Dudek and Associates, Inc., "2002 Sensitive Plant Survey Results for Entrada [Magic Mountain Entertainment], Los Angeles County, California" (January 2003; 2002B)

2002 Sensitive Plant Survey Results

Entrada (Magic Mountain Entertainment)

Los Angeles County, California

JANUARY 2003

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2002 Sensitive Plant Survey Results

for

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2002 Sensitive Plant Survey Results
Magic Mountain Entertainment Site

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2002 Sensitive Plant Survey Results
Magic Mountain Entertainment Site

1.0 INTRODUCTION

The purpose of this report is to document the results of surveys for sensitive plant species within the 550-acre Magic Mountain Entertainment Site (MME) for the 2002 field season, with an emphasis on the identification of populations of the state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; SFVS).

2.0 SITE DESCRIPTION

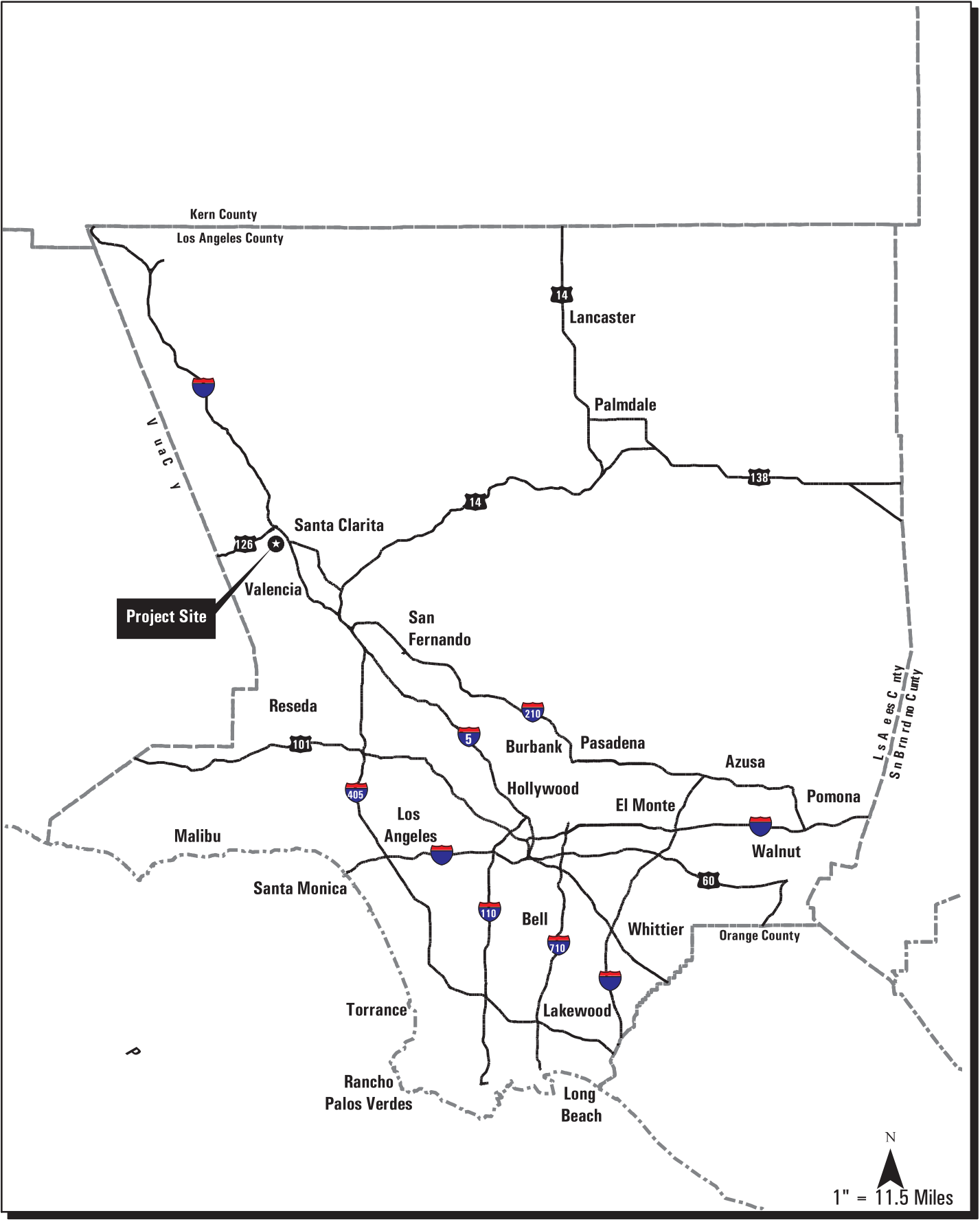
The 550-acre Magic Mountain Entertainment site is located in an unincorporated portion of the Santa Clara River Valley in northwestern Los Angeles County (*Figure 1*). The MME site lies just west of Interstate 5 (I-5) and about two miles south of State Route 126 (SR-126). The City of Santa Clarita is roughly four miles east of the project site (*Figure 2*).

The southern portion of the MME site is dominated by several north/south trending ridges. A narrow panhandle (roughly 100 meters wide) extends along the western portion of the site (east of Airport Mesa) to an agricultural field in the floodplain of the Santa Clara River. The northeastern portion of the site contains a large agricultural field with fragments of relictual oak woodlands and Venturan coastal sage scrub. Site elevations range from approximately 1,000 feet above mean sea level (AMSL) along the Santa Clara River to approximately 1,550 feet AMSL on the ridges in the southwestern portion of the site (*Figure 2*).

Slope gradients range from moderate to very steep in the hillside areas to very gentle within the Santa Clara River floodplain, tributary canyons and associated mesas. Distinctive geographic features include the north/south trending ridges on the southern portion of the site, a wash that drains north through the site from the Santa Susana Mountains to the Santa Clara River, and the flood plain of the Santa Clara River on the northwestern portion of the site.

2.1 Plant Communities and Land Covers

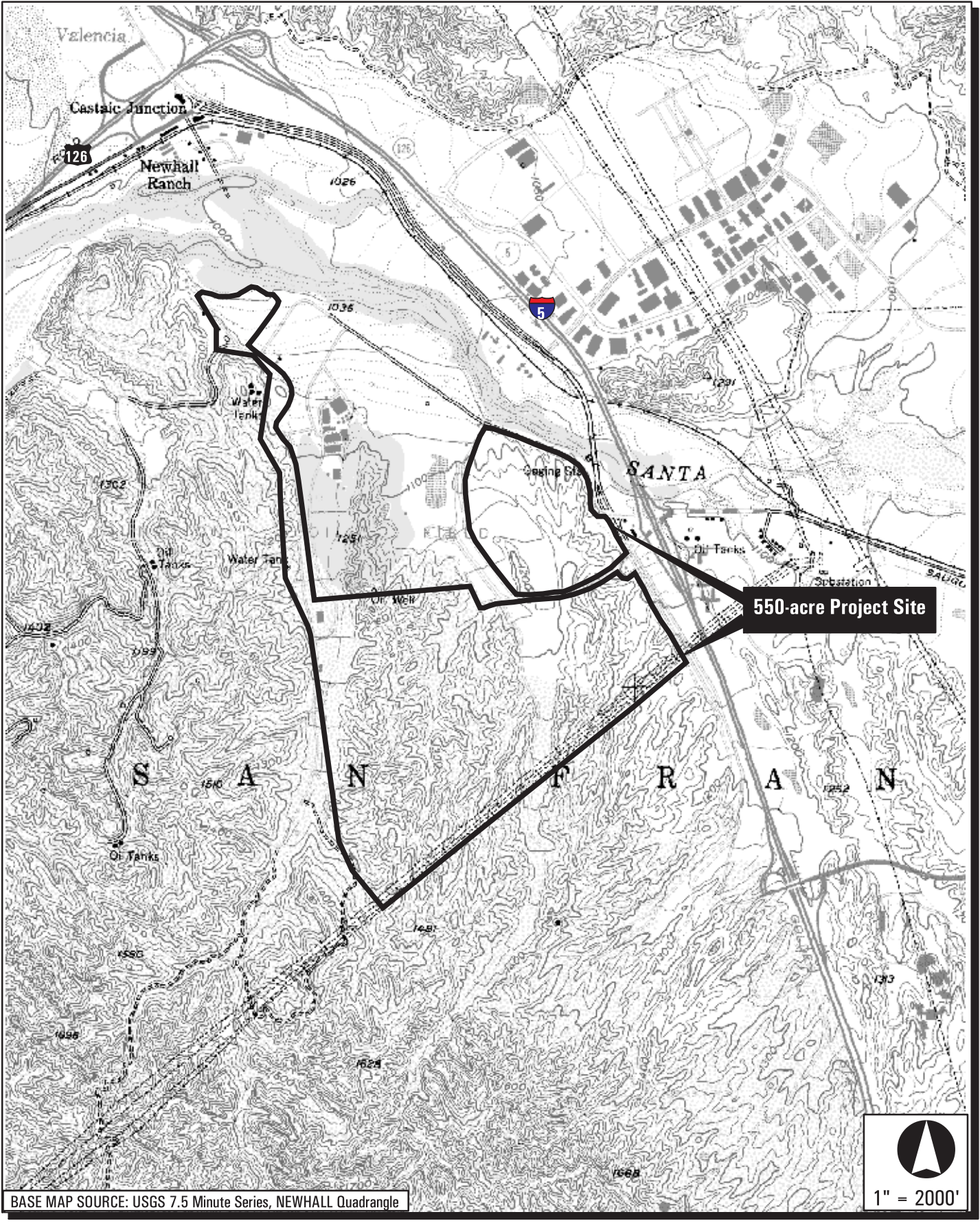
Native and naturalized habitats within the MME site are representative of those found in this region and provide examples of those plant communities found in the Santa Susana Mountains and the Santa Clara River ecosystems. Venturan coastal sage scrub, chamise and mixed chaparral, valley oak and scrub oak woodlands, and native and non-native grasslands are the major upland plant communities on the site. Ephemeral and intermittent drainages onsite provide habitat for alluvial and scalebroom scrubs. The



Magic Mountain Entertainment Site

Regional Map

FIGURE 1



BASE MAP SOURCE: USGS 7.5 Minute Series, NEWHALL Quadrangle

Magic Mountain Entertainment Site

Vicinity Map

FIGURE 2

northeast portion of the site includes an agriculture field with some intact upland habitats. While upland habitats dominate the landscape within the site, the Santa Clara River is immediately adjacent to it and supports a variety of riparian plant communities. These include southern cottonwood-willow riparian forest, southern willow scrub, mulefat scrub, arrow weed scrub, and freshwater marsh and seeps.

