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RARE PLANT SURVEYS

NEWHALL RANCH SPECIFIC PLAN PROJECT SITES LOS ANGELES COUNTY, CA

Draft red line

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1. INTRODUCTION

This report documents the results of rare plant surveys conducted within the Newhall Ranch Specific Plan area in Los Angeles County, California. The four project locations surveyed were River Village, Homestead, Salt Canyon, and a portion of Airport Mesa. The River Village site is located along the Santa Clara River from the Los Angeles County line in the west to Castaic Creek in the east. It also extends northward into part of Chiquito Canyon and southward into part of Long Canyon; it was surveyed during the period of May 5 through May 21, 2001. The Homestead site comprises the plan area north of Highway 126 and north of River Village, and includes the sites designated as Homestead, Homestead Estates, and Chiquito Canyon Residential; it was surveyed from May 22 through May 30, 2001. Salt Canyon lies south of the Santa Clara River along the extreme western boundary of the plan area, east of the county line; it was surveyed from June 15 through June 17, 2001. The portion of Airport Mesa that was surveyed lies in the northeastern part of the plan area; it was surveyed from May 1 through May 5, 2002. See Figures 1 and 2 for the specific survey locations and for a key to the other figures presented in this report.

A team of two consultants from FLx (Dr. Anuja Parikh and Dr. Nathan Gale) conducted the rare plant surveys with specific focus on target species potentially occurring at the site, including the San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). In addition, vegetation types and plant species associations were noted and their dominant species recorded. A list of observed plant species, including rare and commonly occurring plants, was compiled. Plant community descriptions in this report follow Holland (1986) where applicable; species nomenclature follows Hickman (1993).

2. VEGETATION TYPES AND PLANT SPECIES ASSOCIATIONS

The Newhall Ranch Specific Plan area is composed of variable terrain, ranging from relatively flat riverwash, secondary washes, and terraces, to previously disturbed flat areas or fields, to gentle and steep hillslopes and ridges.

Developed and/or Disturbed Areas. Portions of each of the four sites surveyed in the Specific Plan area, particularly the valley flatlands and the tops of mesas, comprise areas that have been disturbed previously by agricultural disking or grading, or currently are agricultural fields. There are small areas of buildings associated with agricultural operations, and additionally, there are roads and pads associated with previous and ongoing oil field development. The disturbed areas not under active use have ruderal vegetation dominated by non-native plants. Species observed included brome grasses (*Bromus* spp.), oats (*Avena* spp.), hare barley (*Hordeum murinum*), shortpod mustard (*Hirschfeldia incana*), and red-stemmed filaree (*Erodium cicutarium*).



LEGEND

FLX Survey Extent

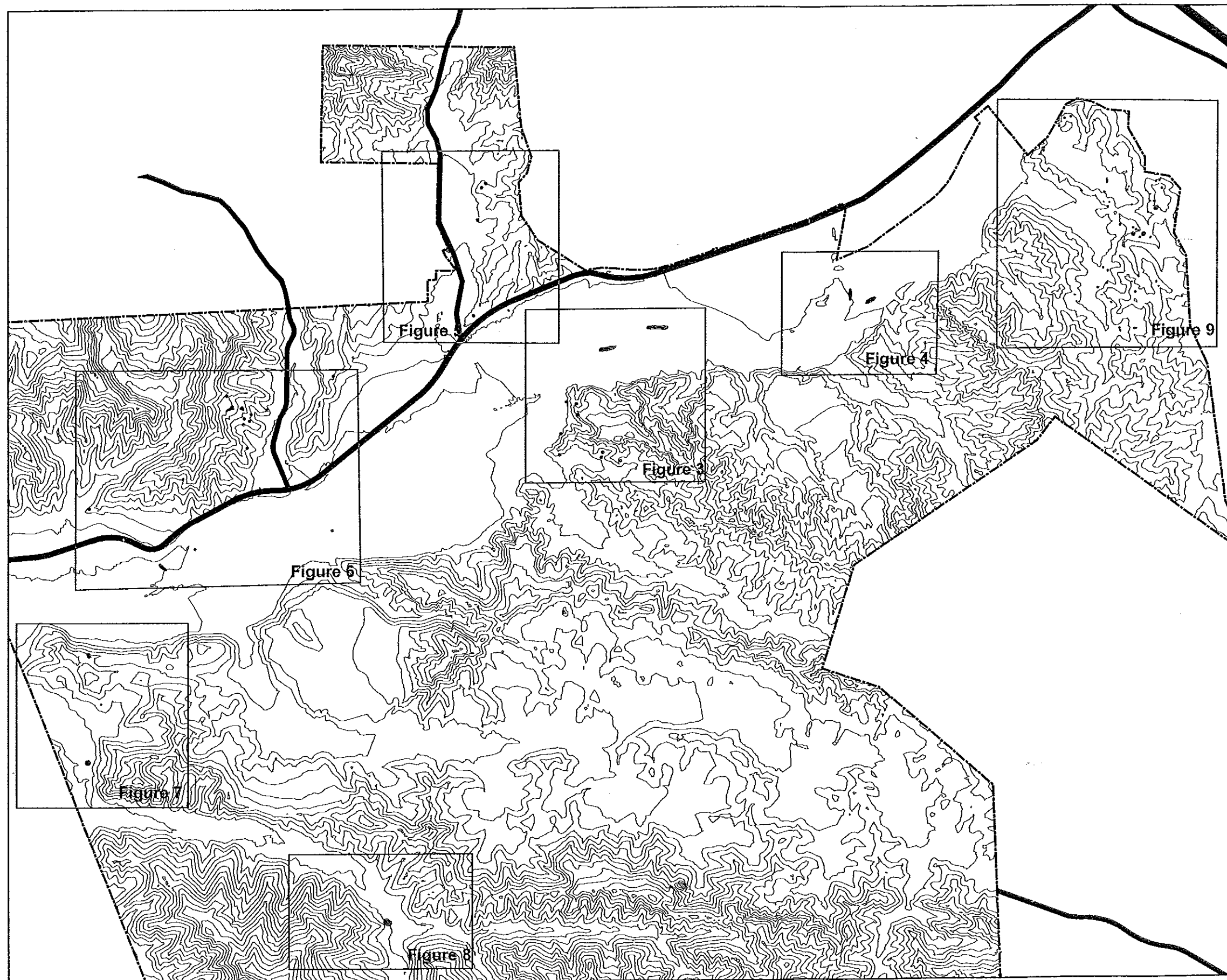
Newhall Ranch Specific Plan Boundary

0 1,250 2,500 Feet

0 400 800 Meters

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Figure 1
FLX SURVEY EXTENTS



NEWHALL RANCH

L E G E N D



Rare Plant Locations

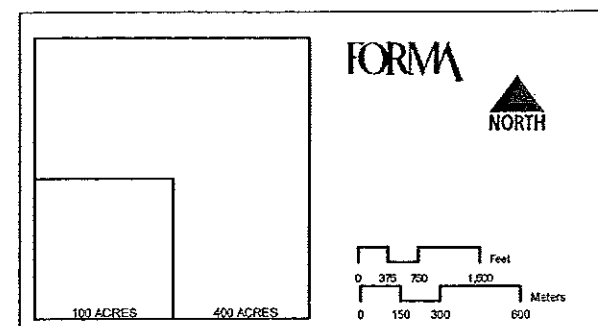


Figure 2

RARE PLANT GRAPHIC INDEX

Non-Native Grassland. This community occurs on relatively flat terrain and sometimes on gentle hillslopes throughout the Specific Plan area. Annual introduced grasses up to about 0.5 m tall are dominant in non-native grasslands; annual herb species also are found. Flowering occurs in spring, and the plants mostly are dead in summer and fall. Non-native grasslands occur on fine-textured, usually clay soils, that are moist to wet in the winter but dry in the summer and fall (Holland, 1986). Grass species found at the sites include mainly bromegrasses (*Bromus diandrus*, *B. madritensis* ssp. *rubens*, *B. hordeaceus*), wild oats (*Avena barbata*, *A. fatua*), and rat-tail fescue (*Vulpia myuros* ssp. *myuros*). Introduced herbaceous ruderal species also are found, and include red-stemmed filaree (*Erodium cicutarium*), shortpod mustard (*Hirschfeldia incana*), and star-thistles (*Centaurea* spp.). Scattered native plants found in this community include small-seed sandmat (*Chamaesyce polycarpa*), wishbone bush (*Mirabilis californica*), and clarkias (*Clarkia* spp.). With respect to sensitivity status, non-native grassland has been state-ranked as S4 (apparently secure) by the California Natural Diversity Database (CNDDB).

