Dudek and Associates, Inc., "2006 Sensitive Plant Survey Results for the Valencia Commerce Center, Los Angeles, California" (October 2006; 2006K)

2006 Sensitive Plant Survey Results

Valencia Commerce Center

OCTOBER 2006

PREPARED FOR:

The Newhall Land and Farming Company
23823 Valencia Blvd.
Valencia, CA 91355

PREPARED BY:

Dudek & Associates, Inc.
605 Third Street
Encinitas, CA 92024

2006 SENSITIVE PLANT SURVEY RESULTS
for the
VALENCIA COMMERCE CENTER
LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

NEWHALL LAND
23823 Valencia Boulevard
Valencia, CA 91355
Contact: Matt Carpenter

Prepared by:

DUDEK
605 Third Street
Encinitas, CA 92024
Contact: Sherri L. Miller (760) 479-4244

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1.0 INTRODUCTION

The purpose of this report is to document the results of surveys for sensitive plant species within the 532-acre Valencia Commerce Center Site (Commerce Center; VCC) for the 2006 field season. Surveys placed emphasis on the identification of populations of the state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina;* SFVS). Focused surveys were conducted within those areas that were previously known to support spineflower occurrences. Any additional sensitive plant species observed were noted.

2.0 SITE DESCRIPTION

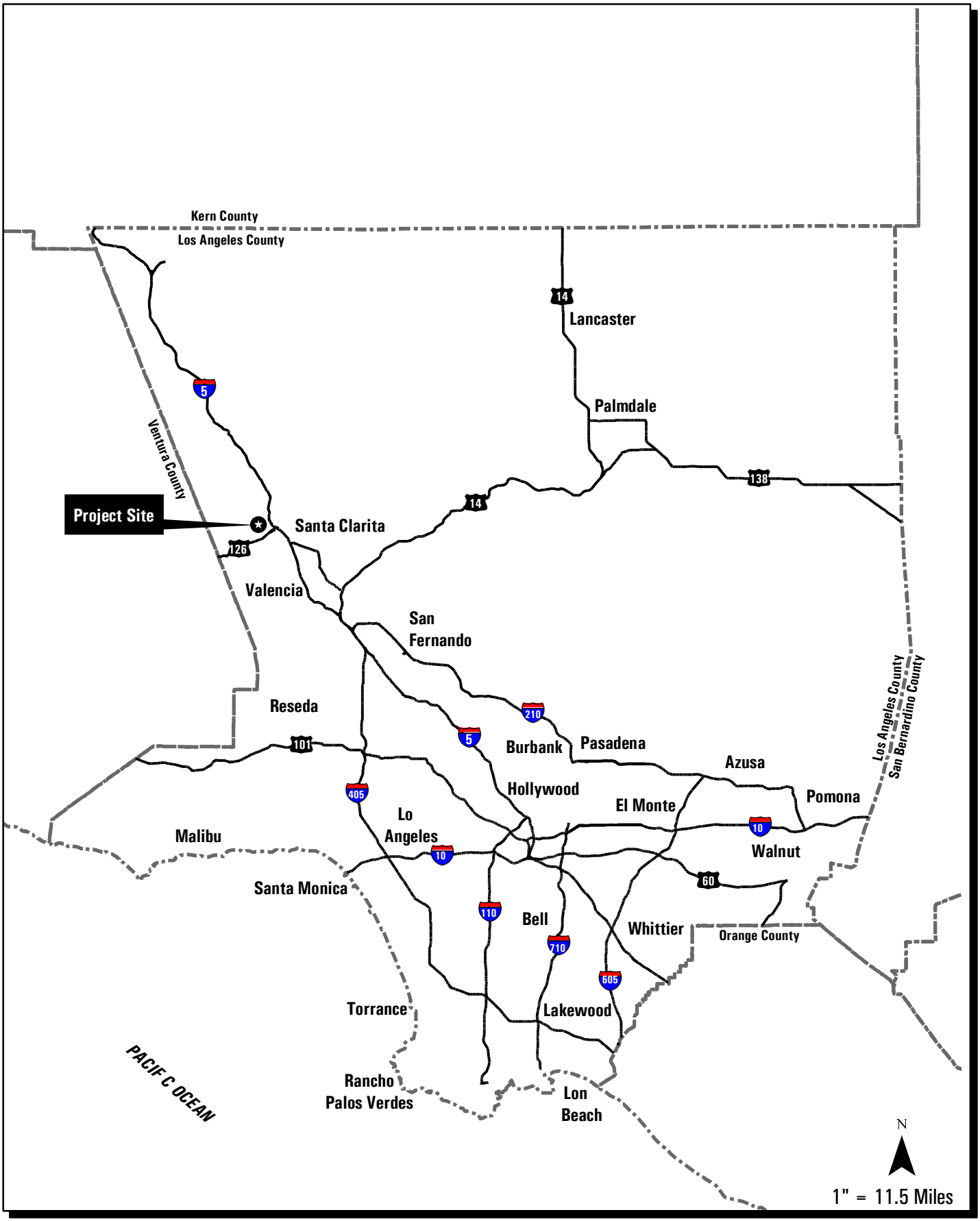
The study area within the 532-acre VCC is located in an unincorporated portion of the Santa Clara River Valley in northwestern Los Angeles County (*Figure 1*). The Commerce Center Site lies roughly in the northwest corner of the junction of Interstate 5 (I-5) and State Route 126 (SR-126) (*Figure 2*). The northwestern edge of the City of Santa Clarita is located east of I-5 from the study area.

The Commerce Center site is dominated by north/south trending ridges that lie north of Castaic Creek, near the confluence with Hasley Canyon. Site elevations range from just under 1,000 feet above mean sea level (AMSL) in the Castaic Creek bottom to just over 1,500 feet AMSL at the top of the western ridge (*Figure 2*). In addition to the ridges, Castaic Creek and Hasley Canyon wash areas on the project site contain numerous benches and braided channels with associated riparian and alluvial scrub vegetation communities. The ridges are generally rounded at the top with slopes that vary from steep to gentle.

2.1 Vegetation Communities and Land Covers

Dudek conducted a sensitive plant survey in the study area. Native and naturalized vegetation communities within the Commerce Center study area include representative examples of those plant communities found in the Santa Susana, Topatopa, and Liebre mountains and the Santa Clara River and Castaic Creek ecosystems. Upland vegetation communities dominate the landscape within the study area (e.g., California sagebrush scrub, chaparral and California grasslands); however, Hasley Canyon does support a variety of riparian plant communities (e.g., southern cottonwood-willow riparian forest, and mulefat scrub).

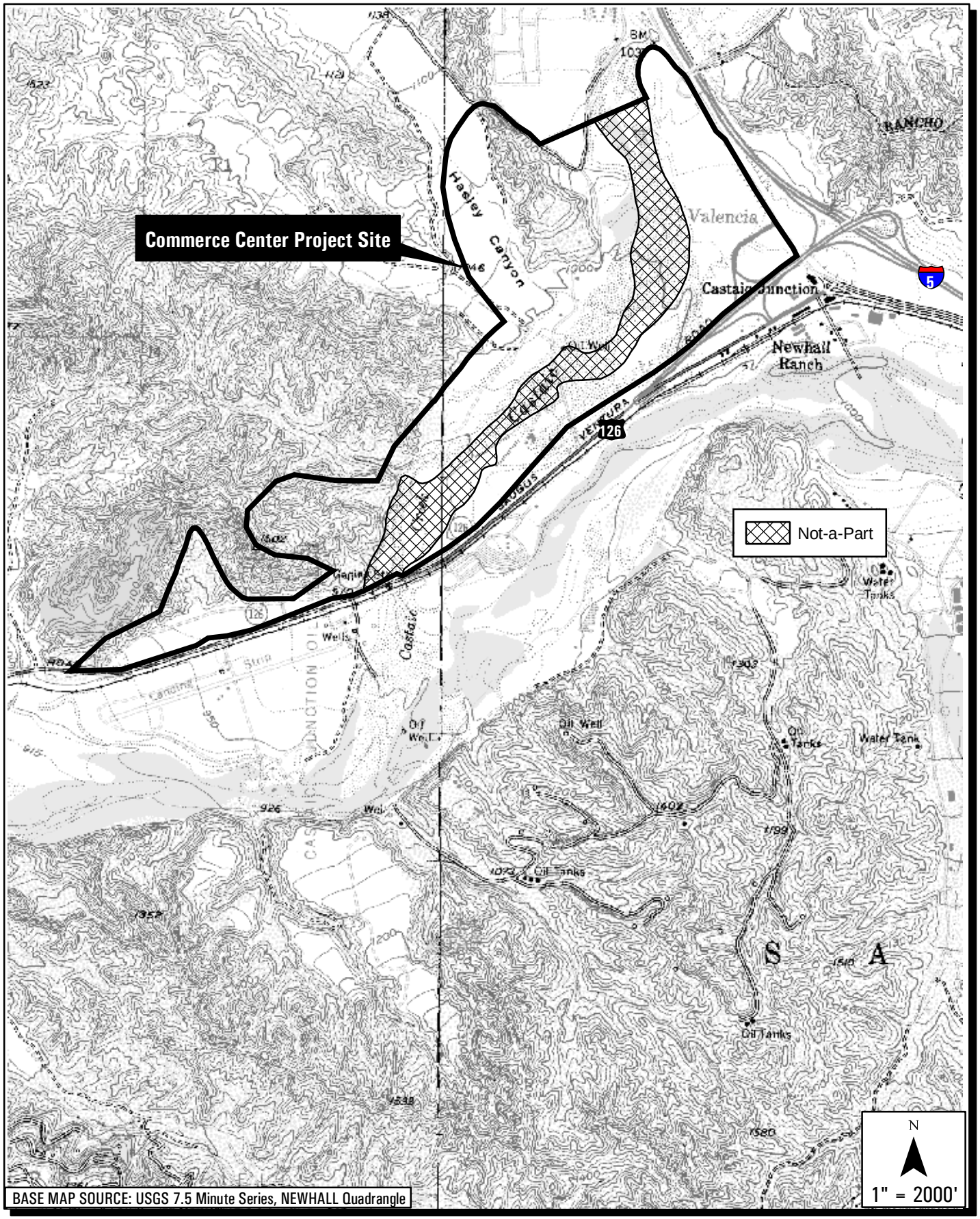
Historically, Newhall Land (Newhall) leased out portions of the study area for sand and gravel production, cattle grazing, and agricultural operations; only agricultural operations are currently ongoing. All of these activities have had a noticeable effect on much of the natural vegetation



Valencia Commerce Center

Regional Map

FIGURE 1



BASE MAP SOURCE: USGS 7.5 Minute Series, NEWHALL Quadrangle

Valencia Commerce Center

Vicinity Map

FIGURE 2

communities onsite (i.e., scrub communities have been displaced by California annual grasslands). Southern California Edison and Southern California Gas Company have distribution lines and access roads within easements onsite also.

