
MEMORANDUM

TO: Robert Fletcher, San Diego Gas & Electric

FROM: Melissa Busby, Busby Biological Services, Inc.

DATE: December 7, 2015

RE: Results of California Orcutt Grass (*Orcuttia californica*) Surveys Performed for the Proposed Sycamore to Peñasquitos 230 Kilovolt Transmission Line Project

Busby Biological Services, Inc. (BBS) conducted focused special-status plant species surveys as well as a focused habitat assessment and focused reference site checks for California Orcutt grass (*Orcuttia californica*) for the proposed San Diego Gas & Electric Company (SDG&E) Sycamore to Peñasquitos 230 Kilovolt Transmission Line Project (Proposed Project), Application No. 14-04-011.

This memorandum provides background information on the California Orcutt grass surveys that have been conducted for the Proposed Project, a species description of California Orcutt grass, a summary of the methods used for the various California Orcutt grass surveys conducted to date, and the results of these surveys.

CALIFORNIA ORCUTT GRASS –SURVEY BACKGROUND

Initially, California Orcutt grass was included as a target species for the special-status plant species surveys that were conducted within the original Biological Survey Area (BSA) for the Proposed Project in late summer/early fall 2013 and spring 2014. The methods and results of the 2013/2014 special-status plant species surveys are summarized in the *Biological Technical Report for Sycamore to Peñasquitos 230 Kilovolt Transmission Line Project* (BTR; BBS 2014a) and *Special-Status Plant Survey Summary Report for the Proposed San Diego Gas & Electric Company Sycamore to Peñasquitos 230 Kilovolt Transmission Line Project, San Diego County, California* (BBS 2014b).

Following submittal of the BTR and 2013/2014 special-status plant survey summary report, the California Public Utilities Commission (CPUC) requested an explanation for the “very low” potential for occurrence given to California Orcutt grass. The CPUC also requested that additional surveys for this species be conducted within potentially suitable habitat beyond the limits of the original BSA.

To support the “very low” potential for occurrence and respond to the CPUC request, biologists performed a focused California Orcutt grass habitat assessment within the updated BSA, which included the original BSA plus areas that had been added to the Proposed Project during subsequent project planning efforts. Biologists performed this focused habitat assessment in fall 2014. The methods and results of the focused habitat assessment were summarized in a memorandum to Robert Fletcher (SDG&E) from Melissa Busby (BBS) titled *Response to Data Request 107: Provide explanation for “very low” potential for California Orcutt grass (Oc; Orcuttia californica)* and dated October 22, 2014. This memorandum was submitted to the CPUC as SDG&E’s partial response # 2 for Energy Division (ED) Data Request 2, Question 107.

Biologists identified California Orcutt grass reference populations within the vicinity of the BSA to monitor during spring 2015 for an appropriate survey window to document California Orcutt grass surveys within the current BSA.

CALIFORNIA ORCUTT GRASS – SPECIES INFORMATION

California Orcutt grass is a federally listed endangered, state-listed endangered, California Rare Plant Rank (CRPR) 1B.1, and *SDG&E Subregional NCCP*-covered species. This inconspicuous annual grass is restricted to southern California (Los Angeles, Riverside, San Diego, and Ventura counties) and few historical occurrences in northern Baja California, Mexico (U.S. Fish and Wildlife Service [USFWS] 2011, California Native Plant Society [CNPS] 2014). California Orcutt grass is a vernal pool obligate species and is found only in deep, ephemeral vernal pools underlain by clay soils (USFWS 2011). The species colonizes adjacent vernal pools through wind dispersal. California Orcutt grass is often associated with a variety of other federally listed vernal pool taxa, including San Diego button-celery (*Eryngium aristulatum* var. *parishii*), San Diego mesa mint (*Pogogyne abramsii*), Otay mesa mint (*Pogogyne nudiuscula*), spreading navarretia (*Navarretia fossalis*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and Riverside fairy shrimp (*Streptocephalus woottoni*).