The Newhall Land and Farming Company leases out portions of the site for oil and natural gas production, as well as for cattle grazing and agricultural operations. Grazing activities have had a noticeable effect on much of the natural habitat onsite. Scrub habitats have been displaced by non-native grasslands, apparently as a result of grazing. Southern California Edison and Southern California Gas Company have transmission lines within easements along the southern portion of the site as well. The easements/transmission lines are actively maintained.

2.2 Geology and Soils

Geologically, the site 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. They are cut by segments of the Del Valle and Salt Creek faults. Bedrock formations found in the area include the Modelo, Towsley, Pico, Saugus, and Pacoima formations, as well as Quaternary Terrace deposits. Surficial deposits include Quaternary alluvium, slopewash, soil, and artificial fill (Allan E. Seward 2002).

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, with varying levels of specificity; all of which are described below.

3.1 Literature Review

General floristic and sensitive botanical resources present or potentially present on the MME 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 (CNDDB, September 2002); *Biological Resource Assessment of the Proposed Santa Susana Mountains/Simi Hills Significant Ecological Area* (PCR, November 2000); 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 Herbarium (UCR). General information regarding vegetation communities was obtained from Holland (1986) and Sawyer and Keeler-Wolf (1995). Plant species nomenclature follows Hickman (1993).

3.2 Field Reconnaissance Methods

Botanical surveys for sensitive plant species were conducted by Dudek & Associates, Inc. (DUDEK) staff biologists. All surveys were conducted on-foot. Surveys were conducted by Julie Vanderwier and Mark A. Elvin, with assistance provided by DUDEK biologist Cathleen Wiegand. Resumes for survey personnel are provided in *Appendix A.* Botanical surveys of the site were conducted between May and September of 2002 in accordance with the schedule provided in *Table 1*. Approximately 120 person-hours (15 person-days) were spent conducting botanical surveys within the study area.

DUDEK surveyed for sensitive plant species on the MME site with varying levels of specificity. These surveys were conducted with two separate goals and levels of specificity: **(1)** From May 7 through 9, 2002, surveys were focused on the location of all federally- and state-listed, proposed for listing, and candidate species and California Native Plant Society (CNPS) List 1A, 1B, and 2 species (see the list of target species in *Table 2*); and **(2)** On June 12 and 13, and September 17, 2002, surveys were focused on the identification and location of populations of SFVS after a better search image had been developed during surveys on the Newhall Ranch Specific Plan project site (DUDEK 2002). Other sensitive plants were recorded incidentally when observed during this survey effort.

TABLE 1
Survey Schedule & Personnel
Magic Mountain Entertainment Site

DATE	BIOLOGISTS	PURPOSE	GENERAL GEOGRAPHIC AREA
5-07-02	Mark Elvin, Julie Vanderwier	Focused surveys for sensitive plant species	Agriculture field in northeastern portion and southern portion of the site
5-08-02	Mark Elvin, Julie Vanderwier	Focused surveys for sensitive plant species	Southern portion of the site and northwestern arm
5-09-02	Mark Elvin, Julie Vanderwier,	Focused surveys for sensitive plant species	Southern portion of the site including wash area
6-12-02	Mark Elvin, Julie Vanderwier	Focused surveys for SFVS	Southern portion of the site
6-13-02	Mark Elvin, Julie Vanderwier	Focused surveys for SFVS	Southern portion of the site
9-17-02	Mark Elvin, Cathleen Wiegand	Focused surveys for SFVS	Southern portion of the site

TABLE 2
Sensitive Plant Species Subject of Field Surveys

Scientific Name	Common Name
Arenaria paludicola	marsh sandwort
Astragalus brauntonii	Braunton's milk-vetch
Atriplex coulteri	Coulter's saltbush
Atriplex serenana var. *davidsonii*	Davidson's saltscale
Baccharis malibuensis	Malibu baccharis
Berberis nevinii	Nevin's barberry
Brodiaea filifolia	thread-leaved brodiaea
Calochortus clavatus var. *clavatus*	club-haired mariposa lily
Calochortus clavatus var. *gracilis*	slender mariposa lily
Calochortus plummerae	Plummer's mariposa lily
Calochortus weedii var. *vestus*	late-flowered mariposa lily
Calystegia peirsonii	Peirson's morning-glory
Calystegia sepium ssp. *binghamiae*	Santa Barbara morning-glory
Centromadia [=*Hemizonia*] *parryi* ssp. *australis*	southern tarplant
Cercocarpus betuloides var. *blancheae*	island mountain-mahogany
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower
Deinandra [=*Hemizonia*] *minthornii*	Santa Susana tarplant
Dodecahema leptoceras	slender-horned spineflower
Dudleya blochmaniae var. *blochmaniae*	Blochman's dudleya
Dudleya cymosa ssp. *agourensis*	Santa Monica Mountains dudleya
Dudleya cymosa ssp. *marcescens*	marcescent dudleya
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya
Dudleya multicaulis	many-stemmed dudleya

TABLE 2
Sensitive Plant Species Subject of Field Surveys

Scientific Name	Common Name
Dudleya parva	Conejo dudleya
Erodium macrophyllum	round-leaved filaree
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower
Horkelia cuneata var. *puberula*	mesa horkelia
Juglans californica	southern California black walnut
Malacothamnus davidsonii	Davidson's bush mallow
Nama stenocarpum	mud nama
Nolina cismontane	chaparral nolina
Opuntia basilaris var. *brachyclada*	short-joint beavertail
Oxytheca parishii var. *abramsii*	Abram's oxytheca
Pentachaeta lyonii	Lyon's pentachaeta
Rorippa gambellii	Gambel's water cress
Senecio aphanactis	rayless ragwort
Sidalcea neomexicana	salt spring checkerbloom
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern

All plant species encountered during the field surveys were identified and recorded for inclusion in *Appendix B*. 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.*, Abrams 1923, Dale 1986, or Roberts 1998).

Surveys for the sensitive plant species listed in *Table 2* were conducted based upon: **(1)** the habitat preference, habit, and phenology for each species; **(2)** professional experience; and **(3)** any other additional information gathered from those sources discussed in *Section 2.1* above. Surveys for SFVS were focused in open areas of Venturan coastal sage scrub (purple sage series (Sawyer and Keeler-Wolf 1995)) and non-native grassland (California annual grassland series (Sawyer and Keeler-Wolf 1995)) on ridgelines, slopes, and escarpments with a southern, southwestern, or southeastern exposure based on information gathered during the documentation of SFVS populations flagged by CDFG; information gathered during surveys by DUDEK for SFVS populations on the Newhall Ranch project site; information contained in the report prepared by Glenn Lukos Associates, Inc. (2002); the status report prepared for the Fish and Game Commission (CDFG 2000); and conversations with Rick Reifner, the botanist who re-discovered SFVS at Ahmanson Ranch in 1999. Information regarding co-occurring plant species, general

soils observations, and population estimates (based on counts of small areas and extrapolating an estimate for the polygon as a whole) were noted at those locations where SFVS was found, along with whether the plants were from the current year or before (pre-2002). Riparian communities along the Santa Clara River were not surveyed.

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 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 California Native Plant Society's *Inventory of Rare and Endangered Plants of California* (CNPS 2001; *Inventory*), 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 were included in discussions only when incidentally encountered during the field surveys.

3.2.2 Survey Limitations

Surveys were conducted in late spring and summer of 2002, which was the driest year in recorded history for Los Angeles County (It began keeping records in 1877). Less than 4.5" of rain fell on the County, which is less than a third of the "normal" amount (Los Angeles Times, June 30, 2002; Western Regional Climate Center 2002; www.wrcc.edu). Also, some surveys were conducted late in the growing season (*e.g.*, focused surveys for SFVS in June and September 2002). These factors affected the detection of annual plants and geophytic perennials more than most plants because few annuals or geophytes were observed growing this year (compared to the many stalks and/or dried remains of plants from the previous year). A number of the sensitive plants on our focused survey list were either annuals or geophytes and they either had a poor rate of detection or were not observed.

The few annual and geophyte species that were observed during the field work represent a fraction of the density and/or diversity of the species which are likely to occur onsite based on other surveys in the area (DUDEK 2002). This may also be true of other perennial plants (*e.g.*, drought deciduous plants). Spring surveys during a year with a "normal" amount of rainfall will provide better conditions to determine the diversity of species (including sensitive plants) onsite and to map their distributions more accurately (when necessary).

Additionally, the MME site was not surveyed with equal levels of effort. Focused surveys were directed towards the detection of all of the sensitive species identified in *Table 2* in all areas of the site except the Santa Clara River. Focused surveys for SFVS were concentrated on south-facing slopes and for current-year plants. No surveys were conducted in the riparian areas of the Santa Clara River at the request of The Newhall Land and Farming Company.

The focused surveys for SFVS concentrated on locating additional populations within the study area in order to determine the taxon's gross distribution within the MME site boundaries. As SFVS populations were identified in an area, the polygon was mapped using a Global Positioning System unit (GPS) and then efforts were redirected to new areas. The predominant observations of and the search parameters for SFVS used in this survey (*i.e.*, slope, aspect, soils, associated species) may be an artifact of the predominant observations of SFVS on south-facing slopes on the Newhall Ranch Specific Plan Area (DUDEK 2002). We concentrated our efforts in similar areas that we felt had the highest likelihood for SFVS to occur. It should be noted that much of the site appears to be suitable for SFVS and some SFVS polygons may not have been observed because of the poor (dry) conditions. Focused spring surveys for SFVS (and other sensitive species) during a year with at least average rainfall will be needed to more fully understand the presence, abundance, and distribution of SFVS and other sensitive species on the site.

