



September 10, 2012

Lehigh Hanson, Inc.
Attn: Terry Marshall
7675 N. Ingram Ave, Suite 103
Fresno, California 93711

Re: Rare Plant Survey Report Addendum, Santa Margarita Quarry, San Luis Obispo County, California

Dear Terry:

This addendum report presents the results of May and July 2012 rare plant surveys conducted within the proposed Santa Margarita Quarry Extension Project Reclamation Plan Area (RPA Area) in San Luis Obispo County, California. This report serves as an addendum to the April 2012 Rare Plant Survey Report (WRA 2012) and documents the completion of protocol-level rare plant surveys for the RPA Area. Additional floristic-level surveys in May and July, 2012, have been conducted to coincide with peak blooming periods of 15 special-status plant species determined to have potential to occur in the site, that were not surveyed for in March 2012.

Methods

Two surveys were conducted in the RPA Area, on May 17 and 18, 2012 and July 24 and 25, 2012. Survey methodology was consistent with the methodology described in the previously submitted Rare Plant Survey Report (WRA 2012).

Results

Two rare plant species were observed within the RPA Area during the May survey and include La Panza mariposa lily (*Calochortus simulans*, CNPS List 1B) and Hardham's evening-primrose (*Camissoniopsis* [*Camissonia*] *hardhamiae*, CNPS List 1B). Southern California black walnut (*Juglans californica* [*J. c.* var. *c.*]), a CNPS List 4 species, was also observed. All of these individuals were observed outside the RPA Footprint. No special status species were observed during the July survey.

A summary of rare plant species observed in the RPA Area is provided in the table below. Attachment 1 depicts locations of rare plants observed in the RPA Area. Photographs are provided in Attachment 2. An updated list of species observed in the RPA Area is included as Attachment 3.

Summary of Rare Plant Species Observed in the RPA Area

Species	Rarity	Number Observed
La Panza mariposa lily (<i>Calochortus simulans</i>)	CNPS List 1B	26
Hardham's evening-primrose (<i>Camissoniopsis [Camissonia] hardhamiae</i>)	CNPS List 1B	15
Southern California black walnut (<i>Juglans californica [J. c. var. c.]</i>)	CNPS List 4	1

La Panza mariposa lily (*Calochortus simulans*) CNPS List 1B La Panza mariposa lily is a perennial herb (bulb) in the lily family (Liliaceae) that occurs in the understory of chaparral, woodland, and forest habitats, as well as in open grasslands in Santa Barbara and San Luis Obispo Counties at elevations from 395 to 1,100 meters. It is found on sandy soils usually derived from granite, but occasionally also from serpentine. It blooms between April and May.

Twenty-six individuals of La Panza mariposa lily were observed in the RPA Area. Most individuals were observed in steeply-sloping (50 percent slope), east-southeast facing (110 degrees) mixed scrub habitat at and near the edge of existing quarry disturbance. Approximately 80 percent of observed individuals were flowering and 20 percent were in fruit at the time of the survey. Soils were sandy decomposed granite, and appear to be largely composed of spill from the adjacent quarry road. Associated species include California buckwheat (*Eriogonum fasciculatum*), longstem buckwheat (*Eriogonum elongatum*), wild tarragon (*Artemisia dracuncululus*), deerweed (*Acmispon glaber [Lotus scoparius]*), woodland clarkia (*Clarkia unguiculata*) and tocolote (*Centaurea melitensis*). Four additional individuals were observed near this population, adjacent to the Salinas River, on thin soils adjacent to a granite rock outcrop with neutral aspect.

Hardham's evening-primrose (*Camissoniopsis [Camissonia] hardhamiae*) CNPS List 1B Hardham's evening primrose is an annual herb in the evening primrose family (Onagraceae) that occurs in the understory of chaparral and woodland habitats in Monterey and San Luis Obispo Counties at elevations from 140 to 610 meters. It is found on sandy soils, decomposed carbonate, and in disturbed or recently burned areas. It blooms between April and May.

Fifteen individuals of Hardham's evening-primrose were observed in the RPA Area. This population is located on a steeply-sloping (35-40 percent), east-southeast facing (105 degrees) slope at the margins of coast live oak woodland habitat, in an opening in non-native annual grassland. Soils are sandy loams from decomposed granite and are undisturbed by quarry activities approximately 100 feet uphill, to the west. Approximately 60 percent of individuals were in flower and 40 percent were in fruit at the time of the survey in May 2012. Associated species include wild oats (*Avena* sp.), red brome (*Bromus madritensis*), cheatgrass (*Bromus tectorum*), chia sage (*Salvia columbariae*), longstem buckwheat and coast live oak (*Quercus agrifolia*).

Southern California black walnut (*Juglans californica [J. c. var. c.]*) CNPS List 4 Southern California black walnut is a deciduous tree in the walnut family (Juglandaceae) that occurs in San Luis Obispo and many California counties, typically in alluvial settings on sandy or gravelly soils. It blooms between March and August. One individual of Southern California black walnut was observed in oak woodland within the RPA Area: a sapling near the quarry access road outside of the RPA Footprint. CNPS List 4 species are not protected under CEQA.

Recommendations

Both CNPS List 1B rare plant species observed in the RPA Area are located immediately adjacent to the proposed RPA Footprint. Although project implementation will not result in direct impacts to these species, they are growing close enough to the RPA Footprint that indirect impacts may occur without implementation of avoidance and minimization measures. In addition, indirect impacts in this area are likely only during quarry reclamation as the result of vehicular and foot traffic, side cast soils, or silt runoff that may bury or otherwise disturb the seed bank. In order to avoid or minimize impacts to rare plants documented within the RPA Area, avoidance and mitigation measures are proposed and described below.