Venturan Coastal Sage Scrub. Coastal sage scrub is the most extensive vegetation type within the Specific Plan area, and occurs on gentle to steep hillslopes in all surveyed sites. It varies in cover from dense to sparse. This community contains low, soft-woody shrubs up to 1.5 m tall, and is not as dense as chaparral or some other coastal scrubs. Plant growth occurs in late winter and spring after the rains, with most species flowering in spring and summer (Holland, 1986). Dominant native species in the scrub found on the four sites are California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*) and California sagebrush (*Artemisia californica*); other common plants include sages (*Salvia leucophylla*, *S. mellifera*, *S. apiana*), California broom (*Lotus scoparius*), California-aster (*Lessingia filaginifolia* var. *filaginifolia*), California encelia (*Encelia californica*), giant wild-rye (*Leymus condensatus*), and chaparral mallow (*Malacothamnus fasciculatus*). Elements of the more xeric Riversidian sage scrub also are scattered in the scrub, and include thickleaf yerba santa (*Eriodictyon crassifolium* var. *nigrescens*), goldenbush (*Ericameria palmeri* var. *pachylepis*), Our Lord's candle (*Yucca whipplei*), and cactus (*Opuntia basilaris* var. *basilaris*, *O. littoralis*). The understory generally is sparse, with grasses, including the native foothill needlegrass (*Nassella lepida*), and native herbs such as wishbone bush (*Mirabilis californica*) and morning-glory (*Calystegia macrostegia*). Scrub with generally sparser shrub cover provides habitat for the sensitive species, Peirson's morning-glory (*Calystegia peirsonii*) and San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). With respect to sensitivity status, Venturan coastal sage scrub has been state-ranked as S3.1 (10,000 to 50,000 acres, very threatened) by the CNDDB.

Coastal Sage - Chaparral Scrub. The steepest north-facing slopes in Long Canyon and the northern part of Chiquito Canyon support a mixed association of coastal sage scrub and chaparral species. Chaparral is made up of sclerophyllous evergreen shrubs adapted to fire, and is dense in cover, often impenetrable, with a sparse understory (Holland, 1986). It is dominated by shrubs about 1 to 3 m tall. Growth is highest in the spring and reduced in the summer, and flowering occurs late winter to early summer. Species found in the coastal sage-chaparral scrub include chamise (*Adenostoma fasciculatum*), hoaryleaf ceanothus (*Ceanothus crassifolius*), black sage (*Salvia mellifera*), toyon (*Heteromeles arbutifolia*), California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), California encelia (*Encelia californica*), bush monkeyflower (*Mimulus aurantiacus*), mountain mahogany (*Cercocarpus betuloides* var. *betuloides*), blue elderberry (*Sambucus mexicana*), and heart-leaved penstemon (*Keckiella*

cordifolia). With respect to sensitivity status, coastal sage-chaparral scrub has been state-ranked as S3.2 (10,000 to 50,000 acres, threatened) by the CNDDB.

Coast Live Oak Woodland. This community occurs at the base of protected north-facing slopes in Long Canyon and the northern part of Chiquito Canyon, and is dominated by the evergreen coast live oak (*Quercus agrifolia* var. *agrifolia*). Trees can reach 10 to 25 m in height and are known to be long-lived and well adapted to surviving fire. Oak woodlands occur away from the direct influence of the ocean in shaded canyons and on north-facing slopes (Holland, 1986). They often grade into chaparral or coastal scrub upslope or under drier conditions; on moister sites or areas subject to fog, they grade into various forest types. The shrub layer is poorly developed in oak woodlands, and the herb layer often has annual grasses, which have replaced the native perennial grasses once commonly associated with this community. Species associates are spiny redberry (*Rhamnus crocea*), skunkbrush (*Rhus trilobata*), blue elderberry (*Sambucus mexicana*), holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*), wild cucumber (*Marah macrocarpus* var. *macrocarpus*), eucrypta (*Eucrypta chrysanthemifolia*), clarkias (*Clarkia* spp.), bedstraws (*Galium* spp.), and ripgut grass (*Bromus diandrus*). With respect to sensitivity status, coast live oak woodland has been state-ranked as S4 (apparently secure) by the CNDDB.

Valley Oak Woodland. Small patches of woodland dominated by the winter-deciduous valley oak (*Quercus lobata*) occur in the northeastern part of the surveyed portion of Airport Mesa. Valley oaks (*Quercus lobata*) are California's largest broad-leaved tree, and grow in an open canopy form, reaching 15 to 35 m in height. They typically occur on deep, well-drained alluvial soils in valleys, but also on non-alluvial soils on slopes. Understory plants observed at the site include California-aster (*Lessingia filaginifolia* var. *filaginifolia*), California sagebrush (*Artemisia californica*), foxtail chess (*Bromus madritensis* ssp. *rubens*), goldenbush (*Ericameria palmeri* var. *pachylepis*), and ripgut grass (*Bromus diandrus*). With respect to sensitivity status, valley oak woodland has been state-ranked as S2.1 (2,000 to 10,000 acres, very threatened) by the CNDDB.

Riverwash. In the Newhall Ranch Specific Plan area, the main channel of the Santa Clara River and tributary washes are sparsely vegetated and subject to scouring. The soils are sandy riverwash and gravel, and in places form sand bars and low terraces within the channels. No well-defined plant community is found here, although scattered elements of riparian scrub were observed. Shrub species found in and adjacent to the dry channels include mule fat (*Baccharis salicifolia*), sandbar willow (*Salix exigua*), tamarisk (*Tamarix* sp.), scale-broom (*Lepidospartum squamatum*), big saltbush (*Atriplex lentiformis* ssp. *lentiformis*), California broom (*Lotus scoparius*), and Great Basin sagebrush (*Artemisia tridentata*). Smaller plants growing in these areas include woolly star (*Eriastrum densifolium* ssp. *elongatum*), hairy goldenaster (*Heterotheca sessiliflora* ssp. *fastigiata*), buckwheat (*Eriogonum baileyi*), Mediterranean schismus (*Schismus barbatus*), cryptantha (*Cryptantha micrantha*), slender pectocarya (*Pectocarya linearis* ssp. *ferocula*), lastarriaea (*Lastarriaea coriacea*), California evening primrose (*Oenothera californica* ssp. *californica*), annual bur-sage (*Ambrosia acanthicarpa*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

Freshwater Marsh. Small patches of wet areas in the main channel of the Santa Clara River and tributary washes in the Newhall Ranch Specific Plan area have freshwater marsh vegetation. This community typically is dominated by emergent perennial monocots, often up to 5 m tall and forming closed canopies. Marshes are found on relatively deep organic soils on sites permanently flooded with

fresh water (Holland, 1986). Species found in the wettest parts of the channels are cattails (*Typha angustifolia*, *T. latifolia*), bulrushes (*Scirpus californicus*, *S. americanus*), nutsedge (*Cyperus esculentus*), water cress (*Rorippa nasturtium-aquaticum*), water speedwell (*Veronica anagallis-aquatica*), and hoary nettle (*Urtica dioica* ssp. *holosericea*). With respect to sensitivity status, freshwater marsh has been state-ranked as S2.1 (2,000 to 10,000 acres, very threatened) by the CNDDB.

Mule Fat Scrub. Mule fat scrub is found in linear patches along the main channel of the Santa Clara River and some tributary drainages in the Newhall Ranch Specific Plan area. Mule fat scrub typically is a tall, semi-woody and herbaceous riparian scrub, and is relatively species-poor. An early seral community, it often grades to riparian woodland or forest (Holland, 1986). The dominant species in this community is mule fat (*Baccharis salicifolia*); arrow weed (*Pluchea sericea*), tree tobacco (*Nicotiana glauca*), and tamarisk (*Tamarix* sp.) also are common. The understory is sparse or absent, but sometimes includes species such as Mexican rush (*Juncus mexicanus*) and grasses. With respect to sensitivity status, mule fat scrub has been state-ranked as S4 (apparently secure) by the CNDDB.

Southern Willow Scrub. Several small patches of this community occur along the main channel of the Santa Clara River and in the northern part of Chiquito Canyon. Willow scrub is a broadleaved, winter-deciduous riparian community, typically too dense to allow understory development. It is a relatively early seral community, succeeding to cottonwood-sycamore forests (Holland, 1996). In the Specific Plan area, this community includes willows (*Salix exigua*, *S. lasiolepis*, *S. laevigata*), mule fat (*Baccharis salicifolia*), and Mexican elderberry (*Sambucus mexicana*). The understory is sparse, with species such as mugwort (*Artemisia douglasiana*), shrubby phacelia (*Phacelia ramosissima* var. *ramosissima*), and grasses. With respect to sensitivity status, southern willow scrub has been state-ranked as S2.1 (2,000 to 10,000 acres, very threatened) by the CNDDB.