4.0 RESULTS OF SURVEYS

4.1 Botany - Floral Diversity

The site 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.

At least 197 plant species were identified within the MME site. Of these, 163 species (83 percent) are native to the region and 34 species (17 percent) are non-native. The list of plant species identified on the site in 2002 is provided as *Appendix B*.

4.2 Sensitive Plant Species

Six sensitive plant species were identified on the site. These and other sensitive species that have the potential to occur on the MME site, based on the presence of suitable habitat and soils, are listed in *Table 3.* This list is confined primarily to those species listed

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

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 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in the Santa Ana River. Limited suitable habitat onsite; 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 2002 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in the Simi Hills. Suitable habitat exists onsite. 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 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite. 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 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite. Low likelihood of occurrence within the study area.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Baccharis malibuensis	Malibu baccharis	None/None	1B	chaparral, coastal sage scrub, cismontane woodland/deciduous shrub/August	Not observed during 2002 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 2002 field season. CNDDB records exist for San Francisquito Canyon at confluence with Santa Clara River; suitable habitat present onsite. 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 2002 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 catalinae	Catalina mariposa lily	None/None	4	chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/ perennial herb (geophyte) /February-May	A *Calochortus* species with a wide seed capsule and a membranaceous bulb coat was observed onsite that was likely *C. catalinae*. Need current year flowers to determine. Moderate to high likelihood of occurrence in study area.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Calochortus clavatus var. gracilis	slender mariposa lily	None/None	1B	chaparral and coastal sage scrub/perennial herb (geophyte)/March-May	Not observed within study area during 2002 field season. CNDDB records exist for the mouth of Pico Canyon just offsite. Suitable habitat present onsite. Moderate to high likelihood of occurrence in study area.
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	A *Calochortus* species with narrow seed capsules and a fibrous bulb coat was observed onsite that is likely *C. plummerae*. Need current year flowers to determine. High likelihood of occurrence within study area.
Calochortus weedii var. vestus	late-flowered mariposa lily	None/None	1B	chaparral, cismontane & riparian woodland/perennial herb (geophyte)/ June-August	Not observed during 2002 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 chaparral and Venturan sage scrub throughout the survey area.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Calystegia sepium ssp. binghamiae	Santa Barbara morning-glory	None/None	1A	marshes and swamps/perennial herb/ April-May	Not observed during 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite. 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 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite. 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	Observed in mixed chaparral in the study area.
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	FC/SE	1B	coastal sage scrub, sandy soils/annual herb/April-June	Observed in the southeastern portion of the site. Suitable habitat exists throughout 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 2002 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.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Dodecahema leptoceras	slender-horned spineflower	FE/SE	1B	alluvial scrub on sandy substrate/ annual herb/April-June	Not observed during 2002 field season. Historic CNDDB records exist for the Newhall or Val Verde quads in alluvial habitat similar to those present onsite. Moderate to high 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 2002 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 2002 field season. No CNDDB records exist for Newhall and Val Verde quads. Low likelihood of occurrence within 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 2002 field season. No CNDDB records exist for Newhall and Val Verde quads. Suitable habitat present onsite. Low 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 2002 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.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Dudleya parva	Conejo dudleya	FT/None	1B	coastal sage scrub and grassland on rocky, gravelly clays/perennial herb/May-June	Not observed during 2002 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists onsite. Low to moderate 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 2002 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, records exist for Simi Valley. 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 2002 field season, however, entire site not surveyed. A *Helianthus* population, discovered in 2002 by Elvin and Sanders 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. The final determination of the identity of this species is still being worked on. 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 2002 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present onsite. Low likelihood of occurrence within study area.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Malacothamnus davidsonii	Davidson's bush mallow	None/None	1B	chaparral, coastal sage scrub, riparian woodland/ deciduous scrub/June-January	Not observed during 2002 field season. Nearest occurrences are in San Fernando and Sunland. 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 2002 field season, however, entire site not surveyed. Moderate likelihood of occurrence on banks of Santa Clara River and other mesic areas onsite. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite. 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 2002 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	Small groups observed in chaparral and coastal sage scrub throughout the site.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Oxytheca parishii var. abramsii	Abram's oxytheca	None/None	1B	chaparral (sandy or shale)/June-August	Not observed during 2002 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Topatopa Mountains. Suitable habitat present onsite. Low likelihood of occurrence within study area.
Pentachaeta lyonii	Lyon's pentachaeta	FE/SE	1B	openings in chaparral and coastal sage scrub, grasslands/annual herb/March-August	Not observed during 2002 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Simi Valley. Suitable 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 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present onsite. 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 2002 field season. Historic CNDDB record for Saugus, south of Santa Clara River. Suitable habitat exists onsite. Low to moderate likelihood of occurrence within study area.

TABLE 3
Sensitive Plant Species Observed or Potentially Occurring at the Magic Mountain Entertainment Site

Scientific Name	Common Name	Status Federal/State	CNPS List	Primary Habitat Associations/Life Form/Blooming Period	Presence or Likelihood of Occurrence Onsite
Sidalcea neomexicana	Salt spring checkerbloom	None/None	2	chaparral, coastal sage scrub, and playas on alkaline substrate/perennial herb/March-June	Not observed during 2002 field season, however, entire site not surveyed. 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 2002 field season, however, entire site not surveyed. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence at Point Dume. Limited suitable habitat present onsite. Low likelihood of occurrence within study area.

Legend

FE: Federally-listed as endangered
FT: Federally-listed as threatened
FC: Federal candidate for listing
SC: State candidate for listing
SE: State-listed as endangered
ST: State-listed as threatened
SR: State-listed as rare

CNPS List 1A: Plants presumed extinct in California
CNPS List 1B: Plants rare, threatened, or endangered in California and elsewhere
CNPS List 2: Plants rare, threatened, or endangered in California but more common elsewhere
CNPS List 3: Plants about which we need more information – a review list
CNPS List 4: Plants of limited distribution – a watch list

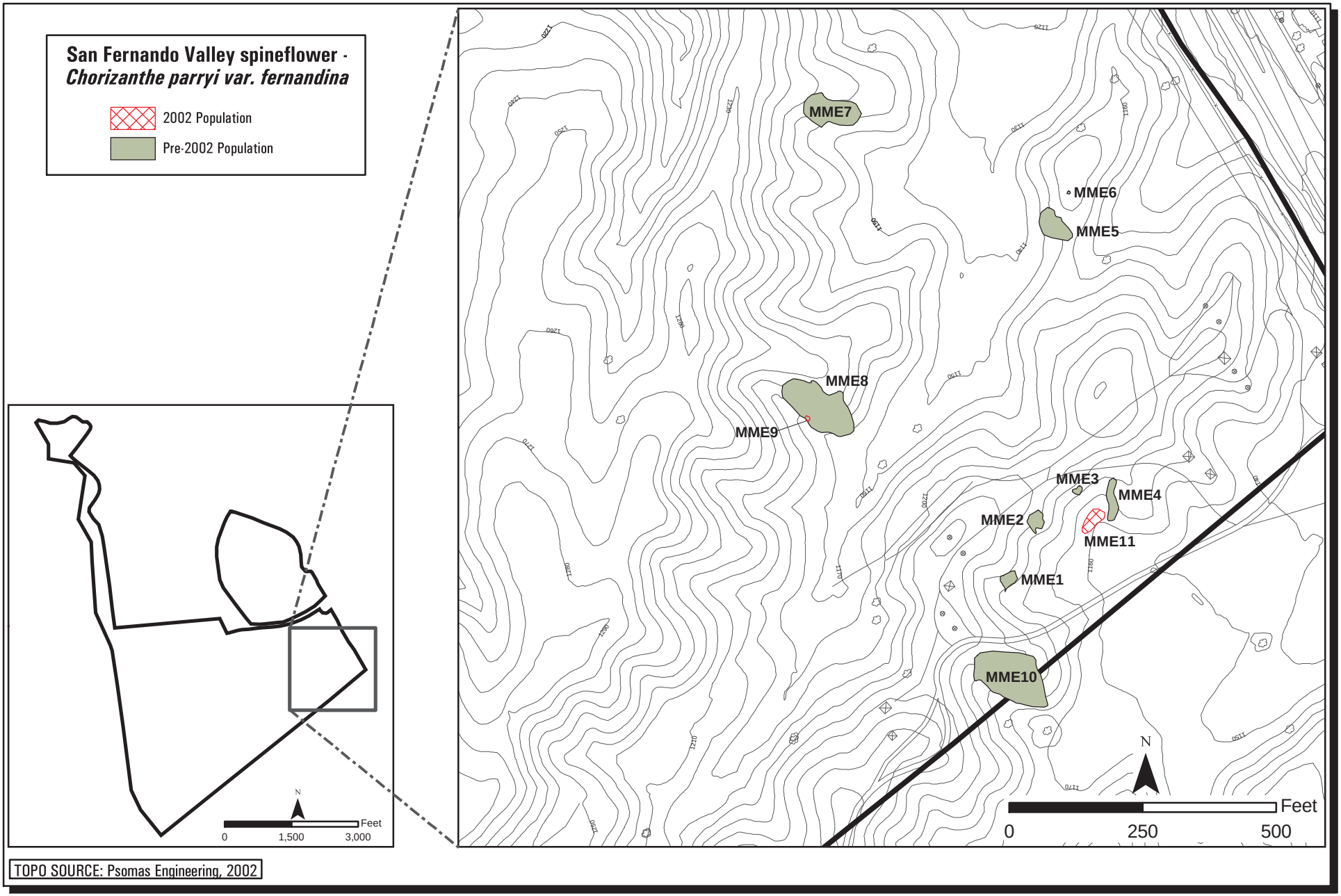
by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, those plant species found on Lists 1A, 1B, or 2 of the California Native Plant Society's *Inventory of Rare and Endangered Plants of California* (CNPS 2001). Those species that were observed during the 2002 field surveys are discussed in greater detail. A number of species found on CNPS Lists 3 or 4 also have the potential to occur onsite (*e.g.*, *Calochortus catalinae*, *Acanthomintha obovata* ssp. *cordata*, *Mucronea californica*); however, due to their relatively low sensitivity level, they are only discussed in the following sections if observed onsite. *Figure 3* depicts the locations of SFVS onsite. *Figure 4* depicts other sensitive species identified onsite.