Several individuals of La Panza mariposa lily are growing directly adjacent to a quarry road, in side cast soils from road grading; a second smaller population was noted adjacent to Salinas River. High visibility fencing with appropriate signage should be placed around both populations to exclude foot or vehicle traffic, as needed during quarry extension activities; because these plants are not located within the RPA Footprint, impacts are likely only if vehicular traffic is increased in this area during extension activities. Unless the road will be maintained following reclamation activities, individual plants should be transplanted during reclamation as necessary to remove side cast soils and re-grade the road back to pre-existing conditions. The individual bulbs should be placed back in the same location, or in a location with similar topography and soil conditions. If the road will not be re-graded, fencing and signage should be maintained until all reclamation activities in this area are completed. The population located adjacent to Salinas River should be completely avoided during reclamation activities; fencing should be maintained as needed to ensure avoidance. Since La Panza mariposa lily readily grows in disturbed soil conditions, no further mitigation is required.

The population of Hardham's evening-primrose is growing in undisturbed soils approximately 100 feet east of the nearest existing quarry road, outside the RPA Footprint. Because it is growing on steeply sloping, sandy soils, any nearby disturbance may be exacerbated by soil sloughing. Therefore, a minimum avoidance buffer of 50 feet during extension and reclamation activities will provide appropriate avoidance of this population. High visibility fencing with appropriate signage should demarcate the buffer area.

Impacts to CNPS List 4 species are not considered significant under CEQA, and therefore no actions are required to avoid or mitigate for impacts to Southern California black walnut. Because this species is not present within the RPA Footprint, no direct impacts will occur.

Conclusion

Two rare plant species, La Panza mariposa lily (*Calochortus simulans*, CNPS List 1B) and Hardham's evening-primrose (*Camissoniopsis* [*Camissonia*] *hardhamiae*, CNPS List 1B) were documented within the RPA Area during May rare plant surveys. Twenty-six individuals of La Panza mariposa lily and 15 of Hardham's evening-primrose were observed. One individual of a CNPS List 4 species, Southern California black walnut (*Juglans californica* [*J. c.* var. *c.*]) was also observed in the RPA Area, however this species is not afforded protection under CEQA. No rare plants were observed within the RPA Footprint. No additional rare plant species were observed during the July survey.

All potential indirect impacts to CNPS List 1B species should be avoided during project implementation. If necessary, La Panza mariposa lily may be transplanted while in bulb form

during reclamation activities, as individuals are present in side cast soils immediately adjacent to the existing roadway and cannot be avoided if road restoration is to occur. Because this species currently grows in disturbed soil conditions, transplantation is likely to be successful and therefore, no additional mitigation is proposed.

Please do not hesitate to contact me with any further questions.