Threats to California Orcutt grass include urban and agricultural development, grazing, altered hydrology, off-road vehicle use, trampling, and invasion of non-native plants. As a result of low population numbers, California Orcutt grass was state-listed as endangered in 1979 (USFWS 2011) and federally listed as endangered in 1993 (USFWS 1993). At the time of its federal listing in 1993, California Orcutt grass was known from only four extant locations in Riverside and San Diego counties. In 2011, however, it was known from 28 extant locations, 13 of which occur in San Diego County (USFWS 2011).

Within San Diego County, this species is historically known to occur naturally in Otay Mesa and Mira Mesa, and from a single location in Carlsbad (CNDDDB occurrence 34; Figure 1). The closest naturally occurring population to the BSA along the main alignment for the Proposed Project is located in the western portion of U.S. Marine Corps Air Station (MCAS)

Miramar and approximately 4 miles south of the BSA (CNDDDB occurrences 43 and 44; Figure 1); the closest naturally occurring population to the Encina Hub portion of the Proposed Project is located approximately 1.5 miles southwest of the BSA (CNDDDB occurrence 34; Figure 1).

A single CNDDDB occurrence for California Orcutt grass (CNDDDB occurrence 45) has also been recorded adjacent to the westernmost portion of the BSA, southeast of the Peñasquitos Substation (Figures 1 through 3). Restoration activities in vernal pool habitat just outside of the BSA included the introduction of California Orcutt grass along with other vernal pool species. The last known observation of the California Orcutt grass at this location was in 2007 (CNDDDB 2014), and this population is presumed to be extant despite the lapse in available current data. However, research indicates that restored pools that lack appropriate mycorrhizal fungi may not be able to support self-sustaining populations of California Orcutt grass (Center for Plant Conservation [CPC] 2014).

METHODS

To evaluate the potential for California Orcutt grass to occur within the BSA, a detailed literature and database review was performed, the special status-plant species survey summary report prepared for the Proposed Project (BBS 2014b) was reviewed, a focused habitat assessment was conducted in the areas that were not previously surveyed, and a focused vernal pool evaluation was completed. In addition, several reference California Orcutt grass populations within San Diego County (Figure 3) were identified and monitored during spring 2015 to determine when/if focused surveys in the BSA should be conducted. The methods for each of these are described in detail below.

Literature & Database Review

A detailed literature review for California Orcutt grass was conducted to supplement the information provided in the BTR (BBS 2014a). In addition, historical occurrence databases (e.g., California Natural Diversity Database [CNDDDB], SanGIS, Sunrise Powerlink) were searched, and other references were consulted to better understand the historical location data and distribution of this species, particularly in San Diego County.

2013/2014 Special-Status Plant Species Surveys in Original BSA

Three rounds of focused special-status plant species surveys were conducted within the original BSA for the Proposed Project. These surveys were conducted in late summer/fall 2013, early spring 2014, and late spring 2014 by walking meandering transects throughout the original BSA. The BSA included (1) a 500-foot-wide survey corridor along the approximately 16.5-mile alignment, (2) the existing Sycamore Canyon and Peñasquitos Substations, and (3) the proposed Sycamore and Stowe construction yards.

California Orcutt grass was included in the target species list for the focused special-status plant species surveys conducted within the original BSA for the Proposed Project. All vernal pools within the BSA were assessed during the fall 2013 surveys and thoroughly surveyed for California Orcutt grass during the early spring 2014 and late spring 2014 surveys. Surveys were conducted by highly qualified botanists who are familiar with this species and its phenology.

To respond to CPUC Energy Division Data Request 2, Question 107, the data obtained during these focused special-status plant species surveys were reviewed to determine if the probability for occurrence for California Orcutt grass was accurately assessed in the BTR for the Proposed Project.

2014 Focused Habitat Assessment in Newly Added Areas of the BSA

A focused habitat assessment for special-status plant species was conducted in fall 2014 to evaluate the areas that are part of the Proposed Project, but that were not included in the original BSA and, thus, were not surveyed during the previous efforts. During these focused habitat assessments, the new survey areas were assessed for their potential to support the special-status plant species with a potential to occur within the BSA, including California Orcutt grass.

