bisects two pools connected by pipe culverts.

Threats: Introduced species, including western mosquitofish, convict cichlid, plecostomus sucker, brown bullhead, and African clawed frog.

Comments: Recorded temperature of outflow from Saugus Newhall Reclamation Plant is at least 10 degrees Fahrenheit higher than natural resurfaced flow recorded downstream of McBean Bridge.

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

- Keyed (cite reference): McGinnis 2005
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: familiarity with species

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 05/24/2011

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Source Code _____ Quad Code _____

Elm Code _____ Occ. No. _____

EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Gila orcutti

Common Name: arroyo chub

Species Found? Yes No _____
If not, why?

Total No. Individuals 12 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Sam Stewart

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: sstewart@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

12
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)

County: Los Angeles Landowner / Mgr.: Los Angeles County

Quad Name: Newhall Elevation: 1,087 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ 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 Vista H

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

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

Coordinates: 11S 356094, 3810408

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):

Approximately 12 juvenile fish in small pool (approximately 10 feet in diameter and less than 3 feet deep). Pool is connected to stream course by very shallow meander and likely to become isolated. Pool is shaded by willow saplings and mule fat. Other species observed include western toad (*Anaxyrus boreas*) larva and unarmoured threespine stickleback (*Gasterosteus aculeatus*).

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: River wash bordered to south by recreational open space and residential development.

Visible disturbances: Great deal of litter in wash from urban runoff.

Threats: None

Comments: Water in pool and stream course flowing into pool resurfaces from substrate approximately 200 feet upstream of this location after a dry stretch of approximately 1,200 feet.

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

- Keyed (cite reference): McGinnis 2006
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: familiarity with species

Photographs: (check one or more)

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

May we obtain duplicates at our expense? yes no

Mail to:
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Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

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Elm Code _____ Occ. No. _____

EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 06/21/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Gila orcutti

Common Name: Arroyo chub

Species Found? Yes No _____
If not, why? _____

Total No. Individuals 50 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Sam Stewart

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: sstewart@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

30 # adults 20 # 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)

County: Los Angeles

Landowner / Mgr.: Los Angeles County

Quad Name: Newhall

Elevation: 1,087 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ 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 Vista H

DATUM: NAD27 NAD83 WGS84

Horizontal Accuracy 14 feet _____ meters/feet

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

Coordinates: 11S 356400, 3810273

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):

Approximately 50 fish of various sizes observed in Castaic Creek in flows along levee of western bank. Plant communities consist of developed concrete levee on western bank and mule fat and willow riparian on eastern bank. Emergent species, including cattail, are present. Other native wildlife species observed include western toad (*Anaxyrus boreas*) larva, Santa Ana sucker (*Catostomus santaanae*), and Santa Ana speckled dace (*Rhinichthys osailolus*).

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: River wash bordered to west by residential development and to north by Interstate 5.

Visible disturbances: Great deal of litter in wash from urban runoff.

Threats: Introduced species observed including western mosquitofish, carp, African clawed frog and American bullfrog.

Comments:

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

- Keyed (cite reference): McGinnis 2006
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: familiarity with species

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/11/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Rhinichthys osailolus

Common Name: Santa Ana speckled dace

Species Found? Yes No _____
If not, why? _____

Total No. Individuals 6 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Sam Stewart

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: sstewart@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

6
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)

County: Los Angeles Landowner / Mgr.: Los Angeles County

Quad Name: Newhall Elevation: 1,153ft.

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model Garmin Etrex Vista H

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 10 feet meters/feet

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

Coordinates: 11S 358420, 3810219

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):

Santa Ana speckled dace observed in pool approximately 15 feet in diameter at outlet of Saugus Newhall Reclamation Plant outflow pipe. Dense cottonwood and sycamore riparian habitat immediately downstream of pool. Other native fish species detected include Santa Ana sucker (*Catostomus santaanae*) and arroyo chub (*Gila orcutti*).

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: River wash bordered to south by retail land uses.

Visible disturbances: Great deal of litter in wash from urban runoff. Concrete bike path bisects two pools connected by pipe culverts.

Threats: Introduced species, including western mosquitofish, convict cichlid, plecostomus sucker, brown bullhead, and African clawed frog.

Comments: Recorded temperature of outflow from Saugus Newhall Reclamation Plant is at least 10 degrees Fahrenheit higher than natural resurfaced flow recorded downstream of McBean Bridge.

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

- Keyed (cite reference): McGinnis 2005
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: familiarity with species

Photographs: (check one or more)

Plant / animal Slide Print Digital
Habitat
Diagnostic feature

May we obtain duplicates at our expense? yes no

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@dfg.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): 06/21/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Rhinichthys osailolus

Common Name: Santa Ana speckled dace

Species Found? Yes No _____
If not, why? _____

Total No. Individuals 6 Subsequent Visit? yes no

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

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Sam Stewart

Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107

E-mail Address: sstewart@bonterraconsulting.com

Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

6
adults # juveniles # larvae # egg masses # unknown
 winterring breeding nesting rookery burrow site other

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

County: Los Angeles Landowner / Mgr.: Los Angeles County

Quad Name: Newhall Elevation: 1,087 ft.

T _____ R _____ Sec _____, _____ ¼ of _____ 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 Vista H

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

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

Coordinates: 11S 356400, 3810273

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 fish of various sizes observed in Castaic Creek in flows along levee of western bank. Plant communities consist of developed concrete levee on western bank and mule fat and willow riparian on eastern bank. Emergent species, including cattail, are present. Other native wildlife species observed include western toad (*Anaxyrus boreas*) larva, Santa Ana sucker (*Catostomus santaanae*), and arroyo chub (*Gila arcuati*).

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: River wash bordered to west by residential development and to north by Interstate 5.

Visible disturbances: Great deal of litter in wash from urban runoff.

Threats: Introduced species observed including western mosquitofish, carp, African clawed frog and American bullfrog.

Comments:

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

- Keyed (cite reference): McGinnis 2006
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: familiarity with species

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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

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Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/24/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Gasterosteus aculeatus

Common Name: unarmoured threespine stickleback

Species Found? Yes No _____
If not, why? _____
Total No. Individuals 50 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? _____ no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Sam Stewart
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA, 91107
E-mail Address: sstewart@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

_____ 50 _____
adults # juveniles # larvae # egg masses # unknown
 winterring breeding nesting rookery burrow site other

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

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Newhall Elevation: 1,087 ft.
T _____ R _____ Sec _____, _____ ¼ of _____ 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 Vista H
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 14 feet _____ meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 356094, 3810408

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):

Approximately 50 juvenile fish in small pool (approximately 10 feet in diameter and less than 3 feet deep). Pool is connected to stream course by very shallow meander and likely to become isolated. Pool is shaded by willow saplings and mule fat. Other species observed include western toad (*Anaxyrus boreas*) larva and arroyo chub (*Gila orcutti*).

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: River wash bordered to south by recreational open space and residential development.

Visible disturbances: Great deal of litter in wash from urban runoff.

Threats: None

Comments: Water in pool and stream course flowing into pool resurfaces from substrate approximately 200 feet upstream of this location after a dry stretch of approximately 1,200 feet.

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

- Keyed (cite reference): McGinnis 2006
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: familiarity with species

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@dfg.ca.gov

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Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 05/24/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Anniella pulchra pulchra

Common Name: silvery legless 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: Sam Stewart
Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
E-mail Address: sstewart@bonterraconsulting.com
Phone: (626) 351-2000

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

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

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

County: Los Angeles Landowner / Mgr.: Los Angeles County
Quad Name: Newhall Elevation: 1,134ft.
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S
Source of Coordinates (GPS, topo. map & type): GPS
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S
GPS Make & Model Garmin Etrex Vista H
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 12 feet meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 357844, 3809701

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):

Legless lizard found in sandy substrate beneath rotting log on north bank of Santa Clara Creek South Fork.

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: River wash bordered to north by storage yard and retail land uses.

Visible disturbances: Great deal of litter in wash from urban runoff.

Threats: None

Comments:

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

- Keyed (cite reference): Stebbins 2003
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: familiarity with species

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
 Department of Fish and Game
 1807 13th Street, Suite 202
 Sacramento, CA 95811
 Fax: (916) 324-0475 email: CNDDDB@dfg.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): 05/24/2011

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Anniella pulchra pulchra

Common Name: silvery legless 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: Sam Stewart
 Address: 3452 E. Foothill Blvd., Ste 420
Pasadena, CA. 91107
 E-mail Address: sstewart@bonterraconsulting.com
 Phone: (626) 351-2000

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)

County: Los Angeles Landowner / Mgr.: Los Angeles County
 Quad Name: Newhall Elevation: 1,125ft.
 T _____ R _____ Sec _____, _____ ¼ of _____ 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 Vista H
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy 15 feet _____ meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: 11S 357378, 3809874

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):

Legless lizard found in sandy substrate beneath rotting log on north bank of Santa Clara Creek South Fork.

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: River wash bordered to north by baseball diamond and recreational land uses.

Visible disturbances: Great deal of litter in wash from urban runoff.

Threats: None

Comments:

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

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

Photographs: (check one or more) Slide Print Digital
 Plant / animal
 Habitat
 Diagnostic feature

May we obtain duplicates at our expense? yes no

APPENDIX F

DATA WORKBOOKS OF VEGETATION TRANSECTS

F-1

PRE-CLEARANCE TRANSECT DATA

Reach: 1												
Transect Number: 1												
Vegetation Hits per foot	Vegetation Species				Class Cover				Ground Cover Material			
	Cyperus sp.	Non-Native grass	Ricinus communis	Salix lasiolepis cross	Native	Non-Native	Both	No Plant	Leaf litter	Water	Mud	
1				1	1					1		
2				1	1					1		
3				1	1					1		
4		1		1			1			1		
5			1	1			1			1		
6			1	1			1			1		
7				1	1					1		
8				1	1					1		
9				1	1					1		
10				1	1					1		
11		1		1			1			1		
12				1	1					1		
13				1	1					1		
14				1	1					1		
15		1		1			1			1		
16		1		1			1			1		
17		1		1			1			1		
18		1		1			1			1		
19		1		1			1			1		
20		1		1			1			1		
21		1		1			1			1		
22		1		1			1			1		
23		1		1			1			1		
24		1		1			1			1		
25		1		1			1			1		
26	1			1			1			1		
27	1			1			1					1
28	1			1			1					1
29	1			1			1					1
30				1	1						1	
31				1	1						1	
32				1	1						1	
33				1	1						1	
34				1	1						1	
35				1	1						1	
36				1	1						1	
37				1	1						1	
38				1	1						1	
39				1	1						1	
40				1	1						1	
41				1	1						1	
42	1			1			1					1
43	1			1			1					1
44	1			1			1					1
45		1		1			1			1		
46		1		1			1			1		
47		1		1			1			1		
48		1		1			1			1		
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50		1		1			1			1		
51		1		1			1			1		
52		1		1			1			1		
53		1		1			1			1		
54		1		1			1			1		
55		1		1			1			1		
56		1		1			1			1		
57		1		1			1			1		
58		1		1			1			1		
59		1		1			1			1		
60		1		1			1			1		
61		1		1			1			1		
62		1		1			1			1		
63		1		1			1			1		
64				1	1					1		
65				1	1					1		
Totals	7	32	2	65	24	0	41	0		47	12	6
Summary								Percent:				
Total Native Class Cover								100.0				
Total Non-native Class Cover								63.1				
Total Unvegetated								0.0				

Reach: 2
Transect Number: 1

Vegetation Hits per foot	Vegetation Species										Class Cover					Ground Cover Material		
	<i>Koeleria gracilis</i>	Native	Non-Native	Gap	No Plant	Leaf litter	Water	Water with leaves sp.										
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
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76																		
77																		
78																		
79																		
80																		
81																		
82																		
83																		
84																		
85																		
Totals	4	1	3	1	41	6	2	4	2	2	75	1	1	0	1	3	9	2
Summary																		
Total Native Class Cover	97.6																	
Total Non-native Class Cover	60.0																	
Total Unvegetated	0.0																	

Reach: 3

Transect Number: 1

Vegetation Hits per foot	Vegetation Species				Class Cover				Ground Cover Material	
	<i>Phacelia ramosissima</i>	<i>Piptatherum miliaceum</i>	Non-Native grass	<i>Quercus agrifolia</i>	Native	Non-Native	Both	No Plant	Leaf litter	
1		1				1				1
2								1		1
3		1				1				1
4		1				1				1
5								1		1
6	1				1					1
7	1				1					1
8								1		1
9								1		1
10								1		1
11	1	1					1			1
12		1				1				1
13		1				1				1
14		1				1				1
15		1				1				1
16		1				1				1
17		1				1				1
18			1			1				1
19			1			1				1
20	1				1					1
21	1		1				1			1
22	1				1					1
23	1				1					1
24	1			1	1					1
25	1			1	1					1
26	1			1	1					1
27	1			1	1					1
28				1	1					1
29				1	1					1
30				1	1					1
31				1	1					1
32				1	1					1
33				1	1					1
34				1	1					1
35				1	1					1
36				1	1					1
37				1	1					1
38				1	1					1
39				1	1					1
40				1	1					1
Totals	11	10	3	17	22	11	2	5		40
					Summary		Percent:			
					Total Native Class Cover		60			
					Total Non-native Class Cover		32.5			
					Total Unvegetated		12.5			

Reach: 4

Transect Number: 1

Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material		
	Artemisa douglasiana	Lolium perenne	Melilotus alba	Non-Native grass	Salix exigua	Native	Non-Native	Both	No Plant	Bare	Leaf litter* This leaf litter is non-native grass thatch without live green grass	
1												
2		1						1				
3		1						1				
4									1			
5		1						1				
6									1			
7									1			
8					1			1				
9					1			1				
10					1			1				
11					1			1				
12									1			
13					1			1				
14					1			1				
15					1			1				
16					1			1				
17					1			1				
18					1			1				
19					1			1				
20					1			1				
21				1	1			1				
22				1	1			1				
23					1			1				
24					1			1				
25									1			
26			1					1			1	
27			1		1			1				
28			1		1			1				
29			1		1			1				
30			1					1			1	
31			1		1			1				
32			1		1			1				
33			1		1			1				
34					1			1			1	
35					1			1				
36					1			1				
37			1					1				
38			1					1			1	
39			1					1				
40					1			1				
41					1			1				
42									1		1	
43									1		1	
44									1		1	
45									1		1	
46			1					1			1	
47			1		1						1	
48			1		1			1				
49					1			1				
50			1					1				
51			1		1			1				
52			1					1				
53			1		1			1				
54			1		1			1				
55			1					1				
56			1					1				
57			1					1				
58			1					1				
59			1					1				
60			1					1				
61	1		1					1				
62	1							1				
63					1			1				
64					1			1				
65									1		1	
Totals	2	3	28	32	3	0	53	1	11		12	53
Summary						Percent:						
Total Native Class Cover						1.5						
Total Non-native Class Cover						83.1						
Total Unvegetated						16.9						

Reach: 4

Transect Number: 2

Vegetation Hits per foot	Vegetation Species								Class Cover				Ground Cover Material				
	<i>Baccharis saricifolia</i>	<i>Hirschfeldia incana</i>	<i>Lactuca serriola</i>	Non-Native grass	<i>Melilotus alba</i>	<i>Salix exigua</i>	<i>Salix laevigata</i>		Native	Non-Native	Both	No Plant		Bare	Rock/robbie	Leaf litter	Concrete
1												1					1
2												1					1
3												1					1
4						1			1								1
5						1			1							1	
6						1			1							1	
7						1			1							1	
8						1			1							1	
9						1			1							1	
10						1			1							1	
11						1			1							1	
12						1			1							1	
13						1			1							1	
14						1			1							1	
15	1								1					1			
16				1		1				1				1			
17					1	1					1			1		1	
18						1	1		1					1			
19						1	1		1			1		1			
20						1	1					1		1			
21											1			1			
22						1				1				1			
23						1	1				1			1			
24					1	1	1				1			1			
25					1					1				1			
26						1				1				1			
27											1			1			
28											1			1			
29											1				1		
30											1				1		
31											1				1		
32	1					1			1								
33	1					1			1					1			
34	1					1			1					1			
35	1					1			1					1			
36	1					1			1					1			
37	1					1			1							1	
38												1		1			
39							1		1					1			
40							1		1					1			
41							1		1					1			
42					1		1				1			1			
43					1	1	1					1				1	
44					1	1				1						1	
45						1				1						1	
46						1				1						1	
47						1				1						1	
48						1					1					1	
49						1					1					1	
50						1					1					1	
51	1					1	1				1					1	
52	1					1	1				1					1	
53						1				1						1	
54					1	1				1						1	
55	1				1	1					1					1	
56	1					1					1					1	
57						1				1						1	
58				1	1	1				1						1	
59						1				1						1	
60						1				1						1	
61		1								1						1	
62		1								1						1	
63		1								1						1	
64											1					1	
Totals	11	4	1	9	23	24	8		22	16	15	11		22	4	34	4
Summary												Percent:					
Total Native Class Cover												57.8					
Total Non-native Class Cover												48.4					
Total Unvegetated												17.2					