While surveying in the field and mapping SFVS, a 4-meter (13.1 feet) rule was used to separate polygons for mapping purposes. This 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 SVFS seed bank, or any other feature of the species life history. *Figure 3* contains labels for each of the polygons to correlate with *Table 4*, which contain estimates for the numbers of individuals within each polygon. To obtain these estimates, all individuals were either directly counted in a polygon or were estimated by using a clumped counting and extrapolation method, which involved counting individual plants in small areas of a polygon, then extrapolating out over other areas of the polygon, until a total was obtained. Most of the polygon estimates were independently made by two botanists, and then compared for consistency.

Polygons for other sensitive species were mapped with the GPS unit, by drawing polygons on 7.5-minute USGS quadrangle maps, or by a combination of the two. Professional judgment and experience were used to delineate these polygons based on the detectability of the species, topography, and vegetation. Information regarding the mapping for each sensitive species is included in the sections below (*Sections 4.2.1* through *4.2.6*).

4.2.1 *Calochortus c.f. catalinae* (Catalina mariposa lily)

One of the mariposa lilies observed on the site was tentatively determined to be *Calochortus catalinae* from parts still in evidence from a previous year (*i.e.*, capsule, bulb coat). The seed capsule was about 1 cm wide with obtuse ends and the bulb coat was not membranaceous. *Calochortus catalinae* is a CNPS List 4 species. It is typically found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. It generally blooms between February and May.

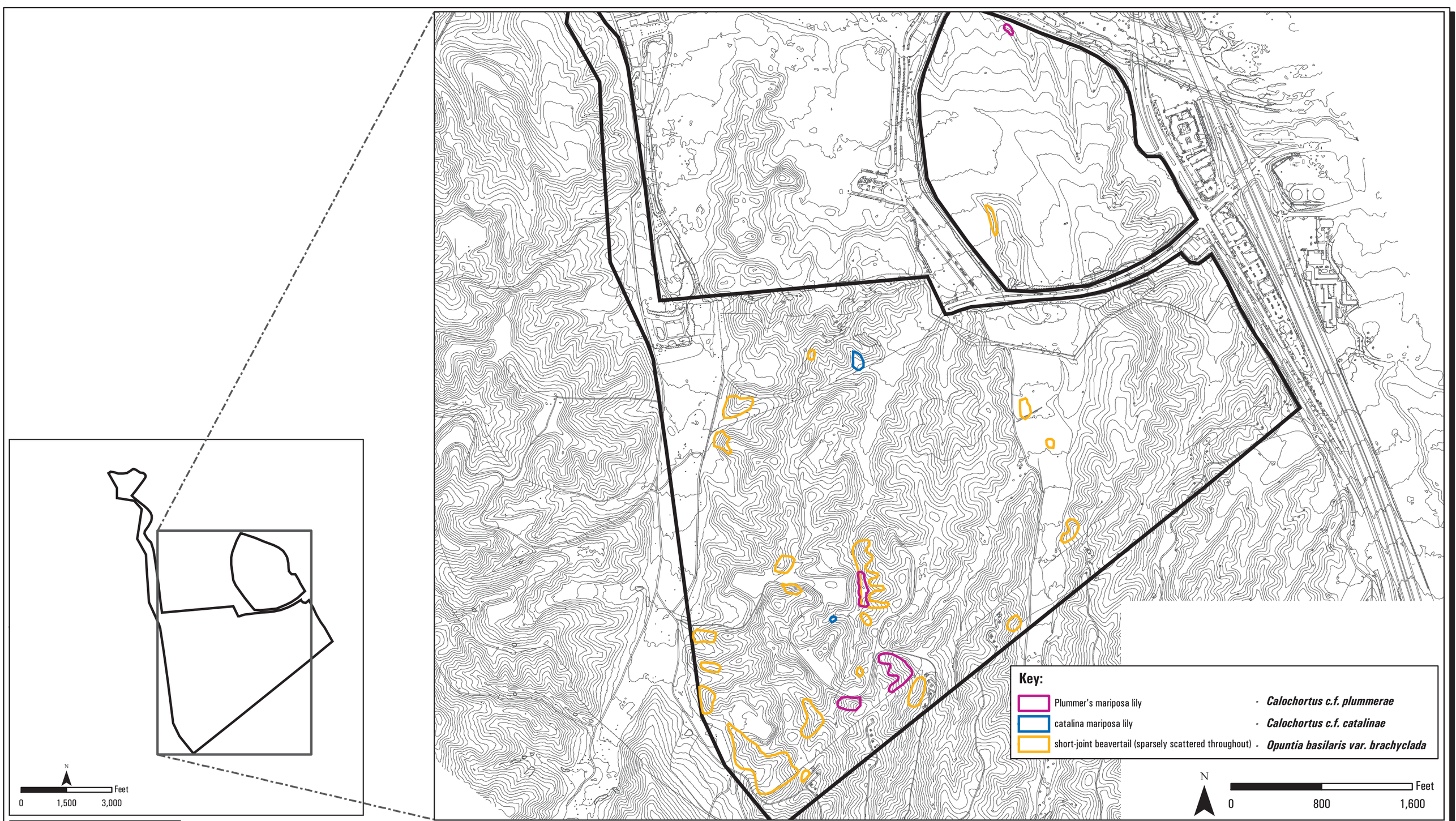


TOPO SOURCE: Psomas Engineering, 2002

Magic Mountain Entertainment Site

2002 San Fernando Valley spineflower

FIGURE 3



TOPO SOURCE: Psomas Engineering, 2002

Magic Mountain Entertainment Site

2002 Sensitive Plant Survey Results

FIGURE 4

TABLE 4
SFVS Estimates for the Magic Mountain Entertainment Site

Polygon Name	Plant Year	Estimated Number of Individuals	
		Minimum	Maximum
MME 1	Pre-2002	2,500	5,000
MME 2	Pre-2002	7,500	10,000
MME 3	Pre-2002	1,000	2,000
MME 4	Pre-2002	6,000	7,500
MME 5	Pre-2002	250,000	300,000
MME 6	Pre-2002	50	50
MME 7	Pre-2002	50,000	75,000
MME 8	Pre-2002	800,000	900,000
MME 9	2002	10	10
MME 10	Pre-2002	75,000	100,000
MME 11	2002	10	10
Total	**Pre-2002**	**20**	**20**
Total	**2002**	**1,192,050**	**1,399,550**

It was found on the site in its typical habitat: the bases of ridges and slopes in Venturan coastal sage scrub and grasslands (see *Figure 4*). Its location was mapped by drawing polygons on a USGS 7.5-minute quadrangle map and marking the center of the polygon with a GPS. *Calochortus* plants were randomly scattered within this polygon. The *Calochortus* densities varied within this polygon from widely scattered to dense clusters. The population size was not determined. A CNDDB form was not completed for this species because we were not able to make a definitive determination on this taxon due to the lack of flowering material.

4.2.2 *Calochortus c.f. plummerae* (Plummer's mariposa lily)

One of the mariposa lilies observed within the study area was tentatively determined to be *Calochortus plummerae* from parts still in evidence from a previous year (*i.e.*, capsule, bulb coat). The seed capsule was narrow and the bulb coat was fibrous. *Calochortus plummerae* is a CNPS List 1B species. It is typically found in chaparral, coastal sage scrub, cismontane woodland, and grasslands with rocky or granitic substrates. It typically blooms between May and July.

On the site, Plummer's mariposa lily was found on ridges and slopes in remnant patches of Venturan coastal sage scrub and grasslands (see *Figure 4*). Its location was mapped by drawing polygons on a USGS 7.5-minute quadrangle map. *Calochortus* plants were randomly scattered within this polygon. The *Calochortus* densities varied within this

polygon from widely scattered to dense clusters. The population size was not determined. A CNDDB form was not completed for this species because we were not able to make a conclusive determination on this taxon due to the lack of flowering material.

4.2.3 *Calystegia peirsonii* (Peirson's morning glory)

Peirson's morning-glory has no state or federal status, but is a CNPS List 4 species. 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 not found in abundance, Peirson's morning-glory is widespread onsite and was observed on virtually all ridges and slopes, weakly climbing over mixed chaparral, Venturan coastal sage scrub, and in grasslands throughout the 550-acre site. Due to the widespread nature of Peirson's morning-glory on the site, it is not specifically depicted on the report figures. CNDDB forms were not completed for this species because of the widespread and sparse nature of its distribution onsite and the relatively low sensitivity of this species.

4.2.4 *Cercocarpus betuloides* var. *blancheae* (island mountain-mahogany)

Island mountain-mahogany has no state or federal status, but is found on List 4 of the CNPS *Inventory*. It is an evergreen shrub that occurs as part of the chaparral in Los Angeles and Ventura counties, as well as on several of the Channel Islands (CNPS 2001).

Onsite, island mountain-mahogany occurs as an occasional component of chaparral at the base of north-facing slopes. *Cercocarpus betuloides* var. *blancheae* locations were not mapped and CNDDB forms were not completed because of the relatively low sensitivity of this species.

4.2.5 *Chorizanthe parryi* var. *fernandina* (San Fernando Valley spineflower)

San Fernando Valley spineflower is state-listed as endangered, a candidate for federal listing, and a CNPS List 1B species. 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 the Santa Susana Mountains, San Gabriel Mountains, and the Simi Hills. Munz (1974) provides distribution information to include Orange and San Diego counties.