2.2 Geology and Soils

Geologically, the study area is located within the Transverse Range geomorphic province of southern California in the eastern portion of the Ventura depositional basin. This basin "was produced by tectonic downwarping in the geologic past to produce a large-scale synclinal structure in which a thick sequence of Cenozoic sediments has accumulated. These sediments have been lithified into a sequence of sedimentary rock that has subsequently been uplifted, tilted, and tectonically deformed (Allen E. Seward 2002, 2004)." The Holser fault traverses the site (Allan E. Seward 2002, 2004).

3.0 METHODS AND SURVEY LIMITATIONS

Data regarding botanical resources present on the project site were obtained through a review of the pertinent literature, field reconnaissance, and focused surveys for sensitive species, all of which are described below.

3.1 Literature Review

General floristic and sensitive botanical resources present or potentially present on the Entrada site were identified through a literature search using the following sources: the California Natural Diversity Database for the Newhall, Santa Susana, Oat Mountain, Mint Canyon, San Fernando, Green Valley, Warm Springs Mountain, Whitaker Peak, Cobblestone Mountain, Piru, Simi, Thousand Oaks, and Val Verde quadrangle maps (CDFG 2004); 2002 and 2003 Sensitive Plant Survey Results for Newhall Ranch Specific Plan Area (Dudek 2002, 2004a); 2003 Sensitive Plant Survey Results for Valencia Commerce Center, Castaic Mesa, Isola and Ventura Homestead Sites, Magic Mountain Entertainment Center (Entrada) Site, Castaic Junction Site, and Salt Creek (Dudek 2004b-g); 2004 Sensitive Plant Survey Results for Valencia Commerce Center, Entrada Site, Legacy, and Newhall Ranch Specific Plan Area (Dudek 2004h-k);); 2005 Sensitive Plant Survey Results for Valencia Commerce Center, Entrada Site, Legacy, and Newhall Ranch Specific Plan Area (Dudek 2005a-c); *Biological Resource Assessment of the Proposed Santa Susana Mountains/Simi Hills Significant Ecological Area* (PCR, November 2002); CalFlora (University of California, Berkeley, May 2002); U.S. Fish and Wildlife Service (USFWS 1999); California Department of Fish and Game (CDFG 2002); *Inventory of Rare and Endangered Plants of California* (CNPS 2001); *Vascular Flora of the Liebre Mountains,*

Western Transverse Ranges, California (Boyd 1999); *Checklist of Rare Ventura County Plant Species* (Magney 2002); *A Flora of the Santa Barbara Region, California* (Smith 1976); *A Flora of the Santa Monica Mountains* (Raven *et al.* 1986); *Biology of the San Fernando Valley Spineflower, Ahmanson Ranch, Ventura County, California* (Glenn Lukos Associates, Inc. and Sapphos Environmental, Inc. 2000); *Report to the Fish and Game Commission on the Status of San Fernando Valley Spineflower* (CDFG 2001); *Biota Report, Newhall Ranch Specific Plan* (RECON and Impact Sciences, Inc. 1996); and herbarium specimens from Rancho Santa Ana Botanic Garden (RSA) and the University of California, Riverside (UCR) Herbarium. General information regarding vegetation communities was obtained from Holland (1986) and Sawyer and Keeler-Wolf (1995). Vegetation community and land cover classifications used in this report primarily follow the *Vegetation Classification and Mapping Program, List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG 2003) with a few exceptions. In certain instances, the vegetation communities observed in the field did not match the vegetation communities described in CDFG (2003). Plant species nomenclature follows Hickman (1993).

3.2 Field Reconnaissance Methods

Botanical surveys were conducted by FL*x* sub-consultants Anuja Parikh and Nathan Gale. Dudek biologist Colin Khoury assisted FL*x*. All surveys were conducted on foot. Resumes for survey personnel are provided in *Appendix A*.

Botanical surveys of the site were conducted in May of 2006 in accordance with the schedule provided in *Table 1*. Approximately 80 person-hours (eight person-days) were spent conducting botanical surveys within the study area. The biologists were able to observe reference populations of the state-listed endangered SFVS and other sensitive species in order to develop a search-image prior to conducting surveys of the project site. Surveys focused on the identification and location of SFVS within those areas that were known to support the SFVS occurrences previously. Additional sensitive plant species observed during SFVS surveys, including California Native Plant Society (CNPS) List 1B and 4 species were recorded.

Latin and common names of plants follow *The Jepson Manual* (Hickman 1993) or other recent published taxonomic treatments. Where not listed in Hickman (1993), common names were taken from Abrams (1923). Where not found in this reference, a variety of sources were used (e.g., Dale 1986, Roberts 1998).

TABLE 1
Survey Schedule & Personnel
Valencia Commerce Center Plan Area

Date	Biologists	Purpose
May 17, 2006	FLx (Anujah Parikh , Nathan Gale	Focused surveys for SFVS; other sensitive plant species noted as observed.
May 18, 2006	FLx (Anujah Parikh, Nathan Gale)	Focused surveys for SFVS; other sensitive plant species noted as observed.
May 19, 2006	FLx (Anujah Parikh, Nathan Gale) Dudek (Colin Khoury)	Focused surveys for SFVS; other sensitive plant species noted as observed.
May 20, 2006	FLx (Anujah Parikh, Nathan Gale), Dudek (Colin Khoury)	Focused surveys for SFVS; other sensitive plant species noted as observed.

While surveying in the field and mapping SFVS, a four-meter (m) rule was used to separate polygons for mapping purposes. This four meter distance is a heuristic mapping tool based on the topography, vegetation, detectability of the plants, the general accuracy of the GPS, and time constraints. This heuristic criterion is not specifically tied to SFVS biology (i.e., reproductive biology, seed dispersal) and thus is not intended to reflect reproductively isolated sub-populations, the total extent of the SFVS seed bank, or any other feature of the species life history.

The outer perimeter of each spineflower polygon was searched in one continuous direction until returning to the starting point, with plants being located within at least every one to four meters along the boundary, and points were stored with a Trimble GPS (that has sub-meter accuracy) manually to form the boundaries of the polygon. GPS points were taken within at least every one to four m. The various spineflower polygons were given a unique identifier (i.e., numbers and/or letters) in the field. Field data sheets were completed for each of the spineflower polygons that include data on site conditions (i.e., plant number estimates, associated species) (*Appendix C*). Polygons were analyzed in the lab and delineated based on a four m minimum convex polygon rule (i.e., all polygons within four m of each other are joined using GIS software (e.g., ArcGIS, AutoCAD), then delineated as one polygon with the outer boundary represented by a minimum convex polygon.

A modified magnitude scale was used to arrive at an estimate of the number of spineflower individuals (or other sensitive species when observed) within each polygon. After mapping the boundaries of the polygon, the number of individuals were counted/ estimated in a rectangular "sample estimation area" (to account for the "clumped" nature of this species), which is a subset of the total polygon. The sample estimation area was between 200 centimeters squared (10 by 20 cm) and two m^2 (one m by two m) depending on various factors regarding the polygon (e.g.,

size of the polygon, plant densities, variations in plant densities within the polygon). The number of subsets within the total polygon was determined and added/multiplied, resulting in a total estimate of the number of individuals of the polygon (e.g., 4x125=500, 8x12=96, 9x100=900). This number was then rounded to the nearest magnitude or multiple of a magnitude (e.g., 500; 100; 1,000). This should provide accurate estimates of the number of plants within each polygon while eliminating a false sense of accuracy.

3.2.1 Sensitive Plant Species

Sensitive plant species are those species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened population sizes. This designation includes those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, those plant species found on Lists 1A, 1B or 2 of the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2001; *Inventory*) or CNPS online inventory (http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi), and those plant species which are found on the list of "Threatened and Endangered Species and Species of Concern, Los Angeles County" (http://www. losangelesalmanac.com/ topics/Environment/ ev14b.htm). CNPS List 3 or List 4 species, which have a lower level of sensitivity, were included in discussions only when incidentally encountered during the field surveys. Focused surveys were conducted only in areas that were previously known to support SFVS. Any additional sensitive plant species observed were noted.

3.2.2 Survey Limitations

Surveys were conducted in May 2006. The timing of the surveys was coincident with the blooming period for SFVS and some other species that were expected to bloom at this time. This maximized the potential for detection of SFVS and other sensitive plants during the survey effort.

Surveys for SFVS were concentrated within those areas known to support spineflower occurrences previously. All surveys were conducted during daylight hours under weather conditions which did not preclude observation of sensitive plant species (e.g., surveys were not conducted during heavy fog or rain).

4.0 RESULTS OF SURVEYS

4.1 Botany – Floral Diversity

The study area is situated at the nexus of the Transverse, Coast, and Sierra Nevada ranges; the Mojave Desert; and coastal plains (Hickman 1993). Ecotone areas such as this are often characterized by higher biological diversity than similar-sized areas within the core of a physiographic region (Boyd 1999). As such, a high diversity of plant species is expected during a year of at least average rainfall amounts for the area.

Approximately 342 plant species were identified within the Valencia Commerce Center study area. Of these, 262 species (77 percent) are native to the region and 80 species (23 percent) are non-native. The cumulative list of plant species identified on the site in 2002, 2003, 2004, 2005 and 2006 is provided as *Appendix B.*

4.2 Sensitive Plant Species

Sensitive plant species observed within the study area during the course of 2006 SFVS surveys include: SFVS, Pierson's morning glory (*Calystegia peirsonii*) and Coulter's goldfields *(Lasthenia glabrata* ssp. c*oulteri*). These and other sensitive species that have the potential to occur within the Commerce Center site, based on the presence of suitable habitat and soils, are listed in *Table 2*. The sensitive species listed in *Table 2* are confined primarily to those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, and those plant species found on Lists 1A, 1B, or 2 of the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2001).

Figure 3 depicts the locations of SFVS on the Commerce Center site during 2006. Information regarding the mapping and recorded characteristics of the sensitive species is included in the sections below (*Sections 4.2.1* through *4.2.3*).