Reach: 5

Transect Number: 2

Vegetation Hits per foot	Vegetation Species				Class Cover				Ground Cover Material						
	<i>Hirschfeldia incana</i>	<i>Mossmeia nana</i>	<i>Nicotiana glauca</i>	<i>Scorpaenastylis unguiculata</i>	Native	Non-Native	Born	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Mud	Graided Riprap	
1	1														
2	1														
3		1													
4			1												
5			1												
6			1												
7			1												
8			1												
9			1												
10			1												
11			1												
12			1												
13			1												
14			1												
15			1												
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39			1												
40			1												
41			1												
42			1												
43			1												
44			1												
45			1												
46			1												
47			1												
48			1												
49			1												
50			1												
Totals	1	2	8	8	13	7	4	10	29	2	1	3	11	5	28
						Summary									
						Total Native Class Cover			34.0						
						Total Non-native Class Cover			28.0						
						Total Unvegetated			56.0						

Reach: 7																	
Transect Number: 1																	
Vegetation Hits per foot	Vegetation Species								Class Cover				Ground Cover Material				
	<i>Baccharis salicifolia</i>	<i>Hirschfeldia incana</i>	<i>Lepidochloa uniterveva</i>	<i>Ludwigia peruviana</i>	Non-Native grasses	<i>Sida erugosa</i>	<i>Sida lasiocarpa</i> (mid-stem trees)	<i>Solanum elaeagnifolium</i>	<i>Typha</i> sp.	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Water with Lemna sp.	Ungrouted riprap
1																	1
2																	1
3																	1
4																	1
5																	1
6																	1
7																	1
8																	1
9																	1
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38	1																1
39	1																1
40	1																1
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107																	1
108																	1
109																	1
110																	1
111																	1
112																	1
113																	1
114																	1
115																	1
Totals	8	1	3	4	2	6	53	4	13	71	1	2	41	10	20	13	72
Summary																	
Total Native Class Cove															63.5		
Total Non-native Class Cove															2.6		
Total Unvegetated															35.7		

Reach: 8
Transect Number: 1

Vegetation Hits per foot	Vegetation Species					Class Cover			Ground Cover Material			
	<i>Echinochloa crus-galli</i>	<i>Medicago polymorpha</i>	<i>Polygonum arenastrum</i>	<i>Veronica angustis-aquatica</i>	<i>Washingtonia robusta</i>	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Gravel/Riprap
1												
2												
3												
4												
5												
6												
7												
8												
9												
10	1											
11	1											
12	1											
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28	1											
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
Totals	4	2	2	4	1	0	9	0	31	4	15	21
						Summary						
						Total Native Class Cover			0			
						Total Non-native Class Cover			22.5			
						Total Unvegetated			77.5			

Reach: 9

Transect Number: 1

Vegetation Hits per foot	Vegetation Species		Class Cover				Ground Cover Material							
	Fraxinus dipetala (mature trees)	Fraxinus dipetala (sucker)	Native	Non-Native	Both	No plant	Bare	Rock/Cobble	Leaf/Litter	Coarse woody debris	Water	Ungrouted riprap	Debris - concrete	
1	1		1											
2	1		1					1						
3	1		1					1						
4	1	1	1					1						
5						1							1	
6						1							1	
7						1							1	
8						1							1	
9						1							1	
10						1							1	
11						1							1	
12						1							1	
13						1							1	
14						1							1	
15						1							1	
16						1							1	
17						1							1	
18						1							1	
19						1							1	
20						1							1	
21						1							1	
22						1						1		
23						1						1		
24						1						1		
25						1						1		
Totals	4	1	1	4	0	21	1	4	3	1	14	1	1	
			Summary											
			Total Native Class Cover	16										
			Total Non-native Class C	0										
			Total Unvegetated	84										

Reach: 10

Transect Number: 1

Vegetation Hits per foot	Vegetation Species										Class Cover				Ground Cover Material																											
	<i>Amorpha californica</i>	<i>Artemisia douglasiana</i>	<i>Cyperus</i> sp.	<i>Echinoclea crus-galli</i>	<i>Hirschfeldia incana</i>	<i>Malva alba</i>	Non-Native grass	<i>Cenchrus ciliaris</i>	<i>Polygonum aviculare</i>	<i>Sida acuta</i> (seedlings)	<i>Typha</i> sp.	Native	Non-Native	Both	No Plant	bare	Leaf litter	Water	Mud	Water with algae	Geotech mat																					
1																																										
2																																										
3																																										
4																																										
5																																										
6																																										
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65																																										
Totals	1	1	5	5	12	6	14	2	2	1	9	7	21	9	28	5	10	28	4	4	1	14																				
Summary																						Total Native Class Cover	24.6																			
																						Total Non-native Class Cover	46.2																			
																						Total Unvegetated	43.1																			

Reach: 10									
Transect Number: 3									
Vegetation Hits per foot	Vegetation Species		Class Cover				Ground Cover Material		
	<i>Melilotus alba</i>	<i>Polygonum</i> sp.	Native	Non-Native	Both	No Plant	Water	Water with Lemna sp.	Geotech mat
1						1			1
2						1			1
3						1			1
4						1			1
5						1			1
6						1			1
7						1			1
8						1			1
9						1			1
10						1			1
11		1		1					1
12		1		1					1
13		1		1					1
14		1		1					1
15		1		1					1
16						1			1
17						1			1
18						1			1
19						1	1		1
20						1		1	1
21						1		1	1
22						1		1	1
23						1		1	1
24						1		1	1
25						1		1	1
26						1		1	1
27						1		1	1
28						1		1	1
29						1		1	1
30						1		1	1
31						1		1	1
32						1		1	1
33						1		1	1
34						1		1	1
35						1		1	1
36						1		1	1
37						1		1	1
38						1		1	1
39						1		1	1
40						1		1	1
41						1		1	1
42						1		1	1
43						1		1	1
44						1		1	1
45						1		1	1
46						1		1	1
47						1		1	1
48						1		1	1
49						1		1	1
50						1		1	1
51						1		1	1
52						1		1	1
53				1			1		1
54						1		1	1
55						1		1	1
56						1		1	1
57						1		1	1
58						1		1	1
59						1		1	1
60						1		1	1
61	1			1					1
62	1			1					1
63	1			1					1
64	1			1					1
65	1			1					1
66	1			1					1
67	1			1					1
68	1			1					1
69	1			1					1
70	1			1					1
71	1			1					1
72	1			1					1
73	1			1					1
74	1			1					1
75	1			1					1
Totals	15	5	0	21	0	54	2	40	33
Summary									
Total Native Class Cover						0.0			
Total Non-native Class Cover						28.0			
Total Unvegetated						72.0			

Reach: 12

Transect Number: 1

Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material							
	Melilotus alba	Polygonum sp.	Salix gooddingii	Salix lasiolepis	Typha sp.	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Water	Mud	Water with Lemna sp.	Grouted riprap		
1									1						1		
2									1						1		
3									1						1		
4									1						1		
5									1						1		
6									1						1		
7									1						1		
8									1						1		
9									1						1		
10		1						1							1		
11		1						1							1		
12		1						1				1					
13					1		1					1					
14					1		1					1					
15			1		1		1					1					
16			1		1		1					1					
17			1		1		1					1					
18			1		1		1					1					
19			1		1		1					1					
20			1		1		1					1					
21			1		1		1					1					
22			1		1		1					1					
23			1		1		1					1					
24			1		1		1					1					
25			1		1		1					1					
26			1		1		1					1					
27			1		1		1					1					
28			1		1		1					1					
29			1		1		1					1					
30			1		1		1					1					
31			1		1		1					1					
32			1		1		1					1					
33									1			1					
34									1			1					
35									1			1					
36									1			1					
37									1			1					
38									1			1					
39									1			1					
40									1			1					
41									1			1					
42									1			1					
43									1			1					
44									1			1					
45									1			1					
46									1			1					
47									1			1					
48					1		1							1			
49					1		1							1			
50					1		1							1			
51					1		1							1			
52					1		1							1			
53					1		1							1			
54					1		1							1			
55					1		1							1			
56					1		1							1			
57					1		1							1			
58					1		1					1					
59			1	1	1		1					1					
60			1	1	1		1				1						
61			1	1	1		1				1						
62			1	1	1		1				1						
63			1	1	1		1				1						
64			1	1	1		1				1						
65			1	1	1		1				1						
66			1	1	1		1				1						
67			1	1	1		1				1						
68			1	1	1		1				1						
69			1	1	1		1				1						
70			1	1	1		1				1						
71			1	1	1		1				1						
72	1							1									
73	1							1									
74	1							1									
75								1									
Totals	3	3	19	10	39		44	6	0	25		4	12	36	2	10	11
Summary																	
Total Native Class Cover																	
Total Non-native Class Cover																	
Total Unvegetated																	

Reach: 12																							
Transect Number: 2											Class Cover				Ground Cover Material								
Vegetation Hits per foot	Vegetation Species										Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Mud	Water with Lemna sp.	Gravel/Spgr		
	<i>Cotula coronopifolia</i>	<i>Dakota stramonium</i>	<i>Hieracifolia triviana</i>	Melilotus sp.	Non-Native grass	<i>Polygonum</i> sp.	<i>Rorippa nasturtium-aquaticum</i>	<i>Salsola spodiopogon</i>	<i>Solanum douglasii</i>	<i>Urtica dioica</i> spp. <i>noveboracensis</i>												<i>Xanthium strumarium</i>	
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107																			1				
108																			1				
109																			1				
110	1	1	1	9	7	19	3	85	5	1	3	70	14	21	5	6	5	26	25	9	29	11	
Summary												Total Native Class Cover		82.7		Total Non-native Class Cover		31.6		Total Unvegetated		4.5	

Reach: 13

Transect Number: 1

Vegetation Hits per foot	Vegetation Species		Class Cover				Ground Cover Material			
	<i>Centarea meliensis</i>	<i>Melilotus sp.</i>	Non-Native grass	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	
1			1			1				1
2			1			1				1
3			1			1				1
4			1			1				1
5							1			1
6			1			1				1
7							1			1
8							1			1
9			1			1				1
10			1			1				1
11			1			1				1
12			1			1				1
13			1			1				1
14			1			1				1
15	1		1			1				1
16	1		1			1				1
17	1		1			1				1
18	1		1			1				1
19	1		1			1				1
20	1		1			1				1
21	1		1			1				1
22	1		1			1				1
23	1		1			1				1
24	1		1			1				1
25	1		1			1				1
26		1								1
27		1								1
28		1								1
29		1								1
30		1								1
31		1								1
32		1								1
33		1								1
34		1								1
35		1								1
36		1								1
37		1								1
38		1								1
39		1								1
40		1								1
Totals	10	4	27	0	37	0	3	4		36
				Summary						
				Total Native Class Cover			0			
				Total Non-native Class Cover			92.5			
				Total Unvegetated			7.5			

Reach: 14

Transect Number: 1

Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material				
	<i>Baccharis salicifolia</i>	<i>Salix gooddingii</i>	<i>Salix lasiolepis</i>	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Mud
1			1	1				1				
2			1	1				1				
3			1	1					1			
4			1	1					1			
5			1	1					1			
6			1	1					1			
7			1	1				1				
8			1	1								1
9			1	1								1
10			1	1								1
11			1	1								1
12		1	1	1								1
13		1	1	1								1
14		1	1	1								1
15		1	1	1								1
16		1	1	1								1
17		1	1	1								1
18		1	1	1				1				1
19		1	1	1				1				1
20		1	1	1				1				1
21		1	1	1				1				1
22		1	1	1				1				1
23		1	1	1				1				1
24		1	1	1				1				1
25		1	1	1				1				1
26		1	1	1				1				1
27		1	1	1				1				1
28		1	1	1				1				1
29		1	1	1				1				1
30		1	1	1				1				1
31		1	1	1				1				1
32		1	1	1				1				1
33		1	1	1				1				1
34		1	1	1				1				1
35		1	1	1				1				1
Totals	5	24	13	35	0	0	0	16	1	8	2	8
				Summary								
				Total Native Class Cover			100					
				Total Non-native Class Cover			0					
				Total Unvegetated			0					

Reach: 15												
Transect Number: 1												
Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material		
	Cyperus sp.	Leptochloa unimervia	Lobelia peploides	Non-Native grass	Typha sp.	Native	Non-Native	Both	No Plant	Rock/Cobble	Water	Concrete
1									1			1
2									1			1
3									1			1
4									1			1
5									1			1
6									1			1
7									1			1
8									1			1
9									1			1
10									1			1
11									1			1
12									1			1
13									1			1
14									1			1
15									1			1
16									1			1
17									1			1
18									1			1
19									1			1
20									1			1
21									1			1
22				1			1				1	1
23				1			1				1	1
24			1	1				1			1	1
25			1			1					1	1
26			1	1				1			1	1
27			1			1					1	1
28		1	1					1			1	1
29		1	1			1					1	1
30	1		1					1			1	1
31	1		1					1			1	1
32	1		1					1			1	1
33	1			1			1			1		1
34			1	1				1		1		1
35			1	1				1			1	1
36	1		1					1			1	1
37	1		1	1				1			1	1
38			1			1					1	1
39			1			1					1	1
40			1			1					1	1
41			1		1	1					1	1
42					1	1					1	1
43					1	1					1	1
44					1	1					1	1
45			1		1	1					1	1
46			1		1	1					1	1
47			1		1	1					1	1
48			1			1					1	1
49			1		1	1					1	1
50			1			1					1	1
51			1			1					1	1
52			1			1					1	1
53			1			1					1	1
54			1			1					1	1
55			1			1					1	1
56			1			1					1	1
57			1			1					1	1
58			1			1					1	1
59			1			1					1	1
60			1			1					1	1
61			1			1					1	1
62			1			1					1	1
63			1			1					1	1
64			1			1					1	1
65			1			1					1	1
66			1			1						1
67									1			1
68									1			1
69									1			1
70									1			1
71									1			1
72									1			1
73									1			1
74									1			1
75									1			1
76									1			1
77									1			1
78									1			1
79									1			1
80									1			1
81									1			1
82									1			1
83									1			1
84									1			1
85									1			1
Totals	6	1	39	8	8	32	3	10	40	1	44	40
Summary												
Total Native Class Cover									49.4			
Total Non-native Class Cover									15.3			
Total Unvegetated									47.1			

Reach: 15													
Transect Number: 2													
Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material					
	Melilotus alba	Non-Native grass	Typha sp.	Native	Non-Native	Both	No Plant	Rock/Cobble	Water	Mud	Concrete		
1							1					1	
2							1					1	
3							1					1	
4							1					1	
5							1					1	
6							1					1	
7							1					1	
8							1					1	
9							1					1	
10							1					1	
11							1					1	
12							1					1	
13							1					1	
14							1					1	
15							1					1	
16		1			1					1			
17		1			1					1			
18		1			1					1			
19							1			1			
20							1			1			
21		1			1					1			
22		1			1				1				
23		1			1						1		
24		1			1						1		
25		1			1						1		
26		1			1						1		
27	1	1			1				1				
28	1	1			1						1		
29		1			1						1		
30		1			1						1		
31		1			1						1		
32		1			1						1		
33		1			1						1		
34		1			1						1		
35		1			1						1		
36		1			1						1		
37			1		1						1		
38			1		1						1		
39		1			1					1			
40			1		1					1			
41			1		1					1			
42			1		1					1			
43			1		1					1			
44			1		1					1			
45		1			1						1		
46		1			1						1		
47		1			1						1		
48		1			1						1		
49		1			1						1		
50		1			1				1				
51		1	1				1				1		
52		1			1						1		
53			1		1						1		
54		1			1						1		
55		1	1				1				1		
56		1	1				1				1		
57		1			1						1		
58		1			1						1		
59							1			1			
60		1			1					1			
61							1			1			
62							1			1			
63							1			1			
64							1			1			
65							1			1			
66							1					1	
67							1					1	
68							1					1	
69							1					1	
70							1					1	
71							1					1	
72							1					1	
73							1					1	
74							1					1	
75							1					1	
76							1					1	
77							1					1	
78							1					1	
79							1					1	
80							1					1	
Totals	2	34	11		9	30	3	38		2	20	28	30
Summary													
Total Native Class Cover							24.0						
Total Non-native Class Cover							66.0						
Total Unvegetated							47.5						

Reach: 16

Transect Number: 1

Vegetation Hits per foot	Vegetation Species		Class Cover				Ground Cover Material				
	<i>Hirschfeldia incana</i>	Non-Native grass	Native	Non-Native	Both	No plant	Bare	Rock/Cobble	Leaf Litter		
1						1				1	
2						1				1	
3						1				1	
4	1			1				1			
5						1		1			
6						1		1			
7						1		1			
8				1						1	
9				1						1	
10				1						1	
11				1						1	
12				1						1	
13				1						1	
14				1						1	
15				1						1	
16						1				1	
17						1		1			
18						1		1			
19						1		1			
20				1				1			
Totals	1	9	0	10	0	10	3	5		12	
Summary											
Total Native Class Cover									0		
Total Non-native Class Cover									50		
Total Unvegetated									50		