Southern Cottonwood-Willow Riparian Forest. This community occurs on terraces above the main channel of the Santa Clara River. It consists of tall, open, broadleaved, winter-deciduous trees, and is dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and willows (*Salix lasiolepis*, *S. laevigata*, *S. exigua*). These species require moist, bare mineral soil for germination and establishment, provided after floodwaters recede; this forest type therefore is found mostly along perennially wet streams (Holland, 1996). Scattered coast live oak (*Quercus agrifolia* var. *agrifolia*) trees sometimes occur in this forest type on the upper parts of the river terraces in the Specific Plan area. Understory plants include mule fat (*Baccharis salicifolia*), arrow weed (*Pluchea sericea*), Mexican elderberry (*Sambucus mexicana*), southern California black walnut (*Juglans californica* var. *californica*), mugwort (*Artemisia douglasiana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), ripgut grass (*Bromus diandrus*), and alkali rye (*Leymus triticoides*). With respect to sensitivity status, southern cottonwood-willow riparian forest has been state-ranked as S3.2 (10,000 to 50,000 acres, threatened) by the CNDDB.

3. RARE PLANT SPECIES

The rare plant surveys of River Village, Homestead, and Salt Canyon were carried out in the months of May and June 2001 to accommodate the blooming periods of various species potentially occurring in the region, or previously reported by the CNDDB. In 2002, the surveys of portions of Airport Mesa were conducted in early May due to the very low rainfall year in southern California that resulted in

annual plants having a particularly short-lived season. A list of target species potentially occurring at the four sites is presented in Table 1; these species were searched for during the focused rare plant surveys.

TABLE 1: SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING
ON THE NEWHALL RANCH SPECIFIC PLAN PROJECT SITES

Scientific Name	Common Name	Family	Status* Federal/State/CNPS
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	Fabaceae	FE/-/1B
<i>Berberis nevadensis</i>	Nevadensis barberry	Berberidaceae	FE/SE/1B
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily	Liliaceae	FSC/-/1B
<i>Calochortus plummerae</i>	Plummer's mariposa lily	Liliaceae	FSC/-/1B
<i>Calystegia peirsonii</i>	Peirson's morning-glory	Convolvulaceae	FSC/-/4
<i>Cercocarpus betuloides</i> var. <i>blanchetii</i>	Island mountain-mahogany	Rosaceae	-/-/4
<i>Chorizanthe parryi</i> var. <i>Fernandina</i>	San Fernando Valley spineflower	Polygonaceae	FC/SE/1B
<i>Deinandra minimiflora</i>	Santa Susana tarplant	Asteraceae	FSC/SR/1B
<i>Delphinium parryi</i> ssp. <i>Blochmaniae</i>	Dune larkspur	Ranunculaceae	FSC/-/1B
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	Polygonaceae	FE/SE/1B
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	Crassulaceae	FSC/-/1B
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	Crassulaceae	FSC/-/1B
<i>Harpagonella palmeri</i> var. <i>palmeri</i>	Palmer's grappling hook	Boraginaceae	FSC/-/4
<i>Juglans californica</i> var. <i>californica</i>	Southern California black walnut	Juglandaceae	-/-/4
<i>Juncus acutus</i> ssp. <i>Leopoldii</i>	Southwestern spiny rush	Juncaceae	-/-/4
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail	Cactaceae	FSC/-/1B
<i>Perideridia pringlei</i>	Pringle's yampah	Apiaceae	-/-/4
<i>Senecio aphanactis</i>	Rayless ragwort	Asteraceae	-/-/2

- * FE = Federal endangered
 FC = Federal candidate
 FSC = Federal species of concern (unofficial designation)
 SE = State/California endangered
 SR = State/California rare
 1B = CNPS List 1B, rare or endangered in California and elsewhere
 2 = CNPS List 2, rare or endangered in California, more common elsewhere
 4 = CNPS List 4, plants of limited distribution

A known population (not on Newhall Ranch) of the slender-horned spineflower (*Dodecahema leptoceras*) and a known population (on Newhall Ranch) of San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) were field-checked as reference populations in 2001 and 2002. Both species were observed flowering in 2001. Despite the low rainfall in 2002, San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) had germinated and was observed flowering, but no plants of slender-horned spineflower (*Dodecahema leptoceras*) were seen.

At all the project sites, when sensitive plants were observed, their locations were mapped and population sizes were estimated. Single plants of a species or small populations were marked on the map with a point; larger populations were indicated with a polygon representing the spatial extent of the plants. The determination of which individual plants were included in a given polygon was based on their

distribution or spatial clustering. Each population composed of more than one plant represents a cluster of plants. Clusters were mapped either separately or combined into larger clusters based on applied field judgment regarding the degree of continuity of species cover as well as the scale of the maps used in the field. For example, at the scale of a USGS 7.5 minute quadrangle, the smallest area that can be mapped with a polygon is about 1 acre; on maps at scales of 1 inch=200 feet, or 1 inch=400 feet, such as those used in the field for the project sites, much smaller areas can be mapped.

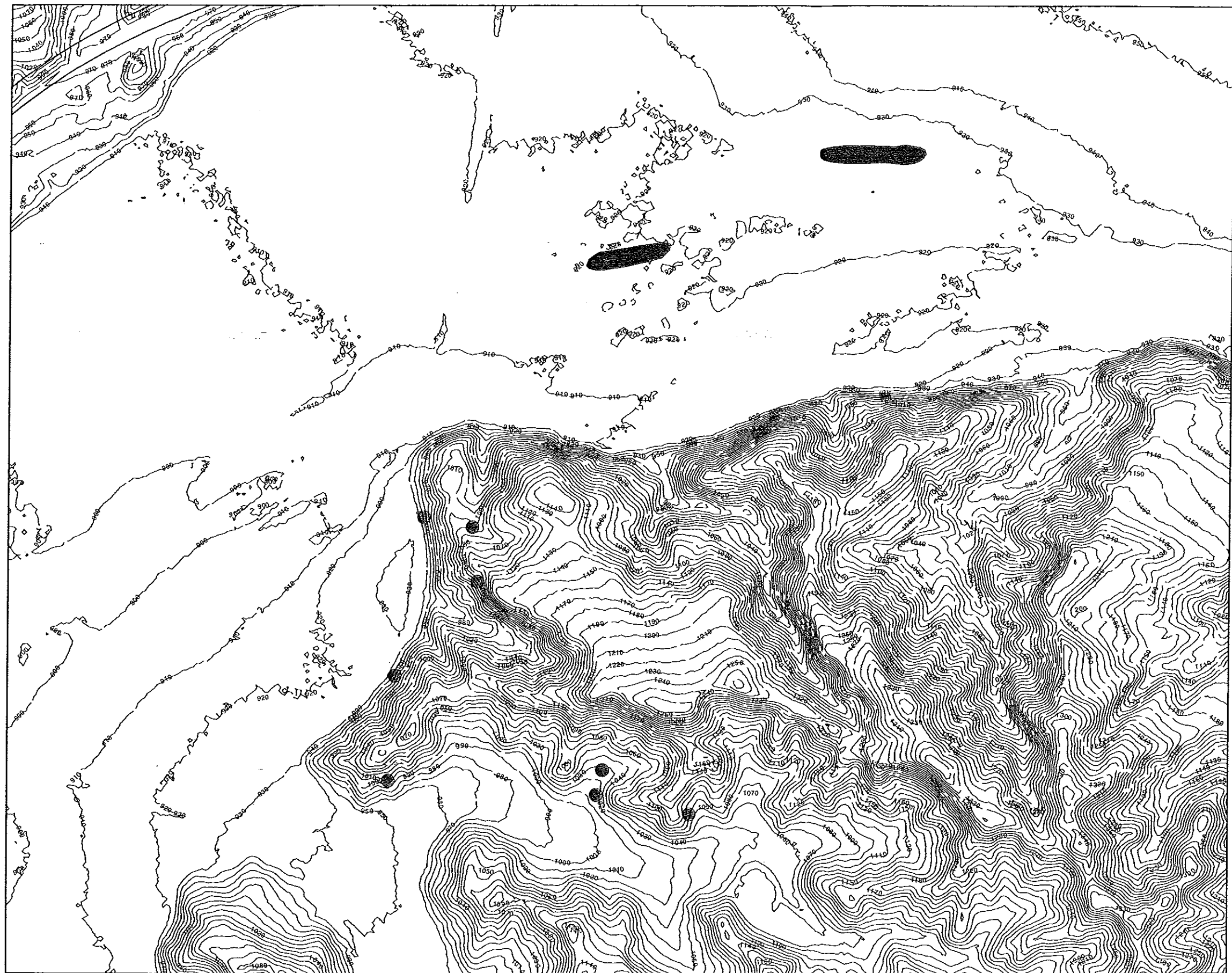
The population size, when small, was based on counting individual plants. For larger populations, plants were counted in a small representative area, and then an estimate for the entire population was made based on visual extrapolation over the larger area.