4.2.1 San Fernando Valley Spineflower *(Chorizanthe parryi* var. *Fernandina)*

SFVS is state-listed as endangered, a candidate for federal listing, and a CNPS List 1B.1 species (CNPS 2006). Until its rediscovery in 1999 at Laskey Mesa on Ahmanson Ranch in Ventura County, it was thought to be extinct. A review of information of historic occurrence of SFVS in the CNDDB indicate that it was previously thought to occur in sandy to gravelly soils of washes, riverbeds, and upland areas primarily on the margins of the San Fernando Valley at the base of

TABLE 2
Sensitive Plant Species Observed or Potentially Occurring at the Valencia Commerce Center

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Arenaria paludicola	Marsh sandwort	FE/SE	1B	dense freshwater marsh/perennial herb/May-August	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Santa Ana River and in Santa Barbara. Limited suitable habitat onsite in wash/riparian areas; very low likelihood of occurrence within the study area.
Astragalus brauntonii	Braunton's milk-vetch	FE/None	1B	chaparral, coastal sage scrub, grasslands; often on carbonate substrates/perennial herb/March-July	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in the Simi Hills. Suitable habitat exists onsite. Low to moderate likelihood of occurrence within study area.
Atriplex coulteri	Coulter's saltbush	None/None	1B	coastal sage scrub and grasslands on alkaline or clay substrate/ perennial herb/March-October	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite in wash/riparian areas. Moderate likelihood of occurrence within study area.
Atriplex serenana var. davidsonii	Davidson's saltscale	None/None	1B	coastal bluff scrub and coastal sage scrub on alkaline substrate/annual herb/May-October	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite in wash/riparian areas. Low likelihood of occurrence within the study area.
Baccharis malibuensis	Malibu baccharis	None/None	1B	chaparral, coastal sage scrub, cismontane woodland/deciduous shrub/August	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; closest known populations are in the western Santa Monica Mountains near Malibu. Not expected to occur within the study area.
Berberis nevinii	Nevin's barberry	FE/SE	1B	chaparral, coastal sage scrub, riparian scrub, cismontane woodland on sandy or gravelly substrate/evergreen shrub/March-April	Not observed during 2006 field season. CNDDB records exist for San Francisquito Canyon at confluence with Santa Clara River; suitable habitat present onsite in wash/riparian areas. Moderate likelihood of occurrence within study area.
Brodiaea filifolia	Thread-leaved brodiaea	FT/SE	1B	clay substrate openings in chaparral, sage scrub, and grasslands/perennial herb (geophyte)/ March-June	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in San Dimas. Suitable habitat present onsite. Low likelihood of occurrence within study area.
Calochortus clavatus var. gracilis	Slender mariposa lily	None/None	1B	chaparral and coastal sage scrub/perennial herb (geophyte)/ March-May	Not observed during 2006 field season. CNDDB records exist for mouth of Pico Canyon. Moderate likelihood of occurrence within study area.

TABLE 2
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Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Calochortus plummerae	Plummer's mariposa lily	None/None	1B	chaparral, coastal sage scrub, cismontane woodland, grasslands on rocky granitic substrate/perennial herb (geophyte)/May-July	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, records exist for the Santa Susana Mountains and Simi Hills. Suitable habitat exists onsite. High likelihood of occurrence within study area.
Calochortus weedii var. vestus	late-flowered mariposa lily	None/None	1B	chaparral, cismontane and riparian woodland/perennial herb (geophyte)/ June-August	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, habitat similar to where species occurs in eastern Ventura County is present onsite. Moderate likelihood of occurrence within study area.
Calystegia peirsonii	Peirson's morning-glory	None/None	4	chaparral, coastal sage scrub, cismontane woodland, grassland/ perennial herb/May-June	Observed in annual grasslands and on roadside in ruderal areas within the survey area.
Calystegia sepium ssp. binghamiae	Santa Barbara morning-glory	None/None	1A	marshes and swamps/perennial herb/ April-May	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite in wash/riparian areas. Low likelihood of occurrence within study area.
Centromadia [=Hemizonia] parryi ssp. australis	southern tarplant	None/None	1B	mesic edges of marshes in grasslands/annual herb/May-November	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite in wash/riparian areas. Low likelihood of occurrence within study area.
Cercocarpus betuloides var. blancheae	Island mountain-mahogany	None/None	4	chaparral, closed-cone coniferous forest/evergreen shrub/February-May	Not observed within study area during 2006 field season. Occurrences documented from surrounding areas in mixed chaparral. Limited suitable habitat present onsite. Low likelihood of occurrence within study area.
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	FC/SE	1B	coastal sage scrub, sandy soils/annual herb/April-June	Observed in one general area with 46 polygons onsite. Total onsite population estimate is 204,405 individuals within occurrence polygons covering 0.36 acre of the site.
Deinandra [=Hemizonia] minthornii	Santa Susana tarplant	None/SR	1B	chaparral and coastal sage scrub on rocky substrate/deciduous shrub/July-November	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, records exist for the Simi Hills and Oat Mountain. Suitable habitat exists onsite. Low likelihood of occurrence within study area.
Delphinium parryi ssp. blochmaniae	dune larkspur	None/None	1B	maritime chaparral, coastal dunes/ perennial herb/ April-may	Not observed during 2006 field season although *Delphinium parryi* spp. *parryi* was observed within the study area. No likelihood of occurrence.

TABLE 2
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Dodecahema leptoceras	slender-horned spineflower	FE/SE	1B	alluvial scrub on sandy substrate/annual herb/April-June	Not observed during 2006 field season. Historic CNDDB records exist for the Newhall or Val Verde quads in alluvial habitat similar to that present onsite in wash/riparian areas. Moderate likelihood of occurrence onsite.
Dudleya blochmaniae var. blochmaniae	Blochman's dudleya	None/None	1B	clay openings in chaparral and coastal sage scrub, grasslands/ perennial herb/April-June	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present onsite. Low to moderate likelihood of occurrence within study area.
Dudleya cymosa ssp. Marcescens	marcescent dudleya	FT/CR	1B	chaparral, often on volcanic substrate/perennial herb (geophyte)/ April-June	Not observed during 2006 field season. No CNDDB records exist for Newhall and Val Verde quads. No suitable habitat observed in study area.
Dudleya cymosa ssp. Ovatifolia	Santa Monica Mountains dudleya	FT/None	1B	chaparral and coastal sage scrub, often on volcanic substrate/ perennial herb (geophyte)/April-June	Not observed during 2006 field season. No CNDDB records exist for Newhall and Val Verde quads. Suitable habitat present onsite. Low to moderate likelihood of occurrence within study area.
Dudleya multicaulis	many-stemmed dudleya	None/None	1B	coastal bluff scrub, coastal sage scrub, valley and foothill grassland, rocky, often clay substrate/ perennial herb/ April-June	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; closest known occurrences are in Calabasas and San Dimas. Suitable habitat exists onsite. Low to moderate likelihood of occurrence within study area.
Dudleya parva	Conejo dudleya	FT/None	1B	coastal sage scrub and grassland on rocky, gravelly clays/perennial herb/May-June	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite. Low likelihood of occurrence within study area.
Erodium macrophyllum	Round-leaved filaree	None/None	2	cismontane woodland and grasslands on clay substrate/annual herb/March-May	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however records exist for Simi Valley, and this plant was observed in the hills east of Castaic Lake in 2003. Suitable habitat present onsite; moderate likelihood of occurrence in study area.
Helianthus nuttallii ssp. Parishii	Los Angeles sunflower	None/None	1A	marshes and swamps/perennial herb/ August-October	Not observed within study area during 2006 field season. A *Helianthus* population, discovered in 2002 at Castaic Spring, on the south side of the Santa Clara River between Middle Canyon and San Jose Flats, was determined by some experts to be this species, but determined by other experts not to be this species. Based on pollen electron microscopy and chromosome counts, it is likely that the Newhall *Helianthus* species is a hybrid between *H. nuttallii* and *H. californicus* or an intermediate evolutionary step between the

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					two species (Porter and Fraga 2004). No suitable habitat observed in study area.
Horkelia cuneata var. puberula	Mesa horkelia	None/None	1B	chaparral, cismontane woodland, coastal sage scrub on sandy or gravelly substrate/perennial herb/February-December	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present onsite in wash/riparian areas. Low likelihood of occurrence within study area.
Juglans californica	southern California black walnut	None/None	4	chaparral, cismontane woodland, coastal sage scrub, alluvial scrub/ deciduous tree/March-May	Not observed within study area during 2006 field season. Observed offsite in Coastal sage scrub and chaparral onsite. Suitable habitat present onsite. Low likelihood of occurrence within study area.
Lasthenia glabrata ssp. *Coulteri*	Coulter's goldfields	FSC/None	1B	Saltwater marsh and swamps, playas, vernal pools/annual herb/February-June	Observed in two locations (approximately 160 square feet in size) within the study area during 2006 surveys. The occurrence contains individuals on a manufactured slope. No records of this subspecies are within Los Angeles or Ventura counties.
Malacothamnus davidsonii	Davidson's bush mallow	None/None	1B	chaparral, coastal sage scrub, riparian woodland/ deciduous scrub/June-January	Not observed during 2006 field season. Nearest occurrences are in Van Nuys and Sunland quads. Suitable habitat present onsite. Moderate likelihood of occurrence within study area.
Nama stenocarpum	mud nama	None/None	2	edges of lakes, rivers, ponds, vernal pools/annual/January-July	Not observed during 2006 field season. Moderate likelihood of occurrence on banks of Castaic Creek and Hasley Canyon and other mesic areas onsite. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite in wash/riparian areas. Low likelihood of occurrence within study area.
Nolina cismontane	chaparral nolina	None/None	1B	chaparral, coastal sage scrub on sandstone or gabbro substrate/ perennial shrub/May-July	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite. Low likelihood of occurrence within study area.
Opuntia basilaris var. brachyclada	short-joint beavertail	None/None	1B	chaparral, Joshua tree woodland, Mojavean desert scrub/succulent shrub/ April-June	This variety was identified by Dudek in 2002 within coastal sage scrub at southwest portion of the ridge between Hasley Canyon and Castaic Creek; however, further investigation indicates that the onsite population more closely matches variety *racemosa*. This species was not mapped in 2006.
Pentachaeta lyonii	Lyon's pentachaeta	FE/SE	1B	openings in chaparral and coastal sage scrub, grasslands/annual	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Simi Valley. Suitable

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				herb/March-August	habitat present onsite. Moderate likelihood of occurrence within study area.
Rorippa gambellii	Gambel's watercress	FE/ST	1B	marsh and swamps (freshwater and brackish)/ perennial herb/April-June	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite in wash/riparian areas. Very low likelihood of occurrence within study area.
Senecio aphanactis	Rayless ragwort	None/None	2	chaparral, coastal sage scrub, cismontane woodland on alkaline substrate/annual herb/January-April	Not observed during 2006 field season. Historic CNDDB record for Saugus, south of Santa Clara River. Suitable habitat exists onsite. Low likelihood of occurrence within study area.
Sidalcea neomexicana	salt spring checkerbloom	None/None	2	chaparral, coastal sage scrub, and playas on alkaline substrate/ perennial herb/March-June	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; suitable habitat exists onsite. Moderate likelihood of occurrence within study area.
Thelypteris puberula var. sonorensis	Sonoran maiden fern	None/None	2	meadows and seeps/perennial herb/ fertile January-September	Not observed during 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence at Point Dume. Limited suitable habitat present onsite. Very low likelihood of occurrence within study area.

Legend

FE:	Federally-listed as endangered	CNPS List 1A:	Plants presumed extinct in California
FT:	Federally-listed as threatened	CNPS List 1B:	Plants rare, threatened, or endangered in California and elsewhere
FC:	Federal candidate for listing	CNPS List 2:	Plants rare, threatened, or endangered in California but more common elsewhere
SC:	State candidate for listing	CNPS List 3:	Plants about which we need more information – a review list
SE:	State-listed as endangered	CNPS List 4:	Plants of limited distribution – a watch list
ST:	State-listed as threatened		
SR:	State-listed as rare		

the Santa Susana Mountains, San Gabriel Mountains, and the Simi Hills. Munz (1974) provides distribution information to include Orange and San Diego Counties.

Forty-six (46) polygons were identified in the northeastern portion of the survey area. These polygons are depicted in *Figure 3*. Labels for each of the polygons in *Figure 3* correlate with those in *Table 3*, which contains estimates for the numbers of individuals within each polygon.