Reach: 19										
Transect Number: 1										
Vegetation Hits per foot	Vegetation Species		Class Cover				Ground Cover Material			
	<i>Malosma laurina</i>	<i>Pinus canariensis</i>	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand	
1						1				1
2						1			1	
3						1			1	
4						1			1	
5						1		1		
6						1		1		
7						1		1		
8						1		1		
9						1		1		
10						1		1		
11						1			1	
12						1			1	
13						1		1		
14						1		1		
15						1				1
16						1		1		
17						1		1		
18						1				1
19						1		1		
20						1		1		
21						1				1
22						1				1
23						1				1
24						1		1		
25						1			1	
26						1		1		
27						1				1
28						1		1		
29						1				1
30						1		1		
31						1				1
32						1				1
33						1				1
34						1				1
35						1				1
36						1		1		
37						1		1		
38						1		1		
39						1		1		
40						1			1	
41						1		1		
42						1		1		
43						1				1
44						1				1
45						1		1		
46						1				1
47						1		1		
48						1			1	
49		1			1			1		
50		1			1			1		
51		1			1			1		
52		1			1			1		
53	1	1				1			1	
54	1	1				1			1	
55	1	1				1			1	
56	1	1				1			1	
57	1	1				1			1	
58	1	1				1			1	
59	1	1				1			1	
60	1	1				1			1	
61	1	1				1			1	
62	1	1				1			1	
63	1	1				1			1	
64	1	1				1			1	
65	1	1				1			1	
66	1	1				1			1	
67		1			1				1	
68		1			1				1	
69		1			1				1	
70		1			1				1	
71		1			1				1	
72		1			1				1	
73		1			1				1	
74		1			1				1	
75		1			1				1	
Totals	14	27	0	13	14	48		28	31	16
Summary										
Total Native Class Cover						18.7				
Total Non-native Class Cover						36.0				
Total Unvegetated						64.0				

Reach: 19												
Transect Number: 2												
Vegetation Hits per foot	Vegetation Species				Class Cover				Ground Cover Material			
	<i>Eriogonum fasciculatum</i>	<i>Leptosporium squamatum</i>	<i>Nicotiana glauca</i>	<i>Spartium junceum</i>	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf/Litter	Sand	Concrete
1									1			
2									1			1
3									1			
4									1			
5									1			
6									1			1
7									1			
8									1			1
9									1			1
10									1			1
11									1			1
12									1			1
13									1			1
14			1						1			1
15									1			1
16									1			1
17									1			1
18									1			1
19									1			1
20									1			1
21									1			1
22									1			1
23									1			1
24									1			1
25									1			1
26									1			1
27									1			1
28									1			1
29									1			1
30									1			1
31									1			1
32									1			1
33									1			1
34									1			1
35									1			1
36									1			1
37									1			1
38									1			1
39									1			1
40									1			1
41									1			1
42									1			1
43									1			1
44									1			1
45									1			1
46									1			1
47									1			1
48									1			1
49									1			1
50									1			1
51									1			1
52									1			1
53									1			1
54									1			1
55									1			1
56									1			1
57									1			1
58									1			1
59									1			1
60									1			1
61									1			1
62									1			1
63									1			1
64									1			1
65									1			1
66									1			1
67									1			1
68									1			1
69									1			1
70									1			1
71									1			1
72									1			1
73									1			1
74									1			1
75									1			1
76									1			1
77									1			1
78									1			1
79									1			1
80									1			1
81									1			1
82									1			1
83									1			1
84									1			1
85									1			1
86									1			1
87	1					1					1	
88		1				1					1	
89				1			1				1	
90		1						1			1	
91		1							1		1	
92		1							1		1	
93		1							1		1	
Totals	1	5	1	5	2	1	0	89	39	8	45	1
Summary												
Total Native Class Cover								2.2				
Total Non-native Class Cover								1.1				
Total Unvegetated								95.7				

Reach: 20
Was not accessible, not surveyed.

Reach: 22

Transect Number: 1

Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material		
	Artemisia douglasiana	Baccharis salicifolia	Ricinus communis	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand
1							1			1
2							1	1		
3	1			1						1
4							1			1
5							1			1
6							1	1		
7							1			1
8		1		1						1
9	1			1				1		
10	1			1				1		
11							1			1
12							1			1
13							1			1
14							1			1
15							1			1
16							1			1
17							1			1
18							1		1	
19							1	1		
20							1	1		
21							1	1		
22							1		1	
23							1	1		
24							1			1
25							1	1		
26							1		1	
27							1	1		
28							1	1		
29							1	1		
30							1	1		
31							1			1
32							1			1
33							1		1	
34							1			1
35							1	1		
36							1		1	
37							1			1
38							1		1	
39							1		1	
40							1		1	
41							1		1	
42							1		1	
43							1			1
44							1		1	
45							1			1
46							1			1
47							1			1
48							1			1
49							1			1
50							1		1	
51							1		1	
52							1			1
53							1		1	
54			1		1				1	
55							1			1
Totals	3	1	1	4	1	0	50	14	24	17
Summary										
				Total Native Class Cover			7.3			
				Total Non-native Class Cover			1.8			
				Total Unvegetated			90.9			

Reach: 22

Transect Number: 2

Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material		
	<i>Gilia angelensis</i>	<i>Hedera helix</i>	<i>Nicotiana glauca</i>	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand
1		1			1					1
2		1			1					1
3							1			1
4							1			1
5							1	1		
6							1	1		
7							1			1
8							1	1		
9							1			1
10							1	1		
11							1	1		
12							1			1
13							1			1
14							1			1
15							1			1
16							1			1
17							1	1		
18			1		1					1
19							1			1
20							1			1
21							1			1
22							1			1
23							1	1		
24	1			1						1
25							1		1	
26							1	1		
27							1	1		
28							1	1		
29							1		1	
30							1		1	
31							1	1		
32							1		1	
33							1		1	
34							1		1	
35							1		1	
36							1	1		
37							1	1		
38							1		1	
39							1		1	
40							1		1	
41							1		1	
42							1		1	
43							1	1		
44							1		1	
45							1		1	
Totals	1	2	1	1	3	0	41	14	14	17
				Summary						
				Total Native Class Cover		2.2				
				Total Non-native Class Cover		6.7				
				Total Unvegetated		91.1				

Reach: 22

Transect Number: 3

Vegetation Hits per foot	Vegetation Species		Class Cover				Ground Cover Material		
	Artemisia douglasiana	Platanus racemosa	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand
1						1			1
2						1		1	
3						1			1
4						1	1		
5						1			1
6						1			1
7						1	1		
8						1		1	
9						1			1
10						1			1
11						1		1	
12						1			1
13						1			1
14						1		1	
15						1			1
16						1	1		
17						1		1	
18	1		1				1		
19	1		1						1
20	1		1					1	
21	1		1					1	
22	1		1						1
23	1		1				1		
24	1		1						1
25	1		1				1		
26	1		1					1	
27	1		1						1
28	1		1						1
29	1		1						1
30	1		1						1
31	1		1						1
32	1		1				1		
33	1		1					1	
34	1		1					1	
35	1		1						1
36	1	1	1						1
37	1		1						1
38	1	1	1						1
39	1	1	1						1
40	1	1	1					1	
41	1	1	1					1	
42	1	1	1					1	
43	1	1	1					1	
44	1	1	1					1	
45	1	1	1					1	
Totals	28	9	28	0	0	17	7	16	22
			Summary						
			Total Native Class Cover			62.2			
			Total Non-native Class Cover			0.0			
			Total Unvegetated			37.8			

Total Class Cover Percent Average for 24-1A,B, and C:

Total Native Class Cover	20.3
Total Non-native Class Cover	43.6
Total Unvegetated	56.4

Reach: 24

Transect Number: 1B

Vegetation Hits per foot	Vegetation Species				Class Cover				Ground Cover Material				
	<i>Conyza bonariensis</i>	<i>Ludwigia peploides</i>	<i>Plantago lanceolata</i>	<i>Sonchus oleraceus</i>	Native	Non-Native	Both	No Plant	Rock/Cobble	Water	Mud	Sand	Grouted riprap
1		1				1				1			
2		1				1				1			
3		1				1				1			
4		1				1				1			
5		1				1				1			
6		1				1				1			
7		1				1				1			
8		1				1			1	1			
9		1				1				1			
10		1				1				1			
11		1				1				1			
12		1				1				1		1	
13	1	1				1			1				
14		1	1			1						1	
15		1				1						1	
16								1					1
17								1					1
18	1					1							1
19								1					1
20								1					1
21				1		1							1
22								1					1
23								1					1
24								1					1
25								1					1
26								1					1
27								1					1
28								1					1
29								1					1
30								1					1
31								1					1
32								1					1
33								1					1
34								1					1
35								1					1
36								1					1
37								1					1
38								1					1
39								1					1
40								1					1
41								1					1
42								1					1
43								1					1
44								1					1
45								1					1
46								1					1
47								1					1
48								1					1
49								1					1
50								1					1
51								1					1
52								1					1
53								1					1
54								1					1
55								1					1
56								1					1
57								1					1
58								1					1
59								1					1
60								1					1
Totals	2	15	1	1	0	17	0	43	2	10	1	2	45
				Summary									
				Total Native Class Cover				0.0					
				Total Non-native Class Cover				28.3					
				Total Unvegetated				71.7					

Reach: 24								
Transect Number: 1C								
Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material
	Ludwigia prostrata	Scirpus sp.	Typha sp.	Native	Non-Native	Both	No Plant	Water
1	1	1	1				1	1
2	1	1	1				1	1
3	1	1	1				1	1
4	1	1	1				1	1
5	1	1	1				1	1
6	1	1	1				1	1
7	1	1	1				1	1
8	1	1	1				1	1
9	1	1	1				1	1
10	1	1	1				1	1
11	1	1	1				1	1
12	1	1	1				1	1
13	1	1	1				1	1
14	1	1	1				1	1
15	1	1	1				1	1
16	1	1	1				1	1
17	1	1	1				1	1
18	1	1	1				1	1
19	1	1	1				1	1
20	1	1	1				1	1
21	1	1	1				1	1
22	1	1	1				1	1
23	1	1	1				1	1
24	1	1	1				1	1
25	1	1	1				1	1
26	1	1	1				1	1
27	1	1	1				1	1
28	1	1	1				1	1
29	1	1	1				1	1
30	1	1	1				1	1
31	1	1	1				1	1
32	1	1	1				1	1
33	1	1	1				1	1
34	1	1	1				1	1
35	1	1	1				1	1
36	1	1	1				1	1
37	1	1	1				1	1
38	1	1	1				1	1
39	1	1	1				1	1
40	1	1	1				1	1
41	1	1	1				1	1
42	1	1	1				1	1
43	1	1	1				1	1
44	1	1	1				1	1
45	1	1	1				1	1
46	1	1	1				1	1
47	1	1	1				1	1
48	1	1	1				1	1
49	1	1	1				1	1
50							1	1
51							1	1
52							1	1
53							1	1
54							1	1
55							1	1
56							1	1
57							1	1
58							1	1
59							1	1
60							1	1
61							1	1
62							1	1
63							1	1
64							1	1
65							1	1
66							1	1
67							1	1
68							1	1
69							1	1
70							1	1
71							1	1
72							1	1
73							1	1
74							1	1
75							1	1
76							1	1
77							1	1
78							1	1
79							1	1
80							1	1
81							1	1
82							1	1
83							1	1
84							1	1
85							1	1
86							1	1
87							1	1
88							1	1
89							1	1
90							1	1
91							1	1
Totals	49	49	49	0	0	49	42	91
Summary								
Total Native Class Cover							53.8	
Total Non-native Class Cover							53.8	
Total Unvegetated							46.2	

Total Class Cover Percent Average for 24-2A,B, and C:

Total Native Class Cover	6.1
Total Non-native Class Cover	53.9
Total Unvegetated	40.4

Reach: 24															
Transect Number: 2A															
Vegetation Hits per foot	Vegetation Species								Class Cover				Ground Cover Material		
	<i>Chrysanthemum coronarium</i>	<i>Conyza bonariensis</i>	<i>Melilotus alba</i>	Non-Native Grass	<i>Plantago lanceolata</i>	<i>Raphanus sativus</i>	<i>Scorpius celeratus</i>	<i>Typha</i> sp.	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Gravel/Tramp
1							1	1							1
2							1			1					1
3							1			1					1
4							1			1					1
5			1							1					1
6			1							1					1
7			1		1					1					1
8	1		1							1					1
9					1					1					1
10		1								1					1
11					1		1			1					1
12					1					1					1
13											1				1
14							1			1					1
15							1			1					1
16							1			1					1
17	1									1					1
18							1			1					1
19							1			1					1
20							1			1					1
21							1			1					1
22							1			1					1
23							1			1					1
24							1			1			1		1
25					1					1					1
26							1			1					1
27							1			1					1
28		1								1					1
29							1			1					1
30											1		1		1
31											1		1		1
32											1		1		1
33											1		1		1
34											1		1		1
35											1		1		1
36											1		1		1
37											1		1		1
38											1		1		1
39				1						1					1
40				1						1					1
41				1						1					1
42				1						1					1
43				1						1					1
44				1						1					1
45				1						1					1
46											1				1
47											1		1		1
48											1		1		1
49											1		1		1
50											1		1		1
51							1			1					1
52							1			1					1
53						1				1					1
54						1	1			1					1
55							1			1					1
56							1			1					1
57							1			1					1
58			1				1			1					1
59			1							1					1
60			1							1					1
61			1							1					1
62			1							1					1
63			1							1					1
64			1							1					1
65			1							1					1
66			1							1					1
67			1							1					1
68			1							1					1
69			1							1					1
70											1				1
71											1				1
72											1				1
73											1				1
74											1				1
75											1				1
76											1				1
77											1				1
78											1				1
79											1				1
80											1				1
81											1				1
82											1				1
83											1				1
84											1				1
85											1				1
86											1				1
87											1				1
88											1				1
89											1				1
90											1				1
91											1				1
92											1				1
93											1				1
94											1				1
95											1				1
96											1				1
97											1				1
98											1				1
99											1				1
100											1				1
101											1				1
102											1				1
103											1				1
104											1				1
105											1				1
Totals	2	2	15	7	5	2	25	1	0	53	1	51	14	51	40
Summary															
Total Native Class Cover											1.0				
Total Non-native Class Cover											51.4				
Total Unvegetated											48.6				

Reach: 24													
Transect Number: 2B													
Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material			
	<i>Conyza bonariensis</i>	<i>Ludwigia peploides</i>	<i>Mallotus alba</i>	<i>Panicum lanceolatum</i>	<i>Sonchus oleraceus</i>	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Water	Grouted riprap
1		1					1					1	
2			1				1					1	
3	1		1				1					1	
4	1		1				1					1	
5				1			1					1	
6					1		1					1	
7				1			1					1	
8				1	1		1					1	
9					1		1					1	
10					1		1					1	
11				1			1					1	
12				1			1					1	
13				1	1		1					1	
14				1			1					1	
15				1			1					1	
16					1		1					1	
17				1	1		1					1	
18					1		1					1	
19					1		1					1	
20					1		1					1	
21					1		1					1	
22					1		1					1	
23	1						1					1	
24					1		1					1	
25					1		1					1	
26	1						1					1	
27					1		1					1	
28	1						1					1	
29									1			1	
30									1			1	
31									1			1	
32									1		1		
33			1				1				1		
34			1				1				1		
35			1				1						1
36			1				1						1
37								1			1		
38									1				1
39									1				1
40									1				1
41									1				1
42									1				1
43									1				1
44									1				1
45									1				1
46									1				1
47									1				1
48									1				1
49									1				1
50									1				1
51									1				1
52									1				1
53									1				1
54									1				1
55									1				1
56									1				1
57									1				1
58									1				1
59									1				1
60									1				1
61									1				1
62									1				1
63									1				1
64									1				1
65									1				1
66									1				1
67									1				1
68									1				1
69									1				1
70									1				1
71									1				1
72									1				1
73									1				1
74									1				1
75									1				1
76									1				1
77									1				1
78									1				1
79									1				1
80									1				1
Totals	5	1	7	9	15	0	33	0	47	2	32	1	45
Summary													
Total Native Class Cover													
0.0													
Total Non-native Class Cover													
41.3													
Total Unvegetated													
58.8													

Total Class Cover Percent Average for 24-3A,B, and C:	
Total Native Class Cover	2.7
Total Non-native Class Cover	31.8
Total Unvegetated	67.1