3.1 River Village

Three sensitive species were found in the River Village project site during the 2001 surveys: Peirson's morning-glory (*Calystegia peirsonii*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), and southern California black walnut (*Juglans californica* var. *californica*), all CNPS List 4 species. A summary of the populations of these species located at the site is provided below. These population locations, as numbered below, have been marked on the accompanying maps (See Figures 3, 4, 5 and 6).

Peirson's morning-glory (*Calystegia peirsonii*) populations were found in 10 locations on slopes with different exposures. Elevations ranged from 1000 to 1200 feet, and the soils were variable in texture (see Figures 3, 5, and 6). Most plants were flowering, and were associated with grassland and coastal sage scrub species.

1. ~75 plants, with *Eriogonum fasciculatum*, *Avena fatua*, and *Bromus diandrus*.
2. ~1000 plants, with *Eriogonum fasciculatum* and *Bromus diandrus*.
3. ~30 plants, with *Bromus* spp. and *Lupinus* spp.
4. ~10 plants, with *Eriogonum fasciculatum* and *Bromus* spp.
5. ~25 plants, with *Artemisia californica*, *Bromus diandrus*, and *Bromus madritensis* ssp. *rubens*.
6. ~75 plants, with *Artemisia californica*, *Eriogonum fasciculatum*, and *Melica imperfecta*.
7. ~20 plants, with *Bromus madritensis* ssp. *rubens*.
8. ~10 plants, with *Bromus hordeaceus*, *Centaurea melitensis*, and *Chaenactis glabriuscula*.
9. ~150 plants, with *Eriogonum fasciculatum*, *Lessingia filaginifolia*, and *Bromus madritensis* ssp. *rubens*.
10. ~75 plants, with *Bromus madritensis* ssp. *rubens* and *Centaurea melitensis*.



NEWHALL RANCH

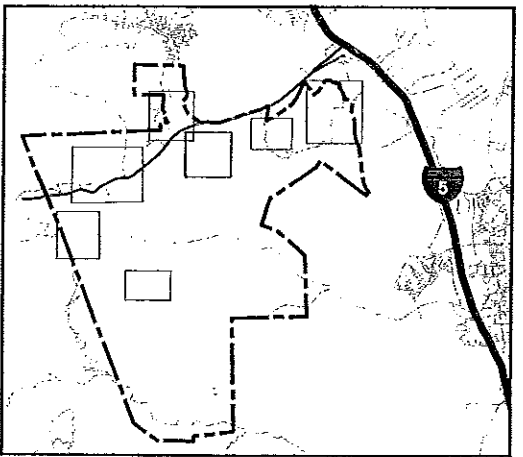
LEGEND



Southern California Black Walnut



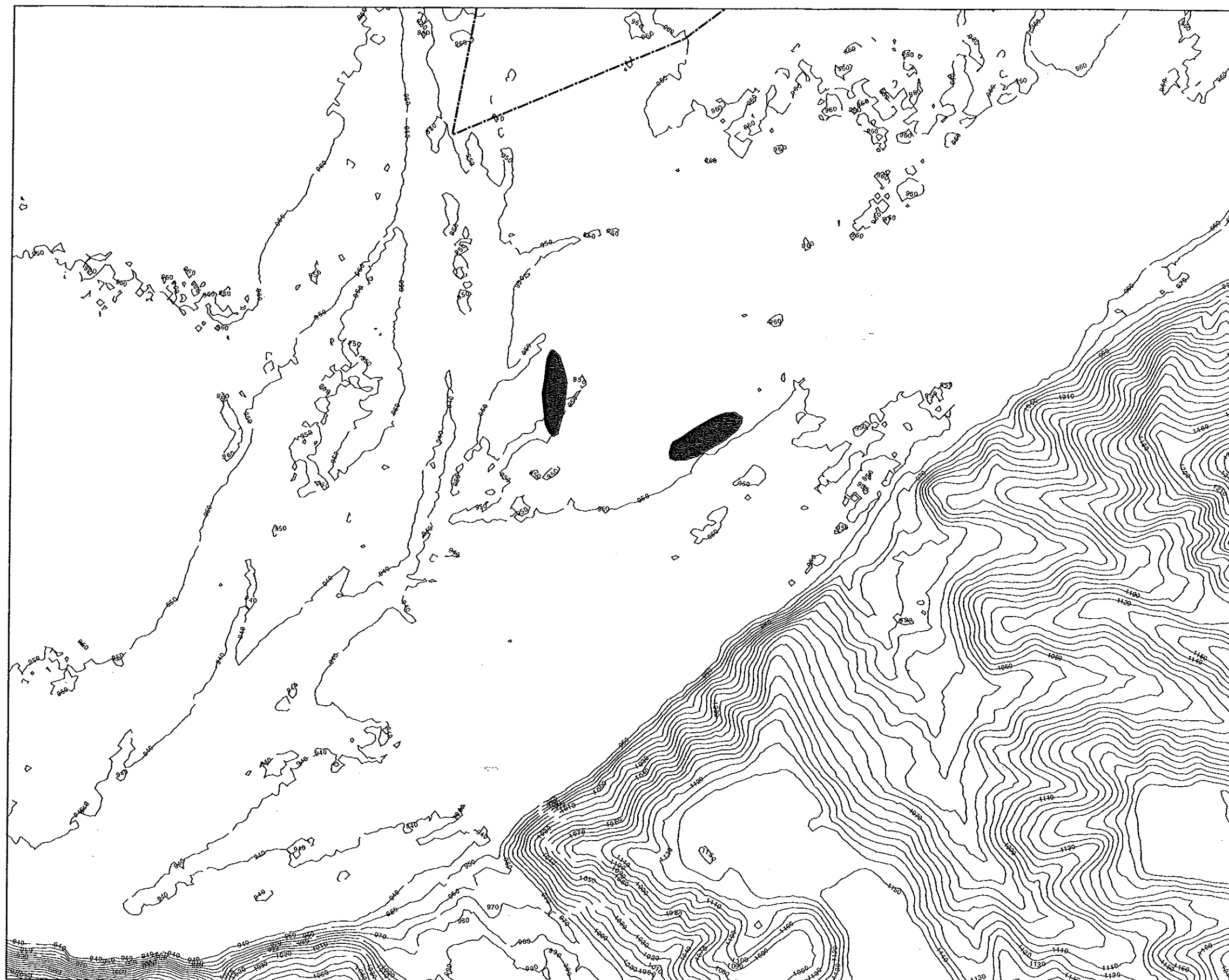
Peirson's Morning-Glory



0 65 130 Meters
0 225 450 Feet

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November 2002

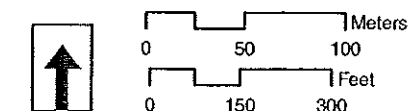
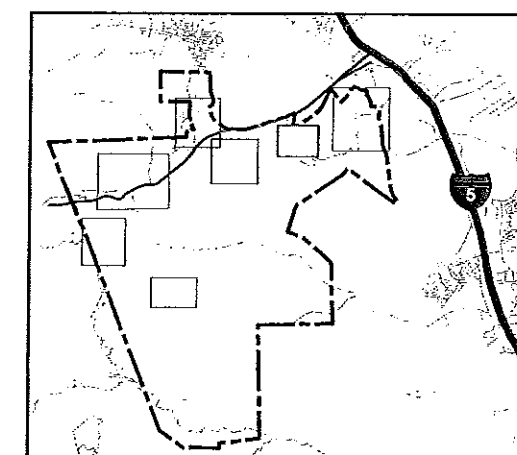
Figure 3



NEWHALL RANCH

LEGEND

 Southern California Black Walnut



FORMA
November 2002

Figure 4



NEWHALL RANCH

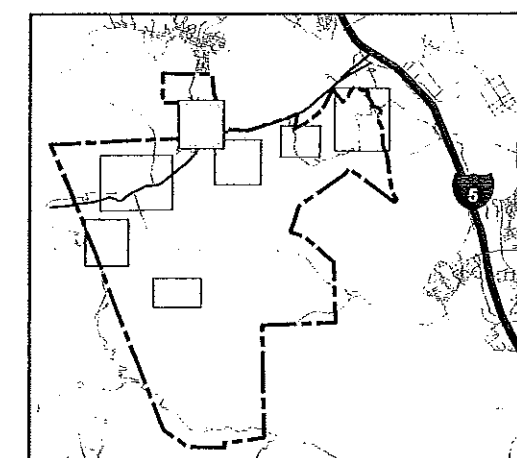
L E G E N D



Southern California Black Walnut



Peirson's Morning-Glory



0 55 110 Meters
0 175 350 Feet

FORMA
November 2002

Figure 5

RARE PLANT LOCATIONS



NEWHALL RANCH

L E G E N D



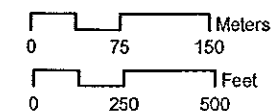
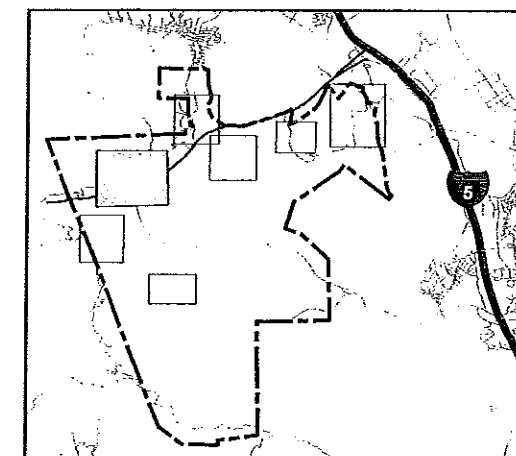
Peirson's Morning-Glory



San Fernando Valley Spineflower



Southwestern Spiny Rush



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November 2002

Figure 6

RARE PLANT LOCATIONS

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) populations were found in three locations in secondary channels of the floodplain of the Santa Clara River, on flat terrain (see Figure 6). Elevations ranged from 800 to 900 feet. The plants occurred on alluvial soils, and were associated mostly with wetland species.