Several SFVS polygons were identified in the southeastern portion of the site. These polygons are depicted on *Figures 3*. Labels for each of the polygons in *Figure 3* correlate with those in *Table 4*, which contain estimates for the numbers of individuals within each polygon. The number of individuals in each polygon were obtained by either directly counting the individuals (when feasible) or estimating the number of individuals through an extrapolation method that involved counting the individuals in a "clump" (usually in a two to tree hundred cm^2 area, then extrapolating out over other areas of the polygon, until a total for the whole polygon was obtained. The estimates for each polygon were conducted by two botanists, independently, then compared for consistency. During the 2002 surveys, plants from the 2002 cohort were observed and counted in two separate polygons (MME 9 and MME 11). Each of these polygons contained ten individuals. Pre-2002 cohort plants were found in nine polygons that contained an estimated 1,192,050 to 1,399,550 individuals among nine polygons. Approximately 99.99 percent of the SFVS observed on the site during DUDEK's 2002 surveys were the remnants of pre-2002 plants indicating that the germination and flowering of this species was very poor in 2002.

Most of the SFVS were found on slopes with a south-facing component in habitat ecotonal between Venturan coastal sage scrub and grasslands. Elevations of the SFVS polygons on this site range from approximately 1,150 to 1,205 feet AMSL. A CNDDB form is included in *Appendix C*.

4.2.6 *Opuntia basilaris* var. *brachyclada* (short-joint beavertail)

Short-joint beavertail has no state or federal status but is a CNPS List 1B species. Throughout its range, it is found in a variety of scrub and woodland habitats on the north side of the Transverse Range along the edge of the Mojave Desert. The beavertail cactus identified within the study area keys to *Opuntia basilaris* var. *brachyclada* in *The Jepson Manual* (Hickman 1993), which identifies pad lengths as more than twice as long as their width. Pads on the observed beavertail cactus in the study area range in length from 3-15 inches, which was considerably longer than the pad width of 1-4 inches. The beavertail cactus in the Newhall area of this size have previously been ascribed to *O. basilaris* var. *ramosa*; however, this variety was subsumed into variety *O. basilaris* var. *brachyclada* in *The Jepson Manual* (Hickman 1993).

The short-joint beavertail was observed in sparsely scattered clumps/patches on ridges, slopes, and in alluvial areas. These locations were mapped by drawing polygons on USGS 7.5-minute quadrangle maps or aerial photography with topographic contours printed at a 1 inch = 200 feet scale or occasionally with a Trimble Geo Explorer 3 GPS unit. Discontinuous beavertail groupings were mapped as discrete/separate polygons. The polygons depicting the distribution of short-joint beavertail (*Figure 4*) represent single to multiple individuals (generally 25-50), regardless of the size of the polygon. A CNDDB form is included in Appendix C.

5.0 ACKNOWLEDGMENTS

Mark A. Elvin prepared this report, with review by June Collins, Sherri L. Miller, Philip R. Behrends Ph.D., and staff at The Newhall Land and Farming Company. Mark McGinnis provided graphics and GIS mapping analyses. Terri Parsons provided word processing.

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APPENDIX A
RESUMES OF SURVEY PERSONNEL

MARK ELVIN
SENIOR BIOLOGIST/BOTANIST

EDUCATION

- University of California, Irvine
  M.S. Ecology and Evolutionary Biology, 1992

- University of North Carolina, Chapel Hill
  B.A. Biology and Philosophy, 1986

PROFESSIONAL CERTIFICATIONS

- California Department of Fish and Game State listed plants collecting permit

PROFESSIONAL AFFILIATIONS

- California Native Plant Society
- Southern California Botanists

EXPERIENCE SUMMARY

Mr. Elvin has 16 years experience as a biological resource specialist in southern California. As a Fish and Wildlife Biologist at the U.S. Fish and Wildlife Service (USFWS) he was responsible for conducting scientific reviews and analyses of species statuses for proposing and designating critical habitat within court ordered deadlines for listed fauna and flora; conducting scientific reviews and analyses of species statuses and developing recovery plans for listed species; and was the lead staff biologist for the USFWS for the implementation of the City of San Diego Multiple Species Conservation Plan (MSCP). In addition, he was the lead staff biologist at the USFWS for Quino checkerspot butterfly survey work conducted within San Diego County. Through his years of experience he has conducted sensitive species surveys in various habitat types throughout central and southern California including coastal strand, dune, coastal marsh, estuarine, coastal bluff scrub, coastal sage scrub, maritime succulent scrub, southern maritime chaparral, chaparral, valley grass lands, vernal pools, riparian scrub, riparian woodland, southern oak woodlands, alluvial fan sage scrub, montane coniferous forest, pebble plains, montane meadows, pinyon-juniper woodland, Joshua tree woodland, sagebrush scrub, creosote bush scrub, alkali flats, desert mountains, creosote bush scrub, Mojavean desert scrub, and Sonoran desert scrub.

Mr. Elvin has also worked as a seed and conservation program coordinator, seed technologist, museum scientist, and conservation collection manager.

PROFESSIONAL ASSIGNMENTS

- Serves on the DUDEK project team preparing the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) that covers approximately 1.2 million acres. Mr. Elvin primarily is responsible for the adaptive management plan of the reserve system. Mr. Elvin also provides input on the sensitive plants component of the plan that addresses 59 plants, including 13 that are state and/or federally listed, and species monitoring studies.

- Conducted onsite ecological and biological investigations and surveys of complex development proposals to determine their effects on flora and fauna throughout southern California.

- Conducted field surveys for state and federally listed and MSCP-covered plant species for the City of San Diego's, Multiple Species Conservation Program (MSCP).

- Conducted surveys for and collections of plants throughout Orange, San Diego, Riverside, San Bernardino, and Los Angeles counties and Baja California, Mexico.

- Conduct onsite ecological and biological investigations and surveys for threatened and endangered plant species throughout Los Angeles, Orange, San Diego, San Bernardino, Riverside, Imperial, Baja California (Mexico), Ventura, Monterey, San Benito, and San Luis Obispo counties.

- Participated in surveys for sensitive plants (including *Delphinium variegatum* ssp. *kinkiense* (San Clemente Island larkspur), *Lithophragma maximum* (San Clemente Island woodland star), *Lotus dendroideus* var. *traskiae* (San Clemente Island lotus), *Malacothamnus clementinus* (San Clemente Island bush mallow), *Sibara filifolia* (Santa Cruz Island rock cress) on San Clemente and Santa Catalina islands, Los Angeles County.

Monitoring Programs

- Conducted demographic and ecological data collection surveys for the federally listed as threatened *Deinandra conjugens* (Otay tarplant) and the federally proposed as endangered *Ambrosia pumila* (San Diego ambrosia) and focused surveys for the federally listed as endangered Quino checkerspot butterfly (*Euphydryas editha quino*) in San Diego County for the MSCP.

Threatened and Endangered Species

- Conducted many surveys for State and/or federally listed plants in San Diego, Orange, Los Angeles, Riverside, and San Bernardino counties.

SELECTED PUBLICATIONS

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JULIE M. VANDERWIER
Senior Biologist

EDUCATION

- California Polytechnic State University,
  San Luis Obispo
  M.S. Biological Sciences (Plant Ecology and Taxonomy) 1987

- California Polytechnic State University,
  San Luis Obispo
  B.S. Biological Sciences (Field Biology) 1977

EXPERIENCE SUMMARY

Ms. Vanderwier has 20 years of experience as a field ecologist and regulatory biologist in central and southern California. Although trained as a plant ecologist, she also has considerable field experience with a number of sensitive and listed animal species, particularly those which occur in vernal pools, coastal salt marsh, and sage scrub habitats. Plant communities with which she has specific expertise include coastal sage scrub, maritime chaparral, coastal salt marsh, and vernal pools, as well as the flora of the California Channel Islands and the Baja California peninsula. In 1991, she was the lead botanist on a five-week survey throughout Baja to determine the presence and distribution of the California gnatcatcher and its habitat. In concert with her field experience, Ms. Vanderwier has 16 years of regulatory experience, and has prepared numerous technical documents, including biological constraints reports, environmental and biological assessments, biological opinions, and habitat conservation plans. Work experience with the Department of Defense, California Department of Fish and Game, local jurisdictions, University of California Natural Reserve System, U.S. Fish and Wildlife Service, and the private sector has provided Ms. Vanderwier with an extremely diverse biological background.

At DUDEK, Ms. Vanderwier serves as a senior biologist in the Environmental Sciences Division. In that capacity, she is responsible for conducting sensitive plant surveys, plant community identification and mapping, preparation of biological constraints and technical reports, and conservation analyses for target species as part of the preparation of large-scale conservation plans. She is also responsible for quality assurance and review of work completed by other DUDEK biologists, and for technical training of staff.

Ms. Vanderwier is authorized by the California Department of Fish and Game (pursuant to Sections 1907a and 2081a of the Fish and Game Code) to collect state-designated endangered, threatened, and rare plants.

PROFESSIONAL ASSIGNMENTS

Focused Surveys and Plant Community Mapping

- Botanist, and one of two team leaders, responsible for the coordination and conducting of focused surveys for the state-listed endangered San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina)* on approximately 6,000 acres at Newhall Ranch, Los Angeles County.

- Conducted field surveys and mapping of native grasslands on approximately 4,800 acres of Rancho Mission Viejo lands in Orange County. Surveys were concentrated in the areas of Chiquita, Cristianitos, and Upper and Lower Gabino Canyons.

- Conducted field surveys for state and federally listed, and MSCP-covered plant species, along with vegetation mapping, for over 1,000 acres of coastal sage and chaparral at Black Mountain City Park, Paraiso Cumbres, and Montaña Mirador, City of San Diego, Multiple Species Conservation Program (MSCP).

- Lead botanist responsible for conducting field surveys for sensitive, proposed, or listed plant species and the classification and mapping of vegetation for hundreds of projects throughout central and southern California (San Luis Obispo, Santa Barbara, Kern, Ventura, Orange, San Diego, Riverside, and Imperial counties).

- Conducted protocol surveys for listed plant and anostracan species as part of data collection for numerous vernal pool projects in San Diego and Riverside counties.