Reach: 24

Transect Number: 3A

Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material		
	<i>Ambrosia palustris</i>	<i>Cyperus</i> sp.	<i>Muhlenbergia</i>	<i>Plantago lanceolata</i>	<i>Sonchus oleraceus</i>	Native	Non-Native	Both	No Plant	Leaf Litter	Mud	Grouted Riprap
1		1	1				1					
2	1							1		1		
3	1		1					1		1		
4			1	1			1		1			
5			1				1			1		
6			1				1			1		
7			1				1			1		
8			1				1			1		
9			1				1			1		
10			1				1			1		
11			1	1			1			1		
12				1			1			1		
13				1			1			1		
14				1			1			1		
15			1	1			1			1		
16			1				1			1		
17			1				1			1		
18			1				1			1		
19			1				1			1		
20			1				1			1		
21			1				1			1		
22			1				1			1		
23			1				1			1		
24			1				1			1		
25			1				1			1		
26			1				1					1
27			1				1					1
28			1				1					1
29			1	1			1					1
30				1			1					1
31			1				1					1
32			1				1					1
33			1				1					1
34			1				1					1
35			1				1					1
36			1				1					1
37			1				1					1
38			1				1					1
39			1				1					1
40			1				1			1		
41			1				1			1		
42			1				1			1		
43					1		1			1		
44					1		1			1		
45					1		1			1		
46					1		1			1		
47					1		1			1		
48								1				1
49								1				1
50								1				1
51								1				1
52								1				1
53								1				1
54								1				1
55								1				1
56								1				1
57								1				1
58								1				1
59								1				1
60								1				1
61								1				1
62								1				1
63								1				1
64								1				1
65								1				1
66								1				1
67								1				1
68								1				1
69								1				1
70								1				1
71								1				1
72								1				1
73								1				1
74								1				1
75								1				1
76								1				1
77								1				1
78								1				1
79								1				1
80								1				1
81								1				1
82								1				1
83								1				1
84								1				1
85								1				1
86								1				1
87								1				1
88								1				1
89								1				1
90								1				1
91								1				1
92								1				1
93								1				1
94								1				1
95								1				1
96								1				1
97								1				1
98								1				1
99								1				1
100								1				1
Totals	2	1	37	8	5	0	45	2	53	32	1	67
Summary												
Total Native Class Cover									2			
Total Non-native Class Cover									47			
Total Unvegetated									53			

Reach: 24														
Transect Number: 3B														
Vegetation Hits per foot	Vegetation Species						Class Cover				Ground Cover Material			
	<i>Ambrosia psilosepala</i>	<i>Aster subulatus</i>	<i>Melilotus alba</i>	<i>Pantago lanceolata</i>	<i>Scirpus callifornicus</i>	<i>Synchisa oenopaeus</i>	Native	Non-Native	Bath	No Plant	Bare	Leaf Litter	Water	Gravel/Riprap
2					1		1						1	
3					1		1						1	
4	1				1		1		1				1	
5	1				1		1						1	
6	1							1					1	
7	1				1			1					1	
8	1				1			1					1	
9	1	1	1					1	1				1	
10	1							1					1	
11			1					1					1	
12			1										1	
13	1		1					1					1	
14			1					1					1	
15			1	1				1					1	
16	1		1					1					1	
17	1		1					1					1	
18			1	1				1					1	
19			1	1				1					1	
20			1	1				1					1	
21			1	1				1					1	
22			1	1		1		1			1		1	
23			1					1			1		1	
24			1					1					1	
25			1					1					1	
26			1					1					1	
27			1					1					1	
28			1					1					1	
29			1					1					1	
30			1					1					1	
31			1					1					1	
32			1					1					1	
33			1	1				1					1	
34			1	1				1					1	
35			1					1					1	
36			1					1					1	
37			1					1					1	
38			1					1					1	
39			1					1					1	
40			1					1					1	
41			1					1					1	
42			1					1					1	
43			1					1					1	
44			1					1					1	
45			1					1					1	
46			1					1					1	
47			1					1					1	
48			1					1					1	
49			1					1					1	
50			1					1					1	
51			1					1					1	
52			1					1					1	
53			1					1					1	
54			1					1					1	
55			1					1					1	
56			1					1					1	
57			1					1					1	
58			1					1					1	
59			1			1		1					1	
60			1			1		1					1	
61			1					1					1	
62			1					1					1	
63			1					1					1	
64			1					1					1	
65			1					1					1	
66			1					1					1	
67			1					1					1	
68			1					1					1	
69			1					1					1	
70			1					1					1	
71			1					1					1	
72			1					1					1	
73			1					1					1	
74			1					1					1	
75			1					1					1	
76			1					1					1	
77			1					1					1	
78			1					1					1	
79			1					1					1	
80			1					1					1	
81			1					1					1	
82			1					1					1	
83			1					1					1	
84			1					1					1	
85			1					1					1	
86			1					1					1	
87			1					1					1	
88			1					1					1	
89			1					1					1	
90			1					1					1	
91			1					1					1	
92			1					1					1	
93			1					1					1	
94			1					1					1	
95			1					1					1	
96			1					1					1	
97			1					1					1	
98			1					1					1	
99			1					1					1	
100			1					1					1	
101			1					1					1	
102			1					1					1	
103			1					1					1	
104			1					1					1	
105			1					1					1	
106			1					1					1	
107			1					1					1	
108			1					1					1	
109			1					1					1	
110			1					1					1	
111			1					1					1	
112			1					1					1	
113			1					1					1	
114			1					1					1	
Totals	8	1	48	9	6	3	3	51	4	55	2	50	4	58
Summary														
Total Native Class Cover										6.1				
Total Non-native Class Cover										48.2				
Total Unvegetated										48.2				

Total Class Cover Percent Average for 24-4A,B, and C:
Total Native Class Cover 3.2
Total Non-Native Class Cover 68.4
Total Unvegetated 31.7

Reach: 24												
Transect Number: 4B												
Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material		
	<i>Ambrosia psilopachya</i>	<i>Coryza bonariensis</i>	<i>Métilotus alba</i>	<i>Polygonum sp.</i>	<i>Scirpus californicus</i>	Native	Non-Native	Both	No Plant	Leaf Litter	Mud	Gravel/ Rppap
1	1				1				1			
2	1				1				1			
3									1			
4									1			
5	1								1			
6	1	1							1			
7			1						1			
8			1						1			
9			1	1					1			
10			1	1					1			
11			1						1			
12			1						1			
13			1						1			
14			1						1			
15			1						1			
16			1						1			
17			1						1			
18			1						1			
19			1						1			
20			1						1			
21			1						1			
22			1						1			
23			1						1			
24			1						1			
25			1						1			
26			1						1			
27			1						1			
28			1						1			
29			1						1			
30			1						1			
31			1						1			
32			1						1			
33			1						1			
34			1						1			
35			1						1			1
36			1						1			1
37			1						1			1
38			1						1			1
39			1						1			1
40			1						1			1
41			1						1			1
42			1						1			1
43			1						1			1
44			1						1			1
45			1						1			1
46			1						1			1
47			1						1			1
48									1			1
49									1			1
50									1			1
51									1			1
52									1			1
53									1			1
54									1			1
55									1			1
56									1			1
57									1			1
58									1			1
59									1			1
60									1			1
61									1			1
62									1			1
63									1			1
64									1			1
65									1			1
66									1			1
67									1			1
68									1			1
69									1			1
70									1			1
71									1			1
72									1			1
73									1			1
74									1			1
75									1			1
76									1			1
77									1			1
78									1			1
79									1			1
80									1			1
81									1			1
82									1			1
83									1			1
84									1			1
85									1			1
86			1						1			1
87			1						1			1
88			1						1			1
89			1						1			1
90			1						1			1
91									1			1
92									1			1
93									1			1
94									1			1
95									1			1
Totals	4	1	46	2	2	0	48	2	45	33	1	61
Summary												
Total Native Class Cover										2.1		
Total Non-native Class Cover										52.6		
Total Unvegetated										47.4		

Total Class Cover Percent Average for 25-1A,B, and C:

Total Native Class Cover	46.6
Total Non-native Class Cover	46.7
Total Unvegetated	36.8

Reach: 25										
Transect Number: 1C										
Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material		
	Polygonum sp.	Scripus californicus	Typha sp.	Native	Non-native	Both	No Plant	Water	Mud	
1							1		1	
2							1		1	
3							1		1	
4							1		1	
5							1		1	
6							1		1	
7							1		1	
8							1		1	
9							1		1	
10							1		1	
11							1		1	
12							1		1	
13							1		1	
14							1		1	
15							1		1	
16							1		1	
17							1		1	
18							1		1	
19							1		1	
20							1		1	
21							1		1	
22							1		1	
23							1		1	
24							1		1	
25							1		1	
26							1		1	
27							1		1	
28							1		1	
29							1		1	
30							1		1	
31							1		1	
32							1		1	
33							1		1	
34							1		1	
35							1		1	
36							1		1	
37							1		1	
38							1		1	
39							1		1	
40							1		1	
41	1	1	1			1				1
42	1	1	1			1				1
43	1	1	1			1				1
44	1	1	1			1				1
45	1	1	1			1				1
46	1	1	1			1				1
47	1	1	1			1				1
48	1	1	1			1				1
49	1	1	1			1				1
50	1	1	1			1				1
51	1	1	1			1				1
52	1	1	1			1				1
53	1	1	1			1				1
54	1	1	1			1				1
55	1	1	1			1				1
56	1	1	1			1				1
57	1	1	1			1				1
58	1	1	1			1				1
59	1	1	1			1				1
60	1	1	1			1				1
61	1	1	1			1				1
62	1	1	1			1				1
63	1	1	1			1				1
64	1	1	1			1				1
65	1	1	1			1				1
66	1	1	1			1				1
67	1	1	1			1				1
68	1	1	1			1				1
69	1	1	1			1				1
70	1	1	1			1				1
71							1		1	
72							1		1	
73							1		1	
74							1		1	
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82							1		1	
83							1		1	
84							1		1	
85							1		1	
86							1		1	
87							1		1	
88							1		1	
89							1		1	
90							1		1	
91							1		1	
92							1		1	

Total Class Cover Percent Average for 25-2A,B, and C:

Total Native Class Cover	19.4
Total Non-native Class Cover	34.4
Total Unvegetated	51.7

Reach: 25
Transect Number: 2A

Vegetation HS per foot	Vegetation Species										Class Cover					Ground Cover Material						
	<i>Koeleria paniculata</i>	<i>Cladonia occidentalis</i>	<i>Fremontia villosa</i>	<i>Helianthus annuus</i>	Non-Native grass	<i>Oenothera</i> sp.	<i>Thymus aureus</i> (native)	<i>Euphorbia salina</i>	<i>Grass</i> (native)	<i>Scirpus olivaceus</i>	<i>Yucca</i> sp.	None	Non-Native	Grass	No Plant	Leaf litter	Water	Mud	Ungrazed rock			
1																						
2																						
3																						
4																						
5																						
6																						
7																						
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76																						
77																						
78																						
79																						
80																						
81																						
82																						
83																						
84																						
Totals	7	28	8	2	12	1	3	22	1	1	27				32	25	10	18	33	10	33	6
Summary Class Cover																						100%
Total Native Class Cover																						41%
Total Unvegetated																						21%

Reach: 25						
Transect Number: 2C						
Vegetation Species	Class Cover				Ground Cover Material	
	Native	Non-native	Both	No Plant		Water
1				1		1
2				1		1
3				1		1
4				1		1
5				1		1
6				1		1
7				1		1
8				1		1
9				1		1
10				1		1
11				1		1
12				1		1
13				1		1
14				1		1
15				1		1
16				1		1
17				1		1
18				1		1
19				1		1
20				1		1
21				1		1
22				1		1
23				1		1
24				1		1
25				1		1
26				1		1
27				1		1
28				1		1
29				1		1
30				1		1
31				1		1
32				1		1
33				1		1
34				1		1
35				1		1
36				1		1
37				1		1
38				1		1
39				1		1
40				1		1
41				1		1
42				1		1
43				1		1
44				1		1
45				1		1
46				1		1
47				1		1
48				1		1
49				1		1
50				1		1
51				1		1
52				1		1
53				1		1
54				1		1
55				1		1
56				1		1
57				1		1
58				1		1
59				1		1
60				1		1
61				1		1
62				1		1
63				1		1
64				1		1
65				1		1
66				1		1
67				1		1
68				1		1
69				1		1
70				1		1
71				1		1
72				1		1
73				1		1
74				1		1
75				1		1
76				1		1
77				1		1
78				1		1

79					1	1
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81					1	1
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85					1	1
86					1	1
87					1	1
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99					1	1
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101					1	1
102					1	1
103					1	1
104					1	1
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124					1	1
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145					1	1
146					1	1
147					1	1
148					1	1
149					1	1
150					1	1
151					1	1
152					1	1
153					1	1
154					1	1
155					1	1
156					1	1
157					1	1
158					1	1
159					1	1
160					1	1
161					1	1
162					1	1
163					1	1

Total Class Cover Percent Average for 25-3A,B, and C:

Total Native Class Cover	25.6
Total Non-native Class Cover	54.0
Total Unvegetated	34.6

Reach: 25												
Transect Number: 3C												
Vegetation Hits per foot	Vegetation Species					Class Cover				Ground Cover Material		
	Amaranthus retroflexus	Euthamia occidentalis	Non-Native grass	Polygonum sp.	Xanthium strumarium	Native	Non-native	Both	No Plant	Water	Mud	
1									1		1	
2									1		1	
3									1		1	
4									1		1	
5									1		1	
6									1		1	
7									1		1	
8									1		1	
9									1		1	
10									1		1	
11									1		1	
12									1		1	
13									1		1	
14									1		1	
15									1		1	
16									1		1	
17									1		1	
18									1		1	
19									1		1	
20									1		1	
21									1		1	
22									1		1	
23									1		1	
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29									1		1	
30									1		1	
31									1		1	
32									1		1	
33									1		1	
34									1		1	
35									1		1	
36									1		1	
37									1		1	
38									1		1	
39									1		1	
40									1		1	
41									1		1	
42									1		1	
43									1		1	
44									1		1	
45									1		1	
46									1		1	
47									1		1	
48									1		1	
49									1		1	
50									1		1	
51									1		1	
52									1		1	
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68									1		1	
69									1		1	
70									1		1	
71									1		1	
72									1		1	
73									1		1	
74									1		1	
75									1		1	
76									1		1	
77									1		1	
78									1		1	
79									1		1	
80									1		1	

Total Class Cover Percent Average for 25-4A,B, and C:	
Total Native Class Cover	44.9
Total Non-native Class Cover	19.1
Total Unvegetated	40.0

Reach: 25

Transect Number: 4A

Vegetation Hits per foot	Vegetation Species						Class Cover				Ground Cover Material			
	Ambrosia peltosaghyra	Euthamia occidentalis	Lepidium latifolium	Non-Native grass	Raphanus sativus	Typha sp.	Native	Non-Native	Both	No Plant	Leaf Litter	Mud	Ungrouded riprap	
1						1		1					1	
2						1		1					1	
3						1		1					1	
4						1		1					1	
5						1		1					1	
6						1		1					1	
7						1		1					1	
8						1		1					1	
9						1		1					1	
10						1		1					1	
11		1						1					1	
12		1						1					1	
13		1						1					1	
14		1						1					1	
15		1						1					1	
16		1						1					1	
17		1						1					1	
18		1						1					1	
19		1						1					1	
20		1						1					1	
21		1						1					1	
22		1						1					1	
23		1						1					1	
24		1						1					1	
25		1						1					1	
26		1						1					1	
27		1						1					1	
28		1						1					1	
29		1						1					1	
30		1						1					1	
31		1						1					1	
32		1						1					1	
33		1						1					1	
34		1						1					1	
35		1						1					1	
36		1						1					1	
37		1						1					1	
38		1						1					1	
39		1						1					1	
40		1						1					1	
41		1						1					1	
42		1						1					1	
43		1						1					1	
44		1						1					1	
45		1						1					1	
46		1						1					1	
47			1					1				1		
48		1						1				1		
49		1			1					1			1	
50					1			1					1	
51					1			1					1	
52					1			1					1	
53					1			1					1	
54					1			1					1	
55			1		1			1					1	
56			1		1			1					1	
57	1		1							1			1	
58					1			1					1	
59					1			1					1	
60					1			1					1	
61					1			1					1	
62				1	1			1					1	
63				1	1			1					1	
64				1		1		1					1	
65				1		1		1					1	
66				1		1		1					1	
67				1		1		1					1	
68						1		1					1	
69						1		1					1	
70						1		1					1	
71						1		1					1	
72										1			1	
73										1			1	
74										1			1	
75										1			1	
Totals	1	38	13	14	6	10		47	22	2	4	24	45	6
								Summary						
								Total Native Class Cover		65.3				
								Total Non-native Class Cover		32.0				
								Total Unvegetated		5.3				

Reach: 25						
Transect Number: 4C						
Vegetation Species		Class Cover				Ground Cover Material
Vegetation Hits per foot		Native	Non-Native	Both	No Plant	Water
1					1	1
2					1	1
3					1	1
4					1	1
5					1	1
6					1	1
7					1	1
8					1	1
9					1	1
10					1	1
11					1	1
12					1	1
13					1	1
14					1	1
15					1	1
16					1	1
17					1	1
18					1	1
19					1	1
20					1	1
21					1	1
22					1	1
23					1	1
24					1	1
25					1	1
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27					1	1
28					1	1
29					1	1
30					1	1
31					1	1
32					1	1
33					1	1
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36					1	1
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63					1	1
64					1	1
65					1	1
66					1	1
67					1	1
68					1	1
69					1	1
70					1	1
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72					1		1
73					1		1
74					1		1
75					1		1
76					1		1
77					1		1
78					1		1
79					1		1
80					1		1
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93					1		1
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144					1		1
145					1		1
146					1		1
147					1		1
148					1		1
149					1		1
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151					1		1
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153					1		1
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232					1		1
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299					1		1
300					1		1
301					1		1
302					1		1
303					1		1
304					1		1
305					1		1
306					1		1
307					1		1
308					1		1