1. One clump, with *Salix exigua*, *Baccharis salicifolia*, and *Ambrosia psilostachya*.
2. ~25 clumps, with *Juncus mexicanus*, *Baccharis salicifolia*, and *Leymus triticoides*.
3. ~15 clumps, with *Baccharis emoryi*, *Leymus triticoides*, *Polypogon monspeliensis*, and *Melica imperfecta*.

Southern California black walnut (*Juglans californica* var. *californica*) trees were scattered in six locations, five in the willow-cottonwood riparian forest of the Santa Clara River, and one along Chiquito Canyon Road (possibly planted) (see Figures 3, 4 and 5). The walnut trees were found on relatively flat terrain at elevations of 800 to 1000 feet. The six populations each have 5 to 10 trees.

3.2 Homestead/Homestead Estates/Chiquito Canyon Residential

Two sensitive species were found in this combined project site during the 2001 surveys. San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; FC/SE/CNPS List 1B) and Peirson's morning-glory (*Calystegia peirsonii*; CNPS List 4) were located in the Homestead Estates site. Peirson's morning-glory (*Calystegia peirsonii*) also was found in the Homestead site; no rare plants were observed in the Chiquito Canyon Residential project site. A summary of the populations of these species located at the sites is provided below. These population locations, as numbered below, have been marked on the accompanying map (see Figure 6).

San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) populations were found in seven locations west of San Martinez Grande Canyon Road, on slopes with southern exposures. Elevations ranged from 1000 to 1200 feet, and the soils were sandy loams. Most of the plants were flowering, and were associated with grassland and coastal sage scrub species.

1. ~1000+ plants, with *Eriogonum fasciculatum*, *Artemisia californica*, *Erodium cicutarium*, *Bromus madritensis* ssp. *rubens*, and *Bromus hordeaceus*.
2. ~1000+ plants, with *Eriogonum fasciculatum*, *Artemisia californica*, *Erodium cicutarium*, *Bromus madritensis* ssp. *rubens*, and *Bromus hordeaceus*.
3. ~750 plants, with *Chorizanthe staticoides*, *Eriogonum fasciculatum*, *Artemisia californica*, *Bromus madritensis* ssp. *rubens*, and *Bromus hordeaceus*.
4. ~750 plants, with *Eriogonum fasciculatum*, *Artemisia californica*, *Bromus madritensis* ssp. *rubens*, and *Bromus hordeaceus*.
5. ~750 plants, with *Eriogonum fasciculatum*, *Artemisia californica*, *Erodium cicutarium*, and *Bromus madritensis* ssp. *rubens*.
6. ~10000+ plants, with *Eriogonum fasciculatum*, *Artemisia californica*, *Salvia leucophylla*, *Hirschfeldia incana*, and *Bromus madritensis* ssp. *rubens*.
7. ~500 plants, with *Eriogonum fasciculatum*, *Artemisia californica*, *Bromus madritensis* ssp.

rubens, and *Bromus hordeaceus*.

Peirson's morning-glory (*Calystegia peirsonii*) populations were found in six locations on slopes with different exposures. Elevations ranged from 950 to 1200 feet, and the soils were variable in texture.

The first population was found in the Homestead Estates project site, and the other five populations in the Homestead site. Most plants were flowering, and were associated with grassland and coastal sage scrub species.

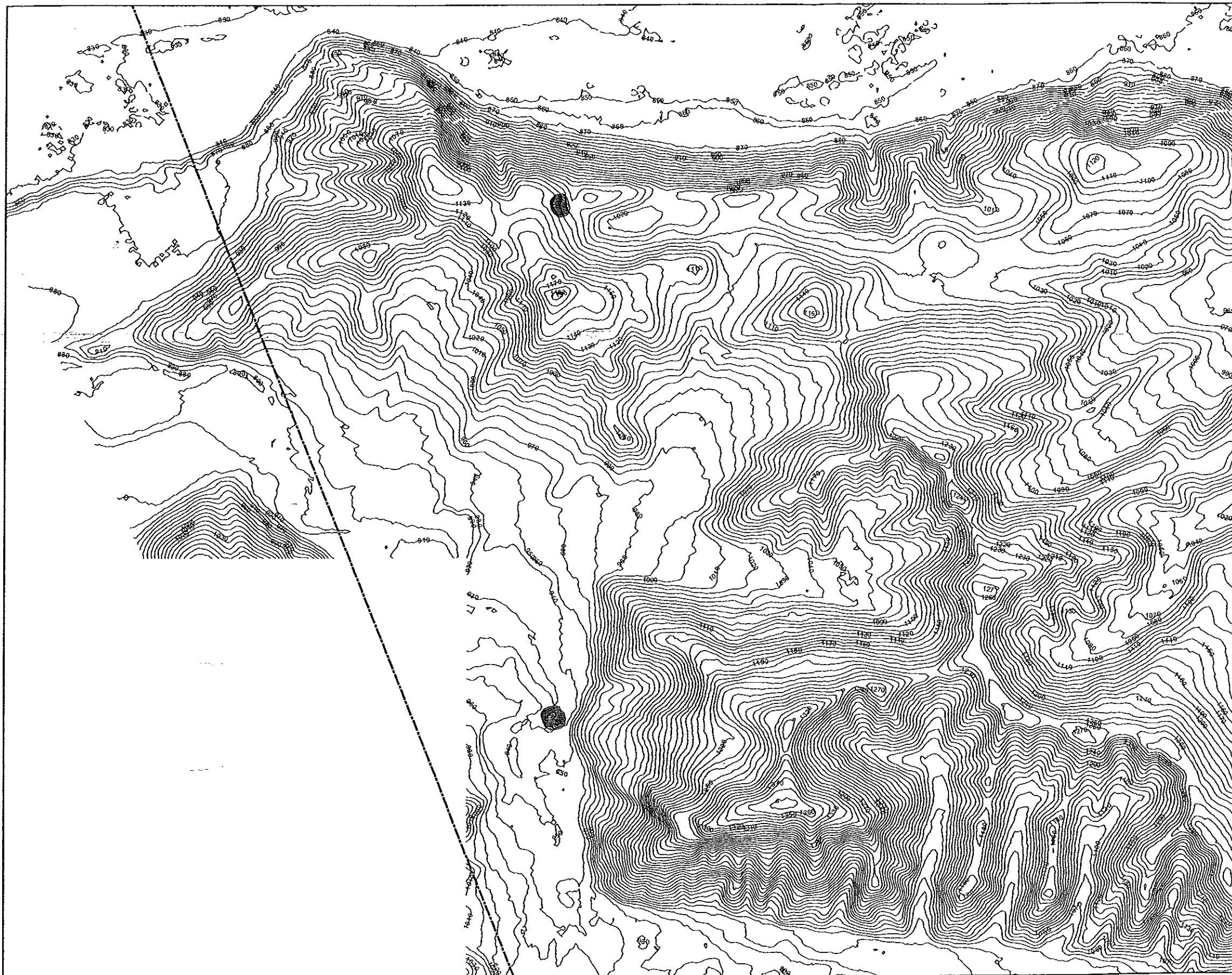
1. 5 plants, with *Bromus madritensis* ssp. *rubens* and *Bromus diandrus*.
2. 1 plant, with *Erodium cicutarium* and *Bromus* spp.
3. ~35 plants, with *Erodium cicutarium* and *Bromus madritensis* ssp. *rubens*, near *Eriogonum fasciculatum* and *Calystegia macrostegia*.
4. ~500 plants, with *Centaurea melitensis*, *Bromus* spp., and *Hirschfeldia incana*.
5. ~10 plants, with *Centaurea melitensis*, *Bromus* spp., and *Hirschfeldia incana*.
6. ~75 plants, with *Avena barbata*, *Centaurea melitensis*, *Lessingia filaginifolia*, *Eriogonum fasciculatum*, and *Salvia leucophylla*.