2014 Focused Vernal Pool Evaluation for California Orcutt Grass

Potentially suitable vernal pool habitat located within the BSA was surveyed during fall 2013, early spring 2014, and late spring 2014 during the focused special-status plant species surveys conducted for the Proposed Project. All vernal pools were revisited during fall 2014 to critically review the vernal pool conditions and their potential to support California Orcutt grass; this evaluation also included three restored vernal pools that are located adjacent to the BSA. The restored vernal pools were known to support California Orcutt grass that had been planted as part of the restoration efforts.

2015 California Orcutt Grass Reference Site Checks

Several reference sites that are known to support California Orcutt grass based on historical occurrence data were identified and monitored during spring and early summer 2015 to determine when/if focused California Orcutt grass surveys should occur within the current BSA for the Proposed Project. Botanists visited the reference sites during the period when California Orcutt grass is typically conspicuous. Botanists also coordinated with other local botanists to determine the status of the emergence of this species at other known populations.

2015 Focused Vernal Pool Plant Species Surveys

Botanists performed two rounds of focused vernal pool plant species surveys for the Proposed Project in spring 2015: one in early spring to identify species that typically emerge when vernal pools are still inundated or in the early stages of drying, and one in late spring to identify species that typically emerge in vernal pools that are dry. Botanists performed these surveys in each of the 65 previously documented basins within the current BSA for the Proposed Project. The basins contained seasonally wet depressions such as vernal pools, road ruts, and other areas that support temporary ponding. Botanists also evaluated areas that were previously documented by Scott McMillan (AECOM) as being vernal pools but that are not currently distinguishable as basins. California Orcutt grass was included as a target species during these surveys.

RESULTS

The results of the literature and database review, special status-plant species survey summary report review, focused habitat assessment in the areas not yet surveyed, and focused vernal pool evaluation are provided below.

Literature & Database Review

The results of the detailed literature and database review were used to prepare the California Orcutt grass species information provided above. CNDDDB occurrences 43 and 44 (Figure 1), which are located approximately 4 miles south of the BSA in the western portion of MCAS Miramar, represent the closest known natural occurrences of California Orcutt grass to the main alignment of the Proposed Project. CNDDDB occurrence 34 (Figure 1), which is located approximately 1.5 miles southwest of the BSA, represents the closest known natural occurrence of California Orcutt grass to the Encina Hub portion of the Proposed Project. CNDDDB occurrence 45 (Figures 1 and 2) is located adjacent to the westernmost portion of the BSA, southeast of the Peñasquitos Substation. This point represents the location of California Orcutt grass that was introduced along with other vernal pool species as part of the restoration activities in several vernal pools that are located outside of the BSA.

2013/2014 Special-Status Plant Species Surveys in Original BSA

Only one vernal pool within the BSA provides potential habitat for California Orcutt grass. Other vernal pool species, such as San Diego button-celery and dwarf woolly marbles (*Psilocarphus brevissimus* var. *brevissimus*), were observed during the focused special-status plant species surveys that were conducted for the Proposed Project in 2013/2014. This indicates that, despite drought conditions, California Orcutt grass should have been observable during the spring 2014 surveys if it were present in these vernal pools. However, no California Orcutt grass was observed in this vernal pool or in any other part of the BSA during the 2013/2014 special-status plant species surveys.

2014 Focused Habitat Assessment in Newly Added Areas of the BSA

No suitable vernal pool habitat with a potential to support California Orcutt grass was identified during the focused habitat assessment conducted in fall 2014 within the portions of the BSA that were not previously surveyed.

2014 Focused Vernal Pool Evaluation for California Orcutt Grass

The single vernal pool within the BSA that provides potential habitat for California Orcutt grass was visited three times (fall 2013, early spring 2014, late spring 2014) during the focused special-status plant species surveys conducted for the Proposed Project, and it was visited again on October 21, 2014, to analyze the conditions within the vernal pool and determine the potential for occurrence of California Orcutt grass in the vernal pool.

