California Native Plant Society

East Bay Chapter
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Berkeley, CA 94705

February 28, 2006

CALFED Los Vaqueros Reservoir Expansion Studies
PO Box H2O
Concord, CA 94524
(925) 688-8018

Re: Notice of Preparation for an Environmental Impact Report and Statement for the Los Vaqueros Reservoir Expansion Project

Dear CALFED Los Vaqueros Reservoir Expansion Project Study Team:

The California Native Plant Society thanks the US Bureau of Reclamation and the Contra Costa Water District (CCWD) for the opportunity to comment upon the Scoping for the EIS/EIR on the proposed expansion of the Los Vaqueros Reservoir. CNPS is a statewide organization of some 10,000 members whose mission is to conserve and protect the native plant species and native plant communities in California. The Society's mission is to increase the understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education, and conservation.

The following letter lists some preliminary concerns of the East Bay Chapter of the California Native Plant Society regarding the Reservoir Expansion Project (REP) of the Los Vaqueros dam. The following comments are by no means exhaustive, but rather considerations that should be addressed in the corresponding environmental reports. Pursuant to the mission of protecting California's native flora and vegetation, CNPS submits the following comments for the scoping process:

I. First and foremost, given that this expansion project will irreversibly alter the ecological function of approximately 2,000 acres of land, the study needs to prove that the expansion of the dam is the **only** viable option for achieving the two primary objectives promulgated by the Contra Costa Water District (CCWD).

II. Second, CNPS holds that any major water diversion project has implications for the entire San Francisco Bay/Delta/Estuary ecosystem.[1] Upstream changes to the amount and quality of freshwater affect the entire system from the Suisun Marsh to the estuarine wetlands around the Bay. The existence of specific components of these ecosystems could also be affected. For example, Suisun thistle (*Cirsium hydrophilum var. hydrophilum*), a species listed as

[1] Brown, Randall L. 2004. *Summary of 2004 Workshop: Making Science Work for Suisun Marsh*. San Francisco Bay-Delta Science Consortium. Sacramento.

federally Endangered, is restricted to two locations within Suisun Marsh[2]. Upstream withdrawals of freshwater could jeopardize the existence of this species by disrupting tidal regimes and transitional wetland habitat required by the species[3]. The south end of the Bay is particularly vulnerable to the loss of freshwater flows because it receives so little freshwater flow from the immediate area as demonstrated by its high salinity. Water quality issues for the entire system are crucial.

III. The EIR/EIS must also address cumulative impacts from all freshwater diversion projects, not just from Los Vaqueros. Hydrologic modeling would provide viable answers to the change in salinity, flow patterns and other important water quality issues related to the Bay-Delta Area.

IV. In addition to water issues, construction disturbance directly affects native plant populations and indirectly provides conditions favorable to the establishment of non-native weed species that are typically adapted to out-compete native plant species. Construction disturbances require immediate and long term monitoring and restorative action, and are terribly difficult to mitigate effectively. Alternatives need to be considered exhaustively for maintaining the assurance promulgated by the CCWD Board of Directors for the REP that reads: *1) provide long-term environmental benefits to the Delta ecosystem,* and *2) enhance the terrestrial habitat and recreational opportunities*.

V. A minimum estimate of the cost of the 500,000 acre-ft reservoir is $1,000,000,000[4]. Water conservation campaigns with much smaller budgets have been shown to be effective in streamlining water use. CNPS asks that a thorough cost-benefit analysis and economic feasibility analysis address the presumed benefit from a $1 billion dollar conservation campaign. This analysis should also look into the creation of local jobs, community empowerment, and financial responsibility benefits for the water users of present and the future. The cost analysis should be considered in the economic feasibility assessment of the REP.

VI. Another critical factor in the scoping process is to ensure that the EIS/EIR will satisfy state and federal requirements regarding Threatened and Endangered plant species as well as species of concern. Appendix 1: CEQA-Protected Rare and Unusual Plants of Los Vaqueros indicates that 92 species need to be addressed in this document based on their listing status and known proximity to the expansion area in order for it to be comprehensive. The capacity for direct and indirect harm to these individual plant species and vegetation communities needs to be considered for the anticipated 6-year construction process. These harms include:

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[2] California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California.* 6th Edition. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. Sacramento, California. 388 pp.

[3] US Fish and Wildlife Service (USFWS). 1997. *Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Two Tidal Marsh Plants--Cirsium hydrophilum var. hydrophilum (Suisun Thistle) and Cordylanthus mollis ssp. mollis (Soft Bird's-Beak) From the San Francisco Bay Area of California.* Portland, Oregon.