Reach: 96

Transect Number: 2

Vegetation His per foot	Vegetation Species							Class Cover				Ground Cover Material						
	Melilotus alba sp.	Parthenocissus sp.	Pteris escholtzii	Rorippa nasturtium-aquaticum sp.	Saxifraga oppositifolia	Sonchus oleraceus	Typsa sp.	Xanthoxylum	Native	Non-native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Mud	Gouled riprap
1																		
2																		
3																		
4																		
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46																		
47																		
48																		
49																		
50																		
51																		
52																		
53																		
54																		
55																		
Totals	16	2	1	1	12	2	19	1	24	12	7	12	1	7	15	4	15	13
Summary																		
Total Native Class Cover	56.4																	
Total Non-native Class Cover	34.5																	
Total Unvegetated	21.8																	

Reach: 100

Transect Number: 1

Vegetation Hits per foot	Vegetation Species			Class Cover				Ground Cover Material					
	Federal helix	Non-Native grass	Parthenocissus sp.	Saik gooding!!!	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Mud
1	1			1				1				1	
2	1			1				1				1	
3	1			1				1				1	
4	1			1				1				1	
5	1			1				1				1	
6	1			1				1				1	
7	1			1				1				1	
8	1			1				1				1	
9	1			1				1				1	
10	1			1				1				1	
11	1			1				1				1	
12	1			1				1				1	
13	1			1				1				1	
14	1			1				1				1	
15	1			1				1				1	
16	1			1				1				1	
17	1			1				1				1	
18	1			1				1				1	
19	1			1				1				1	
20	1			1				1				1	
21	1			1				1				1	
22	1			1				1				1	
23	1			1				1				1	
24	1			1				1				1	
25	1			1				1				1	
26	1			1				1				1	
27	1			1				1				1	
28	1			1				1				1	
29	1			1				1				1	
30	1			1				1				1	
31	1			1				1				1	
32	1			1				1				1	
33	1			1				1				1	
34	1			1				1				1	
35	1			1				1				1	
36	1			1				1				1	
37	1			1				1				1	
38	1			1				1				1	
39	1			1				1				1	
40	1			1				1				1	
Totals	12	1	1	24	17	7	7	9	6	4	16	9	5
					Summary								
					Total Native Class Cover								
					Total Non-native Class C								
					Total Unvegetated								
						60							
						35							
						22.5							

F-2

POST-CLEARANCE TRANSECT DATA

Reach: 1

Transect Number: 1

Vegetation Hits Per Foot	Vegetation Species				Class Cover				Ground Cover Material			
	Cyperus sp.	Non-Native grass	Ricinus communis	Salix lasiolepis (mature trees)	Native	Non-Native	Both	No Plant	Leaf litter	Coarse woody debris	Water	Mud
1				1	1					1		
2				1	1					1		
3				1	1					1		
4		1	1				1			1		
5		1		1				1		1		
6			1	1				1		1		
7		1		1				1		1		
8		1		1				1		1		
9		1		1				1		1		
10		1		1				1			1	
11		1		1				1			1	
12					1						1	
13					1						1	
14					1						1	
15					1						1	
16					1					1		
17					1					1		
18					1					1		
19		1		1				1		1		
20		1		1				1		1		
21					1					1		
22					1					1		
23					1					1		
24					1					1		
25					1					1		
26	1				1			1		1		
27	1				1			1		1		
28	1				1			1		1		
29					1							1
30					1							1
31					1							1
32					1							1
33					1							1
34					1							1
35					1							1
36					1							1
37					1							1
38					1							1
39					1							1
40					1							1
41					1							1
42					1					1		
43					1					1		
44					1					1		
45					1					1		
46					1					1		
47					1					1		
48					1					1		
49					1					1		
50	1				1			1		1		
51					1					1		
52					1					1		
53					1					1		
54					1						1	
55					1						1	
56		1			1			1		1		
57		1			1			1		1		
58		1			1			1		1		
59		1			1			1		1		
60		1			1			1		1		
61		1			1			1		1		
62		1			1			1		1		
63					1						1	
64					1						1	
65					1						1	
Totals	4	16	2	64	44	1	20	0	41	11	12	1
Summary								Percent:				
Total Native Class Cover								98.5				
Total Non-Native Class Cover								32.3				
Total Unvegetated								0.0				

Reach: 2													
Transect Number: 1													
Vegetation Hits per Foot	Vegetation Species							Class Cover				Ground Cover Material	
	<i>Artemisia californica</i>	<i>Brassica nigra</i>	<i>Carduus pycnocephalus</i>	Non-Native grass	<i>Phacelia ramosissima</i>	<i>Plantago major</i>	<i>Toxicodendron diversilobum</i>	Native	Non-Native	Both	No Plant	Leaf litter	Water
1	1							1					1
2	1							1					1
3	1							1					1
4				1					1				1
5				1					1				1
6				1					1				1
7				1					1				1
8				1					1				1
9			1	1					1				1
10			1	1					1				1
11			1	1					1				1
12			1	1					1				1
13			1	1					1				1
14			1	1					1				1
15			1	1					1				1
16			1	1					1				1
17			1	1					1				1
18			1	1					1				1
19			1	1					1				1
20			1	1					1				1
21			1	1					1				1
22			1	1					1				1
23			1	1					1				1
24			1	1					1				1
25			1	1					1				1
26			1	1					1				1
27			1	1					1				1
28			1	1					1				1
29			1	1					1				1
30			1	1					1				1
31			1	1					1				1
32			1	1					1				1
33			1	1					1				1
34			1	1					1				1
35			1	1					1				1
36			1	1					1				1
37			1	1					1				1
38			1	1					1				1
39			1	1					1				1
40			1	1					1				1
41			1	1					1				1
42			1	1					1				1
43			1	1					1				1
44			1	1					1				1
45			1	1					1				1
46			1	1		1			1				1
47			1	1		1			1				1
48			1	1		1			1				1
49			1	1		1			1				1
50							1	1					1
51										1			1
52										1			1
53										1			1
54										1			1
55										1			1
56										1			1
57										1			1
58										1			1
59										1			1
60										1			1
61										1			1
62										1			1
63										1			1
64										1			1
65										1			1
66										1			1
67										1			1
68										1			1
69		1		1					1				1
70			1						1				1
71										1			1
72										1			1
73		1		1					1				1
74										1			1
75				1					1				1
76					1			1					1
77					1			1					1
78					1			1					1
79					1			1					1
80			1	1					1				1
81			1	1					1				1
82			1	1					1				1
83			1	1					1				1
84			1	1					1				1
85										1			1
Totals	3	2	27	54	4	4	1	8	55	0	22	74	11
Summary										Percent:			
Total Native Class Cover										9.4			
Total Non-Native Class Cover										64.7			
Total Unvegetated										25.9			

Reach: 2

Transect Number: 3

Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material					
	Non-Native grass	Salix sp. (Mature trees)	Native	Non-Native	Both	No Plant	Leaf litter	Coarse woody debris	Water	Mud		
1						1					1	
2						1					1	
3						1					1	
4						1					1	
5						1					1	
6						1					1	
7						1				1		
8						1				1		
9						1				1		
10						1				1		
11						1				1		
12						1				1		
13						1				1		
14						1				1		
15						1					1	
16						1					1	
17						1			1			
18		1		1				1				
19		1		1				1				
20		1		1				1				
21		1		1				1				
22		1		1				1				
23		1		1				1				
24		1		1				1				
25		1		1				1				
26		1		1				1				
27		1		1				1				
28	1	1				1		1				
29	1	1				1		1				
30	1	1				1		1				
31		1		1				1				
32		1		1				1				
33		1		1				1				
34		1		1				1				
35		1		1				1				
Totals	3	18		15	0	3	17		18	1	8	8
			Summary				Percent:					
			Total Native Class Cover				27.7					
			Total Non-Native Class Cover				4.6					
			Total Unvegetated				48.6					

Reach: 3

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species		Class Cover			Ground Cover Material								
	<i>Phacelia cicutaria</i>	Non-Native grass	<i>Quercus agrifolia</i>	Native	Non-Native	Both	No Plant	Bare	Rock/cobble	Leaf litter	Coarse woody debris	Water	Mud	Water with Lemna sp.
1							1							
2							1							
3		1			1									
4							1							
5							1							
6							1							
7		1		1										
8							1							
9							1							
10							1							
11							1							
12							1							
13							1							
14							1							
15							1							
16							1							
17							1							
18							1							
19							1							
20							1							
21							1							
22							1							
23							1							
24		1					1							
25		1		1										
26		1		1										
27		1		1										
28		1		1										
29		1		1										
30		1		1										
31		1		1										
32		1		1										
33		1		1										
34		1		1										
35		1		1										
36		1		1										
37		1		1										
38		1		1										
39		1		1										
40		1		1										
Totals	2	3	17	17	2	1	20	0	0	0	0	0	0	0
				Summary										
				Total Native Class Cover			Percent:							
				Total Non-Native Class Cover				45.0						
				Total Unvegetated				7.5						
								50.0						

Reach: 4

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species				Class Cover				Ground Cover Material			
	Ambrosia psilostachya	Brassica nigra	Medicago polymorpha	Non-Native grass	Native	Non-Native	Both	No Plant	Bare	Leaf litter* This leaf litter is non-native grass thatch without live green grass	Water	Mud
1				1		1				1		
2				1		1					1	
3								1				
4				1		1					1	
5				1		1					1	
6				1		1					1	
7				1		1					1	
8				1		1					1	
9				1		1					1	
10				1		1					1	
11				1		1					1	
12								1		1		
13				1		1					1	
14								1			1	
15				1		1					1	
16				1		1					1	
17				1		1					1	
18								1		1		
19								1			1	
20								1		1		
21				1		1					1	
22				1		1					1	
23			1	1		1					1	
24				1		1					1	
25				1		1					1	
26								1		1		
27			1			1					1	
28				1		1					1	
29								1		1		
30			1			1					1	
31				1		1					1	
32				1		1					1	
33				1		1					1	
34				1		1					1	
35				1		1					1	
36				1		1					1	
37								1			1	
38								1			1	
39				1		1					1	
40								1				1
41								1				1
42								1			1	
43								1			1	
44								1			1	
45								1			1	
46								1				1
47								1				1
48								1				1
49				1		1						1
50				1		1						1
51				1		1					1	
52				1		1					1	
53				1		1					1	
54				1		1					1	
55								1		1		
56								1		1		
57				1		1					1	
58				1		1					1	
59	1			1		1	1				1	
60		1		1		1					1	
61				1		1					1	
62				1		1					1	
63				1		1					1	
64				1		1					1	
65				1		1					1	
Totals	1	1	3	42	0	43	1	21	8	46	4	7
				Summary				Percent:				
				Total Native Class Cover				1.5				
				Total Non-Native Class Cover				67.7				
				Total Unvegetated				32.3				

Reach: 4															
Transect Number: 2															
Vegetation HTs per Foot	Vegetation Species				Class Cover				Ground Cover Material						
	<i>Baccharis salicifolia</i>	<i>Brassica nigra</i>	Non-Native grass	Saik <i>laenigata</i> (spiky)	Saik <i>laenigata</i> (spiky) (burr)	Saik <i>laenigata</i> (spiky) (burr)	Native	Non-Native	Grass	No Plant	Bare	Leaf litter	Water	Concrete	Mud
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
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14															
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55															
56															
57															
58															
59															
60															
61															
62															
63															
64															
Totals	1	14	9	2	4		11	18	1	34	6	48	3	2	5
							Summary								
							Total Native Class Cover								
							Total Non-Native Class Cover	18.8							
							Total Unvegetated	29.7							
							Percent:	53.1							

Reach: 5													
Transect Number: 1													
Vegetation Hits per Foot	Vegetation Species			Class Cover			Ground Cover Material						
	<i>Antrosia psilodictya</i>	<i>Eucalyptus</i> sp.	<i>Salix lasiolepis</i> x <i>laevigata</i> (mature trees)	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Gravel/Sharp	
1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	1
26	1	1	1	1	1	1	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1	1	1	1	1	1	1
28	1	1	1	1	1	1	1	1	1	1	1	1	1
29	1	1	1	1	1	1	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1	1	1	1	1	1	1
31	1	1	1	1	1	1	1	1	1	1	1	1	1
32	1	1	1	1	1	1	1	1	1	1	1	1	1
33	1	1	1	1	1	1	1	1	1	1	1	1	1
34	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1	1	1	1	1	1	1
36	1	1	1	1	1	1	1	1	1	1	1	1	1
37	1	1	1	1	1	1	1	1	1	1	1	1	1
38	1	1	1	1	1	1	1	1	1	1	1	1	1
39	1	1	1	1	1	1	1	1	1	1	1	1	1
40	1	1	1	1	1	1	1	1	1	1	1	1	1
41	1	1	1	1	1	1	1	1	1	1	1	1	1
42	1	1	1	1	1	1	1	1	1	1	1	1	1
43	1	1	1	1	1	1	1	1	1	1	1	1	1
44	1	1	1	1	1	1	1	1	1	1	1	1	1
45	1	1	1	1	1	1	1	1	1	1	1	1	1
46	1	1	1	1	1	1	1	1	1	1	1	1	1
47	1	1	1	1	1	1	1	1	1	1	1	1	1
48	1	1	1	1	1	1	1	1	1	1	1	1	1
49	1	1	1	1	1	1	1	1	1	1	1	1	1
50	1	6	50	43	0	7	0	2	2	29	12	5	1
Totals	1	6	50	43	0	7	0	2	2	29	12	5	1
Summary													
Total Native Class Cover													
Total Non-Native Class Cover													
Total Unvegetated													

Reach: 5

Transect Number: 2

Vegetation Hits per Foot	Vegetation Species			Class Cover				Ground Cover Material					
	Non-Native grass	Rorippa nasturtium-aquaticum	Typha sp.	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Water	Mud	Grouted riprap
1							1	1					
2							1		1				
3	1					1				1			
4							1		1				
5							1				1		
6							1				1		
7							1				1		
8			1	1							1		
9			1	1						1			
10			1	1						1			
11		1			1							1	
12		1			1							1	
13			1	1						1			
14			1	1						1			
15			1	1						1			
16			1	1						1			
17			1	1						1			
18			1	1							1		
19			1	1							1		
20			1	1							1		
21							1					1	
22							1				1		
23							1						1
24							1						1
25							1						1
26							1						1
27							1						1
28							1						1
29							1						1
30							1						1
31							1						1
32							1						1
33							1						1
34							1						1
35							1						1
36							1						1
37							1						1
38							1						1
39							1						1
40							1						1
41							1						1
42							1						1
43							1						1
44							1						1
45							1						1
46							1						1
47							1						1
48							1						1
49							1						1
50							1						1
Totals	1	2	11	11	3	0	36	1	2	8	9	2	28
				Summary									
				Total Native Class Cover				22.0					
				Total Non-Native Class Cover				6.0					
				Total Unvegetated				72.0					

Reach: 6

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species			Class Cover				Ground Cover Material			
	Non-Native grass	Rorippa nasturtium-aquaticum	Salix lasiolepis (mature tree)	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Mud	
1							1	1			
2							1	1			
3							1	1			
4	1				1					1	
5	1				1					1	
6	1				1					1	
7	1				1					1	
8	1				1					1	
9	1				1					1	
10		1			1					1	
11							1		1		
12							1		1		
13							1		1		
14							1		1		
15							1		1		
16		1	1			1				1	
17			1	1						1	
18	1		1			1				1	
19	1		1			1				1	
20	1		1			1				1	
21			1	1						1	
22			1	1				1			
23			1	1				1			
24			1	1				1			
25			1	1				1			
26			1	1				1			
27			1	1				1			
28			1	1				1			
29			1	1				1			
30			1	1				1			
Totals	9	2	15	11	7	4	8	12	5	13	
Summary											
				Total Native Class Cover			50.0				
				Total Non-Native Class Cover			36.7				
				Total Unvegetated			26.7				

Reach: 7

Transect Number: 1 - not sampled during post clearance surveys because the area had not been cleared.