San Fernando Valley spineflower - *Chorizanthe parryi var. fernandina*

TOPO SOURCE: Psomas Engineering, 2002

N

125 0 Feet

Valencia Commerce Center

2006 San Fernando Valley spineflower Results

FIGURE 3

TABLE 3
San Fernando Valley Spineflower Summary of Occurrence Data for the Commerce Center Site

Polygon Name	Polygon Size (square feet)	Estimated Number of Individuals
523101	126	50
523102	210	100
523103	264	200
523104	6,862	93,000
523105	9	10
523106	142	300
523107	15	2
523108	3	1
523109	51	150
523110	9	4
523111	37	10
523112	9	1
523113	135	200
523114	85	100
523115	54	100
523116	31	10
523117	152	200
523118	9	6
523119	51	12
523120	67	25
523121	4,215	95,000
523122	26	25
523123	62	25
523124	6	4
523125	1,342	11,000
523126	7	6
523127	22	15
523128	62	30
523129	29	3
523130	8	1
523131	38	60
523132	17	8

TABLE 3
San Fernando Valley Spineflower Summary of Occurrence Data for the Commerce Center Site

Polygon Name	Polygon Size (square feet)	Estimated Number of Individuals
523133	22	100
523134	29	7
523135	58	35
523136	32	150
523137	327	2,500
523138	17	20
523139	4	1
523140	18	5
523141	164	300
523142	156	100
523143	12	11
523144	9	15
523145	11	3
523146	470	500
Total	15,484	204,405

Most of the SFVS were found on slopes with a south/southeast facing component in California Annual Grasslands. Elevations of the SFVS polygons on this site range from approximately 1,070 to 1,160 feet AMSL. Vegetative cover in the area of SFVS occurrences ranged from 40 to 95%, but was more commonly between 60 and 70%. The soil type for all mapped SFVS occurrences on the project site consisted of clay loams. The size of the occurrence polygons ranges from three to approximately 6,900 square feet. The number of individuals within each polygon ranges from one individual to approximately 95,000 individuals. A CNDDB form for this occurrence is included in *Appendix C*.

4.2.2 Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)

Coulter's goldfields is a CNPS List 1B.1 plant which has not been documented to occur in the vicinity of the project (Hickman 1993; CNPS 2006). This variety is documented as being restricted to alkali playas, vernal pools, and some freshwater habitats in Riverside and San Diego counties (CNPS 2006). During the 2006 season, the species was observed in portions of

Newhall Land & Farm Company landholdings on recently manufactured slopes; apparently applied as part of an erosion control hydroseed mix. Focused surveys were not conducted for the species.

The plants are growing on a southeast-facing manufactured slope in polygons 523117 and 523118. The area does contain alkali habitat characteristics (silty clay, cracked soils with 10 percent vegetative cover), which are known to support this variety. These plants appear to be a non-native introduction; therefore CNDDB data forms are not included.

4.2.3 Peirson's Morning Glory (*Calystegia peirsonii*)

Peirson's morning-glory has no state or federal status, but is found on List 4.2 of the *CNPS Inventory* (2006). This morning-glory is a rhizomatous perennial that typically is found in more desert-like areas (e.g., creosote bush scrub, Joshua tree woodland) at elevations which exceed 3,000 feet AMSL, although there are records in the CNDDB for lower elevations in the local area. While never abundant, Peirson's morning-glory was observed on polygons 523119 and 523120 in ruderal areas on roadsides. Focused surveys for the species were not conducted. Due to the widespread nature of Peirson's morning-glory on the Commerce Center site during previous years and its relatively low sensitivity level, it was not mapped. No CNDDB forms were completed for this species because of these same reasons.

5.0 ACKNOWLEDGMENTS

Saudamini Sindhar prepared this report, with review by Sherri Miller. Mark McGinnis provided graphics and GIS mapping analyses. Tonette Foster provided word processing.

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APPENDIX A

Resumes of Survey Personnel

Nathan Gale
Principal Scientist, FL*x*

EDUCATION AND CERTIFICATIONS

Ph.D., Geography, University of California, Santa Barbara, 1985.
M.A., Geography, University of California, Santa Barbara, 1980.
PWS, Certified Professional Wetland Scientist #1216, Society of Wetland Scientists, 1999.

SUMMARY OF QUALIFICATIONS

Dr. Gale has 24 years of experience managing and conducting multidisciplinary projects ranging from methodology development to applied environmental impact assessments, planning studies, and restoration programs. His management experience includes proposal preparation; contract negotiation and client relations; cost control and schedule monitoring; document production supervision; and quality assurance review. His specific technical work has involved experimental and sampling design; photographic documentation; and mapping of natural vegetation, environmental constraints, and land use. He also has field experience in quantitative vegetation sampling, environmental data collection, and wetland delineation. Dr. Gale is skilled in qualitative and quantitative data analysis for numerous applications including ecological and environmental impact assessment as well as mitigation and monitoring planning. He has been responsible for the preparation of NEPA/CEQA environmental documents, planning studies, and technical reports for the Department of Defense (DOD), the Department of Energy (DOE), the Department of Interior (DOI), and for state and local agencies. In addition, he has published extensively in the fields of geography, ecology, planning, and environmental studies.

EXPERIENCE

Vegetation and Rare Plant Surveys and Wetlands Delineations, Ventura and Los Angeles Counties, CA. Impact Sciences, Inc. Vegetation surveys and mapping of plant communities, rare plant surveys, field wetland surveys, delineation of jurisdictional wetlands, and report preparation for more than 30 sites in various locations in Ventura and Los Angeles counties.

Ventura River Estuary Enhancement Project. California Department of Parks and Recreation. Design and implementation of a five-year vegetation monitoring program for restoration efforts at Emma Wood State Beach, Ventura County, CA. The project involves monitoring four vegetation types: willow-cottonwood forest, saltbush scrub, dune scrub, and foredune vegetation. Activities include botanical surveys, survival and growth surveys, photo documentation, data collection and comparative analysis of natural and revegetated areas, evaluation of exotics eradication, and recommendations for ongoing restoration.

Peacekeeper Rail Garrison Mitigation Program, San Antonio Terrace, Vandenberg AFB. U.S. Air Force and The Earth Technology Corporation. Technical advisor and senior data analyst for wetland creation, upland dune scrub habitat restoration, coast live oak revegetation, and vegetation monitoring for a five-year biological mitigation and monitoring program. Activities included initial planning, budgeting, methodology development, sampling design, vegetation sampling, data analysis, preparation and review of annual monitoring reports.

UCSB Campus Lagoon Wetland Restoration. The Herbarium, Museum of Systematics and Ecology, University of California, Santa Barbara. Design and implementation of a five-year vegetation monitoring program for wetland plant communities restored at the UCSB Campus Lagoon, Santa Barbara County, CA, as required by the Streambed Alteration Agreement of the California Department of Fish and Game. The project included plant species identification, vegetation sampling, data analysis, photo documentation, and report preparation.

Guadalupe Oil Field Restoration. California Department of Fish and Game and Hagler Bailly Consulting, Inc. Initial restoration planning, including background research, historical air photo assessment, and analysis of restoration alternatives at the Guadalupe Oil Field. Results from these tasks were used in the evaluation of potential restoration options, and to anticipate biological, hydrological, ecological, logistical, economic, and other issues associated with each restoration option.

Restoration of Coastal Dunes and Associated Wetlands in California. California Department of Fish and Game and Hagler Bailly Consulting, Inc. Principal scientist responsible for compiling and annotating a comprehensive bibliography of restoration and revegetation projects in coastal California, with an emphasis on coastal dune habitats and coastal wetlands.

Restoration Planning and Implementation, Former Guadalupe Oil Field, San Luis Obispo County, CA. Unocal Corporation. Preparation and implementation of site-specific restoration plans, including the development of revegetation specifications, monitoring methods, performance criteria, and performance evaluation.

Controlled Burn Monitoring, Vandenberg AFB. U.S. Air Force and Museum of Systematics and Ecology, University of California, Santa Barbara. Pre-burn monitoring of vegetation and plant species in coastal sage scrub and chaparral at two prescribed burn sites, South Vandenberg AFB.

Natural Resources Surveys and Environmental Assessments, Vandenberg AFB. U.S. Air Force and Tetra Tech, Inc. Principal environmental scientist responsible for conducting field surveys and preparing report sections for vegetation, wildlife, and wetland resources for 17

environmental assessments of facility and infrastructure development projects, and for an EIS on San Antonio Creek.

Integrated Natural Resources Management Plan, Vandenberg AFB. U.S. Air Force and Tetra Tech, Inc. Principal scientist responsible for preparing sections on existing conditions, issues of concern, and management objectives for vegetation, wildlife, and wetland resources for a basewide five-year plan.

EIS and Environmental Assessments. U.S. Air Force. Program manager and contract administrator, under a contract with the Strategic Air Command (SAC), for eight environmental assessments and one EIS for proposed USAF real estate, facility construction, and training actions. Impact analyses were conducted for the full range of environmental and socioeconomic issues; major areas of focus involved endangered species' habitats, cultural and historical resources, and hazardous waste sites.

Rare Plant Census. All American Pipeline, L.P. Rare plant monitoring census for Gaviota tarplant (*Hemizonia increscens* ssp. *villosa*) in permanent plots established at Gaviota, CA.

Vernal Pool Restoration Monitoring, Isla Vista, CA. Isla Vista Recreation and Park District. Vegetation monitoring, data analysis, and publication preparation for a 10-year assessment of restored and created vernal pools at the Del Sol Open Space and Vernal Pool Reserve.

Plant Surveys and Wetland Delineations for Five Land Parcels, Isla Vista, CA. County of Santa Barbara Planning and Development. Field surveys and report preparation for botanical and wetland resources, including jurisdictional wetland delineations and mapping, in coastal mesa vernal pool habitat along Del Playa Drive, Isla Vista.

Santa Barbara County Oak Restoration Program. University of California, Santa Barbara. Vegetation monitoring in savanna and woodland habitats of blue oak, valley oak, and coast live oak, for the long-term assessment of cattle grazing impacts on oak seedling recruitment at Sedgwick Ranch, Santa Barbara County, CA.

Goleta Revitalization EIR/EIS. County of Santa Barbara Planning and Development. Wetland delineations at sixteen creek crossings and plant surveys for street extensions, bike paths and a multipurpose trail.

Oil and Gas Exploration and Facilities Development EIRs/EISs. Santa Barbara County and California State Lands Commission. Environmental analyst for EIRs/EISs of oil and gas development projects located offshore California.

Supplemental Environmental Impact Report for the 1990 Long Range Development Plan. University of California, Santa Barbara. Program manager for a supplemental EIR focused on growth-related impacts to local school districts, and potential secondary environmental impacts to sensitive wetland habitats that could be caused by needed school facility expansion.

Recovery Plan for Two Federally Endangered Plant Species. U.S. Fish and Wildlife Service. Technical advisor responsible for developing strategy and task recommendations for the recovery plan for marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*). Key aspects of the plan included an outline of steps for habitat protection, species and habitat monitoring, biological and ecological research, and the establishment of new populations.