- Botanist, and one of two team leaders, providing botanical support during a five-week presence-absence survey for California gnatcatchers in Baja California, Mexico. Vegetation transect data were collected and analyzed for over 100 sites throughout the northern two-thirds of the peninsula.

- Conducted demographic studies and ecological data collection and analysis for the federally-listed endangered salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*) at Mugu Lagoon, Ventura County, pursuant to a section 7 consultation with the U.S. Fish & Wildlife Service. Additional data was collected at Newport Back Bay, Orange County; Ormond Beach, Ventura County; Carpinteria Marsh, Santa Barbara County; and Sweetwater Marsh, San Luis Obispo County.

- Conducted protocol-level presence-absence surveys for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) and other sensitive coastal sage scrub species for numerous projects throughout Los Angeles, Orange, San Diego, San Bernardino, and Riverside Counties, and Baja California, Mexico.

- Conducted rare plant surveys, desert tortoise presence-absence surveys, and tortoise movement studies (radio-tracking) at Eagle Mountain and on Chuckawalla Bench (BLM lands), Riverside County.

- Participated in surveys for sensitive plants and wildlife (including island fox and island night lizard) on San Nicolas Island, and listed saltmarsh birds (including light-footed clapper, California least tern, and Belding's savannah sparrow) at Mugu Lagoon, Ventura County.

- Conducted field work and participated in the preparation of vegetation maps for the City of San Diego's pilot vegetation mapping for the Clean Water program**.**

Habitat Conservation Planning

- Lead staff biologist responsible for federal resource agency oversight in the preparation of the Multiple Habitats Conservation Plan (MHCP) and the City of Carlsbad's Habitat Management Plan (HMP).

- Assisted in the conservation analysis for 87 target species proposed for coverage in the MSCP (City and County of San Diego) pursuant to criteria necessary for the issuance of a section 10(a)(1)(B) permit pursuant to the federal Endangered Species Act (ESA).

- Participated in data collection and analysis in support of the identification of critical habitat for the coastal California gnatcatcher, San Diego fairy shrimp, Riverside fairy shrimp, and southern maritime chaparral plants. Provided input regarding existing conservation areas and strategies.

- Lead staff biologist responsible for resource agency oversight and permit processing for a single-species (California gnatcatcher) section 10(a)(1)(B) permit for a residential project in San Marcos, including preparation of all necessary NEPA documentation (*e.g.*, biological opinion, finding of no significant impact, statement of findings)**.**

Habitat Restoration and Monitoring

- Assisted in the development of revegetation and monitoring programs for the First San Diego River Improvement Project (FSDRIP) as compensation for impacts to riparian and freshwater marsh habitats as a result of flood control measures along a one-mile reach of the San Diego River.

- Assisted in the collection and analysis of floral, faunal, and hydrological data for the Brown Parcel (Lopez Ridge) Vernal Pool Remediation Plan in Peñasquitos Canyon, Parcel C (Beazer) Vernal Pool Restoration Plan on Marine Corps Air Station (MCAS) Miramar**,** and vernal pools created by Caltrans along Highway 163 adjacent to MCAS Miramar**.**

TRAINING

Vegetation Rapid Assessment Method
California Native Plant Society
Julie Evens, CNPS Vegetation Ecologist
Location: Volcan Mountain, San Diego County, CA
Date: June 29, 2001

Measuring and Monitoring Plant Populations
Bureau of Land Management Course 1730-05
Drs. Caryl Elzinga, Dan Salzer, and John Willoughby
Location: Lake Tahoe, CA
Date: July 2000

Habitat Conservation Planning for Endangered Species
U.S. Fish & Wildlife Service
Location: Carlsbad, CA
Date: February 2000

Interagency Consultation (Section 7) for Endangered Species
U.S. Fish & Wildlife Service
Location: Carlsbad, CA
Date: January 2000

Anostracan (Fairy Shrimp) Identification Course Dr. Denton Belk
Location: Jones & Stokes, Sacramento, CA
Date: November 1995

PUBLICATIONS

"Scrub Descriptions of the Baja California Peninsula, Mexico." Zippin, David B. and Vanderwier, Julie M. *Madroño* 41(2):85-119, 1994.

"Observations of Haustoria and Host Preference in *Cordylanthus maritimus* ssp. *maritimus* (Scrophulariaceae) at Mugu Lagoon, Ventura County, California." Newman, Judith C. and Vanderwier, Julie M. *Madroño* 31(1): 185-186, 1984.

CATHLEEN M. WEIGAND
Botanist / Biologist

EDUCATION/REGISTRATION

- Humboldt State University
  B.S., Botany and Biology, 2000

- New Dawn Center (Finca Alba Nueva), San Isidro, Costa Rica
  Senior Thesis Study, 1997

PROFESSIONAL CERTIFICATIONS

- Certified Wetland Delineator (#2133) - Army Corps of Engineers Wetland Delineation & Management Training Program - 2002

- U.S.F.S. Wildland Firefighter Red Card Certified

EXPERIENCE SUMMARY

Ms. Weigand is a botanist/biologist with over three years experience in field studies, environmental document preparation, and habitat restoration and conservation. Project experience includes biological resource surveys, data collection and analysis, environmental assessments, wetland delineations, permitting, mitigation design, implementation and monitoring, and endangered and sensitive plant species surveys. Projects include issues relative to the California Coastal Act, the California Department of Fish and Game Code (Sections 1601 and 1603), and the federal Clean Water Act (Sections 401 and 404). Ms. Weigand has engaged in interagency coordination and public outreach efforts due to the complexities of each project. Her current role at Dudek & Associates includes biological resources assessment and impact analysis, wetland delineations and permitting, and habitat restoration and monitoring.

PROFESSIONAL ASSIGNMENTS

- Experience with seed and plant propagation.

- Greenhouse work (Humboldt State University- volunteer): watering, caring and maintenance of plants, re-potting/propagation, nomenclature of species housed in greenhouse, and preparation of species used for classroom and experimental purposes.

- Horticulture and nursery experience: watering, fertilizing, caring and maintenance of plants, propagation (plant cuttings, roots, and seeds), re-potting, installation and design of irrigation systems.

- Experience with growth chambers, preparation and implementation of fertilizers and composts, and the irrigation of greenhouses and farm properties.

- Riparian and wetland revegetation implementation.

- Seed and pollen collection.

- Supervising of farm and revegetation crews.

- Implementation of farm crops, community and personal gardens using sustainable agricultural practices.

- Revegetation and landscape design and implementation, monitoring, maintenance, and data collection.

APPENDIX B

VASCULAR PLANT SPECIES OBSERVED MAGIC MOUNTAIN ENTERTAINMENT SITE (2002)

APPENDIX B

VASCULAR PLANT SPECIES – MAGIC MOUNTAIN ENTERTAINMENT SITE

FILACEAE

DENNSTAEDTIACEAE - BRAKEN FAMILY

Pentagramma triangularis - goldenback fern

ANGIOSPERMAE (DICOTYLEDONES)

ANACARDIACEAE - SUMAC FAMILY

Rhus ovata - sugar-bush
Rhus trilobata - squaw bush
Toxicodendron diversilobum - poison-oak

APIACEAE - CARROT FAMILY

Lomatium utriculatum - common lomatium

ASCLEPIADACEAE - MILKWEED FAMILY

Asclepias californica – California milkweed
Asclepias fascicularis - narrow-leaf milkweed

ASTERACEAE - SUNFLOWER FAMILY

Acourtia microcephala - sacapellote
Ambrosia acanthicarpa - annual burweed
Ambrosia confertifolia - weak-leaved burweed
Artemisia californica - coastal sagebrush
Artemisia dracunculus - tarragon
Artemisia tridentata - Great Basin sagebrush
Baccharis salicifolia - mule fat
Brickellia californica - California brickellbush
* *Centaurea melitensis* - star thistle
Chaenactis glabriuscula - yellow pincushion
Cirsium occidentale var. *californicum*- California thistle

APPENDIX B (*Continued*)

* *Cirsium vulgare* - bull thistle
Conyza canadensis - horseweed
Encelia californica - California bush sunflower
Ericameria palmeri var. *pachylepis* - goldenbush
Eriophyllum confertiflorum - long-stem golden yarrow
Filago californica - California fluffweed
Gnaphalium californicum - California everlasting
Gnaphalium palustre - lowland cudweed
Hazardia squarrosa ssp. *grindelioides* - saw-toothed goldenbush
Hemizonia fasciculata - fascicled tarweed
Heterotheca grandiflora - telegraph weed
Heterotheca sessiliflora - golden aster
Isocoma menziesii - goldenbush
* *Lactuca serriola* - prickly lettuce
Lasthenia californica - coast goldfields
Lepidospartum squamatum - scale-broom
Lessingia filaginifolia - virgate cudweed aster
Malacothrix saxatilis - cliff malacothrix
Osmadenia tenella - osmadenia
Senecio flaccidus var. *douglasii* - butterweed
* *Silybum marianum* - milk thistle
Stephanomeria virgata - twiggy wreathplant
Xanthium strumarium - cocklebur

BORAGINACEAE - BORAGE FAMILY

Amsinckia menziesii - yellow fiddleneck
Cryptantha sp. - forget-me-not
Heliotropium curassavicum - wild heliotrope
Pectocarya setosa - pectocarya
Plagiobothrys sp. - popcorn flower

BRASSICACEAE - MUSTARD FAMILY

* *Brassica nigra* - black mustard
* *Hirschfeldia incana* - short-podded mustard
Lepidium virginicum - wild peppergrass

APPENDIX B (*Continued*)

* *Sisymbrium irio* - London rocket
* *Sisymbrium orientale* - Oriental mustard

CACTACEAE - CACTUS FAMILY

Opuntia basilaris var. *brachyclada* - short-joint beavertail
Opuntia californica var. *parkeri* - cane cholla
* *Opuntia ficus-indica* – Indian-fig
Opuntia littoralis - coastal prickly-pear

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

Lonicera subspicata - southern honeysuckle
Sambucus mexicana - Mexican elderberry