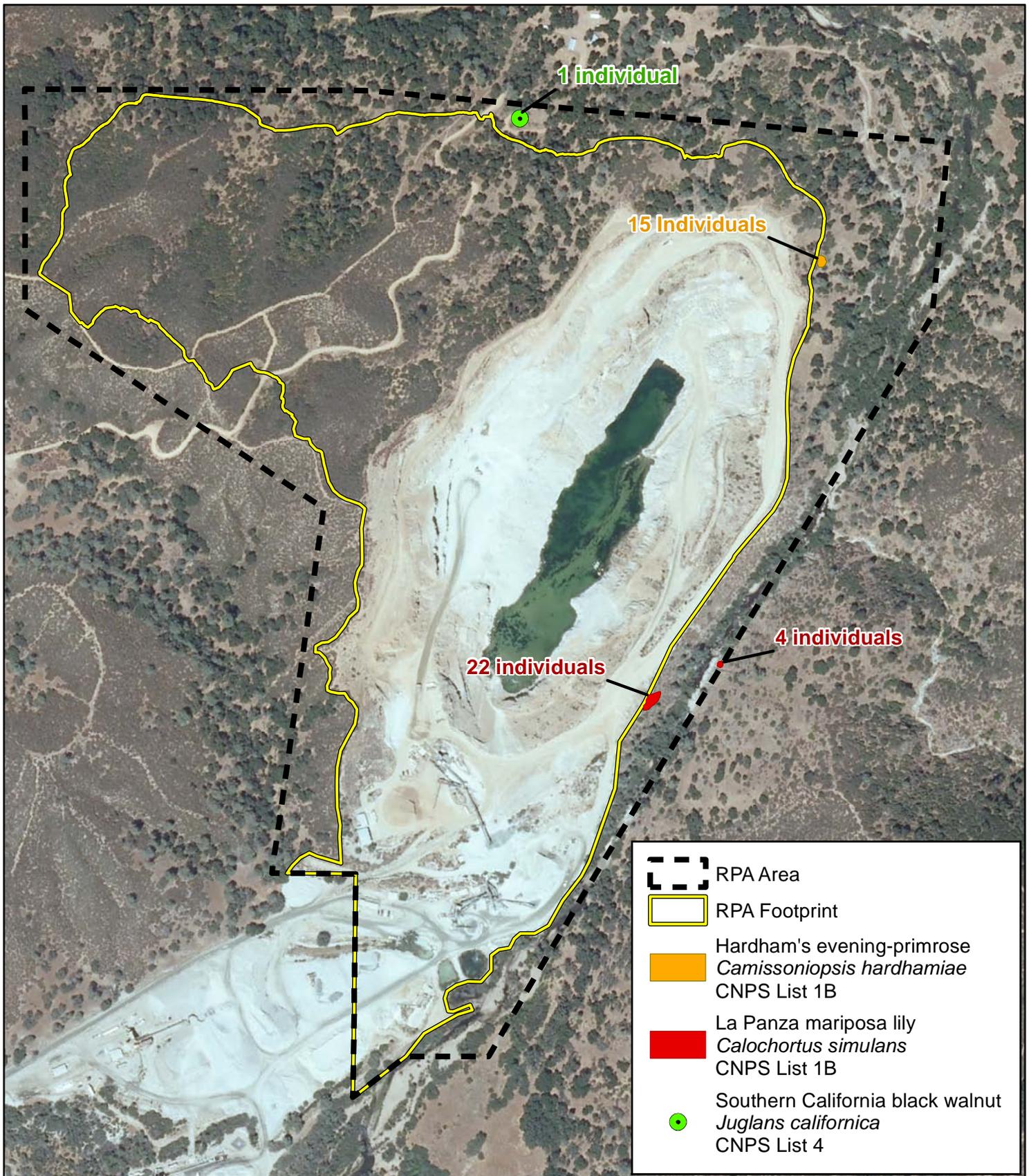
Sincerely,

A handwritten signature in black ink, appearing to read "Morgan Trieger", is centered on a light-colored rectangular background.

Morgan Trieger
WRA, Inc.

Sources cited

WRA, Inc. 2012. Rare Plant Survey Report, Santa Margarita Quarry, San Luis Obispo County, California. Prepared for Lehigh Hanson, Inc. April.



Attachment 1. Rare Plants Observed in the RPA Area

Santa Margarita Quarry
San Luis Obispo County, California



Date: August 2012
Aerial: 2010 NAIP
Map By: Michael Rochelle



Attachment 2. Photographs

Top: La Panza mariposa lily (*Calochortus simulans*).

Bottom: Most La Panza mariposa lily was observed growing in California buckwheat scrub between the east end of the quarry and the Salinas River.

Photos taken May 18, 2012





Attachment 2. Photographs

Coast live oak woodland habitat with sandy soils and granite outcrop (Top photo) provides habitat for La Panza mariposa lily and Hardham's evening primrose (*Camissoniopsis hardhamiae*) (Bottom photo), between the east end of the quarry and the Salinas River.

Photos taken May 18, 2012



Attachment 3. Plant species observed in the RPA Area

FAMILY	SCIENTIFIC NAME*	COMMON NAME	STATUS**	ORIGIN	FORM
Adoxaceae [Caprifoliaceae]	<i>Sambucus nigra</i> ssp. <i>caerulea</i> [<i>S. mexicana</i>]	blue elderberry		native	evergreen shrub
Agavaceae [Liliaceae]	<i>Hesperoyucca</i> [<i>Yucca</i>] <i>whipplei</i>	chaparral yucca		native	perennial herb
Anacardiaceae	<i>Rhus aromatica</i> [<i>R. trilobata</i>]	skunkbrush		native	deciduous shrub
Anacardiaceae	<i>Toxicodendron diversilobum</i>	poison oak		native	deciduous shrub
Apiaceae	<i>Anthriscus caucalis</i>	bur chervil		non-native	annual herb
Apiaceae	<i>Apiastrum angustifolium</i>	wild parsley		native	annual herb
Apiaceae	<i>Bowlesia incana</i>	hoary bowlesia		native	annual herb
Apiaceae	<i>Conium maculatum</i>	poison hemlock		non-native	perennial herb
Apiaceae	<i>Daucus pusilus</i>	wild carrot		native	annual herb
Apiaceae	<i>Sanicula bipinnatifida</i>	purple sanicle		native	perennial herb
Apiaceae	<i>Sanicula crassicaulis</i>	Pacific sanicle		native	perennial herb
Apiaceae	<i>Tauschia hartwegii</i>	Hartweg's tauschia		native	perennial herb
Apiaceae	<i>Torilis arvensis</i>	hedge parsley		non-native	annual herb
Apocynaceae [Asclepiadaceae]	<i>Asclepias eriocarpa</i>	Kotolo milkweed		native	perennial herb
Apocynaceae [Asclepiadaceae]	<i>Asclepias fascicularis</i>	narrowleaf milkweed		native	perennial herb
Asteraceae	<i>Achyrachaena mollis</i>	blow wives		native	annual herb
Asteraceae	<i>Acourtia microcephala</i>	sacapellote		native	perennial herb
	<i>Agoseris grandiflora</i> var. <i>grandiflora</i>	large flowered dandelion		native	perennial herb
Asteraceae	<i>Artemisia californica</i>	California sage scrub		native	evergreen shrub
Asteraceae	<i>Artemisia douglasiana</i>	mugwort		native	perennial herb
Asteraceae	<i>Artemisia dracunculus</i>	wild tarragon		native	perennial herb
Asteraceae	<i>Baccharis pilularis</i>	coyotebrush		native	evergreen shrub
Asteraceae	<i>Baccharis salicifolia</i>	mulefat		native	evergreen shrub
Asteraceae	<i>Brickellia californica</i>	California brickelbush		native	perennial herb
Asteraceae	<i>Carduus pycnocephalus</i>	Italian thistle		non-native	annual herb
Asteraceae	<i>Centaurea melitensis</i>	tocalote		non-native	annual herb
Asteraceae	<i>Centaurea solstitialis</i>	yellow starthistle		non-native	annual herb
Asteraceae	<i>Chondrilla juncea</i>	skeletonweed		non-native	perennial herb
Asteraceae	<i>Cirsium occidentale</i> var. <i>occidentale</i>	cobwebby thistle		native	perennial herb
Asteraceae	<i>Corethrogyne</i> [<i>Lessingia</i>] <i>filaginifolia</i>	common sandaster		native	perennial herb
Asteraceae	<i>Cynara cardunculus</i>	artichoke thistle		non-native	perennial herb
Asteraceae	<i>Erigeron foliosus</i> var. <i>foliosus</i>	leafy fleabane		native	perennial herb
Asteraceae	<i>Eriophyllum confertiflorum</i>	golden yarrow		native	evergreen shrub
Asteraceae	<i>Euthamia occidentalis</i>	western goldenrod		native	perennial herb