Reach: 8

Transect Number: 1

Vegetation Species	Class Cover						Ground Cover Material			
	Sonchus asper	Native	Non-Native	Both	No Plant		Water	Mud	Grouted riprap	Sand
Vegetation Hits per Foot										
1					1				1	
2					1				1	
3					1				1	
4					1				1	
5					1				1	
6					1				1	
7					1				1	
8					1				1	
9					1				1	
10					1				1	
11					1				1	
12					1			1		
13					1			1		
14					1		1			
15					1		1			
16					1		1			
17					1		1			
18					1		1			
19					1		1			
20					1					1
21					1					1
22					1		1			
23					1		1			
24					1		1			
25					1		1			
26					1		1			
27					1		1			
28					1		1			
29					1		1			
30	1		1					1		
31					1				1	
32					1				1	
33					1				1	
34					1				1	
35					1				1	
36					1				1	
37					1				1	
38					1				1	
39					1				1	
40					1				1	
Totals	1	0	1	0	39		14	3	21	2
Summary										
Total Native Class Cover					0					
Total Non-Native Class Cover					2.5					
Total Unvegetated					97.5					

Reach: 9

Transect Number: 1

Vegetation Species	Class Cover					Ground Cover Material				
	Fraxinus dipetala (mature tree)	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Water	Mud	
Vegetation Hits per Foot										
1	1	1							1	
2	1	1							1	
3	1	1								
4	1	1					1			
5					1			1		
6					1			1		
7					1			1		
8					1			1		
9					1			1		
10					1			1		
11					1			1		
12					1			1		
13					1			1		
14					1			1		
15					1			1		
16					1			1		
17					1			1		
18					1			1		
19					1			1		
20					1			1		
21					1			1		
22					1	1				
23					1	1				
24					1		1			
25					1		1			
Totals	4	4	0	0	21	2	4	17	2	
Summary										
Total Native Class Cover					16.0					
Total Non-Native Class Cover					0.0					
Total Unvegetated					84.0					

Reach: 10

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species				Class Cover				Ground Cover Material				
	Brassica nigra	Cyperus sp.	Plantago major	Typha sp.	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Geotech mat	Trash	
1								1				1	
2								1				1	
3								1				1	
4								1				1	
5								1				1	
6								1				1	
7								1				1	
8								1				1	
9								1				1	
10								1				1	
11								1				1	
12								1				1	
13								1				1	
14	1						1					1	
15								1				1	
16								1				1	
17		1					1					1	
18								1		1			
19								1		1			
20								1		1			
21								1		1			
22								1		1			
23								1		1			
24								1		1			
25								1		1			
26								1		1			
27								1		1			
28								1		1			
29								1		1			
30								1		1			
31								1		1			
32								1		1			
33								1		1			
34								1		1			
35				1		1				1			
36				1		1				1			
37				1		1				1			
38				1		1				1			
39				1		1				1			
40				1		1				1			
41				1		1				1			
42				1		1				1			
43				1		1				1			
44				1		1				1			
45				1		1				1			
46								1		1			
47								1		1			
48								1		1			
49								1		1			
50								1		1			
51								1		1			
52								1		1			
53								1		1			
54								1		1			
55								1		1			
56			1				1		1				
57								1				1	
58								1			1		
59								1	1				
60								1			1		
61								1			1		
62								1			1		
63								1			1		
64			1				1				1		
65								1			1		
Totals	1	1	2	11		11	4	0	50	3	37	24	1
Summary													
					Total Native Class Cover				16.9				
					Total Non-Native Class Cover				6.2				
					Total Unvegetated				76.9				

Reach: 10													
Transect Number: 2													
Vegetation Hits per Foot	Vegetation Species				Class Cover				Ground Cover Material				
	<i>Brassica nigra</i>	<i>Cerastium fontanum</i> ssp. <i>vulgare</i>	Non-Native grass	<i>Piptatherum miliaceum</i>	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Water	Mud	
1									1				
2									1				
3									1				
4									1				
5									1				
6									1				
7									1				
8									1				
9									1				
10									1				
11									1				
12									1				
13									1				
14									1				
15									1				
16									1				
17									1				
18	1								1				
19									1				
20	1								1				
21									1				
22	1								1				
23									1				
24	1								1				
25									1				
26									1				
27									1				
28	1								1				
29		1							1				
30									1				
31									1				
32									1				
33									1				
34									1				1
35									1				1
36									1				1
37									1				1
38									1				1
39									1				1
40									1				1
41									1			1	
42									1			1	
43									1			1	
44									1			1	
45				1				1					1
46									1				1
47									1				1
48									1				1
49									1				1
50									1				1
51									1				1
52									1				1
53									1				1
54									1				1
55									1				1
56			1						1				1
57									1			1	
58									1			1	
59									1			1	
60									1			1	
61									1			1	
62									1			1	
63									1			1	
64									1			1	
65									1			1	
66			1						1			1	
67			1						1			1	
68									1			1	
69			1						1			1	
70									1			1	
71									1			1	
72									1			1	
73									1			1	
74									1			1	
Totals	5	1	4	1	0	11	0	63		36	20	4	14
Summary													
Total Native Class Cover 0.0													
Total Non-Native Class Cover 14.9													
Total Unvegetated 85.1													

Reach: 10								
Transect Number: 3								
Vegetation Hits per Foot	Vegetation Species	Class Cover				Ground Cover Material		
	Cyperus sp.	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Geotech mat
1					1			1
2					1			1
3					1			1
4					1			1
5					1			1
6					1			1
7					1			1
8					1			1
9					1			1
10					1			1
11					1			1
12					1			1
13					1			1
14					1			1
15					1			1
16					1			1
17					1		1	
18					1		1	
19					1		1	
20					1		1	
21					1		1	
22					1		1	
23					1		1	
24					1		1	
25					1		1	
26					1		1	
27					1		1	
28					1		1	
29					1		1	
30					1		1	
31					1		1	
32					1		1	
33					1		1	
34					1		1	
35					1		1	
36					1		1	
37					1		1	
38					1		1	
39					1		1	
40					1		1	
41					1		1	
42					1		1	
43					1		1	
44					1		1	
45					1		1	
46					1		1	
47					1		1	
48					1		1	
49					1		1	
50					1		1	
51					1		1	
52					1		1	
53					1		1	
54					1		1	
55					1		1	
56					1		1	
57	1		1			1		
58					1	1		
59					1	1		
60					1	1		
61					1	1		
62					1	1		
63					1	1		
64					1	1		
65					1	1		
66					1			1
67					1			1
68					1			1
69					1			1
70					1			1
71					1			1
72					1			1
73					1			1
74					1			1
75					1			1
Totals	1	0	1	0	74	9	40	26
Summary								
Total Native Class Cover					0.0			
Total Non-Native Class Cover					1.3			
Total Unvegetated					98.7			

Reach: 10									
Transect Number: 4									
Vegetation Hits per Foot	Vegetation Species		Class Cover			Ground Cover Material			
	Non-Native grass	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Mud	Ungrouted riprap
1					1				1
2					1				1
3					1				1
4					1				1
5					1				1
6					1				1
7					1				1
8					1				1
9					1				1
10					1				1
11					1				1
12					1				1
13					1				1
14					1				1
15					1				1
16					1				1
17					1				1
18					1				1
19					1				1
20					1				1
21					1				1
22					1				1
23					1				1
24	1			1					1
25	1			1					1
26	1			1					1
27	1			1					1
28	1			1					1
29	1			1					1
30	1			1					1
31					1		1		1
32					1		1		1
33					1		1		1
34					1		1		1
35					1		1		1
36					1		1		1
37					1		1		1
38					1		1		1
39					1		1		1
40					1		1		1
41					1		1		1
42					1		1		1
43					1		1		1
44					1		1		1
45					1		1		1
46					1		1		1
47					1		1		1
48					1		1		1
49					1		1		1
50					1		1		1
51					1		1		1
52					1		1		1
53			1						1
54					1				1
55					1				1
56					1				1
57				1			1		1
58				1			1		1
59				1			1		1
60				1			1		1
61				1			1		1
62				1			1		1
63					1				1
64					1				1
65					1				1
66					1				1
67					1				1
68					1				1
69					1				1
70					1				1
71					1				1
72					1				1
73					1				1
74					1				1
75					1				1
76					1				1
77					1				1
78					1				1
79					1				1
80					1				1
81					1				1
82					1				1
83					1				1
84					1				1
85					1				1
Totals	7	1	13	0	71	6	22	4	53
Summary									
Total Native Class Cover					1.2				
Total Non-Native Class Cover					15.3				
Total Unvegetated					83.5				

Reach: 12

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species				Class Cover				Ground Cover Material					
	Mimulus guttatus	Non-Native grass	Polygonum sp.	Salix gooddingii (seedling)	Typha sp.	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Water	Mud	Grouted riprap
1		1					1			1				
2									1					1
3									1					1
4									1					1
5									1					1
6									1					1
7									1					1
8									1					1
9									1					1
10									1					1
11									1					1
12									1					1
13	1		1					1					1	
14					1	1						1		
15					1	1						1		
16									1			1		
17									1			1		
18									1			1		
19									1		1			
20					1	1								1
21				1			1							1
22									1					1
23									1					1
24									1					1
25									1					1
26									1					1
27									1		1			
28									1		1			
29									1		1			
30					1	1						1		
31									1			1		
32									1			1		
33									1			1		
34									1			1		
35									1			1		
36									1			1		
37									1			1		
38									1			1		
39									1			1		
40									1			1		
41									1			1		
42									1			1		
43									1			1		
44									1			1		
45									1			1		
46									1			1		
47									1			1		
48									1			1		
49									1			1		
50									1			1		
51									1			1		
52									1			1		
53									1			1		
54									1			1		
55									1			1		
56									1			1		
57									1			1		
58									1			1		
59									1			1		
60									1			1		
61				1	1	1							1	
62				1	1	1							1	
63				1	1	1							1	
64				1	1	1							1	
65				1	1	1							1	
66				1	1	1							1	
67				1	1	1							1	
68				1	1	1							1	
69				1	1	1							1	
70				1	1	1							1	
71				1	1	1							1	
72				1	1	1							1	
73				1	1	1							1	
74				1	1	1							1	
75				1	1	1							1	
Totals	1	1	1	16	13	20	1	1	53	1	4	36	23	11
Summary														
Total Native Class Cover						28.0								
Total Non-Native Class Cover						2.7								
Total Unvegetated						70.7								

Reach: 12															
Transect Number: 2															
Vegetation Hits per Foot	Vegetation Species				Class Cover				Ground Cover Material						
	Non-Native grass	Oxalis psoraleifolia	Polygonum sp.	Salix goodenifolia	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Coarse woody debris	Water	Mud	Crowded riprap	Trash
1								1							
2	1														
3		1													1
4															1
5															1
6															1
7					1										1
8					1										1
9					1										1
10					1										1
11					1										1
12					1										1
13					1										1
14					1										1
15					1										1
16					1										1
17					1										1
18					1										1
19					1										1
20					1			1						1	1
21					1			1						1	1
22					1			1						1	1
23					1							1			
24					1							1			
25					1							1			
26					1							1			
27					1							1			
28					1							1			
29					1								1		
30					1								1		
31					1								1		
32					1								1		
33					1								1		
34					1								1		
35					1								1		
36					1								1		
37					1								1		
38					1								1		
39					1								1		
40					1								1		
41					1								1		
42					1								1		
43					1								1		
44					1							1			
45					1							1			
46					1							1			
47					1							1			
48					1							1			
49					1							1			
50					1							1			
51					1							1			
52					1							1			
53					1							1			
54					1							1			
55					1							1			
56					1							1			
57					1							1			
58					1							1			
59					1							1			
60					1							1			
61					1							1			
62					1							1			
63					1							1			
64					1							1			
65					1							1			
66					1							1			
67					1							1			
68					1							1			
69					1							1			
70					1							1			
71					1							1			
72					1							1			
73					1							1			
74					1							1			
75					1							1			
76					1							1			
77					1							1			
78					1							1			
79					1							1			
80					1							1			
81					1							1			
82					1							1			
83					1							1			
84					1							1			
85					1							1			
86					1							1			
87					1							1			
88					1							1			
89					1							1			
90					1							1			
91					1							1			
92					1							1			
93					1							1			
94					1							1			1
95					1							1			
96			1					1				1			
97			1					1				1			
98			1					1				1			
99			1					1				1			
100			1					1				1			
101			1					1				1			
102			1					1				1			
103			1					1				1			
104			1					1				1			
105			1					1				1			
106			1					1				1			
107			1					1				1			
108			1					1				1			
109			1					1				1			
110			1					1				1			
Totals	1	1	15	92	86	13	6	5	1	35	8	26	21	17	
Summary															
Total Native Class Cover								83.6							
Total Non-Native Class Cover								17.3							
Total Unvegetated								4.5							

Reach: 13

Transect Number: 1

Vegetation Species		Class Cover					Ground Cover Material		
Vegetation Hits per Foot	Non-Native grass	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	
	1	1		1					1
2					1			1	
3					1		1		
4	1		1					1	
5	1		1					1	
6	1		1					1	
7	1		1					1	
8	1		1					1	
9	1		1					1	
10	1		1					1	
11	1		1					1	
12	1		1					1	
13	1		1					1	
14	1		1					1	
15	1		1					1	
16	1		1					1	
17	1		1					1	
18	1		1					1	
19	1		1					1	
20	1		1					1	
21	1		1					1	
22					1			1	
23					1			1	
24					1			1	
25	1		1					1	
26					1		1		
27	1		1					1	
28	1		1					1	
29	1		1				1		
30	1		1					1	
31	1		1					1	
32	1		1					1	
33					1		1		
34	1		1					1	
35	1		1					1	
36	1		1					1	
37	1		1					1	
38	1		1					1	
39					1		1		
40					1				
Totals	31	0	31	0	9		5	1	34
		Summary							
		Total Native Class Cover			0				
		Total Non-Native Class Cover			77.5				
		Total Unvegetated			22.5				

Reach: 13

Transect Number: 2

Vegetation Hits per Foot	Vegetation Species			Class Cover			Ground Cover Material					
	<i>Artemisia californica</i>	<i>Leptospartum squameum</i>	Non-Native grass	<i>Sarcobatus mexicana</i>	Native	Non-Native	Both	No plant	Bare	Leaf Litter	Mud	
1				1			1					1
2				1			1					1
3				1			1					1
4				1			1					1
5				1			1					1
6				1			1					1
7				1			1					1
8				1			1					1
9				1			1					1
10				1			1					1
11				1			1					1
12				1			1					1
13				1			1					1
14				1			1					1
15				1			1					1
16				1			1					1
17				1			1					1
18				1			1					1
19				1			1					1
20				1			1					1
21				1			1					1
22				1			1					1
23				1			1					1
24				1			1					1
25				1			1					1
26				1			1					1
27				1			1					1
28				1			1					1
29				1			1					1
30				1			1					1
31				1			1					1
32				1			1					1
33				1			1					1
34				1			1					1
35				1			1					1
36				1			1					1
37				1			1					1
38				1			1					1
39				1			1					1
40				1			1					1
Totals	11	13	16	6	20	10	6	4	1	37	2	
					Summary							
					Total Native Class Cover			65.0				
					Total Non-Native Class Cover			40.0				
					Total Unvegetated			10.0				

Reach: 13

Transect Number: 3

Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material			
	Non-Native grass	Washingtonia sp.	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Mud
1						1			1	
2						1			1	
3	1			1						1
4	1			1						1
5	1			1						1
6	1			1						1
7	1			1						1
8						1				1
9	1			1						1
10	1			1						1
11						1				1
12	1			1						1
13	1			1						1
14						1				1
15						1				1
16						1			1	
17						1			1	
18						1			1	
19						1			1	
20						1				1
21						1			1	
22						1				1
23		1		1					1	
24						1			1	
25						1				1
26						1			1	
27						1			1	
28						1			1	
29						1			1	
30						1	1			
31						1			1	
32						1			1	
33						1		1		
34						1			1	
35	1			1					1	
36	1			1					1	
37						1	1			
38						1	1			
39	1			1					1	
40	1			1					1	
Totals	13	1	0	14	0	26	3	3	29	5
			Summary							
			Total Native Class Cover		0.0					
			Total Non-Native Class Cover		35.0					
			Total Unvegetated		65.0					

Reach: 14

Transect Number: 2 - not sampled during post clearance surveys because the area had not been cleared

Reach: 15

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species			Class Cover				Ground Cover Material				
	Cyperus sp.	Non-Native grass	Wahingonia robusta	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Water	Concrete	Sand
1							1					1
2							1					1
3							1					1
4							1					1
5							1					1
6							1					1
7							1					1
8							1					1
9							1					1
10							1					1
11							1					1
12							1					1
13							1					1
14							1					1
15							1					1
16							1					1
17							1					1
18							1					1
19							1					1
20							1					1
21							1					1
22							1			1		
23							1			1		
24							1					1
25							1			1		
26							1			1		
27							1			1		
28							1			1		
29							1			1		
30							1			1		
31							1			1		
32							1			1		
33							1			1		
34							1			1		
35							1			1		
36							1			1		
37							1			1		
38							1			1		
39							1			1		
40							1			1		
41							1			1		
42							1			1		
43							1			1		
44							1			1		
45							1			1		
46							1			1		
47							1			1		
48		1				1			1	1		
49	1					1			1			
50	1	1				1			1			
51		1	1			1		1				
52	1					1		1				
53							1			1		
54							1			1		
55							1			1		
56							1			1		
57							1			1		
58							1			1		
59							1			1		
60							1			1		
61							1			1		
62							1			1		
63							1					1
64							1					1
65							1					1
66							1					1
67							1					1
68							1					1
69							1					1
70							1					1
71							1					1
72							1					1
73							1					1
74							1					1
75							1					1
76							1					1
77							1					1
78							1					1
79							1					1
80							1					1
81							1					1
82							1					1
83							1					1
84							1					1
85							1					1
Totals	3	3	1	0	5	0	80	2	3	35	44	1
Summary												
Total Native Class Cover				0.0								
Total Non-Native Class Cover				5.9								
Total Unvegetated				94.1								