Implementation of Recovery Activities for Two Federally Endangered Plant Species. California Department of Fish and Game and University of California. Research on species biology and ecology, plant propagation, experimental establishment of new populations, and monitoring of existing and new populations of marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*). Reporting of species and habitat status and progress of recovery activities.

Restoration Plans for Installation of VTS Fiber-Optic Cable System, Honda Ridge Road Repair, and El Rancho Road Bridge Project, Vandenberg AFB. U.S. Air Force and Tetra Tech, Inc. Preparation of restoration plans including sections on ecological background, revegetation measures, monitoring and maintenance methods, performance criteria for assessing success, and restoration schedule for sites at North and South Vandenberg AFB.

Implementation of Restoration Plans, South Base and VTS Fiber-Optic Cable Systems, Vandenberg AFB. U.S. Air Force and Foster Wheeler Environmental Corp. Native plant species restoration, long-term monitoring, and restoration evaluation at four sites at Vandenberg AFB, CA.

Biological Monitoring for Installation of CITS, VTS, South Base, and Tranquillon Mountain Fiber-Optic Cable Systems, Vandenberg AFB. U.S. Air Force, Tetra Tech, Inc., and Foster Wheeler Environmental Corporation. Onsite biological monitoring for cable installation activities to ensure avoidance of adverse impacts to sensitive biological and wetland resources.

Biological Surveys and Monitoring for Installation of Building 3000 Fiber-Optic Cable System, Vandenberg AFB. U.S. Air Force and System Technology Associates. Field surveys and onsite biological monitoring for cable installation activities to ensure avoidance of adverse impacts to sensitive biological and wetland resources.

Biological Monitoring for Honda Ridge Road Repair and Point Sal Road Repair, Vandenberg AFB. U.S. Air Force, Tetra Tech, Inc., and Ace Engineering, Inc. Onsite biological monitoring for road repair activities to ensure avoidance of adverse impacts to sensitive biological and wetland resources.

MEMBERSHIPS

California Botanical Society; California Exotic Pest Plant Council; Society of Wetland Scientists; Society of Ecological Restoration; The International Mountain Society.

SELECTED PUBLICATIONS

Dr. Gale has been an author and collaborator on numerous academic publications, government research grant reports, and presentations at national and international professional conferences. In addition, he has contributed to environmental and planning documents. A summarized count of his work includes: Refereed Journal Articles - 28; Book Chapters - 5; Papers in Conference Proceedings - 3; Government Research Reports - 13; Contributions to Planning Studies - 44; Contributions to Environmental Documents - 55.

Journal Articles

"Coast Live Oak Revegetation on the Central Coast of California," (with A. Parikh), *Madroño*, 45(4), 1998, 301-309.

"Vegetation Monitoring of Created Dune Swale Wetlands, Vandenberg Air Force Base, California," (with A. Parikh), *Restoration Ecology*, 6(1), 1998, 83-93.

"The Analysis of Class Dispersion Patterns Using Matrix Comparisons," (with L.E. Harvey and F.W. Davis), *Ecology*, 69(2), 1988, 537-542.

"Tests of Randomness: Unidimensional and Multidimensional," (with L.J. Hubert, R.G. Golledge, and C.M. Costanzo), *Environment and Planning A*, 17, 1985, 373-385.

"Measuring Association Between Spatially Defined Variables: An Alternative Procedure," (with L.J. Hubert, R.G. Golledge, and C.M. Costanzo), *Geographical Analysis*, 17, 1985, 36-46.

"Unclassed Matrix Shading and Optimal Ordering in Hierarchical Cluster Analysis," (with W.C. Halperin and C.M. Costanzo), *Journal of Classification*, 1, 1984, 775-92.

Conference Proceedings

"Review of Ten Years of Vernal Pool Restoration and Creation in Santa Barbara, California," (with W.R. Ferren Jr., D.M. Hubbard, S. Wiseman, and A. Parikh), in C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Eds.) Ecology, Conservation, and Management of Vernal Pool Ecosystems, Proceedings from a 1996 Conference, California Native Plant Society, Sacramento, CA, 1998, 206-216.

"Vegetation Monitoring of Created Wetland Sites on the San Antonio Terrace, Vandenberg Air Force Base, California," (with A. Parikh), in M.C. Landin (Ed.) Proceedings of the National Interagency Workshop on Wetlands: Technology Advances for Wetlands Science, Technical Report, Wetlands Research and Technology Center, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS, 1995, 153-55.

"Wetland Creation and Vegetation Monitoring in a Stabilized Sand Dune Ecosystem, San Antonio Terrace, Vandenberg Air Force Base, California," (with A. Parikh and T. Waddell), in M.C. Landin (Ed.) Proceedings of the 13th Annual Meeting of the Society of Wetland Scientists (SWS), New Orleans, LA, 1993, 368-76.

"First-Year Vegetation Monitoring of Created Wetlands on the San Antonio Terrace, Vandenberg Air Force Base, California," (with A. Parikh and T. Waddell), in A.E. Leviton and M.L. Aldrich (Eds.) Proceedings of the Pacific Division, American Association for the Advancement of Science, University of California, Santa Barbara, June 1992, p. 46.

ANUJA K. PARIKH
Principal Ecologist, FL*x*

EDUCATION AND CERTIFICATIONS

Ph.D., Plant Geography, University of California, Santa Barbara, 1989
M.S., Geography, University of Bombay, India, 1981
B.S., Zoology and Geology, University of Bombay, India, 1979
PWS, Certified Professional Wetland Scientist #841, Society of Wetland Scientists, 1995

SUMMARY OF QUALIFICATIONS

Dr. Parikh has years of field and research experience in the areas of botany, plant ecology, wetlands, biogeography, and earth resources. Her work has included environmental baseline inventories and impact assessments, rare and endangered plant species surveys, revegetation and mitigation plans, restoration and monitoring of native upland and wetland habitats, and coast live oak revegetation studies. She has expertise in field vegetation sampling, plant species identification, wetland delineation, and the collection of physical environmental data. Using aerial photography and field surveys, she has prepared vegetation maps based on classification and quantification of plant communities in a variety of habitats; she also has mapped environmental constraints, incorporating data on sensitive species, natural habitats, and physiographic and man-made features. Dr. Parikh is experienced with experimental design as well as processing and analyzing ecological data using statistical and graphics software.

EXPERIENCE

Vegetation and Rare Plant Surveys and Wetlands Delineations, Impact Sciences, Inc., Ventura and Los Angeles Counties, California. Vegetation surveys and mapping of plant communities, rare plant surveys, field wetland surveys, delineation of jurisdictional wetlands, and report preparation for more than 30 sites in various locations in Ventura and Los Angeles counties.

Peacekeeper Rail Garrison Mitigation Program, U.S. Air Force and The Earth Technology Corporation, San Antonio Terrace, Vandenberg AFB, California. Project biologist responsible for directing, planning, and implementing biological field activities related to wetlands creation, upland habitat restoration, coast live oak revegetation, and vegetation monitoring for all mitigation and restoration sites.

Vegetation Mapping and Plant Species Surveys, Santa Barbara County, California. Vegetation mapping using aerial photographs of riparian communities along the Santa Ynez

River, Santa Barbara County; field vegetation and topographical data collection from transects, species identification, rare and endangered plant species surveys, and report preparation for the County Flood Control District.

Rare and Endangered Plant Species Surveys, California Department of Water Resources, California. Rare and endangered plant species identification and mapping along a proposed aqueduct route in the Lompoc and Lake Cachuma areas in Santa Barbara County, and near Santa Margarita, San Luis Obispo County; field verification, ground truthing and mapping of vegetation communities along the Santa Ynez River, CA.

Rare and Endangered Plant Species Surveys, Metropolitan Water District and ERC Environmental and Energy Services Co, Riverside County, California. Plant species identification and sensitive plant species surveys at proposed reservoir and mitigation sites (Potrero Creek, Harford Springs, Crown/Rawson Valleys, Motte Rimrock Reserve, Domenigoni Valley, Santa Rosa Plateau Preserve, Lake Skinner, and Vail Lake) for the Metropolitan Water District's Eastside Reservoir Project, Riverside County, CA.

Floristic and Vegetation Surveys, U.S. Department of Agriculture, Forest Service, California. Preparation of floras and vegetation surveys in the Los Padres National Forest at Mt. Pinos, a lower subalpine community in Ventura and Kern counties, and at Alder Creek Botanical Area, Monterey County, CA. Identification of plant species and collection of vegetation and site data in permanent plots established in blue oak woodland in San Luis Obispo County, CA, as part of a Forest Service project on vegetation and habitat inventory and classification.

Wetland Vegetation Surveys, Mapping, and Monitoring, Dames & Moore, California. Vegetation mapping using aerial photographs, calculations of riparian habitat acreages, and field botanical surveys for a land development project along the Santa Clara River, Los Angeles County, CA. Biological construction monitoring for an archaeological site investigation in the Los Carneros wetlands, Goleta, CA. Field surveys and mapping of wetlands and vernal pools at Beale AFB, CA.

Rare and Endangered Plant Species Surveys and Vegetation Mapping, Jones and Stokes Associates, Inc., California. Field surveys for rare and endangered plant species at the proposed Los Vaqueros Reservoir site near Livermore, Contra Costa and Alameda counties, CA, and along ephemeral drainages near Taft in the Central Valley, Kern County, CA, for a project involving clean-up of oil and brea deposits. Habitat mapping and field surveys of riparian vegetation and plant species on transects along the Lower Ventura River, for an aquatic biology survey.

Ecological Survey Reports for Candidate Research Natural Areas, U.S. Department of Agriculture, Forest Service, Ventura County, California. Field work, literature reviews, and document preparation for the San Emigdio Mesa and Sawmill Mountain Candidate Research Natural Areas, Los Padres National Forest, Ventura County, CA.

Santa Barbara County Oak Restoration Program, University of California, Santa Barbara, Santa Barbara County, California. Plant identification and vegetation monitoring in savanna and woodland habitats of blue oak, valley oak, and coast live oak, for the long-term assessment of cattle grazing impacts on oak seedling recruitment at Sedgwick Ranch, Santa Barbara County, CA.

Controlled Burn Monitoring, Vandenberg AFB, U.S. Air Force and Museum of Systematics and Ecology, University of California, Santa Barbara, California. Pre-burn monitoring of vegetation and plant species in coastal sage scrub and chaparral at two prescribed burn sites, South Vandenberg AFB.

Rare Plant Census, All American Pipeline, L.P., Gaviota, California. Rare plant monitoring census for Gaviota tarplant (*Hemizonia increscens* ssp. *villosa*) in permanent plots established at Gaviota, CA.

Ventura River Estuary Enhancement Project, California Department of Parks and Recreation, Ventura County, California. Design and implementation of a five-year vegetation monitoring program for restoration efforts at Emma Wood State Beach, Ventura County, CA. The project involves monitoring four vegetation types: willow-cottonwood forest, saltbush scrub, dune scrub, and foredune vegetation. Activities include botanical surveys, survival and growth surveys, photo documentation, data collection and comparative analysis of natural and revegetated areas, evaluation of exotics eradication, and recommendations for ongoing restoration.