FAMILY	SCIENTIFIC NAME*	COMMON NAME	STATUS**	ORIGIN	FORM
Asteraceae	<i>Helenium puberulum</i>	rosella		native	perennial herb
Asteraceae	<i>Heterotheca grandiflora</i>	telegraph weed		native	annual herb
Asteraceae	<i>Hypochaeris glabra</i>	smooth cat's-ear		non-native	annual herb
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce		non-native	annual herb
Asteraceae	<i>Lagophylla ramosissima</i>	common hareleaf		native	annual herb
Asteraceae	<i>Layia glandulosa</i>	white layia		native	annual herb
Asteraceae	<i>Lessingia pectinata</i> var. <i>tenuipes</i> [<i>L. glandulifera</i> var. <i>glandulifera</i>]	lessingia		native	annual herb
Asteraceae	<i>Madia elegans</i>	common madia		native	annual herb
Asteraceae	<i>Madia exigua</i>	meager tarweed		native	annual herb
Asteraceae	<i>Madia sativa</i>	coastal tarweed		native	annual herb
Asteraceae	<i>Micropus californicus</i>	slender cottonweed		native	annual herb
Asteraceae	<i>Pseudognaphalium beneolens</i> [<i>Gnaphalium canescens</i> ssp. <i>b</i>]	cudweed		native	annual or perennial herb
Asteraceae	<i>Pseudognaphalium</i> [<i>Gnaphalium</i>] <i>californicum</i>	ladies' tobacco		native	annual or perennial herb
Asteraceae	<i>Pseudognaphalium</i> [<i>Gnaphalium</i>] <i>luteoalbum</i>	Jersey cudweed		non-native	annual herb
Asteraceae	<i>Senecio flaccidus</i>	chaparral ragwort		native	evergreen shrub
Asteraceae	<i>Senecio vulgaris</i>	old man of the spring		native	annual herb
Asteraceae	<i>Stephanomeria elata</i>	Santa Barbara wire lettuce		native	annual herb
Asteraceae	<i>Taraxacum officinale</i>	common dandelion		non-native	perennial herb
Asteraceae	<i>Xanthium strumarium</i>	rough cocklebur		native	annual herb
Azollaceae	<i>Azolla filiculoides</i>	mosquito fern		native	fern
Boraginaceae	<i>Amsinckia intermedia</i> [<i>A. menziesii</i> var. <i>intermedia</i>]	common fiddleneck		native	annual herb
Boraginaceae	<i>Amsinckia tessellata</i> var. <i>tessellata</i>	desert fiddleneck		native	annual herb
Boraginaceae	<i>Cryptantha microstachys</i>	Tejon cryptantha		native	annual herb
Boraginaceae	<i>Cryptantha muricata</i>	prickly cryptantha		native	annual herb
Boraginaceae	<i>Cryptantha nemaclada</i>	Colusa cryptantha		native	annual herb
Boraginaceae	<i>Emmenanthe penduliflora</i> var. <i>penduliflora</i>	whispering bells		native	annual herbium
Boraginaceae [Hydrophyllaceae]	<i>Eriodictyon traskiae</i>	Pacific yerba santa		native	evergreen shrub
Boraginaceae [Hydrophyllaceae]	<i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i>	common eucrypta		native	annual herb
Boraginaceae [Hydrophyllaceae]	<i>Phacelia cicutaria</i> var. <i>cicutaria</i>	caterpillar phacelia		native	annual herb
Brassicaceae	<i>Barbarea orthoceras</i>	wintercress		native	perennial herb
Brassicaceae	<i>Capsella bursa-pastoris</i>	sheperd's purse		non-native	annual herb
Brassicaceae	<i>Erysimum capitatum</i> var. <i>capitatum</i>	western wallflower		native	perennial herb