Surveyors determined that the vernal pool provides very low quality habitat for California Orcutt grass because it does not provide the deep, clay soils and other attributes required by this species that many other vernal pools provide (Photo 1, below). No evidence of California Orcutt grass was observed in any of the vernal pools during the October 2014 visit; however, this is not unexpected, as California Orcutt grass is an ephemeral annual species, and it was not detected during the spring 2014 surveys. San Diego button-celery requires similar conditions as California Orcutt grass to germinate. San Diego button-celery was mapped in spring 2014 in the only vernal pool present within the BSA and was again observed in fruit in this vernal pool during the October 2014 visit.



Photo 1: Vernal pool with very low quality habitat for California Orcutt grass

Botanists also visited the three restored vernal pools located adjacent to the BSA where California Orcutt grass was introduced to see if there was any forensic evidence of California Orcutt grass in these pools that would confirm that the species germinated during spring 2014 and that the population is still extant. Botanists also visited these restored vernal pools to assess their overall quality and to compare the condition of these vernal pools, which are known to support California Orcutt grass, to the basins within the BSA. No previous surveys had been conducted in these vernal pools because they are outside of the BSA. San Diego button-celery was observed in fruit in these pools; however, remnants of California Orcutt grass were not observed.

2015 California Orcutt Grass Reference Site Checks

During spring 2015, two California Orcutt grass reference sites (Figure 3) were selected based on historical occurrence data for the species, including CNDDDB occurrence 45 (Figures 1 and 2) southeast of the Peñasquitos Substation and another known population adjacent to the San Ysidro Department of Motor Vehicles (DMV). In late spring, a third reference site near San Ysidro High School was added.

Botanists conducted seven reference site checks between April 2, 2015, and June 17, 2015. These are summarized in Table 1, below.

Table 1. California Orcutt Grass Reference Site Checks (Spring 2015)

Date	Reference Site	Biologists
4/2/15	Peñasquitos Substation	Lee Ripma, Ryan Meszaros
4/27/15	Peñasquitos Substation	Brian Lohstroh, Ryan Meszaros
5/5/15	San Ysidro DMV	Lee Ripma, Ryan Meszaros
5/11/15	San Ysidro DMV	Lee Ripma, Brian Lohstroh
5/21/15	Peñasquitos Substation	Ryan Meszaros
5/27/15	San Ysidro DMV	Melanie Dicus
6/17/15	San Ysidro DMV & San Ysidro High School	Lee Ripma, Jim Rocks

California Orcutt grass was not identified at any of these reference populations during these reference site checks during spring 2015, though the species has been documented at these locations in previous years.

In addition, botanists coordinated with other local botanists to indirectly monitor other known California Orcutt grass populations. One such existing population was monitored by MCAS Miramar biologist, Chuck Black, who monitors California Orcutt grass populations that are near the main Proposed Project alignment but that have restricted access (CNDDDB occurrences 43 and 44; Figure 1). Based on information from Chuck Black, California Orcutt grass did not emerge at any of the historical locations on MCAS Miramar during spring 2015.

2015 Focused Vernal Pool Plant Species Surveys

California Orcutt grass was not observed during the focused vernal pool plant species surveys that were conducted for the Proposed Project in spring 2015; however, several other vernal pool plant species with similar requirements, such as San Diego button-celery, were observed during spring 2015 surveys.

CONCLUSION/DISCUSSION

California Orcutt grass has not been observed within the BSA during any of the general or focused surveys conducted for the Proposed Project.

While the BSA is outside the range in which California Orcutt grass naturally occurs, this species has been documented as recently as 2007 in restored vernal pools that are located southeast of the Peñasquitos Substation and immediately outside the BSA (Figures 1 and 2) where this species was introduced as part of the restoration effort. However, the single vernal pool within the BSA that provides potential habitat for California Orcutt grass (Figure 2) was assessed in fall 2013 and meticulously surveyed by highly qualified botanists who are familiar with this species and its phenology once in fall 2013, twice in spring 2014, and once in fall 2014. California Orcutt grass was not observed during any of these surveys. In addition, this location was surveyed two times during spring 2015 special-status plant species surveys, two times during the spring 2015 focused vernal pool plant species surveys, and three times in spring 2015 during focused California Orcutt grass reference site checks. This species was also not observed during any of these surveys.