3.3 Salt Canyon

Two sensitive species were found in the Salt Canyon project site during the 2001 surveys: Peirson's morning-glory (*Calystegia peirsonii*) and southern California black walnut (*Juglans californica* var. *californica*), both CNPS List 4 species. A summary of the populations of these species located at the site is provided below. These population locations have been marked on the accompanying maps (see Figures 7 and 8).

Peirson's morning-glory (*Calystegia peirsonii*) was found in one location on a gentle east-facing slope, on clayey soil. The elevation was about 1050 feet (see Figure 7). The plants were flowering, and were associated with *Bromus madritensis* ssp. *rubens*, *Bromus hordeaceus*, *Salvia leucophylla*, and *Artemisia californica*; *Calystegia macrostegia* was found in the vicinity.

Southern California black walnut (*Juglans californica* var. *californica*) trees were scattered in two locations along the watercourse in Salt Canyon (see Figures 7 and 8). The first population had three trees, and was found at an elevation of about 950 feet, with *Artemisia californica*, *Salvia mellifera*, and *Salix lasiolepis*. The second population, found at about 1150 feet, had eight trees, and species associates were *Artemisia californica*, *Salvia leucophylla*, *Leymus condensatus*, and *Sambucus mexicana*.



NEWHALL RANCH

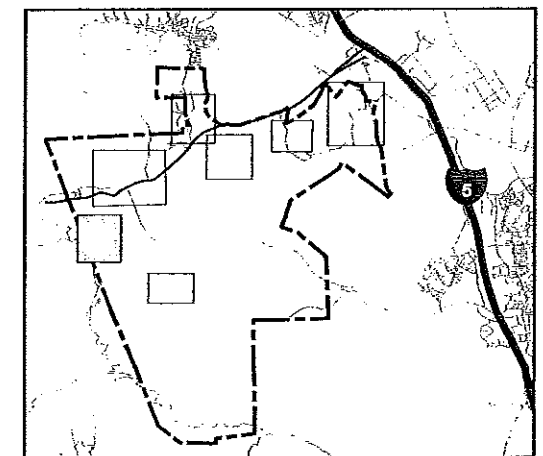
LEGEND



Peirson's Morning-Glory



Southern California Black Walnut

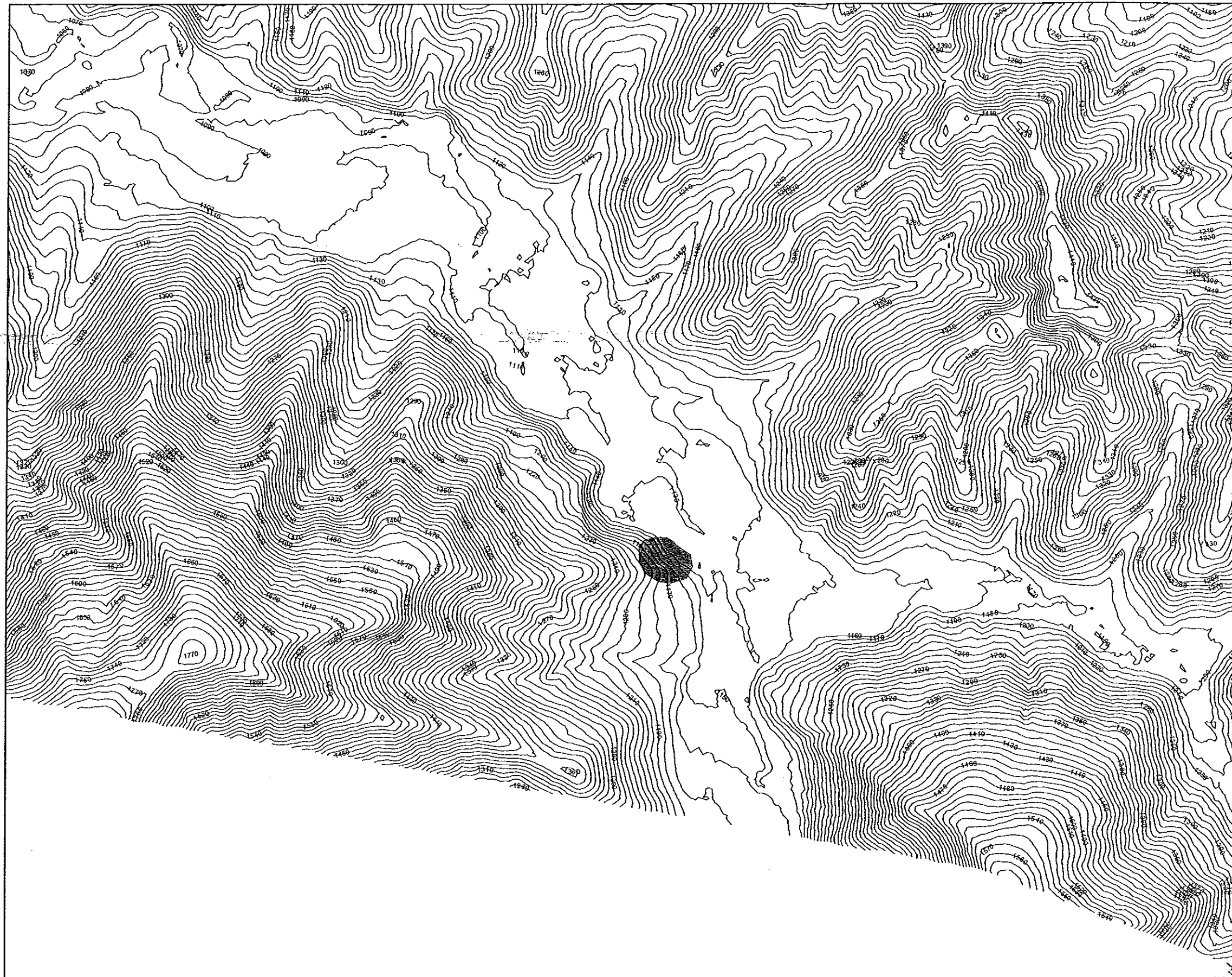


0 100 200 Meters
0 250 500 Feet

FORMA
November 2002

Figure 7

RARE PLANT LOCATIONS

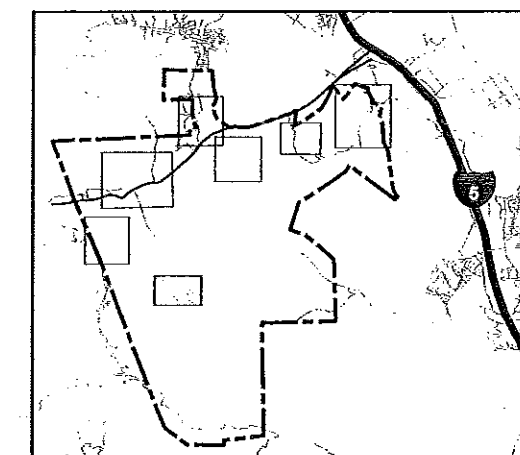


NEWHALL RANCH

L E G E N D



Southern California Black Walnut



0 55 110 Meters
0 175 350 Feet

FORMA
November 2002

Figure 8

RARE PLANT LOCATIONS

3.4 Portions of Airport Mesa

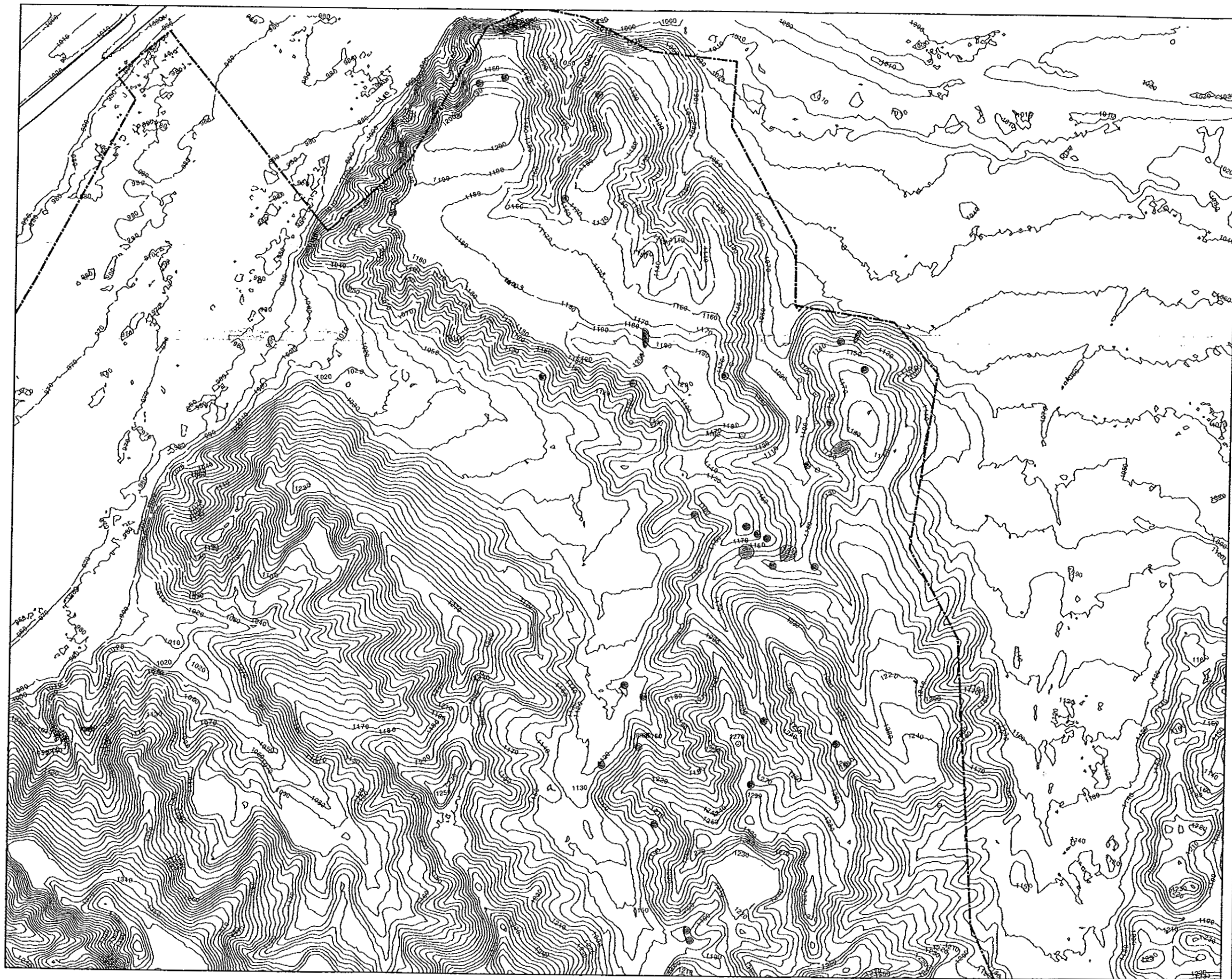
Two sensitive species were found in the Airport Mesa site during the 2002 surveys: San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; FC/SE/CNPS List 1B) and Peirson's morning-glory (*Calystegia peirsonii*; CNPS List 4). A summary of the populations of these species located at the site is provided below. These population locations, as numbered below, have been marked on the accompanying map (see Figure 9).

San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) populations were found in 14 locations in the central, eastern, and southern parts of the site, mostly on slopes with southern exposures. Elevations ranged from 1100 to 1275 feet, and the soils were sandy loams. The plants were either in late flower, or had not flowered and were desiccated due to the lack of normal amounts of rainfall in 2002. They were associated with grassland and coastal sage scrub species.

1. ~50 plants, with *Eriogonum fasciculatum*, *Bromus madritensis* ssp. *rubens*, and *Erodium cicutarium*.
2. ~75 plants, with *Bromus madritensis* ssp. *rubens*, *Avena barbata*, near *Eriogonum fasciculatum*, *Artemisia californica*, and *Lessingia filaginifolia*.
3. 5 plants, with *Eriogonum fasciculatum*, *Bromus madritensis* ssp. *rubens*, near *Yucca whipplei*.
4. 11 plants, with *Opuntia littoralis*, *Bromus madritensis* ssp. *rubens*, *Erodium cicutarium*, and *Chamaesyce polycarpa*.
5. ~25 plants, with *Bromus madritensis* ssp. *rubens*, *Avena barbata*, and *Lastarriaea coriacea*, near *Artemisia californica* and *Eriogonum fasciculatum*.
6. ~100 plants, with *Bromus madritensis* ssp. *rubens* and *Eriogonum elongatum*.
7. ~75 plants, with *Bromus madritensis* ssp. *rubens*, *Artemisia californica*, near *Eriogonum fasciculatum* and *Prunus ilicifolia*.
8. 2 plants, at the base of a graded slope, with *Bromus madritensis* ssp. *rubens*, *Vulpia myuros*, and *Erodium cicutarium*.
9. 1 plant, at the base of a graded slope, with *Bromus diandrus*, *Bromus madritensis* ssp. *rubens*, and *Hirschfeldia incana*.
10. ~150 plants, on a graded slope/knoll, with *Bromus madritensis* ssp. *rubens* and *Avena barbata*.
11. 1 plant, at the base of a graded slope, with *Bromus madritensis* ssp. *rubens*, *Vulpia myuros*, and *Hirschfeldia incana*.