Reach: 15

Transect Number: 2

Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material					
	<i>Distichlis spicata</i>	<i>Typha</i> sp.	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Water	Mud	Concrete	
1						1						1
2						1						1
3						1						1
4						1						1
5						1						1
6						1						1
7						1						1
8						1						1
9						1						1
10						1						1
11						1						1
12						1						1
13						1						1
14						1						1
15						1						1
16						1				1		
17						1			1			
18						1			1			
19						1			1			
20						1			1			
21						1			1			
22						1			1			
23				1					1			
24				1					1			
25						1			1			
26						1			1			
27						1			1			
28		1			1				1			
29						1			1			
30		1			1							1
31						1						1
32						1			1			
33						1			1			
34						1			1			
35						1			1			
36						1			1			
37						1			1			
38						1						1
39						1						1
40						1						1
41						1			1			
42						1			1			
43						1			1			
44						1			1			
45	1			1								1
46						1			1			
47						1						1
48						1						1
49						1			1			
50						1			1			
51						1			1			
52						1			1			
53						1			1			
54						1			1			
55						1			1			
56						1				1		
57	1			1								1
58	1			1								1
59						1			1			
60						1			1			
61						1			1			
62						1			1			
63						1			1			
64						1			1			
65						1			1			
66						1			1			
67						1						1
68						1						1
69						1						1
70						1						1
71						1						1
72						1						1
73						1						1
74						1						1
75						1						1
76						1						1
77						1						1
78						1						1
79						1						1
80						1						1
Totals	3	2	5	2	0	73	9	6	26	10	29	
Summary												
Total Native Class Cover			10.0									
Total Non-Native Class Cover			4.0									
Total Unvegetated			91.3									

Reach: 17

Transect Number: 1

Vegetation Species		Class Cover				Ground Cover Material	
Vegetation Hits per Foot							Leaf Litter
		Native	Non-Native	Both	No Plant		
1					1		1
2					1		1
3					1		1
4					1		1
5					1		1
6					1		1
7					1		1
8					1		1
9					1		1
10					1		1
11					1		1
12					1		1
13					1		1
14					1		1
15					1		1
16					1		1
17					1		1
18					1		1
19					1		1
20					1		1
21					1		1
22					1		1
23					1		1
24					1		1
25					1		1
26					1		1
27					1		1
28					1		1
29					1		1
30					1		1
Totals	0	0	0	0	30		30
		Summary					
		Total Native Class Cover			0		
		Total Non-Native Class Cover			0		
		Total Unvegetated			100		

Reach: 18

Transect Number: 1

Vegetation Species		Class Cover				Ground Cover Material			
Vegetation Hits per Foot	Non-Native grass	Native	Non-Native	Both	No Plant	Bare	Leaf Litter	Mud	
	1					1	1		
2					1		1		
3					1		1		
4	1		1		1		1		
5					1		1		
6					1		1		
7					1		1	1	
8					1		1	1	
9					1		1	1	
10					1		1	1	
11	1		1						
12	1		1						
13	1		1						
14	1		1						
15	1		1						
16	1		1						
17	1		1						
18	1		1				1		
19					1		1		
20					1		1		
Totals	9	0	9	0	11	1	8	11	
Summary									
Total Native Class Cover		0.0							
Total Non-Native Class Cover		45.0							
Total Unvegetated		55.0							

Reach: 19										
Transect Number: 1										
Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material			
	<i>Pinus canadensis</i>	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand	Concrete	
1					1					1
2					1					1
3					1					1
4					1					1
5					1			1		
6					1			1		
7					1	1				
8					1			1		
9					1			1		
10					1			1		
11					1				1	
12					1				1	
13					1				1	
14					1				1	
15					1				1	
16					1				1	
17					1				1	
18					1				1	
19					1				1	
20					1				1	
21					1				1	
22					1				1	
23					1				1	
24					1			1		
25					1	1				
26					1	1				
27					1	1				
28					1			1		
29					1	1				
30					1	1				
31					1				1	
32					1				1	
33					1				1	
34					1	1				
35					1			1		
36					1	1				
37					1	1				
38					1				1	
39					1				1	
40					1				1	
41					1				1	
42					1	1				
43					1	1				
44					1	1				
45					1				1	
46					1	1				
47					1	1				
48					1			1		
49					1			1		
50					1				1	
51	1			1				1		
52	1			1					1	
53	1			1				1		
54	1			1				1		
55	1			1		1				
56	1			1		1				
57	1			1		1				
58	1			1		1				
59	1			1				1		
60	1			1				1		
61	1			1				1		
62	1			1				1		
63	1			1				1		
64	1			1				1		
65	1			1				1		
66	1			1				1		
67	1			1				1		
68	1			1				1		
69	1			1				1		
70	1			1				1		
71	1			1				1		
72	1			1				1		
73	1			1				1		
74	1			1				1		
75	1			1				1		
Totals	25	0	25	0	50	18	29	24	4	
	Summary									
	Total Native Class Cover				0.0					
	Total Non-Native Class Cover				33.3					
	Total Unvegetated				66.7					

Reach: 19														
Transect Number: 2														
Vegetation Hits per Foot	Vegetation Species					Class Cover				Ground Cover Material				
	<i>Eriogonum fasciculatum</i>	<i>Lepidospartum squamatum</i>	<i>Lotus scoparius</i>	<i>Medicago polymorpha</i>	Non-Native grass	Native	Non-Native	Both	No Plant	Bare	Rock/Cobble	Leaf Litter	Sand	Concrete
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
31														
32														
33														
34														
35														
36														
37														
38														
39														
40														
41														
42														
43														
44														
45														
46														
47												1		
48														
49														
50														
51														
52														
53														
54														
55			1			1						1		
56														
57														
58														
59														
60														
61														
62														1
63														
64														
65														
66														
67														
68														
69														
70				1			1							
71														
72														
73														
74														
75														
76														
77														
78														
79														
80														
81														
82														
83														
84											1			
85	1					1				1		1		
86									1					
87	1					1			1					
88	1					1								
89		1				1								
90			1			1								
91				1		1								
92					1	1								
93						1								
Totals	3	5	1	1	1	8	1	1	83	1	37	11	44	1
Summary														
Total Native Class Cover										9.7				
Total Non-Native Class Cover										2.2				
Total Unvegetated										89.2				

Reach: 20

Was not accessible; not surveyed.

Reach: 21

Transect Number: 1

Vegetation Species		Class Cover				Ground Cover Material			
Vegetation Hits per Foot		Native	Non-Native	Both	No Plant	Leaf Litter	Sand		
1					1	1			
2					1		1		
3					1	1			
4					1	1			
5					1		1		
6					1	1			
7					1		1		
8					1	1			
9					1		1		
10					1		1		
11					1	1			
12					1		1		
13					1		1		
14					1		1		
15					1	1			
Totals	0	0	0	0	15	7	8		
		Summary							
		Total Native Class Cover				0			
		Total Non-Native Class Cover				0			
		Total Unvegetated				100			

Reach: 22

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species			Class Cover				Ground Cover Material			
	Artemisia douglasiana	Non-Native grass	Ricinus communis	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand	
1	1				1					1	
2							1				1
3							1				1
4							1				1
5	1			1							1
6	1			1							1
7							1				1
8							1				1
9	1			1							1
10	1			1							1
11	1			1							1
12	1			1							1
13	1			1							1
14							1		1		
15							1			1	
16							1				1
17							1				1
18							1			1	
19							1		1		
20							1		1		
21							1				1
22							1				1
23							1		1		
24							1		1		
25							1		1		
26							1				1
27							1			1	
28		1				1					1
29							1				1
30							1				1
31							1			1	
32							1				1
33							1				1
34							1				1
35							1				1
36							1				1
37							1			1	
38							1			1	
39							1				1
40							1			1	
41							1			1	
42							1			1	
43							1		1		
44							1			1	
45							1				1
46							1				1
47							1			1	
48		1				1				1	
49		1				1				1	
50							1			1	
51							1			1	
52		1				1				1	
53			1			1				1	
54			1			1				1	
55							1				1
Totals	8	4	2	8	6	0	41		7	30	18
				Summary							
				Total Native Class Cover			14.5				
				Total Non-Native Class Cover			10.9				
				Total Unvegetated			74.5				

Reach: 22

Transect Number: 2

Vegetation Hits per Foot	Vegetation Species			Class Cover				Ground Cover Material			
	Hedera helix	Lotus scoparius	Non-Native grass	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand	Concrete
1	1				1				1		
2							1			1	
3							1		1		
4							1		1		
5							1		1		
6							1		1		
7							1			1	
8							1			1	
9							1			1	
10							1			1	
11							1			1	
12							1			1	
13							1			1	
14							1			1	
15							1			1	
16							1			1	
17							1			1	
18							1			1	
19							1			1	
20							1			1	
21							1		1		
22							1	1			
23							1			1	
24							1	1			
25							1			1	
26							1			1	
27							1			1	
28		1		1				1			
29		1		1					1		
30							1			1	
31							1			1	
32							1	1			
33							1	1			
34							1	1			
35							1		1		
36							1				1
37							1		1		
38							1	1			
39							1	1			
40							1			1	
41			1		1					1	
42							1			1	
43			1		1					1	
44			1		1				1		
45			1		1					1	
Totals	1	2	4	2	5	0	38	9	10	25	1
Summary											
Total Native Class Cover				4.4							
Total Non-Native Class Cover				11.1							
Total Unvegetated				84.4							

Reach: 22

Transect Number: 3

Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material			
	Artemisia douglasiana	Galium aparine	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Sand	
1						1			1	
2						1			1	
3						1			1	
4						1	1			
5						1	1			
6						1			1	
7						1		1		
8						1		1		
9						1			1	
10						1			1	
11						1		1		
12						1			1	
13						1			1	
14						1		1		
15						1			1	
16						1	1			
17						1		1		
18						1			1	
19						1		1		
20						1		1		
21						1	1			
22						1	1			
23						1	1			
24						1	1			
25						1	1			
26						1	1			
27						1		1		
28						1		1		
29						1		1		
30						1		1		
31						1		1		
32						1			1	
33						1	1			
34						1		1		
35						1		1		
36						1			1	
37						1		1		
38						1			1	
39	1			1				1		
40						1		1		
41						1		1		
42	1	1				1		1		
43	1	1				1		1		
44	1	1				1		1		
45	1	1				1		1		
Totals	5	4		1	0	4	40	10	24	11
			Summary							
			Total Native Class Cover			11.1				
			Total Non-Native Class Cover			8.9				
			Total Unvegetated			88.9				

Reach: 24

Transect Number: 1A - not sampled during post clearance surveys because the area had not been cleared.

Reach: 24

Transect Number: 1B - not sampled during post clearance surveys because the area had not been cleared.

Reach: 24

Transect Number: 1C - not sampled during post clearance surveys because the area had not been cleared.

Total Class Cover Percent Average for 24-2A,B, and C:
Total Native Class Cover 6.9
Total Non-Native Class Cover 17.9
Total Unvegetated 75.2

Reach: 24

Transect Number: 2A

Vegetation Hits per Foot	Vegetation Species									Class Cover				Ground Cover Material				
	<i>Bidens frondosa</i>	<i>Brassica nigra</i>	<i>Helianthus annuus</i>	<i>Melilotus sp.</i>	Non-Native Grass	Non-Native Herb	<i>Pisum sativum</i>	<i>Plantago lanceolata</i>	<i>Polygonum sp.</i>	Native	Non-Native	Both	No Plant	Leaf Litter	Water	Gravel/Intrap	Mud	Trash
1																		
2		1			1						1							1
3											1							1
4			1		1						1							1
5											1							1
6				1							1							1
7							1				1							1
8											1							1
9											1							1
10											1							1
11											1							1
12											1							1
13											1							1
14											1							1
15											1							1
16											1							1
17											1							1
18											1							1
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25											1							1
26											1							1
27											1							1
28											1							1
29											1							1
30											1			1				1
31											1			1				1
32											1			1				1
33											1			1				1
34											1			1				1
35											1			1				1
36											1			1				1
37											1			1				1
38											1			1				1
39											1			1				1
40											1			1				1
41											1			1				1
42											1			1				1
43											1			1				1
44							1				1			1				1
45						1					1			1				1
46											1			1				1
47											1			1				1
48											1			1				1
49											1			1				1
50											1			1				1
51					1						1			1				1
52											1			1				1
53								1			1			1				1
54								1			1			1				1
55								1			1			1				1
56					1						1			1				1
57											1			1				1
58											1			1				1
59											1			1				1
60	1										1			1				1
61											1			1				1
62											1			1				1
63											1			1				1
64											1			1				1
65											1			1				1
66											1			1				1
67											1			1				1
68											1			1				1
69											1			1				1
70											1			1				1
71											1			1				1
72											1			1				1
73											1			1				1
74											1			1				1
75											1			1				1
76											1			1				1
77											1			1				1
78											1			1				1
79											1			1				1
80											1			1				1
81											1			1				1
82											1			1				1
83											1			1				1
84											1			1				1
85											1			1				1
86											1			1				1
87											1			1				1
88											1			1				1
89											1			1				1
90											1			1				1
91											1			1				1
92											1			1				1
93											1			1				1
94											1			1				1
95											1			1				1
96											1			1				1
97											1			1				1
98											1			1				1
99											1			1				1
100											1			1				1
101											1			1				1
102											1			1				1
103											1			1				1
104											1			1				1
105											1			1				1
Totals	1	1	1	1	4	1	6	3	1	0	30	0	75	6	9	42	47	1
Summary										Total Native Class Cover		0.0						
										Total Non-Native Class Cover		28.6						
										Total Unvegetated		71.4						

Reach: 24									
Transect Number: 2B									
Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material		
	Non-Native grass	Picris echioides	Native	Non-Native	Both	No Plant	Mud	Grouted riprap	
1						1		1	
2	1				1			1	
3	1				1			1	
4	1				1			1	
5	1				1			1	
6	1				1			1	
7						1		1	
8	1				1			1	
9						1		1	
10						1		1	
11						1		1	
12						1		1	
13		1			1			1	
14						1		1	
15						1		1	
16						1		1	
17	1				1			1	
18						1		1	
19	1				1			1	
20		1			1			1	
21						1		1	
22						1		1	
23						1		1	
24		1			1			1	
25						1		1	
26	1				1			1	
27		1			1			1	
28	1				1			1	
29		1			1			1	
30		1			1			1	
31		1			1			1	
32						1		1	
33		1			1			1	
34		1			1				1
35						1			1
36						1			1
37						1			1
38						1			1
39		1			1				1
40						1			1
41						1			1
42						1			1
43						1			1
44						1			1
45						1			1
46						1			1
47						1			1
48						1			1
49						1			1
50						1			1
51						1			1
52						1			1
53						1			1
54						1			1
55						1			1
56						1			1
57						1			1
58						1			1
59						1			1
60						1			1
61						1			1
62						1			1
63						1			1
64						1			1
65						1			1
66						1			1
67						1			1
68						1			1
69						1			1
70						1			1
71						1			1
72						1			1
73						1			1
74						1			1
75						1			1
76						1			1
77						1			1
78						1			1
79						1			1
80						1			1
Totals	10	10	0	20	0	60		33	47
Summary									
Total Native Class Cover						0			
Total Non-Native Class Cover						25			
Total Unvegetated						75			

Reach: 24

Transect Number: 2C

Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material	
	Ludwigia peploides	Typha angustifolia	Native	Non-Native	Both	No Plant	Water	
1						1	1	
2						1	1	
3						1	1	
4						1	1	
5		1	1				1	
6		1	1				1	
7		1	1				1	
8	1	1	1				1	
9	1	1	1				1	
10		1	1				1	
11						1	1	
12						1	1	
13						1	1	
14						1	1	
15						1	1	
16						1	1	
17						1	1	
18						1	1	
19						1	1	
20						1	1	
21						1	1	
22						1	1	
23						1	1	
24						1	1	
25						1	1	
26						1	1	
27						1	1	
28						1	1	
29						1	1	
Totals	2	6	6	0	0	23	29	
			Summary					
			Total Native Class Cover	20.689655				
			Total Non-Native Class C	0				

Total Class Cover Percent Average for 24-3A,B, and C:
Total Native Class Cover 8.9
Total Non-Native Class Cover 22.5
Total Unvegetated 68.6