CHENOPODIACEAE - GOOSEFOOT FAMILY

Atriplex canescens - four-winged saltbush
* *Atriplex semibaccata* - Australian saltbush
Atriplex serenana var. *serenana* - bractscale
Atriplex suberecta - Australian saltbush
* *Bassia hyssopifolia* - five-hooked bassia
* *Chenopodium ambrosioides* - Mexican tea
* *Chenopodium murale* - nettle-leaved goosefoot
* *Salsola tragus* - Russian-thistle

CONVOLVULACEAE - MORNING-GLORY FAMILY

Calystegia peirsonii - Peirson's morning-glory

CRASSULACEAE - STONECROP FAMILY

Crassula connata - dwarf stonecrop
Dudleya lanceolata - lanceleaf dudleya

CUCURBITACEAE - GOURD FAMILY

Cucurbita foetidissima - coyote-melon, calabazilla
Marah macrocarpus - wild cucumber

APPENDIX B (*Continued*)

CUSCUTACEAE - DODDER FAMILY

Cuscuta californica - California dodder

EUPHORBIACEAE - SPURGE FAMILY

Chamaesyce albomarginata - rattlesnake spurge
Eremocarpus setigerus - doveweed

FABACEAE - PEA FAMILY

Lotus purshianus - Spanish-clover
Lotus scoparius - deerweed
Lotus strigosus - strigose deerweed
Lupinus bicolor - Lindley's annual lupine
Lupinus excubitus var. *hallii* - grape soda lupine
Lupinus hirsutissimus - stinging lupine
Lupinus sparsiflorus - Coulter's lupine
Lupinus succulentus - arroyo lupine
Lupinus truncatus - collar lupine
* *Medicago polymorpha* - California burclover
* *Melilotus alba* - white sweet-clover

FAGACEAE - BEECH FAMILY

Quercus agrifolia - coast live oak
Quercus berberidifolia - scrub oak
Quercus c.f. douglasii - blue oak
Quercus lobata - valley oak

GERANIACEAE - GERANIUM FAMILY

* *Erodium cicutarium* - red-stemmed filaree

HYDROPHYLLACEAE - WATERLEAF FAMILY

Eriodictyon crassifolium var. *nigrescens* - yerba santa
Phacelia imbricata - imbricate phacelia
Phacelia minor - wild canterbury-bell
Phacelia ramosissima - shrubby phacelia

APPENDIX B (*Continued*)

LAMIACEAE - MINT FAMILY

* *Marrubium vulgare* - horehound
Salvia apiana - white sage
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

Clarkia purpurea - winecup clarkia
Epilobium canum - California fuchsia

PAEONIACEAE - PEONY FAMILY

Paeonia californica - California peony

PAPAVERACEAE - POPPY FAMILY

Eschscholzia californica - California poppy

PLANTAGINACEAE - PLANTAIN FAMILY

* *Plantago lanceolata* - English plantain
* *Plantago major* - common plantain

POLEMONIACEAE - PHLOX FAMILY

Eriastrum sapphirinum - sapphire eriastrum
Navarretia atractyloides - holly-leaf skunkweed

POLYGONACEAE - BUCKWHEAT FAMILY

Chorizanthe parryi var. *fernandina* - San Fernando Valley spineflower
Eriogonum elongatum - long-stemmed buckwheat

APPENDIX B (*Continued*)

Eriogonum fasciculatum ssp. *foliolosum* - California buckwheat
Eriogonum gracile - slender woolly buckwheat
* *Polygonum arenastrum* - common knotweed
* *Rumex crispus* - curly dock

RANUNCULACEAE - BUTTERCUP FAMILY
Clematis ligusticifolia - yerba de chiva

RHAMNACEAE - BUCKTHORN FAMILY
Ceanothus crassifolius - hoary-leaved ceanothus
Rhamnus crocea - redberry
Rhamnus ilicifolia - holly-leaf redberry

ROSACEAE - ROSE FAMILY
Adenostoma fasciculatum - chamise
Cercocarpus betuloides var. *betuloides* - birch-leaf mountain-mahogany
Cercocarpus betuloides var. *blancheae* - island mountain-mahogany
Heteromeles arbutifolia - toyon
Prunus ilicifolia - holly-leaf cherry

RUBIACEAE - MADDER FAMILY
Galium angustifolium - narrow-leaved bedstraw
Galium porrigens - climbing bedstraw

SALICACEAE - WILLOW FAMILY
Populus fremontii - Fremont's cottonwood

SAURURACEAE - LIZARD'S-TAIL FAMILY
Anemopsis californica - yerba mansa

SCROPHULARIACEAE - FIGWORT FAMILY
Castilleja exserta - common owl's-clover
Mimulus aurantiacus - bush monkeyflower
Penstemon centranthifolius - scarlet bugler

APPENDIX B (*Continued*)

SOLANACEAE - NIGHTSHADE FAMILY

Datura wrightii - western jimsonweed
* *Nicotiana glauca* - tree tobacco
Solanum xanti - chaparral nightshade

URTICACEAE - NETTLE FAMILY

* *Urtica urens* - dwarf nettle

VIOLACEAE - VIOLET FAMILY

Viola pedunculata – Johnny jump-up

ANGIOSPERMAE (MONOCOTYLEDONES)

LILIACEAE - LILY FAMILY

Brodiaea terrestris ssp. *kernensis* - brodiaea
Calochortus c.f. catalinae – Catalina mariposa lily
Calochortus c.f. plummerae – Plummer's mariposa lily
Calochortus venustus - mariposa lily
Chlorogalum pomeridianum – wavy-leaf soap-plant
Dichelostemma capitatum - blue dicks
Muilla maritima - common muilla
Yucca whipplei – Our Lord's candle

POACEAE - GRASS FAMILY

* *Avena barbata* - slender oat
* *Avena fatua* - wild oat
* *Bromus diandrus* - ripgut grass
* *Bromus hordeaceus* - soft chess
* *Bromus madritensis* ssp. *rubens* - foxtail chess
* *Cynodon dactylon* - Bermuda grass
Distichlis spicata - salt grass
Elymus glaucus - western wild rye
* *Hordeum murinum* - glaucous foxtail barley
Nassella cernua - nodding needlegrass

APPENDIX B (*Continued*)

Poa secunda - Malpais bluegrass
* *Schismus barbatus* - abumashi
* *Vulpia myuros* - rattail fescue

TYPHACEAE - CATTAIL FAMILY
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): *Opuntia basilaris* var. *brachyclada*

Reporter: Mark Elvin & Julie Vanderwier Phone: (760) 942-5147

Address: DUDEK & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: May and June 2002 County: Los Angeles Collection: yes If yes, # Mus./Herb:

Location: Northern Santa Susana Mountains; Magic Mountain Entertainment site; south of the Santa Clara River, east/south of Airport Mesa and adjacent mesas, west of Interstate 5.

Quad Name: Newhall
__X__ 7½' ____ 15' Elevation: 1100-1500' T 12S R 1E ____¼ of ____¼ Sec 36 and T 13S R 1E ____¼ of ____¼ Sec 1

Landowner/Manager: The Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? __X__ Yes _____ No If not, reason:

Is this a new location record? __X__ Yes _____ No _____ Unknown

Total # of Individuals = ~500 Is this a subsequent visit? ____ Yes __X__ No Compared to your last visit: ____ more ____ same ____ fewer

Phenology (plants): __90__ % vegetative __~5__ % flowering* __~5__ % fruiting

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):

Venturan coastal sage scrub/ grasslands with *Artemisia californica, Eriogonum fasciculatum, E. elongatum, E. gracile, Salvia leucophylla, Ericameria palmeri* var. *pachypus, Mirabilis californica*

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use - vacant, utility lines/easements. Visible Disturbances - cattle grazing, utility lines/easements. Threats - proposed commercial/residential development, utility lines/easements.

Overall Site Quality: _____ Excellent __X__ Good _____ Fair _____ Poor

Comments: Surveys were conducted until September 2002.

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

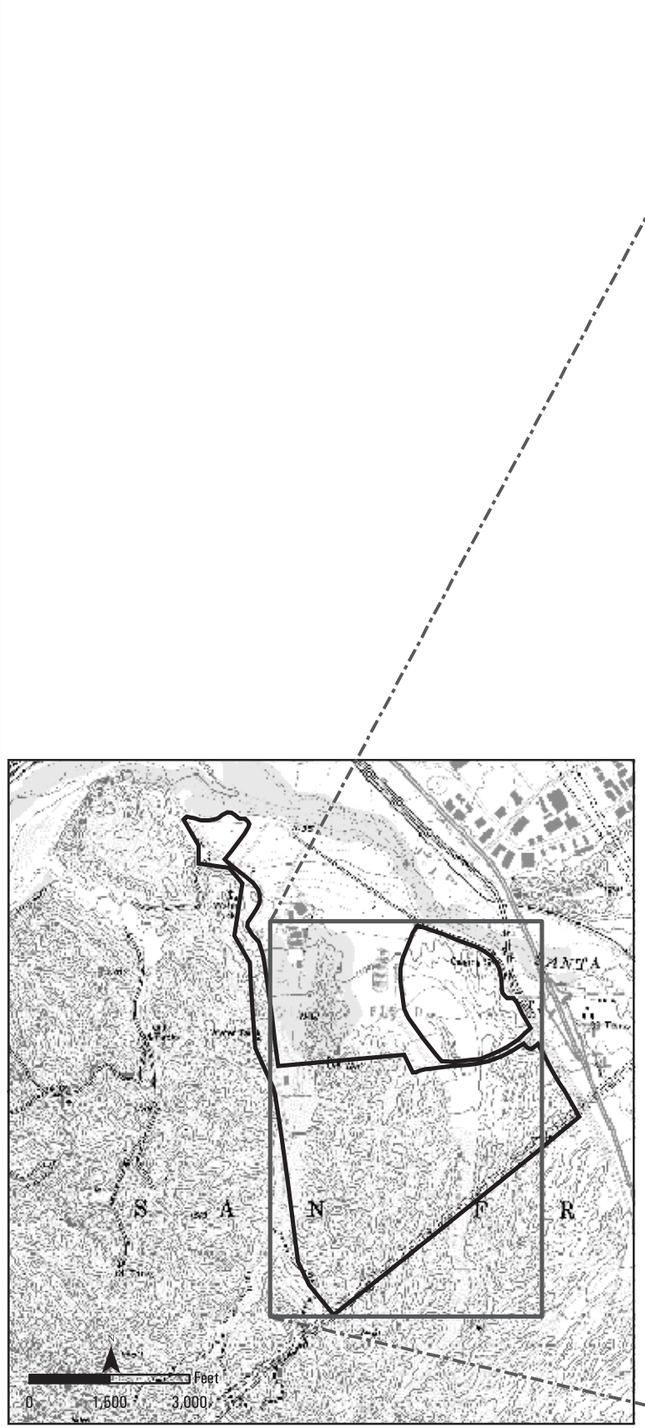
__X__ Keyed in a site reference: Hickman 1993
__X__ Compared with specimen housed at: RSA
_____ Compared with photo/drawing in:
_____ By another person (name):
__X__ Other: compared with plants on Newhall Ranch Specific Plan Area