FAMILY	SCIENTIFIC NAME*	COMMON NAME	STATUS**	ORIGIN	FORM
Brassicaceae	<i>Hirschfeldia incana</i>	short pod mustard		non-native	perennial herb
Brassicaceae	<i>Nasturtium officinale</i> [<i>Rorippa nasturtium-aquaticum</i>]	watercress		native	perennial herb
Brassicaceae	<i>Thysanocarpus curvipes</i>	fringedpod		native	annual herb
Brassicaceae	<i>Thysanocarpus radians</i>	showy fringedpod		native	annual herb
Caprifoliaceae	<i>Lonicera subspicata</i> var. <i>denudata</i>	chaparral honeysuckle		native	perennial herb or shrub
Caprifoliaceae	<i>Symphoricarpos mollis</i> [<i>S. hesperius</i>]	creeping snowberry		native	deciduous shrub
Caryophyllaceae	<i>Cerastium glomeratum</i>	mouseear chickweed		non-native	annual herb
Caryophyllaceae	<i>Silene gallica</i>	common catchfly		non-native	annual herb
Cistaceae	<i>Helianthemum scoparium</i>	rush rose		native	perennial herb
Convolvulaceae	<i>Calystegia longipes</i>	Piute morning glory		native	perennial herb
Convolvulaceae [Cuscutaceae]	<i>Cuscuta californica</i> var. <i>californica</i>	chapparal dodder		native	annual herb (parasitic)
Crassulaceae	<i>Dudleya lanceolata</i>	southern California dudleya		native	perennial herb
Crassulaceae	<i>Dudleya pulverulenta</i> ssp. <i>pulverulenta</i>	chalk dudleya		native	perennial herb
Cucurbitaceae	<i>Marah fabacea</i> [<i>M. fabaceus</i>]	manroot		native	perennial vine
Cyperaceae	<i>Carex nudata</i>	torrent sedge		native	perennial graminoid
Cyperaceae	<i>Carex obnupta</i>	slough sedge		native	perennial graminoid
Cyperaceae	<i>Carex barbarae</i>	Santa Barbara sedge		native	perennial graminoid
Cyperaceae	<i>Cyperus eragrostis</i>	tall flatsedge		native	perennial herb
Cyperaceae	<i>Cyperus</i> sp.	cyperus			
Cyperaceae	<i>Eleocharis macrostachya</i>	creeping spikerush		native	perennial herb
Cyperaceae	<i>Eleocharis</i> sp.	spikerush			
Cyperaceae	<i>Schoenoplectus</i> [<i>Scirpus</i>] <i>californicus</i>	California bulrush		native	perennial herb
Cyperaceae	<i>Schoenoplectus pungens</i> var. <i>longispicatus</i> [<i>Scirpus pungens</i>]	common threesquare		native	perennial herb
Cyperaceae	<i>Scirpus microcarpus</i>	small fruited bulrush		native	perennial herb
Datisceae	<i>Datisca glomerata</i>	Durango root		native	perennial herb
Dennstaedtiaceae	<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken fern		native	fern
Dryopteridaceae	<i>Dryopteris arguta</i>	wood fern		native	fern
Dryopteridaceae	<i>Polystichum munitum</i>	western swordfern		native	fern
Elaeagnaceae	<i>Elaeagnus angustifolia</i>	Russian olive		non-native	evergreen shrub or tree
Equisetaceae	<i>Equisetum arvense</i>	common horsetail		native	fern
Equisetaceae	<i>Equisetum hyemale</i>	scouring rush		native	fern
Ericaceae	<i>Arctostaphylos glauca</i>	big-berry manzanita		native	evergreen shrub

FAMILY	SCIENTIFIC NAME*	COMMON NAME	STATUS**	ORIGIN	FORM
Fabaceae	<i>Acmispon americanus</i> var. <i>americanus</i> [<i>Lotus unifoliolatus</i> var. <i>unifoliolatus</i>]	American bird's-foot trefoil		native	annual herb
Fabaceae	<i>Acmispon</i> [<i>Lotus</i>] <i>strigosus</i>	strigose lotus		native	annual herb
Fabaceae	<i>Acmispon glaber</i> [<i>Lotus scoparius</i>]	deer vetch		native	perennial herb
Fabaceae	<i>Amorpha californica</i> var. <i>californica</i>	Californica false indigo		native	deciduous shrub
Fabaceae	<i>Glycyrrhiza lepidota</i>	wild licorice		native	perennial herb
Fabaceae	<i>Hoita macrostachya</i>	leather root		native	perennial herb
Fabaceae	<i>Lathyrus vestitus</i> var. <i>vestitus</i>	pacific pea		native	perennial herb
Fabaceae	<i>Lotus corniculatus</i>	bird's foot trefoil		non-native	perennial herb
Fabaceae	<i>Lupinus bicolor</i>	miniature lupine		native	annual herb
Fabaceae	<i>Lupinus concinnus</i>	elegant lupine		native	annual herb
Fabaceae	<i>Lupinus hirsutissimus</i>	stinging lupine		native	annual herb
Fabaceae	<i>Lupinus nanus</i>	sky lupine		native	annual herb
Fabaceae	<i>Lupinus polyphyllus</i>	bigleaf lupine		native	perennial herb
Fabaceae	<i>Lupinus truncatus</i>	blunt leaved lupine		native	annual herb
Fabaceae	<i>Medicago polymorpha</i>	bur clover		non-native	annual herb
Fabaceae	<i>Melilotus albus</i> [<i>M. alba</i>]	white sweetclover		non-native	annual or biennial herb
Fabaceae	<i>Melilotus indicus</i> [<i>M. indica</i>]	annual yellow sweet clover		non-native	annual herb
Fabaceae	<i>Pickeringia montana</i>	chaparral pea		native	evergreen shrub
Fabaceae	<i>Rupertia physodes</i>	California tea		native	perennial herb
Fabaceae	<i>Trifolium ciliolatum</i>	foothill clover		native	annual herb
Fabaceae	<i>Trifolium depauperatum</i> var. <i>depauperatum</i>	dwarf sack clover		native	annual herb
Fabaceae	<i>Trifolium hirtum</i>	rose clover		non-native	annual herb
Fabaceae	<i>Trifolium microcephalum</i>	small head clover		native	annual herb
Fabaceae	<i>Trifolium obtusiflorum</i>	creek clover		native	annual herb
Fabaceae	<i>Trifolium wildenovii</i>	tomcat clover		native	annual herb
Fabaceae	<i>Trifolium wormskioldii</i>	coast clover		native	perennial herb
Fabaceae	<i>Vicia villosa</i>	hairy vetch		non-native	annual herb or vine
Fagaceae	<i>Quercus agrifolia</i>	coast live oak		native	evergreen tree
Fagaceae	<i>Quercus berberidifolia</i>	scrub oak		native	evergreen tree
Fagaceae	<i>Quercus douglasii</i>	blue oak		native	deciduous tree
Fagaceae	<i>Quercus durata</i> var. <i>durata</i>	leather oak		native	evergreen shrub or tree
Fagaceae	<i>Quercus lobata</i>	valley oak		native	deciduous tree
Garryaceae	<i>Garrya elliptica</i>	coast silktassel		native	evergreen shrub or tree
Geraniaceae	<i>Erodium cicutarium</i>	redstem filaree		non-native	annual herb
Geraniaceae	<i>Geranium dissectum</i>	cutleaf geranium		non-native	annual herb
Grossulariaceae	<i>Ribes malvaceum</i>	chaparral currant		native	evergreen shrub
Grossulariaceae	<i>Ribes sanguineum</i>	redflower currant		native	evergreen shrub
Grossulariaceae	<i>Ribes speciosum</i>	fuschia-flowered gooseberry		native	evergreen shrub