12. ~250 plants, on the lower parts of a graded slope, with *Bromus madritensis* ssp. *rubens*, *Deinandra fasciculata*, and *Ericameria palmeri* var. *pachylepis*.
13. ~20 plants, on the lower parts of a graded slope, with *Bromus madritensis* ssp. *rubens* and *Vulpia myuros*.
14. 4 plants, along a road below a graded slope, with *Ericameria palmeri* var. *pachylepis* and *Bromus madritensis* ssp. *rubens*.

Peirson's morning-glory (*Calystegia peirsonii*) populations were found in 32 locations on slopes with different exposures. Elevations ranged from 1100 to 1300 feet, and the soils were variable in texture. Most plants were flowering, and were associated with grassland and coastal sage scrub species.

1. ~50 plants, with *Salvia leucophylla* and *Bromus diandrus*, near *Eriogonum fasciculatum*.
2. ~120 plants, with *Eriogonum fasciculatum*, *Avena fatua*, and *Bromus madritensis* ssp. *rubens*.



NEWHALL RANCH

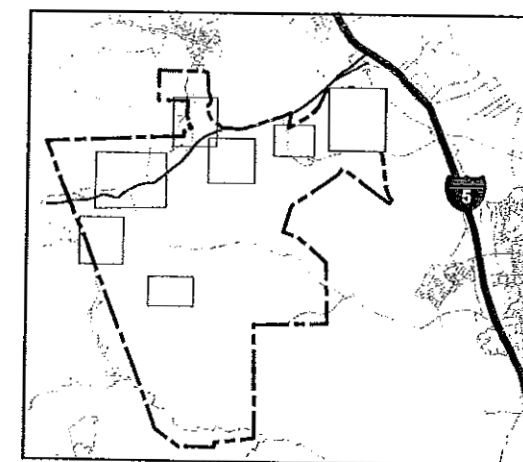
LEGEND



Peirson's Morning-Glory



San Fernando Valley Spineflower



0 85 170
0 275 550
Meters
Feet

FORMA
November 2002

Figure 9

3. 5 plants, with *Artemisia californica* and *Bromus diandrus*.
4. ~20 plants, with *Salvia leucophylla*, *Artemisia californica*, *Eriogonum fasciculatum*, *Bromus madritensis* ssp. *rubens*, and *Nassella lepida*.
5. ~20 plants, with *Artemisia californica*, *Eriogonum fasciculatum*, *Nassella lepida*, and *Salvia leucophylla*.
6. ~20 plants, with *Artemisia californica*, *Eriogonum fasciculatum*, and *Bromus madritensis* ssp. *rubens*.
7. ~25 plants, with *Bromus hordeaceus*, *Bromus madritensis* ssp. *rubens*, and *Lotus scoparius*.
8. ~2500+ plants, with *Bromus madritensis* ssp. *rubens*, *Eriogonum elongatum*, *Ericameria palmeri* var. *pachylepis*, *Artemisia californica*, and *Artemisia tridentata*.
9. ~40 plants, with *Eriogonum fasciculatum*, *Artemisia californica*, and *Bromus diandrus*.
10. ~2500+ plants, with *Lessingia filaginifolia*, *Bromus madritensis* ssp. *rubens*, *Ericameria palmeri* var. *pachylepis*, and *Bromus diandrus*.
11. ~300 plants, under *Quercus lobata*, with *Artemisia californica*, *Ericameria palmeri* var. *pachylepis*, *Lessingia filaginifolia*, and *Bromus madritensis* ssp. *rubens*.
12. ~200 plants, with *Eriogonum fasciculatum*, *Ericameria palmeri* var. *pachylepis*, and *Bromus madritensis* ssp. *rubens*.
13. 5 plants, with *Eriogonum fasciculatum* and *Bromus madritensis* ssp. *rubens*, near *Artemisia californica*.
14. 5 plants, with *Bromus madritensis* ssp. *rubens*.
15. ~350 plants, with *Artemisia tridentata*, *Ericameria palmeri* var. *pachylepis*, and *Bromus madritensis* ssp. *rubens*.
16. ~250 plants, with *Bromus madritensis* ssp. *rubens*, *Ericameria palmeri* var. *pachylepis*, and *Salvia apiana*.
17. ~250 plants, with *Mirabilis californica*, *Artemisia californica*, and *Bromus madritensis* ssp. *rubens*.
18. ~400 plants, with *Ericameria palmeri* var. *pachylepis*, *Salvia leucophylla*, *Eriogonum fasciculatum*, and *Bromus madritensis* ssp. *rubens*.
19. ~400 plants, with *Salvia leucophylla*, *Artemisia californica*, *Eriogonum fasciculatum*, and *Bromus madritensis* ssp. *rubens*.
20. ~25 plants, with *Eriogonum fasciculatum* and *Bromus madritensis* ssp. *rubens*.
21. ~300 plants, with *Artemisia dracunculus*, *Ericameria palmeri* var. *pachylepis*, *Salvia leucophylla*, *Eriogonum fasciculatum* and *Bromus madritensis* ssp. *rubens*.
22. ~350 plants, with *Eriogonum fasciculatum*, *Artemisia californica*, and *Bromus madritensis* ssp. *rubens*.
23. ~100 plants, with *Bromus madritensis* ssp. *rubens* and *Avena barbata*, near *Ericameria palmeri* var. *pachylepis* and *Eriogonum fasciculatum*.
24. ~50 plants, with *Avena barbata*, *Bromus madritensis* ssp. *rubens*, and *Erodium cicutarium*, near *Yucca whipplei* and *Artemisia californica*.
25. ~10 plants, at the base of a graded slope, with *Bromus madritensis* ssp. *rubens*.
26. 5 plants, at the base of a graded slope, with *Bromus madritensis* ssp. *rubens*.
27. ~10 plants, at the base of a graded slope, with *Avena barbata*, *Erodium cicutarium*, and *Bromus madritensis* ssp. *rubens*.
28. ~25 plants, on a graded slope, with *Avena barbata*, *Erodium cicutarium*, and *Vulpia myuros*.