Reach: 24														
Transect Number: 3A														
Vegetation Hits per Foot	Vegetation Species						Class Cover				Ground Cover Material			
	Melilotus sp.	Non-Native grass	Non-Native herb	Pteris schizoides	Plantago lanceolata	Solanum douglasii	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Mud	Grouted Intrap
1						1							1	
2						1								1
3						1								1
4										1				1
5						1								1
6										1				1
7	1									1				1
8	1									1				1
9	1									1				1
10					1					1				1
11					1					1				1
12										1				1
13										1				1
14			1							1				1
15			1							1				1
16	1									1				1
17										1				1
18				1						1				1
19										1				1
20										1				1
21					1					1				1
22										1				1
23	1									1				1
24					1					1				1
25	1									1				1
26										1				1
27										1				1
28					1					1				1
29										1				1
30					1					1				1
31					1					1				1
32					1					1				1
33										1				1
34					1					1				1
35										1				1
36										1				1
37			1							1				1
38					1					1				1
39			1							1				1
40					1					1				1
41					1					1				1
42			1		1					1			1	1
43										1				1
44										1				1
45										1				1
46						1		1						1
47						1		1						1
48										1				1
49										1				1
50										1				1
51										1				1
52										1				1
53										1				1
54										1				1
55										1				1
56										1				1
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58										1				1
59										1				1
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61										1				1
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68										1				1
69										1				1
70										1				1
71										1				1
72										1				1
73										1				1
74										1				1
75										1				1
76										1				1
77										1				1
78										1				1
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80										1				1
81										1				1
82										1				1
83										1				1
84										1				1
85										1				1
86										1				1
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89										1				1
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91										1				1
92										1				1
93										1				1
94										1				1
95										1				1
96										1				1
97										1				1
98										1				1
99										1				1
100										1				1
Totals	6	5	1	12	4	2	2	28	0	70	1	3	38	58
Summary														
Total Native Class Cover										2.0				
Total Non-Native Class Cover										28.0				
Total Unvegetated										70.0				

Reach: 24

Transect Number: 3B

Vegetation Hits per Foot	Vegetation Species						Class Cover				Ground Cover Material	
	Ambrosia psilostachya	Helianthus annuus	Melilotus sp.	Non-Native grass	Picris echioides	Plantago lanceolata	Native	Non-Native	Both	No Plant	Mud	Grouted riprap
1										1		1
2	2						1					1
3						1		1				1
4						1		1				1
5			1					1				1
6			1					1				1
7			1					1				1
8			1					1				1
9			1					1				1
10						1		1				1
11				1				1				1
12			1					1				1
13										1		1
14										1		1
15										1		1
16										1		1
17										1		1
18										1		1
19										1		1
20										1		1
21			1					1				1
22				1				1				1
23			1					1				1
24			1					1				1
25				1				1				1
26			1					1				1
27				1				1				1
28										1		1
29			1					1				1
30			1					1				1
31			1					1				1
32				1				1				1
33			1	1				1				1
34					1			1				1
35				1				1				1
36				1				1				1
37				1				1				1
38					1			1				1
39					1			1				1
40			1					1				1
41					1			1				1
42										1		1
43			1					1				1
44			1					1				1
45			1					1				1
46			1					1				1
47			1					1				1
48			1					1				1
49				1				1				1
50					1			1				1
51						1		1				1
52			1					1				1
53		1						1				1
54					1			1				1
55					1			1				1
56					1			1				1
57					1			1				1
58										1		1
59										1		1
60										1		1
61										1		1
62										1		1
63										1		1
64										1		1
65										1		1
66										1		1
67										1		1
68										1		1
69										1		1
70										1		1
71										1		1
72										1		1
73										1		1
74										1		1
75										1		1

Reach: 24															
Transect Number: 4A															
Vegetation Hits per Foot	Vegetation Species								Class Cover				Ground Cover Material		
	<i>Chenopodium album</i>	<i>Lactuca pepulosa</i>	<i>Melilotus sp.</i>	Non-Native grass	Non-Native herb	<i>Pice canadensis</i>	<i>Panicum lanceolatum</i>	<i>Scirpus californicus</i>	Native	Non-Native	Both	No Plant	Leaf Litter	Mud	Gravel/Riprap
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
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108															
109															
110															
111															
112															
113															
114															
115															
116															
117															
118															
119															
120															
Totals	1	2	11	9	3	16	6	5	5	44	0	70	4	55	61
Summary															
Total Native Class Cover															
Total Non-Native Class Cover															
Total Unvegetated															

Reach: 24										
Transect Number: 4B										
Vegetation Hits per Foot	Vegetation Species				Class Cover				Ground Cover Material	
	<i>Chenopodium album</i>	<i>Malvulus sp.</i>	<i>Pteris eschbolz</i>	<i>Pennisetum lanuginosa</i>	Native	Non-Native	Both	No Plant	Mud	Grouted Riprap
1								1		
2								1		
3								1		
4								1		
5								1		
6								1		
7								1		
8								1		
9								1		
10								1		
11		1				1				
12								1		
13		1				1				
14								1		
15		1				1			1	
16		1				1			1	
17		1				1			1	
18		1				1			1	
19		1				1			1	
20				1		1			1	
21								1	1	
22				1		1			1	
23		1				1			1	
24		1				1			1	
25			1			1			1	
26	1			1		1			1	
27				1		1			1	
28		1				1			1	
29								1	1	
30			1			1			1	
31						1			1	
32			1			1			1	
33			1			1			1	
34			1			1			1	
35								1	1	
36			1			1			1	
37			1			1			1	
38			1			1			1	
39			1			1				1
40			1			1				1
41								1		1
42								1		1
43								1		1
44								1		1
45								1		1
46								1		1
47								1		1
48								1		1
49								1		1
50								1		1
51								1		1
52								1		1
53								1		1
54								1		1
55								1		1
56								1		1
57								1		1
58								1		1
59								1		1
60								1		1
61								1		1
62								1		1
63								1		1
64								1		1
65								1		1
66								1		1
67								1		1
68								1		1
69								1		1
70								1		1
71								1		1
72								1		1
73								1		1
74								1		1
75								1		1
76								1		1
77								1		1
78								1		1
79								1		1
80								1		1
81								1		1
82								1		1
83								1		1
84								1		1
85								1		1
86								1		1
87								1		1
88								1		1
89								1		1
90								1		1
91								1		1
92								1		1
93								1		1
94								1		1
95								1		1
Totals	1	10	10	4	0	25	0	70	24	57
Summary										
Total Native Class Cover								0.0		
Total Non-Native Class Cover								26.3		
Total Unvegetated								73.7		

Total Class Cover Percent Average for 25-1A,B, and C:

Total Native Class Cover	26.5
Total Non-Native Class Cover	17.0
Total Unvegetated	58.6

Reach: 25																		
Transect Number: 1A																		
Vegetation Hits per Foot	Vegetation Species									Class Cover				Ground Cover Material				
	<i>Euthamia occidentalis</i>	<i>Ipanoxea purpurea</i>	Non-Native grass	<i>Polygonum</i> sp.	<i>Rumex</i> sp.	<i>Salix goodenifolia</i> (mature tree)	<i>Scirpus callionocua</i>	<i>Typha latifolia</i>	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf Litter	Water	Mud	Trash	
1						1		1									1	
2						1		1									1	
3						1		1									1	
4						1		1						1			1	
5						1		1						1			1	
6						1		1						1			1	
7						1		1				1		1			1	
8						1		1						1			1	
9						1		1				1		1			1	
10						1		1				1		1			1	
11						1		1				1		1			1	
12						1		1				1		1			1	
13		1				1		1		1				1			1	
14		1				1		1			1			1			1	
15		1				1		1			1			1			1	
16		1				1		1			1			1			1	
17		1				1		1			1			1		1	1	
18						1		1						1			1	
19						1		1				1		1			1	
20						1		1				1		1			1	
21						1		1				1		1			1	
22						1		1				1		1			1	
23						1		1				1		1			1	
24						1		1				1		1			1	
25						1		1				1		1			1	
26						1		1				1		1			1	
27						1		1				1		1			1	
28						1		1				1		1			1	
29						1		1				1		1			1	
30						1		1				1		1			1	
31						1		1				1		1			1	
32						1		1				1		1			1	
33						1		1				1		1			1	
34						1		1				1		1			1	
35						1		1				1		1			1	
36						1		1				1		1			1	
37						1		1				1		1			1	
38						1		1				1		1			1	
39						1		1				1		1			1	
40						1		1				1		1			1	
41						1		1				1		1			1	
42						1		1				1		1			1	
43						1		1				1		1			1	
44						1		1				1		1			1	
45						1		1				1		1			1	
46						1		1				1		1			1	
47						1		1				1		1			1	
48					1					1				1			1	
49						1		1				1		1			1	
50						1		1				1		1			1	
51						1		1				1		1			1	
52						1		1				1		1			1	
53						1		1				1		1			1	
54						1		1				1		1			1	
55						1		1				1		1			1	
56						1		1				1		1			1	
57						1		1				1		1			1	
58						1		1				1		1			1	
59						1		1				1		1			1	
60						1		1				1		1			1	
61						1		1				1		1			1	
62						1		1				1		1			1	
63						1		1				1		1			1	
64						1		1				1		1			1	
65						1		1				1		1			1	
66						1		1				1		1			1	
67						1		1				1		1			1	
68						1		1				1		1			1	
69						1		1				1		1			1	
70						1		1				1		1			1	
71						1		1				1		1			1	
72			1			1		1		1				1			1	
73			1			1		1			1			1			1	
74						1		1				1		1			1	
75						1		1				1		1			1	
76						1		1				1		1			1	
77						1		1				1		1			1	
78						1		1				1		1			1	
79						1		1				1		1			1	
80						1		1				1		1			1	
81					1					1				1			1	
82					1					1				1			1	
83					1					1				1			1	
84					1					1				1			1	
85					1			1			1			1			1	
86					1			1			1			1			1	
87					1			1				1		1			1	
88					1			1				1		1			1	
89					1			1				1		1			1	
90					1			1				1		1			1	
91					1			1				1		1			1	
92					1			1				1		1			1	
93					1			1				1		1			1	
94					1			1				1		1			1	
95					1			1				1		1			1	
96					1			1				1		1			1	
97					1			1				1		1			1	
98					1			1				1		1			1	
99					1			1				1		1			1	
100					1			1				1		1			1	
101					1			1		1				1			1	
102	1									1							1	
103	1									1							1	
104	1									1							1	
105	1									1							1	
106	1									1							1	
Totals	5	4	2	7	1	11	9	20		38	9	5	55	1	72	5	22	6
Summary																		
Total Native Class Cover												40.6						
Total Non-Native Class Cover												13.2						
Total Unvegetated												61.9						

Reach: 25								
Transect Number: 1C								
Vegetation Hits per Foot	Vegetation Species		Class Cover				Ground Cover Material	
	Typha sp.	Native	Non-Native	Both	No Plant	Water	Mud	
1						1	1	
2						1	1	
3						1	1	
4						1	1	
5						1	1	
6						1	1	
7						1	1	
8						1	1	
9						1	1	
10						1	1	
11	1	1					1	
12	1	1					1	
13	1	1					1	
14	1	1					1	
15	1	1					1	
16	1	1					1	
17	1	1					1	
18	1	1					1	
19	1	1					1	
20	1	1					1	
21	1	1					1	
22	1	1					1	
23						1	1	
24						1	1	
25						1	1	
26						1	1	
27						1	1	
28						1	1	
29						1	1	
30						1	1	
31						1	1	
32						1	1	
33						1	1	
34						1	1	
35						1	1	
36						1	1	
37						1	1	
38						1	1	
39						1	1	
40						1	1	
41						1	1	
42						1	1	
43						1	1	
44						1	1	
45						1	1	
46						1	1	
47						1	1	
48						1	1	
49						1	1	
50						1	1	
51						1	1	
52						1	1	
53						1	1	
54						1	1	
55						1	1	
56						1	1	
57						1	1	
58						1	1	
59						1	1	
60						1	1	
61						1	1	
62						1	1	
63						1	1	
64						1	1	
65						1	1	
66						1	1	
67						1	1	
68						1	1	
69						1	1	
70						1	1	
71						1	1	
72						1	1	
73						1	1	
74						1	1	
75						1	1	
76						1	1	
77						1	1	
78						1	1	
79						1	1	
80	1	1					1	
81	1	1					1	
82	1	1					1	
83	1	1					1	
84	1	1					1	
85	1	1					1	
86	1	1					1	
87	1	1					1	
88	1	1					1	
89	1	1					1	
90	1	1					1	
91	1	1					1	
92	1	1					1	
93	1	1					1	
94	1	1					1	
95	1	1					1	
96	1	1					1	
97	1	1					1	
98	1	1					1	
99	1	1					1	
100	1	1					1	
101	1	1					1	
102	1	1					1	
103	1	1					1	
104	1	1					1	
105	1	1					1	
106	1	1					1	

Reach: 25

Transect Number: 2A - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 2B - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 2C - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 3A - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 3B - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 3C - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 4A - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 4B - not sampled during post clearance surveys because the area had not been cleared.

Reach: 25

Transect Number: 4C - not sampled during post clearance surveys because the area had not been cleared.

Reach: 96
Transect Number: 2

Vegetation Hits per Foot	Vegetation Species					Class Cover				Ground Cover Material							
	Brassica nigra	Carduus pycnocephalus	Claytonia sp.	Non-Native grass	Rhus uncinus	Saxif. lasiocaps	Typha sp.	Native	Non-Native	Both	No Plant	Rock/Cobble	Leaf/Litter	Water	Mud	Gouted riprap	Sand
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	
41																	
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	
51																	
52																	
53																	
54																	
55																	
Totals	4	1	7	12	1	2	1	9	11	2	33	3	26	9	2	11	4
Summary																	
Total Native Class Cover	20.0																
Total Non-Native Class Cover	23.6																
Total Unvegetated	60.0																

Reach: 99									
Transect Number: 1									
Vegetation Species		Class Cover				Ground Cover Material			
Vegetation Hits per Foot		Native	Non-Native	Both	No Plant		Leaf Litter	Mud	
1					1		1		
2					1		1		
3					1		1		
4					1		1		
5					1				1
6					1				1
7					1				1
8					1		1		
9					1		1		
10					1		1		
Totals	0	0	0	0	10		7		3
		Summary							
		Total Native Class Cover			0				
		Total Non-Native Class Cover			0				
		Total Unvegetated			100				

Reach: 100

Transect Number: 1

Vegetation Hits per Foot	Vegetation Species					Class Cover			Ground Cover Material		
	Hedera helix		Native	Non-Native	Both	No Plant		Rock/Cobble	Leaf Litter	Water	
1						1				1	
2						1				1	
3						1				1	
4						1				1	
5						1				1	
6						1				1	
7						1				1	
8						1				1	
9						1				1	
10						1				1	
11						1				1	
12						1				1	
13						1				1	
14						1				1	
15						1				1	
16						1		1			
17						1				1	
18						1				1	
19						1				1	
20						1				1	
21						1				1	
22						1				1	
23						1				1	
24						1				1	
25						1				1	
26						1				1	
27						1				1	
28						1				1	
29						1		1			
30						1		1			
31						1				1	
32						1		1			
33						1				1	
34						1				1	
35						1				1	
36	1			1						1	
37						1				1	
38	1			1						1	
39	1			1						1	
40	1			1						1	
Totals	4		0	4	0	36		4	27	9	
			Summary								
			Total Native Class Cover			0					
			Total Non-Native Class Cover			10					
			Total Unvegetated			90					

APPENDIX G
RAW CRAM SCORES

ATTACHMENT A
SUMMARY OF CRAIN SCORES - 2010

Attribute	18		19		20		21		22		24		24		25		95		99		99		100	
	riverine	confined	riverine	confined	riverine	non-confined	riverine	non-confined	riverine	confined														
Channel Reach Number																								
Wetland Class																								
Wetland Subclass																								
Metric																								
Attribute																								
Buffer and Landscape Context	3	3	9	3	9	3	3	3	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	3
Landscape Connectivity	3.57	4.24	10.39	8.49	9.39	6.00	6.00	4.24	7.35	6.00	4.24	7.35	6.00	4.24	7.35	6.00	4.24	7.35	6.00	4.24	7.35	6.00	4.24	3.00
Buffer Condition	6	6	3	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12
% of AA with Buffer	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Average Buffer Width	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Buffer Condition	3	3	6	9	12	6	9	12	6	9	12	6	9	12	6	9	12	6	9	12	6	9	12	6
Attribute Score	27.37	55.18	55.80	47.86	89.13	75.00	75.00	67.68	43.12	75.00	67.68	25.00												
Hydrology	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	6
Water Source	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	6
Hydroperiod	9	12	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	12
Hydrologic Connectivity	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Attribute Score	75.00	66.67	58.33	58.33	66.67	75.00	75.00	66.67	66.67	75.00	66.67	58.33												
Physical Structure	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	6
Structural Patch Richness	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Topographic Complexity	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Attribute Score	37.50	25.00	37.50	37.50	37.50	25.00	25.00	50.00																
Biotic Structure	8.00	6.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Plant Community	12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
No. of Plant Layers	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
No. of Co-dominant Species	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Percent Invasion	3	12	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3
Invasion	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Vertical Biotic Structure	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Attribute Score	63.89	33.33	38.89	41.67	66.67	27.78	44.44	50.00	63.89	41.67	44.44	66.67												
Overall AA Score	50.9	45.0	47.6	46.3	65.0	51.7	46.8	57.5	52.8	45.9	45.8	50.0												
FINAL	50.9	45.0	47.6	46.3	65.0	51.7	46.8	57.5	52.8	45.9	45.8	50.0												