Restoration Planning and Implementation, Former Guadalupe Oil Field, Unocal Corporation, San Luis Obispo County, California. Preparation and implementation of site-specific restoration plans, including the development of revegetation specifications, monitoring methods, performance criteria, and performance evaluation.

Restoration Plans for Installation of VTS Fiber-Optic Cable System, Honda Ridge Road Repair, and El Rancho Road Bridge Project, U.S. Air Force and Tetra Tech, Inc., Vandenberg AFB, California. Preparation of restoration plans including sections on ecological background, revegetation measures, monitoring and maintenance methods, performance criteria for assessing success, and restoration schedule for sites at North and South Vandenberg AFB.

Implementation of Restoration Plans, South Base and VTS Fiber-Optic Cable Systems, U.S. Air Force and Foster Wheeler Environmental Corp, Vandenberg AFB, California. Native plant species restoration, long-term monitoring, and restoration evaluation at four sites at Vandenberg AFB, CA.

Vernal Pool Restoration Monitoring, Isla Vista Recreation and Park District, Isla Vista, California. Vegetation monitoring, data analysis, and publication preparation for a 10-year assessment of restored and created vernal pools at the Del Sol Open Space and Vernal Pool Reserve.

UCSB Campus Lagoon Wetland Restoration, The Herbarium, Museum of Systematics and Ecology, University of California, Santa Barbara, California. Design of a five-year vegetation monitoring program for wetland plant communities restored at the UCSB Campus Lagoon, Santa Barbara County, CA, as required by the Streambed Alteration Agreement of the California Department of Fish and Game. The monitoring project included plant species identification, vegetation sampling, data analysis, photo documentation, and report preparation.

Integrated Natural Resources Management Plan, U.S. Air Force and Tetra Tech, Inc., Vandenberg AFB, California. Principal ecologist responsible for preparing sections on existing conditions, issues of concern, and management objectives for vegetation, wildlife, and wetland resources for a basewide five-year plan.

Natural Resources Surveys and Environmental Assessments, U.S. Air Force and Tetra Tech, Inc., Vandenberg AFB, California. Principal environmental scientist responsible for conducting field surveys and preparing report sections for vegetation, wildlife, and wetland resources for 17 environmental assessments of facility and infrastructure development projects, and for an EIS on San Antonio Creek.

Natural Resources Management Plans, U.S. Air Force and Higginbotham/Briggs & Associates. Participation in data collection, field visits, agency coordination, document preparation and review for Natural Resources Management Plans prepared for Kaena Point Satellite Tracking Station, HI, and Onizuka AFB, CA.

Recovery Plan for Two Federally Endangered Plant Species, U.S. Fish and Wildlife Service. Ecologist and principal author responsible for background research and all botanical elements of the recovery plan for marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*).

Implementation of Recovery Activities for Two Federally Endangered Plant Species, California Department of Fish and Game and University of California. Research on species

biology and ecology, plant propagation, experimental establishment of new populations, and monitoring of existing and new populations of marsh sandwort (*Arenaria paludicola*) and Gambel's watercress (*Rorippa gambelii*). Reporting of species and habitat status and progress of recovery activities.

Wetlands Management Plan, Department of Geography and Campus Wetlands Committee, University of California, Santa Barbara, California. Field and literature surveys of hydrology and sedimentation of the campus-owned wetland resources in Devereux Slough and the Storke Campus wetlands.

Goleta Revitalization EIR/EIS, County of Santa Barbara Planning and Development, Santa Barbara County, California. Wetland delineations at sixteen creek crossings and plant surveys for street extensions, bike paths and a multipurpose trail.

Plant Surveys and Wetland Delineations for Five Land Parcels, County of Santa Barbara Planning and Development, Isla Vista, California. Field surveys and report preparation for botanical and wetland resources, including jurisdictional wetland delineations and mapping, in coastal mesa vernal pool habitat along Del Playa Drive, Isla Vista.

Biological Monitoring, Environmental Quality Assurance Program (EQAP), Storrer Environmental Services, Santa Barbara County, California. . Biological monitoring for the Level (3) fiber-optic cable installation project, and for the All-American Pipeline relocation at Gaviota Creek.

Watershed Surveys, U.S. Department of Agriculture, Forest Service, Counties of Santa Barbara and Ventura, California. Geomorphological, botanical, and hydrological field work in preliminary watershed surveys in Santa Barbara and Ventura counties, CA.

Vegetation Surveys and Analysis, The Herbarium, Department of Biological Sciences, University of California, Santa Barbara, Santa Barbara County, California. Plant species identification and vegetation sampling in upland and wetland areas for baseline data inventory of botanical resources and rare plants at Fish Slough, Inyo and Mono counties, CA. Project design and field surveys of topography, riparian vegetation, and plant species in the Ventura River estuary, Ventura County, CA; computer graphics, analysis, and document preparation of environmental relationships and distribution of species and vegetation communities. Computer analysis for a project on the botanical wetland resources of the Carpinteria salt marsh, Santa Barbara County, CA.

Research Activities, Department of Geography, University of California, Santa Barbara, California. Sampling and monitoring regeneration of tree and herbaceous species in the riparian

zone of a chaparral watershed recovering from wildfire (N. Fork Matilija Creek, Ventura County); topographic channel surveys, computer plotting, ecological and botanical field, laboratory and greenhouse experiments, literature review, and data analysis. Vegetation sampling, inventory and analysis, and topographical surveys in chaparral ecosystems and oak woodlands in Burton Mesa chaparral, Santa Barbara County. Field sampling in coniferous forests of the Mendocino National Forest Reserve, CA.

MEMBERSHIPS

California Native Plant Society; Society of Wetland Scientists; Society of Ecological Restoration; California Botanical Society.

SELECTED PUBLICATIONS AND REPORTS

"Coast Live Oak Revegetation on the Central Coast of California," (with N. Gale), *Madroño*, 45(4), 1998, 301-309.

"Vegetation Monitoring of Created Dune Swale Wetlands, Vandenberg Air Force Base, California," (with N. Gale), *Restoration Ecology*, 6(1), 1998, 83-93.

"Review of Ten Years of Vernal Pool Restoration and Creation in Santa Barbara, California," (with W.R. Ferren Jr., D.M. Hubbard, S. Wiseman, and N. Gale), in C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr., and R. Ornduff (Eds.) Ecology, Conservation, and Management of Vernal Pool Ecosystems, Proceedings from a 1996 Conference, California Native Plant Society, Sacramento, CA, 1998, 206-216.

"Peacekeeper Rail Garrison and Small ICBM Mitigation Program, San Antonio Terrace, Vandenberg AFB, California Annual Wetlands Monitoring Report, Annual Upland Monitoring Report, Year 5," Prepared for the U.S. Department of the Air Force, Detachment 10, Space and Missile Systems Center, San Bernardino, CA, February 1996.

"Vegetation Monitoring of Created Wetland Sites on the San Antonio Terrace, Vandenberg Air Force Base, California," (with N. Gale), in M.C. Landin (Ed.) Proceedings of the National Interagency Workshop on Wetlands: Technology Advances for Wetlands Science, Technical Report, Wetlands Research and Technology Center, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MS, 1995, 153-55.

"Recovery Plan for Marsh Sandwort (*Arenaria paludicola*) and Gambel's Watercress (*Rorippa gambelii*)," (with N. Gale), U.S. Fish and Wildlife Service, Ventura, CA, August 1994.

"Wetland Creation and Vegetation Monitoring in a Stabilized Sand Dune Ecosystem, San Antonio Terrace, Vandenberg Air Force Base, California," (with N. Gale and T. Waddell), in M.C. Landin (Ed.) Proceedings of the 13th Annual Meeting of the Society of Wetland Scientists (SWS), New Orleans, LA, 1993, 368-76.

"First-Year Vegetation Monitoring of Created Wetlands on the San Antonio Terrace, Vandenberg Air Force Base, California," (with N. Gale and T. Waddell), in A.E. Leviton and M.L. Aldrich (Eds.) Proceedings of the Pacific Division, American Association for the Advancement of Science, University of California, Santa Barbara, June 1992, p. 46.

"Biotic Inventory and Ecosystem Characterization for Fish Slough, Inyo and Mono Counties, California," (with the Fish Slough Research Team), Report to State of California, The Resources Agency, Department of Fish and Game, by the Departments of Biological Sciences, Geography, and Geological Sciences, University of California, Santa Barbara, June 1991.

"Ecology of a Mediterranean-Climate Estuarine Wetland at Carpinteria, California: Plant Distributions and Soil Salinity in the Upper Marsh," (with R. Callaway, S. Jones, W. Ferren), *Canadian Journal of Botany*, 68, 1990, 1139-1146.

"Botanical Resources at Emma Wood State Beach and the Ventura River Estuary, California: Inventory and Management," (with W. Ferren, M. Capelli, D. Magney, K. Clark, and J. Haller), Report to the State of California Department of Parks and Recreation, Environmental Report No. 15, The Herbarium, Department of Biological Sciences, University of California, Santa Barbara, August 1990.

"UCSB Campus Wetlands Management Plan, Part IICTechnical ReportCHydrology, Water Quality, and Sedimentation of West and Storke Campus Wetlands," (with F. Davis, D. Theobald, and R. Harrington), Report to the California Coastal Conservancy and Campus Wetlands Committee, University of California, Santa Barbara, CA, 1990.

"Recovery of the Chaparral Riparian Zone After Wildfire," (with F. Davis, E. Keller, and J. Florsheim), Proceedings of the California Riparian Systems Conference, September 22-24, 1988, Davis, CA, Protection, Management, and Restoration for the 1990s, Gen. Tech. Rep. PSW-110, U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station, 1989, 194-203.

"Plant Communities and Flora of the Proposed Botanical Reserve on Mt. Pinos, Ventura and Kern counties, CA," (with D. Capralis), Survey Report, U.S. Department of Agriculture, Forest Service, Los Padres National Forest Headquarters, Goleta, CA, August 1988.

"Terrestrial Vegetation of Rattlesnake Canyon," (with F. Davis), Proceedings of the Chaparral Ecosystems Research Conference, Santa Barbara, CA, Report No. 62, California Water Resources Center, University of California, Davis, CA, 1986, 13-17.