29. ~20 plants, on a graded slope, with *Avena barbata*, *Bromus madritensis* ssp. *rubens*, and *Vulpia myuros*.
30. ~50 plants, on a graded slope, with *Bromus madritensis* ssp. *rubens*, near *Ericameria palmeri* var. *pachylepis*.
31. ~15 plants, at the base of a graded slope, with *Ericameria palmeri* var. *pachylepis* and *Bromus madritensis* ssp. *rubens*.
32. ~50 plants, on a graded slope, with *Bromus madritensis* ssp. *rubens* and *Vulpia myuros*.

4. PLANT SPECIES LIST

Plant species observed in the Newhall Ranch Specific Plan project sites are listed below.

FERNS AND FERN-ALLIES

Equisetaceae

Equisetum laevigatum

Pteridaceae

Pentagramma triangularis ssp. *triangularis*

Selaginellaceae

Selaginella bigelovii

ANGIOSPERMS

DICOTYLEDONS

Anacardiaceae

Rhus trilobata

*Schinus molle**

Toxicodendron diversilobum

Apiaceae

Apiastrum angustifolium

Bowlesia incana

Yabea microcarpa

Asclepiadaceae

Asclepias fascicularis

Asteraceae

Acourtia microcephala

Ambrosia acanthicarpa

Ambrosia psilostachya

Artemisia californica

Artemisia douglasiana

Artemisia dracunculus

Artemisia tridentata

Baccharis emoryi

Baccharis pilularis

Baccharis salicifolia

Brickellia californica

Brickellia nevinii

*Carduus pycnocephalus**
*Centaurea melitensis**
*Centaurea solstitialis**
Chaenactis glabriuscula var. *glabriuscula*
Deinandra fasciculata
Encelia californica
Encelia farinosa
Ericameria palmeri var. *pachylepis*
Eriophyllum confertiflorum
Filago californica
*Filago gallica**
Gnaphalium californicum
Hazardia squarrosa
Heterotheca grandiflora
Heterotheca sessiliflora ssp. *echinoides*
Heterotheca sessiliflora ssp. *fastigiata*
Isocoma menziesii var. *menziesii*
Iva axillaris ssp. *robustior*
Lepidospartum squamatum
Lessingia filaginifolia
Lessingia glandulifera var. *glandulifera*
Malacothrix saxatilis var. *commutata*
Pluchea sericea
Psilocarphus tenellus
*Silybum marianum**
Stylocline gnaphaloides
Boraginaceae
Amsinckia menziesii var. *intermedia*
Cryptantha micrantha
Heliotropium curassavicum
Pectocarya linearis ssp. *ferocula*
Plagiobothrys nothofulvus
Brassicaceae
*Brassica nigra**
*Hirschfeldia incana**
Rorippa nasturtium-aquaticum
*Sisymbrium irio**
Cactaceae
Opuntia basilaris var. *basilaris*
Opuntia littoralis
Capparaceae
Isomeris arborea
Caprifoliaceae
Sambucus mexicana
Chenopodiaceae

Salvia leucophylla

Salvia mellifera

Trichostema lanceolatum

Malvaceae

Malacothamnus fasciculatus

Myrtaceae

*Eucalyptus globulus**

Nyctaginaceae

Mirabilis californica

Onagraceae

Camissonia bistorta

Camissonia boothii ssp. *decorticans*

Camissonia campestris ssp. *campestris*

Camissonia californica

Camissonia hirtella

Camissonia micrantha

Clarkia cylindrica ssp. *cylindrica*

Clarkia epilobioides

Clarkia purpurea ssp. *quadrivulnera*

Clarkia unguiculata

Epilobium canum

Oenothera californica ssp. *californica*

Paeoniaceae

Paeonia californica

Papaveraceae

Eschscholzia californica

Polemoniaceae

Eriastrum densifolium ssp. *elongatum*

Eriastrum sapphirinum

Gilia angelensis

Leptodactylon californicum

Navarretia atractylodes

Polygonaceae

Chorizanthe parryi var. *fernandina*[†]

Chorizanthe staticoides

Eriogonum baileyi

Eriogonum elongatum var. *elongatum*

Eriogonum fasciculatum var. *foliolosum*

Eriogonum gracile

Eriogonum gracillimum

Lastarriaea coriacea

Portulacaceae

Calyptridium monandrum

Claytonia perfoliata

Ranunculaceae

Delphinium parryi ssp. *parryi*

Rhamnaceae

Ceanothus crassifolius

Rhamnus crocea

Rhamnus ilicifolia

Rosaceae

Adenostoma fasciculatum

Cercocarpus betuloides var. *betuloides*

Heteromeles arbutifolia

Prunus ilicifolia ssp. *ilicifolia*

Rosa californica

Rubus ursinus

Rubiaceae

Galium angustifolium ssp. *angustifolium*

*Galium aparine**¹

Galium californicum ssp. *flaccidum*

Galium nuttallii ssp. *nuttallii*

Salicaceae

Populus fremontii ssp. *fremontii*

Salix exigua

Salix laevigata

Salix lasiolepis

Saururaceae

Anemopsis californica

Scrophulariaceae

Antirrhinum coulterianum

Castilleja affinis ssp. *affinis*

Castilleja exserta

Castilleja foliolosa

Collinsia parryi

Keckiella cordifolia

Mimulus aurantiacus

Penstemon centranthifolius

*Veronica anagallis-aquatica**

Solanaceae

Datura wrightii

*Nicotiana glauca**

Solanum xanti

Tamaricaceae

Tamarix sp.*

Urticaceae

Urtica dioica ssp. *holosericea*

Violaceae

Viola pedunculata

ANGIOSPERMS

MONOCOTYLEDONS

Cyperaceae

Cyperus esculentus

Scirpus acutus var. *occidentalis*

Scirpus americanus

Scirpus californicus

Scirpus maritimus

Juncaceae

Juncus acutus ssp. *leopoldii*[†]

Juncus effusus

Juncus mexicanus

Liliaceae

Calochortus clavatus ssp. *pallidus*

Dichelostemma capitatum

Yucca whipplei

Poaceae

*Arundo donax**

*Avena barbata**

*Avena fatua**

*Bromus diandrus**

*Bromus hordeaceus**

Bromus madritensis ssp. *rubens**

*Bromus tectorum**

*Cynodon dactylon**

Distichlis spicata

*Hordeum murinum**

Koeleria macrantha

Leymus condensatus

Leymus triticoides

Melica imperfecta

Nassella lepida

Nassella pulchra

Poa secunda ssp. *secunda*

*Polypogon monspeliensis**

*Schismus barbatus**

*Vulpia myuros**

Typhaceae

Typha angustifolia

Typha latifolia

* Non-native plant species

*? Possible non-native plant species

† Sensitive plant species

5. REFERENCES

- Hickman, J.C. (Editor). 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley, California.
- Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Unpublished Report. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.