FAMILY	SCIENTIFIC NAME*	COMMON NAME	STATUS**	ORIGIN	FORM
Haloragaceae	<i>Myriophyllum spicatum</i>	Eurasian milfoil		non-native	perennial herb
Isoetaceae	<i>Isoetes orcuttii</i>	Orcutt's quillwort		native	fern (aquatic)
Juglandaceae	<i>Juglans californica</i> [J. c. var. c]	Southern California black walnut	List 4	native	deciduous tree
Juncaceae	<i>Juncus bufonius</i>	toad rush		native	annual herb
Juncaceae	<i>Juncus mexicanus</i>	Mexican rush		native	perennial herb
Juncaceae	<i>Juncus patens</i>	spreading rush		native	perennial herb
Juncaceae	<i>Juncus xiphioides</i>	iris-leaved rush		native	perennial herb
Juncaceae	<i>Juncus</i> sp.	rush			
Lamiaceae	<i>Mentha spicata</i>	spearmint		non-native	perennial herb
Lamiaceae	<i>Monardella</i> sp.	coyote mint			
Lamiaceae	<i>Salvia apiana</i>	white sage		native	evergreen shrub
Lamiaceae	<i>Salvia columbariae</i>	chia sage		native	annual herb
Lamiaceae	<i>Salvia mellifera</i>	black sage		native	evergreen shrub
Lamiaceae	<i>Stachys albens</i>	white hedgenettle		native	perennial herb
Lamiaceae	<i>Trichostema lanatum</i>	wooly bluecurls		native	evergreen shrub
Lauraceae	<i>Umbellularia californica</i>	California bay		native	evergreen tree
Liliaceae	<i>Calochortus albus</i>	white globe lily		native	perennial herb
Liliaceae	<i>Calochortus simulans</i>	La Panza lily	List 1B	native	perennial herb
Liliaceae	<i>Calochortus splendens</i>	splendid mariposa lily		native	perennial herb
Lythraceae	<i>Lythrum californicum</i>	California loosestrife		native	perennial herb
Malvaceae	<i>Malacothamnus fremontii</i>	Fremont's bush mallow		native	evergreen shrub
Montiaceae [Portulacaceae]	<i>Calandrinia ciliata</i>	redmaids		native	annual herb
Montiaceae [Portulacaceae]	<i>Claytonia perfoliata</i> ssp. <i>mexicana</i>	miner's lettuce		native	annual herb
Myrsinaceae [Primulaceae]	<i>Anagallis arvensis</i>	scarlet pimpernel		non-native	annual herb
Onagraceae	<i>Camissonia campestris</i> ssp. <i>campestris</i>	field suncup		native	annual herb
Onagraceae	<i>Camissoniopsis</i> [Camissonia] <i>hardhamiae</i>	Hardham's evening-primrose	List 1B	native	annual herb
Onagraceae	<i>Camissoniopsis</i> [Camissonia] <i>intermedia</i>	no common name		native	annual herb
Onagraceae	<i>Clarkia affinis</i>	chaparral clarkia		native	annual herb
Onagraceae	<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	winecup clarkia		native	annual herb
Onagraceae	<i>Clarkia speciosa</i> ssp. <i>speciosa</i>	redspot clarkia		native	annual herb
Onagraceae	<i>Clarkia unguiculata</i>	elegant clarkia		native	annual herb
Onagraceae	<i>Epilobium brachycarpum</i>	annual willowherb		native	annual herb
Onagraceae	<i>Epilobium canum</i>	California fuchsia		native	perennial herb
Onagraceae	<i>Epilobium ciliatum</i>	fringed willowherb		native	perennial herb