Typically, a species that is not observed during a thorough, focused survey would be classified as “not expected to occur within the BSA;” however, the vernal pool within the BSA provides low quality habitat for the species and – because California Orcutt grass is wind dispersed – could, theoretically, be colonized in the future from the populations of California Orcutt grass that have been documented within the adjacent restored pools. As such, California Orcutt grass will continue to have a very low potential for occurrence within the BSA as long as adjacent populations continue to support California Orcutt grass (which has yet to be verified).

Impacts to California Orcutt grass are not anticipated to result from implementation of the Proposed Project. Regardless of its potential for occurrence within the BSA, the California Orcutt grass is a vernal pool obligate, and impacts to the single vernal pool that provides potential habitat for this species will be avoided through Proposed Project design features. As such, no additional avoidance, minimization, or mitigation measures would be required for this species.

REFERENCES

Busby Biological Services, Inc. (BBS)

- 2014a Biological Technical Report for Sycamore to Peñasquitos 230 Kilovolt Transmission Line Project, City of San Diego, San Diego County, California. March 2014.
- 2014b Special-Status Plant Survey Summary Report for the Proposed San Diego Gas & Electric Company Sycamore to Peñasquitos 230 Kilovolt Transmission Line Project, San Diego County, California. June 2014.

California Department of Fish and Wildlife (CDFW)

- 2014 Natural Diversity Data Base. Nongame-Heritage Program, California Department of Fish and Wildlife, Sacramento.

California Native Plant Society (CNPS)

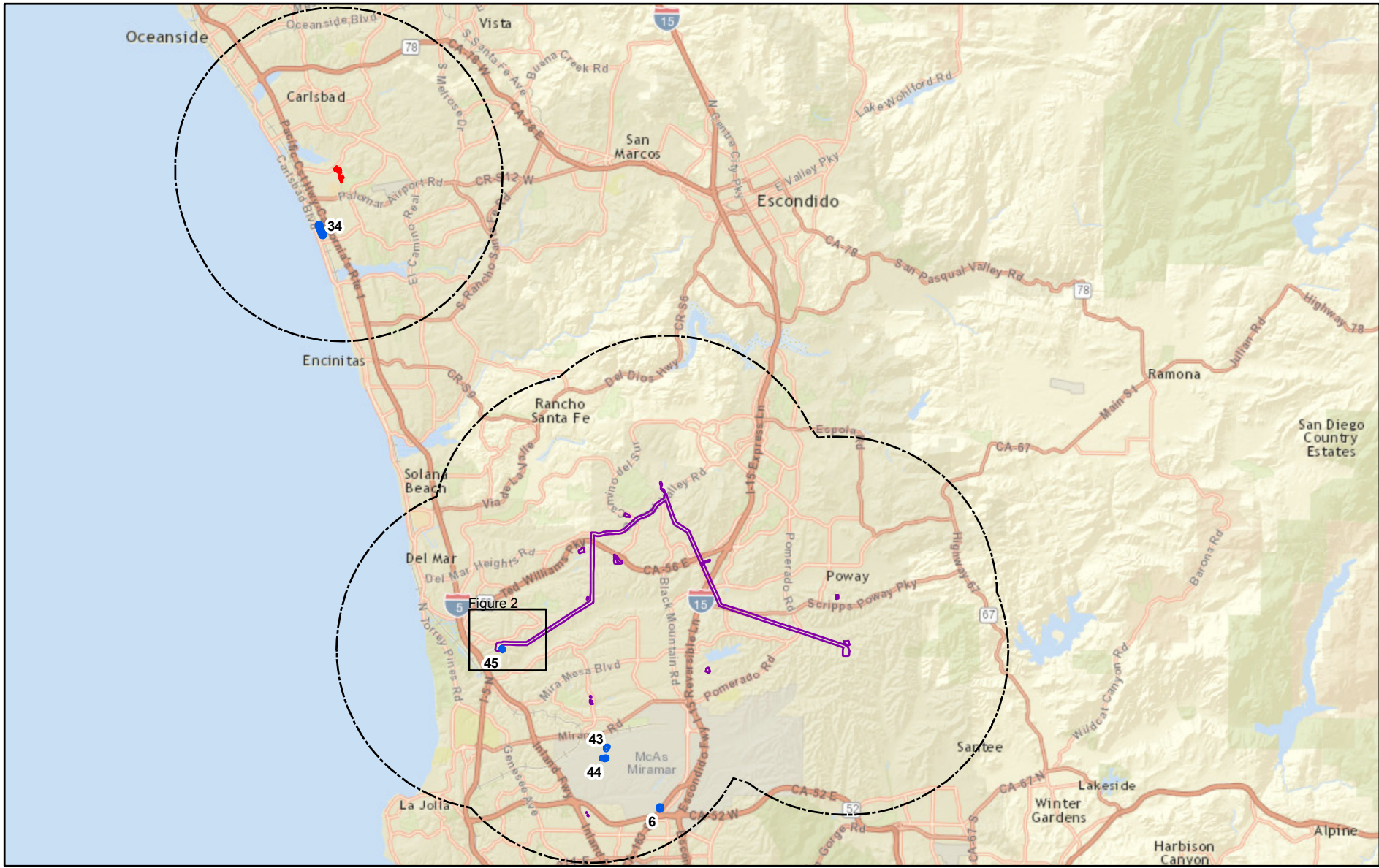
- 2014 Inventory of Rare and Endangered Plants (online edition, v7-14jun). California Native Plant Society. Sacramento, CA. Available at: <http://www.cnps.org/inventory>. Accessed October 2014.