[4] Gardiner, Charles; Los Vaqueros Reservoir Expansion, Public Scoping Meeting, Concord January 26, 2006, Personal Communication

direct inundation of land and populations, direct effect to soil moisture content, chemistry, and subsequent plants with an "impact-zone" of the expanded waterline, direct effect of soil compact and change in soil physical properties in areas with increased traffic and movement, indirect effect of increased particulate matter and air pollutants, indirect effects of increased noise on pollinators and seed dispersers for the plant species, and spread of non-native invasive weed species resulting from ground disturbance.

a. At least two species need to receive special consideration. One of these species, the Mt. Diablo fairy lantern (*Calochortus pulchellus*) has a population that will be inundated. Current records indicate that this is the eastern-most population of this species. The other species that occurs within the proposed inundation area is the ribbed Fringepod (*Thysanocarpos radians*) which is one of our locally rare, or "unusual" plants that may be more common in other parts of the state, but that is limited in our area. These and any additional Endangered, Threatened, or CEQA-protected species within the area of construction and inundation need to be mapped. Additionally, mitigation plans need to specifically define measures taken to ensure that mitigation is done correctly and effectively, monitored for a minimum of five years after REP project completion, and contains provisions for mitigation failure and enforceability of non-compliance or non-completion.

b. While the attached list contains special status plant species currently known from current or historical surveys of Los Vaqueros area, there is certainly potential for several additional special status species to be found on the project site, such as the Mt. Diablo buckwheat (*Eriogonum truncatum*), round-leaved filaree (*Erodium macrophyllum*), and several rare saltbrush (*Atriplex*) species, to name a few. Although extensive rare plant surveys were done in the 1980's for the Los Vaqueros EIR, new surveys will be required by CDFG because vegetation is constantly in flux and plants migrate, and expand or contract their range of distribution in the course of 20 years. Species may have moved into or out of the area, and, in addition, some plants once thought to be common are now known to be much rarer and vice versa. For this reason, complete surveys will need to be initiated for federally and state listed species as well as for those listed rare by Lake[5], and for bryophytes and wildlife that are protected under CEQA. A thorough biological site assessment should be conducted at the project site by qualified botanists and wildlife biologists to determine if suitable habitat exists for special-status plant, bryophyte, and wildlife species. Surveys require adequate advance planning and should follow the guidelines set forth in the California Native Plant Society's *Botanical Survey Guidelines*[6], California Department of Fish and Game's *Guidelines for Assessing the Effects of Proposed Projects on Rare,*

[5] Lake, Dianne. 2004. *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties.* Seventh Edition. East Bay Chapter, California Native Plant Society.
[6] California Native Plant Society (CNPS). 2001a. *Inventory of Rare and Endangered Plants of California.* 6th Edition. Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. Sacramento, California. 388 pp.

Threatened, and Endangered Plants and Natural Communities[7], and U.S. Fish and Wildlife's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*[8]. If suitable habitat exists, in order for a project to comply with CEQA, focused protocol-level special-status species surveys must be conducted at the site prior to issuing a permit, and these surveys must be conducted during the appropriate active growing stage of the life cycle of the target species to ensure proper identification. Additionally, surveys need to extend over a number of seasons with variable precipitation levels and durations in order to properly identify the extent of the population of interest. In addition to addressing federal and state listed species and CNPS List 1A, 1B and 2 species, the following species should also be addressed prior to issuing permits: plants and bryophytes that are CNPS List 3 or 4 species, lichens on CDFG's Special Vascular Plants, Bryophytes, and Lichens List[9], A-ranked plants listed in the *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties*, and plants that are federal species of concern or federally-listed as species of local concern. This request is in accordance with CDFG Habitat Conservation Planning Branch recommendations for "…protection of plants which are regionally significant, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 and 4."[10] Legal protection for the above-mentioned species is based on CEQA guidelines 15380 and 15125(a).

c. The East Bay CNPS Rare Plants Committee conducted a nine-USGS quad query of the quads in which Los Vaqueros Reservoir lies within the center (Tassajara & Byron Hot Springs). The plant list in Appendix 2 resulted. These species were not included in Appendix 1 above but should be considered in each survey protocol. Conducting a nine quad query search is routine when evaluating potential target species during a biological assessment. These species are added for thoroughness even though suitable habitat may be lacking within the project area. Please refer to the CNPS Inventory for their listing status and habitat[6]. Also note that the R-E-D code has been changed since the inventories 2001 publication. Those changes can be found on the Inventory website[11].

VII. Plant communities comprise an integral part of the ecosystem. In the case of the REP, many plant communities that provide critical habitat to special status animals

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[7] CDFG. 2000. *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities.* May 8.

[8] USFWS. 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants.* January.