FAMILY	SCIENTIFIC NAME*	COMMON NAME	STATUS**	ORIGIN	FORM
Onagraceae	<i>Eulobus californicus</i> [<i>Camissonica californica</i>]	California suncup		native	annual herb
Onagraceae	<i>Oenothera elata</i>	evening primrose		native	perennial herb
Onagraceae	<i>Ludwigia peploides</i> ssp. <i>peploides</i>	floating water primrose		native	perennial herb
Orobanchaceae [Scrophulariaceae]	<i>Castilleja minor</i> ssp. <i>spiralis</i>	lesser Indian paintbrush		native	annual herb
Orobanchaceae	<i>Orobanche bulbosa</i>	chaparral broomrape		native	perennial herb (parasitic)
Orobanchaceae [Scrophulariaceae]	<i>Pedicularis densiflora</i>	Indian warrior		native	perennial herb
Oxalidaceae	<i>Oxalis pes-caprae</i>	Bermuda buttercup		non-native	perennial herb
Paeoniaceae	<i>Paeonia californica</i>	California peony		native	perennial herb
Papaveraceae	<i>Dendromecon rigida</i>	bush poppy		native	evergreen shrub
Papaveraceae	<i>Ehrendorferia</i> [<i>Dicentra</i>] <i>chrysantha</i>	golden eardrops		native	perennial herb
Papaveraceae	<i>Eschscholzia caespitosa</i>	tufted poppy		native	annual herb
Papaveraceae	<i>Eschscholzia californica</i>	California poppy		native	perennial herb
Papaveraceae	<i>Platystemon californicus</i>	creamcups		native	annual herb
Phrymaceae [Scrophulariaceae]	<i>Mimulus aurantiacus</i>	sticky monkeyflower		native	evergreen shrub
Phrymaceae [Scrophulariaceae]	<i>Mimulus cardinalis</i>	scarlet monkeyflower		native	perennial herb
Phrymaceae [Scrophulariaceae]	<i>Mimulus fremontii</i> var. <i>fremontii</i>	Fremont's monkeyflower		native	annual herb
Phrymaceae [Scrophulariaceae]	<i>Mimulus guttatus</i>	seep monkeyflower		native	annual or perennial rhizomatous herb
Pinaceae	<i>Pinus sabiniana</i>	foothill pine		native	evergreen tree
Plantaginaceae [Scrophulariaceae]	<i>Antirrhinum kelloggii</i>	Kellogg's snapdragon		native	annual herb
Plantaginaceae [Scrophulariaceae]	<i>Antirrhinum multiflorum</i>	chaparral snapdragon		native	annual or perennial herb
Plantaginaceae [Scrophulariaceae]	<i>Collinsia heterophylla</i> var. <i>heterophylla</i>	purple Chinese houses		native	annual herb
Plantaginaceae [Scrophulariaceae]	<i>Keckiella cordifolia</i>	heartleaf keckiella		native	evergreen shrub
Plantaginaceae [Scrophulariaceae]	<i>Penstemon centranthifolius</i>	scarlet bugler		native	perennial herb
Plantaginaceae	<i>Plantago major</i>	common plantain		non-native	perennial herb
Plantaginaceae [Scrophulariaceae]	<i>Veronica catenata</i> [<i>V. anagallis-</i> <i>aquatica</i>]	chain speedwell		non-native	perennial herb
Plantanaceae	<i>Platanus racemosa</i>	western sycamore		native	deciduous tree

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Poaceae	<i>Aira caryophyllea</i>	silver hairgrass		non-native	annual graminoid
Poaceae	<i>Avena barbara</i>	slender wild oat		non-native	annual graminoid
Poaceae	<i>Bromus diandrus</i>	ripgut brome		non-native	annual graminoid
Poaceae	<i>Bromus hordeaceus</i>	soft chess		non-native	annual graminoid
Poaceae	<i>Bromus madritensis</i>	foxtail chess		non-native	annual graminoid
Poaceae	<i>Bromus tectorum</i>	cheat grass		non-native	annual graminoid
Poaceae	<i>Cynosurus echinatus</i>	hedgehog dogtail		non-native	annual graminoid
Poaceae	<i>Elymus glaucus</i>	blue wildrye		native	perennial graminoid
Poaceae	<i>Elymus [Leymus] triticoides</i>	creeping wildrye		native	perennial graminoid
Poaceae	<i>Festuca [Vulpia] microstachys</i>	small fescue		native	annual graminoid
Poaceae	<i>Festuca [Vulpia] myuros</i>	rattail fescue		non-native	annual graminoid
Poaceae	<i>Festuca perennis [Lolium multiflorum]</i>	Italian ryegrass		non-native	annual or biennial graminoid
Poaceae	<i>Hordeum murinum</i>	foxtail barley		non-native	annual graminoid
Poaceae	<i>Melica imperfecta</i>	smallflower melic		native	perennial graminoid
Poaceae	<i>Melica torreyana</i>	Torrey's melic		native	perennial graminoid
Poaceae	<i>Muhlenbergia rigens</i>	deergrass		native	perennial graminoid
Poaceae	<i>Phalaris minor</i>	little seed canarygrass		non-native	annual herb
Poaceae	<i>Piptatherum miliaceum</i>	smilgrass		non-native	perennial graminoid
Poaceae	<i>Polypogon monspeliensis</i>	rabbit's foot grass		non-native	annual graminoid
Poaceae	<i>Stipa [Nassella] pulchra</i>	purple needlegrass		native	perennial graminoid
Polemoniaceae	<i>Gilia achilleifolia</i> ssp. <i>achilleifolia</i>	California gilia		native	annual herb
Polemoniaceae	<i>Gilia angelensis</i>	chaparral gilia		native	annual herb
Polemoniaceae	<i>Leptosiphon [Linanthus] parviflorus</i>	variable linanthus		native	annual herb
Polemoniaceae	<i>Linanthus californicus [Leptodactylon californicum]</i>	California linanthus		native	evergreen shrub
Polemoniaceae	<i>Navarretia atractyloides</i>	hollyleaf navarretia		native	annual herb
Polemoniaceae	<i>Navarretia squarrosa</i>	skunkweed		native	annual herb
Polygonaceae	<i>Chorizanthe biloba</i> var. <i>biloba</i>	two lobed spineflower		native	annual herb
Polygonaceae	<i>Eriogonum elongatum</i>	longstem buckwheat		native	perennial herb
Polygonaceae	<i>Eriogonum fasciculatum</i>	California buckwheat		native	evergreen shrub
Polygonaceae	<i>Eriogonum gracile</i> var. <i>gracile</i>	slender wooly buckwheat		native	annual herb
Polygonaceae	<i>Eriogonum roseum</i>	wand buckwheat		native	annual herb
Polygonaceae	<i>Pterostegia drymarioides</i>	woodland pterostegia		native	annual herb
Pteridaceae	<i>Adiantum capillus-veneris</i>	southern maiden hair fern		native	fern
Pteridaceae	<i>Adiantum jordanii</i>	California maiden hair fern		native	fern
Polypodiaceae	<i>Polypodium californicum</i>	California polypody		native	fern
Pteridaceae	<i>Pellaea andromedifolia</i>	coffee fern		native	fern
Pteridaceae	<i>Pellaea mucronata</i>	birdfoot fern		native	fern
Pteridaceae	<i>Pentagramma triangularis</i>	goldback fern		native	fern
Ranunculaceae	<i>Clematis lasiantha</i>	chaparral clematis		native	perennial herb or vine