Center for Plant Conservation (CPC)

- 2014 National Collection Plant Profile available at: http://www.centerforplantconservation.org/collection/cpc_viewprofile.asp?CPCNum=3038. Accessed October 2014.

United States Fish and Wildlife Service (USFWS)

- 1993 Determination of Endangered Status for Three Vernal Pool Plants and the Riverside Fairy Shrimp. August 3, 1993.
- 2011 *Orcuttia californica* (California Orcutt grass) 5-Year Review: Summary and Evaluation. March 11, 2011.



G:\SDGE_SX2PQandTL6961\SDGE_SunriseSX2PQ\MXD\SXtoPQ_OrcuttiaFig1.mxd

Sycamore to Peñasquitos 230 kV Transmission Line Project
 Historical *Orcuttia californica* Locations
Figure 1

SDG&E is providing this map with the understanding that the map is not survey grade. Certain technology used under license from AT&T Intellectual Property I, L.P. Copyright ©1998 – 2007 AT&T Intellectual Property I, L.P. All Rights Reserved.

- CNDDDB Occurrence
- Encina Hub
- BSA
- 5-Mile Buffers Around BSA and Encina Hub



Sources: CNDDDB October 2014 Database, CA Dept. Fish and Wildlife; Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community







G:\SDGE_SX2PQandTL6961\SDGE_SunriseSX2PQ\MXD\SXtoPQ_OrcuttiaFig2.mxd

Sycamore to Peñasquitos 230 kV Transmission Line Project
Orcuttia californica Habitat in BSA