APPENDIX B

Vascular Plant Species Observed
Valencia Commerce Center Site
(2002, 2003, 2004 and 2005)

APPENDIX B
Vascular Plant Species Observed
Valencia Commerce Center Site (2002, 2003, 2004, 2005 and 2006)

LYCOPODIAE

SELAGINELLACEAE – SPIKE-MOSS FAMILY

Selaginella bigelovii – Bigelow's spike-moss

FILACEAE

PTERIDACEAE – BRAKE FAMILY

Pellaea andromedifolia var. *andromedifolia* – coffee fern

Pentagramma triangularis ssp. *viscosa* – goldenback fern

CONIFERAE

PINACEAE – PINE FAMILY

Pinus sp. – pine

ANGIOSPERMAE (DICOTYLEDONES)

AIZOACEAE – CARPET-WEED FAMILY

* *Mesembryanthemum crystallinium* – crystalline ice plant

* *Mesembryanthemum nodiflorum* – small-flowered ice plant

AMARANTHACEAE – AMARANTH FAMILY

Amaranthus albus – tumbleweed

Amaranthus blitoides – prostrate amaranth

* *Amaranthus retroflexus* – rough pigweed

ANACARDIACEAE – SUMAC FAMILY

Rhus ovata – sugar-bush

Rhus trilobata – squaw bush

APIACEAE – CARROT FAMILY

Apiastrum angustifolium – wild celery

Bowlesia incana – bowlesia

* *Conium maculatum* – poison-hemlock

Daucus pusillus – rattlesnake weed

* *Foeniculum vulgare* – sweet fennel

APOCYNACEAE – DOGBANE FAMILY

* *Nerium oleander* – oleander

ASCLEPIADACEAE – MILKWEED FAMILY

Asclepias eriocarpa – Indian milkweed

ASTERACEAE – SUNFLOWER FAMILY

Achillea millefolium var. *californica* – yarrow
Acourtia microcephala – sacapellote
Agoseris grandiflora – mountain dandelion
Ambrosia acanthicarpa – annual burweed
Ambrosia confertifolia – weak-leaved burweed
Ambrosia dumosa – white bursage
Ambrosia psilostachya – western ragweed
Artemisia californica – coastal sagebrush
Artemisia tridentata ssp. *tridentata* – Great Basin sagebrush
* *Arctotis hisuta* – African daisy
Artemisia dracunculus – tarragon
Artemisia douglasiana – California mugwort
Baccharis pilularis – coyote brush
Baccharis salicifolia – mule fat
Baccharis sarothroides – chaparral broom
Brickellia californica – California brickellbush
Brickellia nevinii – Nevin's brickellbush
* *Carduus pycnocephalus* – Italian thistle
* *Centaurea melitensis* – star thistle
* *Centaurea solstitialis* – yellow star thistle
Chaenactis glabriuscula – yellow pincushion
* *Chamomilla suaveolens* – pineapple weed
Chrysothamnus nauseousus – rubber rabbitbrush
Cirsium occidentale var. *californicum* – California thistle
* *Cirsium vulgare* – Bull thistle
* *Cnicus benedictus* – blessed thistle
Conyza canadensis – horseweed
Coreopsis bigelovii – tickseed
* *Cotula australis* – brass buttons
* *Dimorphotheca sinuata* – Cape-marigold
Encelia californica – California bush sunflower
Encelia farinosa – brittlebush, incensio

Ericameria palmeri var. *pachylepis* – Goldenbush
Erigeron foliosus var. *stenophyllus* – leafy daisy
Eriophyllum confertiflorum – long-stem golden yarrow
Filago californica – California fluffweed
* *Filago gallica* – narrow-leaf filago
* *Gazania linearis* – African daisy
Gnaphalium sp. (undescribed) – everlasting
Gnaphalium californicum – California everlasting
Gnaphalium canescens ssp. Microcephalum – white everlasting
Gnaphalium luteo-album – white cudweed
Hazardia sp. – goldenbush
Helianthus annuus – common sunflower
Hemizonia fasciculata – fascicled tarweed
Heterotheca grandiflora – telegraph weed
Heterotheca psammophila – camphor weed
Heterotheca sessiliflora – golden aster
Heterotheca sessiflora ssp. *fastigiata* – telegraph weed
* *Hypochaeris glabra* – smooth cat's-ear
Isocoma menziesii ssp. *veneta* – coastal Goldenbush
* *Lactuca serriola* – prickly lettuce
Lasthenia californica – coast goldfields
Lasthenia glabrata ssp. *coulteri* – Coulter's goldfields
Lepidospartum squamatum – scale-broom
Lessingia filaginifolia – virgate cudweed aster
Madia gracilis – slender tarweed
Malacothrix saxatilis var. *commutate* – cliff desert dandelion
Malacothrix saxatilis - cliff *malacothrix* var. *tenuifolia* – cliff malacothrix
* *Matricaria marticarioides* – pineapple weed
Micropus californicus – slender cottonweed
Microseris douglasii – Douglas' microseris
Microseris lindleyi – Lindley's microseris
* *Picris echioides* – bristly ox-tongue
Pluchea odorata – marsh-fleabane
Pluchea sericea – arrow weed
* *Pulicaria paludosa* – Spanish sunflower
Rafinesquia californica – California chicory
Senecio californica – California groundsel
Senecio californicus – California butterweed
Senecio flaccidus var. *douglasii* – butterweed

* *Senecio vulgaris* – common groundsel
Silybum marianum – milk thistle
Solidago californica – California goldenrod
* *Sonchus asper* – prickly sow-thistle
* *Sonchus oleraceus* – common sow-thistle
Stephanomeria sp. – wreathplant
Stephanomeria virgata – twiggy wreathplant
Stylocline gnaphalioides – everlasting nest-straw
Tetradyma comosa – hairy horsebrush
Uropappus lindleyi – silver puffs
Xanthium strumarium – cocklebur

BORAGINACEAE – BORAGE FAMILY

Amsinckia menziesii – yellow fiddleneck
Amsinckia intermedia – common fiddleneck
Cryptantha intermedia – common forget-me-not
Cryptantha micrstachys – Tejon cryptantha
Cryptantha muricata – prickly cryptantha
Cryptantha nevadensis – Nevada cryptantha
Cryptantha spp. – forget-me-not
Heliotropium curassavicum – wild heliotrope
Pectocarya linearis – slender pectocarya
Pectocarya recurvata – pectocarya
Plagiobothrys canescens – rusty popcorn flower
Plagiobothrys nothofulvus – popcorn flower
Plagiobothrys fulvus – popcorn flower
Plagiobothrys sp. – popcorn flower

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
* *Brassica rapa* – turnip
* *Brassica tournefortii* – mustard
Erysimum capitatum – western wallflower
Capsella bursa pastoris – shepherd's purse
Erysimum capitatum ssp. *capitatum* – western wallflower
* *Hirschfeldia incana* – short-podded mustard
* *Lobularia maritime* – sweet alyssum
* *Sisymbrium altissimum* – tumble mustard
* *Sisymbrium irio* – London rocket

* *Sisymbrium orientale* – Oriental mustard
Stanleya pinnata var. *pinata* – prince's plume
Thysanocarpus curvipes – hairy fringepod
Thysanocarpus laciniatus – narrow-leaved fringepod

CACTACEAE – CACTUS FAMILY
Opuntia basilaris var. *ramosa* – beavertail cactus
Opuntia littoralis – coastal prickly-pear
Opuntia parryi – valley cholla

CAPPARACEAE – CAPER FAMILY
Isomeris arborea – bladderpod

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY
Lonicera subspicata – southern honeysuckle
Sambucus mexicana – Mexican elderberry

CARYOPHYLLACEAE – PINK FAMILY
* *Silene gallica* – common catchfly
* *Stellaria media* – common chickweed

CHENOPODIACEAE – GOOSEFOOT FAMILY
Atriplex canescens – four-winged saltbush
Atriplex lentiformis – big saltbush, quail brush
Atriplex semibaccata – Australian saltbush
Atriplex suberecta – Australian saltbush
Chenopodium album – lamb's quarters
Chenopodium berlandieri – pitseed goosefoot
Chenopodium californicum – California goosefoot
Chenopodium murale – nettle-leaved goosefoot
* *Salsola tragus* – Russian-thistle

CRASSULACEAE – STONECROP FAMILY
Crassula connata – dwarf stonecrop
Dudleya lanceolata – lanceleaf dudleya

CONVOLVULACEAE – MORNING-GLORY FAMILY
Calystegia macrostegia – western bindweed
Calystegia peirsonii – Peirson's morning-glory
Convolvulis arvensis – bindweed

CRASSULACEAE – STONECROP FAMILY

Crassula connata – dwarf stonecrop
Dudleya lanceolata – lanceleaf dudleya

CUCURBITACEAE – GOURD FAMILY

Cucurbita foetidissima – coyote-melon, calabazilla
* *Marah fabaceus* – cucumber
Marah macrocarpus – wild cucumber

CUSCUTACEAE – DODDER FAMILY

Cuscuta californica – California dodder

EUPHORBIACEAE – SPURGE FAMILY

Chamaesyce albomarginata – rattlesnake spurge
Chamaesyce polycarpa – small-seed sand mat
Croton californicus – California croton
Eremocarpus setigerus – doveweed
Euphorbia spathulata – reticulate-seeded spurge
Stillingia linearifolia – linear-leaved stillingia

FABACEAE – PEA FAMILY

Astragalus trichopodus – Santa Barbara locoweed
Lotus hamatus – grab lotus
Lotus purshianus – Spanish-clover
Lotus salsuginosus – coastal lotus
Lotus scoparius – deerweed
Lotus strigosus – strigose deerweed
Lotus wrangelianus – California lotus
Lupinus bicolor – Lindley's annual lupine
Lupinus arizonicus – Arizona lupine
Lupinus hirsutissimus – stinging lupine
Lupinus excubitus var. *hallii* – grape soda lupine
Lupinus formosus var. *formosus* – no common name
Lupinus microcarpus var. *densiflorus* – chick lupine
Lupinus microcarpus var. *microcarpus* – chick lupine
Lupinus sparsiflorus – Coulter’s lupine
Lupinus succulentis – arroyo lupine
Lupinus truncatus – collar lupine
* *Medicago sativa* – alfalfa

* *Medicago polymorpha* – California burclover
* *Melilotus alba* – white sweet-clover
* *Melilotus indica* – yellow sweet-clover
Trifolium albopurpureum – Indian clover
Trifolium ciliolatum – tree clover
Trifoliun gracilentum – clover
Trifolium willdenovii – wildcat clover
* *Vicia benghalensis* – purple vetch
Vicia hassei – slender vetch
* *Vicia villosa* var. *varia* – hairy vetch

FAGACEAE – BEECH FAMILY

Quercus sp. – scrub oak
Quercus agrifolia – coast live oak
Quercus john-tuckerii – Tucker's oak
Quercus lobata – valley oak

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutarium* – red-stemmed filaree
* *Erodium moschatum* – white-stemmed filaree

GROSSULARIACEAE – CURRANT FAMILY

Ribes aureum – golden currant

HYDROPHYLLACEAE – WATERLEAF FAMILY

Emmenanthe penduliflora – whispering bells
Eriodictyon crassifolium var. *nigrescens* – yerba santa
Eucrypta chrysanthemifolia – common eucrypta
Phacelia cicutaria var. *hispida* – caterpillar phacelia
Phacelia distans – wild heliotrope
Phacelia parryi – Parry's phacelia
Phacelia ramosissima – shrubby phacelia
Phacelia tanacetifolia – phacelia

JUGLANDACEA – WALNUT FAMILY

Juglans californica – Southern California black walnut

LAMIACEAE – MINT FAMILY

* *Lamium amplexicaule* – dead nettle
* *Marrubium vulgare* – horehound
Salvia apiana – white sage
Salvia columbariae – chia
Salvia leucophylla – purple sage
Salvia mellifera – black sage
Trichostema lanceolatum – vinegar weed