[9] CDFG. California Department of Fish and Game Natural Diversity Database; *Special Vascular Plants, Bryophytes, and Lichens List.* July 2004 (periodically updated).

[10] Department of Fish and Game Habitat Conservation Branch. http://www.dfg.ca.gov.hcpb/species/t_e_spp/nat_plnt_consv.shtml. Accessed on December 9, 2004.

[11] CNPS. 2006. *CNPS Inventory Updates*. http://www.cnps.org/programs/Rare_Plant/inventory/changes.html. Accessed on February 28, 2006.

and other wildlife will be affected by the proposed plan. In order to fairly assess the damage to the ecosystem and cumulative damages incurred, the report should identify critical landscape elements that facilitate long-term viability of plants and animals in the landscape by considering the landscape metrics of the site. One element of such an analysis is the location and configuration of potential breeding and aestivation sites for amphibians and migration routes between these sites. Another such element is the application of quantitative vegetation data from the site to classify, map and assess different vegetation types to provide accurate depiction of habitat loss and variation within and between habitat types.

VIII. Plant alliances and associations recognized as "rare and worthy of consideration" by CDFG[12] should be included when individual plant surveys are being conducted. It is important to understand that other alliances and associations that as yet may lack designation by CDFG may occur on this site and need to be considered during this process. Plant alliances and associations that are known to occur or with high potential to occur at Los Vaqueros include but are not limited to:

a. *Scrubs and Chaparrals*: Great Valley Bush Seepweed Scrub, Great Valley Iodine Bush Scrub, Chamise/Bush Monkeyflower, Chamise-Black Sage-Mixed Scrub.

b. *Grasslands*: Alkali Sacaton Bunchgrass Grassland, Creeping ryegrass grassland, Purple needlegrass, Foothill needlegrass, Nodding needlegrass, One-sided needlegrass, Saltgrass-Iodinebush, Alkali saltgrass, Wildflower field, Blue wildrye grassland, various associations in Northern Claypan vernal pools, Alkali playas, Bulrush associations, Pickleweed Wetland.

c. *Riparian*: Fremont Cottonwood Riparian Forests and Woodlands, Arroyo Willow Riparian Forests and Woodlands, Red Willow Riparian Forest, California Sycamore, Desert olive scrub, Mulefat Scrub.

d. *Woodlands*: various associations of Valley Oak Forest and Woodlands, California Buckeye Woodland

IX. The cumulative effects analysis should consider that the REP will destroy the interface of grassland to woodland and chaparral on the southwestern shore. Inundation recommended at the 500,000 acre foot level will significantly reduce the amount of suitable grassland habitat here, subsequently destroying this ecotone, and habitat for species that require a grassland/woodland/chaparral interface. Mitigation efforts need to consider not only individual plants, but landscape types and interfaces that will be lost.

[12] California Natural Diversity Database (CNDDB) 2003. List of California Terrestrial Communities Recognized by the Department of Fish and Game. California Department of Fish and Game, Wildlife Habitat Data Analysis Branch.

X. Mitigation also needs to be carefully considered at this stage in the process. The expansion is scheduled to inundate mitigation sites from the initial dam construction. These mitigations include, but are not limited to: one to two acres of mitigation wetlands and up to 176 acres of recently planted oak seedlings.

XI. One of the best ways to assess ability to mitigate for environmental impact is to analyze previous work that has been done on-site. Since CCWD has already completed a number of mitigation measures, the results of these measures should be reported and utilized for the planning and cost estimation of future mitigation projects.

XII. CNPS requests on-site mitigation for the plant species on the attached list as well as any other federal or state listed species and CEQA protected plant species found during surveys. Harmful impacts on these species should be avoided.

XIII. Restoration work and mitigation work must utilize only certified native plants grown from locally collected seed in order to maintain the genetic integrity of the existing populations. We advise the use of local contractors with local knowledge for these projects. Best management practices will be utilized in order to restrict any introduction of weeds and invasive species. If such new species are found post-construction, the abatement and removal of this damage need to be addressed in mitigation practices.

CNPS looks forward to submitting further comments through the scoping and EIS/EIR process. Questions and concerns can be addressed to the Conservation Analyst. We look forward to working with you on this process.