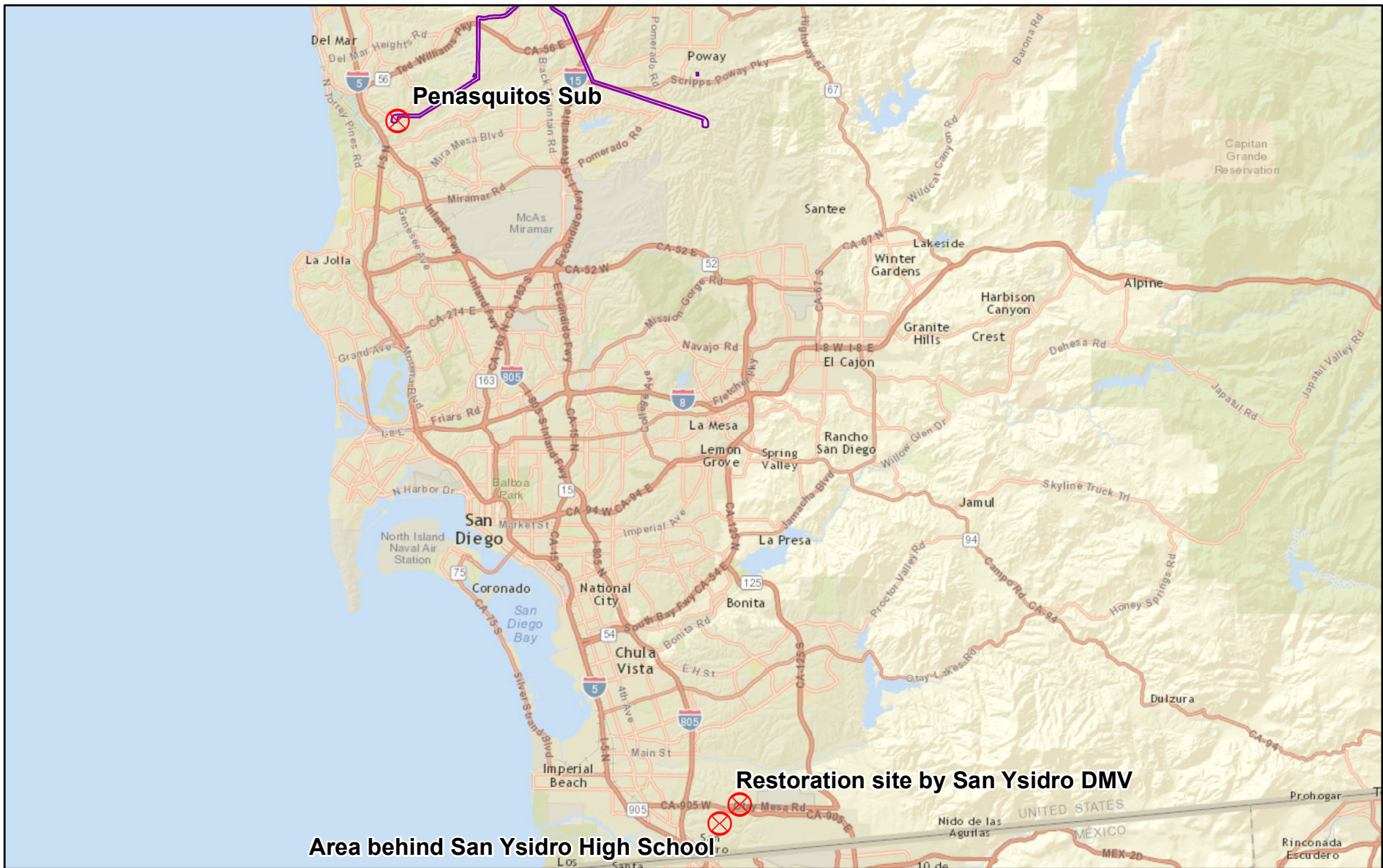
Figure 2

SDG&E is providing this map with the understanding that the map is not survey grade. Certain technology used under license from AT&T Intellectual Property I, L.P. Copyright ©1998 – 2007 AT&T Intellectual Property 1, L.P. All Rights Reserved.

-  BSA
-  CNDDDB Occurrence 45
-  Actual CNDDDB Occurrence 45 Location
-  Very Low Potential Habitat in BSA



0 150 300 450 Feet





G:\SDGE_SX2PQandTL6961\SDGE_SunriseSX2PQ\MXD\SXtoPQ_OrcuttiaFig3.mxd

SDG&E is providing this map with the understanding that the map is not survey grade. Certain technology used under license from AT&T Intellectual Property I, L.P. Copyright ©1998 – 2007 AT&T Intellectual Property I, L.P. All Rights Reserved.

-  Reference Locations
-  BSA

Sycamore to Peñasquitos 230 kV Transmission Line Project
Orcuttia californica Reference Populations
Figure 3



Sources: CNDDB October 2014 Database, CA Dept. Fish and Wildlife; Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community