MALVACEAE – MALLOW FAMILY

Malacothamnus fasciculatus – mesa bushmallow
* *Malva parviflora* – cheeseweed

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

Mirabilis californica – California wishbone-bush

ONAGRACEAE – EVENING-PRIMROSE FAMILY

Camissonia bistorta – California sun cup
Camissonia boothii – desert lantern
Camissonia californica – mustard primrose
Camissonia cheiranthifolia – beach evening primrose
Camissonia hirtella – field sun cup
Camissonia micrantha – miniature sun cup
Camissonia strigulosa – sandy soil sun cup
Clarkia purpurea – winecup clarkia
Clarkia unguiculata – elegant clarkia
Epilobium ciliatum – California cottonweed
Oenothera californica – California evening primrose
Oenothera elata – evening primrose

PAPAVERACEAE – POPPY FAMILY

Eschscholzia californica – California poppy
Platystemon californicus var. *crinitus* – cream cups
Stylomecon heterophylla – wind poppy

PLANTAGINACEAE – PLANTAIN FAMILY

Plantago erecta – dot-seed plantain
Plantago sp. – plantain

POLEMONIACEAE – PHLOX FAMILY

Eriastrum densifolium ssp. *densifolium* – woolly star
Eriastrum densifolium ssp. *elongatum* – chaparral woolly-star
Eriastrum sapphirinum – sapphire eriastrum
Gilia angelensis – angel gilia
Gilia capitata – ball gilia
Leptodactylon californicum – prickly phlox
Linanthus pygmaeus – linanthus

POLYGONACEAE – BUCKWHEAT FAMILY

Chorizanthe parryi var. *fernandina* – San Fernando Valley spineflower
Chorizanthe staticoides – turkish rugging
Eriogonum baileyi – Bailey's buckwheat
Eriogonum brachyanthum – short-flowered buckwheat
Eriogonum elongatum – long-stemmed buckwheat
Eriogonum fasciculatum ssp. *foliolosum* – California buckwheat
Eriogonum angulosum – wild buckwheat
Eriogonum gracile – slender woolly buckwheat
Lastarriaea coriacea – lastarriaea
Polygonum arenastrum – common knotweed
Pterostegia drymarioides – California threadstem
* *Rumex crispus* – curly dock
Rumex hymenosepalus – wild rhubarb
* *Rumex obtusifolius* – dock

PORTULACACEAE – PURSLANE FAMILY

Calandrinia ciliata var. *menziesii* – redmaids
Calyptridium monandrum – common calyptridium
Claytonia perfoliata var. *perfoliata* – miner's-lettuce
* *Portulaca oleracea* – common purslane

RANUNCULACEAE – CROWFOOT FAMILY

Delphinium parryi ssp. *parryi* – Parry's larkspur

RHAMNACEAE – BUCKTHORN FAMILY

Ceanothus megacarpus – big-podded Ceanothus
Rhamnus ilicifolia – holly-leaf redberry

ROSACEAE – ROSE FAMILY

Adenostoma fasciculatum – chamise
Heteromeles arbutifolia – toyon
Physanocarous alteranus – ninebark
Prunus ilicifolia – holly-leaf cherry
Rubus ursinus – California blackberry

RUBIACEAE – MADDER FAMILY

Galium angustifolium – narrow-leaved bedstraw
* *Galium aparine* – goose grass
Galium nuttallii – Nuttall's bedstraw

SALICACEAE – WILLOW FAMILY

Populus fremontii – Fremont's cottonwood
Salix exigua – narrow-leaved willow
Salix laevigata – red willow
Salix lasiolepis – arroyo willow

SCROPHULARIACEAE – FIGWORT FAMILY

Antirrhinum coulterianum – white snapdragon
Antirrhinum kelloggii – climbing snapdragon
Castilleja affinis – coast paintbrush
Castilleja exserta – common owl's-clover
Castilleja foliolosa – wooly Indian paintbrush
Collinsia heterophylla – Chinese houses
Mimulus aurantiacus – bush monkeyflower
Mimulus brevipes – wide-throat monkeyflower
Penstemon centranthifolius – scarlet bugler
Scrophularia californica var. *floribunda* – coast figwort
Veronica anagallis-aquatica – water speedwell

SOLANACEAE – NIGHTSHADE FAMILY

Datura wrightii – western jimsonweed
* *Nicotiana glauca* – tree tobacco
Nicotiana quadrivalvis – Wallace's tobacco
Solanum americanum – small-flowered nightshade
Solanum douglasii – white nightshade
Solanum umbelliferum – blue witch
Solanum xanti – chaparral nightshade

TAMARICACEAE – TAMARISK FAMILY

* *Tamarix* sp. – tamarisk
* *Tamarix gallica* – French tamarisk
* *Tamarix ramosissima* – salt cedar

URTICACEAE – NETTLE FAMILY

Urtica dioica – giant creek nettle
* *Urtica urens* – dwarf nettle

VISCACEAE – MISTLETOE FAMILY

Phoradendron macrophyllum – big leaf mistletoe

ZYGOPHYLLACEAE – CALTROP FAMILY

* *Tribulus terrestris* – puncture vine

ANGIOSPERMAE (MONOCOTYLEDONES)

ARECACEAE – PALM FAMILY

* *Washingtonia robusta* – Mexican fan palm

CYPERACEAE – SEDGE FAMILY

Cyperus esculentus – yellow nut-grass

LILIACEAE – LILY FAMILY

Calochortus clavatus var. *gracilis* – slender mariposa lily
Chlorogalum pomeridianum – soap plant
Dichelostemma capitatum – blue dicks
Yucca whipplei – Our Lord's candle

POACEAE – GRASS FAMILY

Achnatherum coronatum – giant needlegrass
* *Arundo donax* – giant reed
* *Avena barbata* – slender oat
* *Avena fatua* – wild oat
* *Avena sativa* – common oat
Bromus carinatus – California brome
* *Bromus diandrus* – ripgut grass
* *Bromus hordeaceus* – soft chess
* *Bromus madritensis* ssp. *rubens* – foxtail chess

* *Bromus tectorum* – cheat grass
* *Cortaderia selloana* – pampas grass
Cynodon dactylon – Bermuda grass
Distichlis spicata – salt grass
Elymus glaucus – western wild rye
* *Hordeum murinum* – glaucous foxtail barley
* *Hordeum brachyantherum ssp. brachyantherum* – no common name
Leymus condensatus – giant ryegrass
Leymus triticoides – beardless wild rye
Lolium multiflorum – Italian ryegrass
Lolium perenne – perennial ryegrass
Melica imperfecta – California melic
Melica subulata – Alaska onion grass
Muhlenbergia microsperma – littleseed muhly
Nassella cernua – nodding needlegrass
Nassella lepida – foothill needlegrass
Nassella pulchra – purple needlegrass
* *Parapholis incurva* – sickle grass
* *Pennisetum clandestinum* – kikuyu grass
* *Phalaris minor* – Mediterranean canary grass
* *Piptatherum miliaceum* – smilo grass
* *Poa annua* – annual bluegrass
* *Polypogon monspeliensis* – rabbit's-foot grass
* *Schismus arabicus* – Arabian schismus
* *Schismus barbatus* – abumashi
* *Triticum aestivum* – common wheat
* *Vulpia myuros* – rattail fescue

TYPHACEAE – CATTAIL FAMILY

Typha domingensis – slender cattail
Typha latifolia – broad-leaved cattail

* signifies introduced (non-native) species

APPENDIX C

California Natural Diversity Database Forms

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

OFFICE USE ONLY

Document Code _____ Quad Code _____
Index Code _____ Occurrence #_____
Copy Sent To _____

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU. USE THE BACK FOR COMMENTS IF NECESSARY. ***PLEASE ATTACH OR DRAW A MAP ON BACK.***

Scientific name (no codes): *Chorizanthe parryi* var. *fernandina*

Reporter: Anuja Parikh, Nathan Gale, Colin Khoury Phone: (760) 942-5147

Address: Dudek & Associates, 605 Third Street, Encinitas, California 92024

Date of Field Work: May 17-20, 2006 County: Los Angeles Collection: If yes, # Mus./Herb:

Location: Santa Clarita Valley, north-facing canyon north of the junction of Commerce Center Drive and SR 126.

Quad Name: Val Verde _X_ 7½' ___ 15' Elevation: 1000-1100' T 4N R 17W W ¼ of ____ ¼ Sec ____

Landowner/Manager: Newhall Land, 23823 Valencia Boulevard, Valencia, California 91355

Species Found? _X_ Yes ___ No If not, reason:

Is this a new location record? ___ Yes _X_ No ___ Unknown

Total # of Individuals = 204,405 Is this a subsequent visit? _X_ Yes ___ No Compared to your last visit: _ more ___same _X_ fewer

Phenology (plants): ___% vegetative ___% flowering ____% fruiting (not reported)

Population Age Structure (animals): ____ # adults ____ # juveniles ____ # others

Site Function for Species (animals): ____ breeding ____ foraging ____ wintering ____ roosting ____ denning ____ other

Habitat Description (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope):

Annual (non-native) grassland – *Avena barbata*, *Bromus* spp., *Eriogonum fasciculatum*, *Lupinus bicolor*, *Clarkia purpurea*, *Artemisia californica*, and *Vulpia myuros* (average 30% native cover and 17% bare ground). Observed individuals occurred on both south and south-east and south-west facing slopes of up to 20% within clay loam soils.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use: vacant; Visible Disturbances: detention basin at base of slope; Possible Threats: proposed residential/commercial development.

Overall Site Quality: ____ Excellent _X_ Good ____Fair ___ Poor

Comments: This report summarizes 46 discrete locations with estimated abundances of one to 95,000 individuals.

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

___ Keyed in a site reference:
___ Compared with specimen housed at:
___ Compared with photo/drawing in:
___ By another person (name):
_X_ Other: personal knowledge

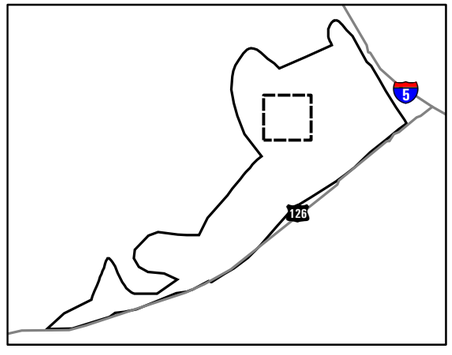
PHOTOGRAPHS (Check one or more)

Subject	**Type**
___ Plant/Animal	___ Slide
___ Habitat	___ Print
___ Diagnostic Feature	
___ Other	

OTHER KNOWLEDGEABLE INDIVIDUALS (Name/Address/Phone)

May we obtain duplicates at our cost?
____ Yes _X_ No

San Fernando Valley spineflower -
Chorizanthe parryi var. fernandina



TOPO SOURCE: Psomas Engineering, 2002

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Feet
125 0

Valencia Commerce Center

2006 San Fernando Valley spineflower Results

FIGURE
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