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Ranunculaceae	<i>Delphinium parryi</i> ssp. <i>parryi</i>	Parry's larkspur		native	perennial herb
Ranunculaceae	<i>Enemion</i> [<i>Isopyrum</i>] <i>occidentale</i>	western false rue anemone		native	perennial herb
Ranunculaceae	<i>Thalictrum fendleri</i> var. <i>polycarpum</i> [<i>T. polycarpum</i>]	Fendler's meadow rue		native	perennial herb
Rhamnaceae	<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	buckbrush		native	evergreen shrub
Rhamnaceae	<i>Ceanothus leucodermis</i>	chaparral whitethorn		native	evergreen shrub
Rhamnaceae	<i>Ceanothus oliganthus</i>	hairy ceanothus		native	evergreen shrub
Rhamnaceae	<i>Frangula</i> [<i>Rhamnus</i>] <i>californica</i>	coffeeberry		native	evergreen shrub
Rhamnaceae	<i>Rhamnus crocea</i>	redberry		native	evergreen shrub
Rhamnaceae	<i>Rhamnus ilicifolia</i>	evergreen buckthorn		native	evergreen shrub
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise		native	evergreen shrub
Rosaceae	<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch-leaf mountain mahogany		native	evergreen shrub
Rosaceae	<i>Drymocallis</i> [<i>Potentilla</i>] <i>glandulosa</i>	no common name		native	perennial herb
Rosaceae	<i>Heteromeles arbutifolia</i>	toyon		native	evergreen shrub
Rosaceae	<i>Prunus emarginata</i>	bitter cherry		native	deciduous shrub or tree
Rosaceae	<i>Prunus ilicifolia</i>	holly-leaf cherry		native	evergreen shrub
Rosaceae	<i>Rosa californica</i>	California rose		native	deciduous to evergreen shrub
Rosaceae	<i>Rubus leucodermis</i>	western raspberry		native	deciduous to evergreen shrub
Rosaceae	<i>Rubus ursinus</i>	California blackberry		native	deciduous to evergreen shrub
Rubiaceae	<i>Galium andrewsii</i> ssp. <i>andrewsii</i>	phlox-leaved bedstraw		native	perennial herb
Rubiaceae	<i>Galium aparine</i>	common bedstraw		native	annual herb
Rubiaceae	<i>Galium californicum</i>	California bedstraw		native	perennial herb
Rubiaceae	<i>Galium porrigens</i>	climbing bedstraw		native	evergreen vine or shrub
Salicaceae	<i>Populus fremontii</i>	Fremont's cottonwood		native	deciduous tree
Salicaceae	<i>Salix exigua</i>	sandbar willow		native	deciduous shrub
Salicaceae	<i>Salix laevigata</i>	red willow		native	deciduous tree
Salicaceae	<i>Salix lasiolepis</i>	arroyo willow		native	deciduous tree
Saxifragaceae	<i>Micranthes</i> [<i>Saxifraga</i>] <i>californica</i>	no common name		native	perennial herb
Scrophulariaceae	<i>Verbascum thapsus</i>	wooly mullein		non-native	perennial herb
Solanaceae	<i>Datura wrightii</i>	jimsonweed		native	perennial herb
Solanaceae	<i>Nicotiana attenuata</i>	coyote tobacco		native	annual herb
Solanaceae	<i>Petunia</i> [<i>Calibrachoa</i>] <i>parviflora</i>	wild petunia		native	annual herb
Solanaceae	<i>Solanum xanti</i>	chaparral nightshade		native	perennial herb or subshrub
Tamaricaceae	<i>Tamarix</i> sp.	saltcedar			
Themidaceae [Liliaceae]	<i>Bloomeria crocea</i>	goldenstars		native	perennial herb

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Themidaceae [Liliaceae]	<i>Dichelostemma capitatum</i>	blue dicks		native	perennial herb
Typhaceae	<i>Sparganium eurycarpum</i>	broadfruit bur reed		native	perennial herb
Typhaceae	<i>Typha angustifolia</i>	narrowleaf cattail		native	perennial herb
Urticaceae	<i>Parietaria hespera</i>	pellitory		native	annual herb
Urticaceae	<i>Urtica dioica</i>	stinging nettle		non-native	perennial herb
Urticaceae	<i>Urtica urens</i>	annual stinging nettle		non-native	annual herb
Verbenaceae	<i>Phyla nodiflora</i> [<i>P. n. var. n.</i>]	common lippia		native	perennial herb
Verbenaceae	<i>Verbena lasiostachys</i>	vervain		native	perennial herb
Violaceae	<i>Viola pedunculata</i>	johnny jump-up		native	perennial herb
Violaceae	<i>Viola purpurea</i> ssp. <i>purpurea</i>	goosefoot violet		native	perennial herb
Viscaceae	<i>Phoradendron serotinum</i>	mistletoe		native	evergreen shrub (parasitic on <i>Populus</i>)

*Plants were primarily identified using *The Jepson Manual Second Edition* (B.G. Baldwin et al 2012), to the taxonomic level necessary to determine rarity. Some plants were cross referenced and identified using *The Jepson Manual* (Hickman 1993) as some agencies and jurisdictions may base rarity on older names. Names given follow B.G. Baldwin et al (2012), with synonyms from Hickman (1993) noted in brackets.

**Key to status codes:

List 1B - CNPS List 1B: Plants rare, threatened or endangered in California and elsewhere

List 4 - CNPS List 4: Plants of limited distribution; a watch list