OTHER KNOWLEDGEABLE INDIVIDUALS (Name/Address/Phone)

PHOTOGRAPHS (Check one or more)

Subject	Type
__X__ Plant/Animal	__X__ Slide
__X__ Habitat	_____ Print
__X__ Diagnostic Feature	
_____ Other	

May we obtain duplicates **at our cost**?
__X__ Yes _____ No



TOPO SOURCE: Psomas Engineering, 2002

Key:

short-joint beavertail (sparsely scattered throughout) - ***Opuntia basilaris var. brachyclada***

N

0 800 1,600 Feet

Magic Mountain Entertainment Site

2002 Sensitive Plant Survey Results

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: Mark A. Elvin, Julie Vanderwier Phone: (760) 942.5147

Address: DUDEK & Associates, 605 Third Street, Encinitas, CA 92024

Date of Field Work: May and June 2002 County: Los Angeles Collection: If yes, #2081, 2082 M.A. Elvin with J. Vanderwier Mus./Herb: UCR, UCI

Location: Northern Santa Susana Mountains; Magic Mountain Entertainment site; south of the Santa Clara River, east/ south of Airport Mesa and adjacent mesas, west of Interstate 5.

Quad Name: Newhall T 12S R 1E ¼of ¼Sec36
X 7½' __ 15' Elevation: 1075-1250' T 13S R 1E ¼of ¼Sec01

Landowner/Manager: The Newhall Land and Farming Company, 23823 Valencia Boulevard, Valencia, CA 91355

Species Found? X Yes ____ No If not, reason:

Is this a new location record? ____ Yes X* No ____ Unknown * surveys performed here in 2000 by URS and believed to have been identified during those surveys

Total # of Individuals = ~20 plants (2002); ~1,200,000 plants (pre-2002) Is this a subsequent visit? __ Yes X No Compared to your last visit: __ more __ same __ fewer

Phenology (plants): ____ % vegetative 0.002 % flowering 99.998 % fruiting/dead

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):

Primarily on southeast- to south- to southwest-facing slopes with macro-slope gradients typically ranging between 5 degrees and 35 degrees; micro-slope gradients are typically slightly shallower (2 degrees to 20 degrees), but are locally steeper. Soils color is generally brown (10YR 5/3). Venturan coastal sage scrub with *Artemisia californica, Eriogonum fasciculatum, E elongatum, E gracile, Salvia leucophylla, Ericameria palmeri* var. *pachypus, Mirabilis californica* and grassland with *Nassella cernua*, *Bromus diandrus*, *Bromus rubens*.

Current Land Use/Visible Disturbances/Possible Threats: Current Land Use - vacant, utility lines/easements maintenance and use, residential development directly adjacent. Visible Disturbances - utility lines/easements, former cattle grazing, residential development directly adjacent. Threats - proposed commercial/residential development onsite, residential development directly adjacent, utility lines/easements maintenance and use.

Overall Site Quality: ____ Excellent X Good ____ Fair ____ Poor

Comments: Surveys were conducted between May and September 2002. The rainfall for this growing year was ~one-third of the normal.

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

X Keyed in a site reference: Hickman 1993
X Compared with specimen housed at: RSA
____ Compared with photo/drawing in:
X By another person (name): Andy Sanders
X Other: compared with materials identified by CDFG in May 2002 and documented occurrence on Grapevine Mesa [EO 14]

PHOTOGRAPHS (Check one or more)

Subject	Type
X Plant/Animal	X Slide
X Habitat	____ Print
X Diagnostic Feature	
____ Other	

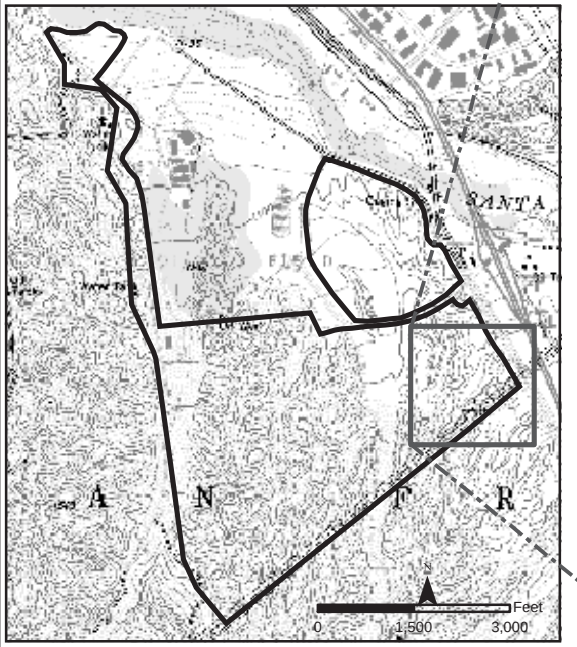
OTHER KNOWLEDGEABLE INDIVIDUALS (Name/Address/Phone) Andy C. Sanders

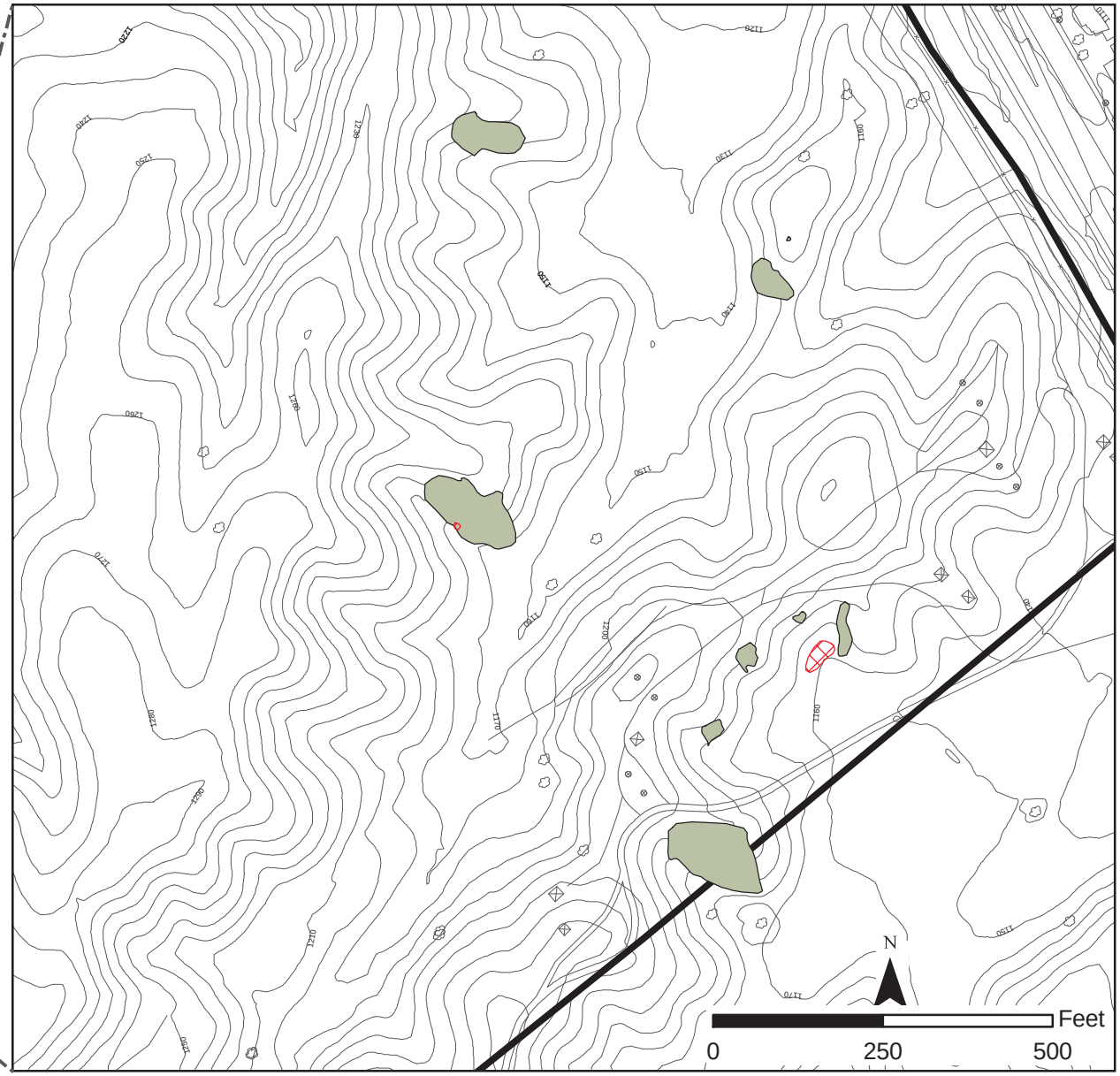
May we obtain duplicates **at our cost**?
X Yes ____ No

San Fernando Valley spineflower -
Chorizanthe parryi var. fernandina

2002 Population

Pre-2002 Population





TOPO SOURCE: Psomas Engineering, 2002

Magic Mountain Entertainment Site

2002 San Fernando Valley spineflower