Sincerely,

Lech Naumovich
East Bay Conservation Analyst
California Native Plant Society
(510) 734 - 0335

APPENDIX 1: CEQA-Protected Rare and Unusual Plants Known to Occur Currently or Historically at Los Vaqueros 2005[13]

(Statewide Rare Plants in Upper Case)

Rank in East Bay	Species	Common Name	Habitat
A2	Allenrolfea occidentalis	iodine bush	Alkali areas
A2	Allium amplectens	narrow-leaved onion	Dry Open Slopes; Serpentine; Woodland; Misc. habitats
A1	Allium crispum	crinkled onion	Dry Open Slopes; Serpentine; Misc. habitats
A2	Amsinckia eastwoodiae	Eastwood's fiddleneck	Grassland; Misc. habitats
*A1	AMSINCKIA GRANDIFLORA	large-flowered fiddleneck	Grassland; Sand or Sandstone; Misc. habitats
*A2	ARCTOSTAPHYLOS AURICULATA	Mt. Diablo manzanita	Chaparral; Sand or Sandstone
A1?	Aristida oligantha(?)	oldfield three-awn	Dry Open Slopes; Grassland; Scrub; Woodland
A1?	Astragalus oxyphysus(?) (A. asymmetricus is more common)	Diablo locoweed	Grassland; Scrub
*A1	ASTRAGALUS TENER VAR. TENER	alkali milk-vetch	Alkali areas; Grassland; Vernal Pools; Misc. Wetlands
*A2	ATRIPLEX CORONATA VAR. CORONATA	crownscale	Alkali areas; Grassland; Vernal Pools
*A2	ATRIPLEX DEPRESSA	brittlescale	Alkali areas; Grassland; Misc. Wetlands
*A2	ATRIPLEX JOAQUINIANA	San Joaquin saltbush	Alkali areas; Grassland; Misc. Wetlands
A2	Berberis aquifolium var. dictyota	Jepson's mahonia	Chaparral; Forest; Rock, Tallus or Scree; Scrub; Woodland
A1	Calochortus invenustus	plain Mariposa-lily	Dry Open Slopes; Misc. habitats
*A2	CALOCHORTUS PULCHELLUS	Mt. Diablo fairy-lantern	Chaparral; Serpentine; Woodland
A2	Carex senta	rough sedge	Riparian areas; Misc. Wetlands
A2	Castilleja applegatei ssp. martinii	wavy-leaved Indian paintbrush	Chaparral; Scrub
A1	Claytonia rubra ssp. depressa	miner's lettuce	Scrub
A2	Collinsia parviflora	blue-eyed Mary	Misc. habitats
*A1	CONVOLVULUS SIMULANS	small-flowered morning-glory	Grassland; Serpentine; Misc. habitats
A2	Cyperus niger	black sedge	Misc. Wetlands; Misc. habitats
A1	Delphinium gracilentum	Meadow larkspur	Forest
A1	Dodecatheon clevelandii ssp. sanctarum (ssp. patulum is more common)	Padre's shooting star	Woodlands
A1	Downingia bella	Hoover's downingia	Vernal Pools
A2	Downingia insignis	cupped downingia	Vernal Pools
A2	Ericameria arborescens	golden-fleece	Chaparral; Forest; Woodland
*A2	ERIOPHYLLUM JEPSONII	Jepson's woolly sunflower	Chaparral; Serpentine; Woodland
A2	Eryngium vaseyi	Vasey's coyote-thistle	Alkali areas; Vernal Pools

A2	Eschscholzia caespitosa	tufted poppy	Chaparral
A2	Festuca elmeri	Elmer's fescue	Riparian
A2	Forestiera pubescens	desert olive	Riparian
A2	Fraxinus dipetala	flowering ash	Chaparral; Woodland; Misc. habitats
A1	Fremontodendron californicum ssp. californicum	flannelbush	Chaparral; Rock, Tallus or Scree; Woodland
*A2	FRITILLARIA AGRESTIS	stinkbells	Alkali areas; Grassland
*A2	GALIUM ANDREWSII SSP. GATENSE	serpentine bedstraw	Chaparral; Serpentine; Woodland
A1	Garrya fremontii	silk tassel bush	Chaparral; Woodland
A2	Gnaphalium canescens ssp. microcephalum	white everlasting	Chaparral; Dry Open Slopes
*A2	HELIANTHELLA CASTANEA	Diablo helianthella	Chaparral; Grassland; Woodland
A2	Hesperevax acaulis var. ambusticola (H. sparsiflora is more common)	fire evax	Burns; Dry open Slopes; Misc. habitats
*A2	HESPEREVAX CAULESCENS (H. sparsiflora is more common)	hogwallow starfish	Vernal Pools
*A2	HESPEROLINON BREWERI	Brewer's western flax	Grassland; Serpentine
*A1	HESPEROLINON SERPENTINUM	Napa western flax	Chaparral; Serpentine
A2	Hordeum depressum	low barley	Alkali areas; Vernal Pools; Misc. Wetlands
A2	Isoetes howellii	Howell's quillwort	Misc. Wetlands
A1?	Juncus ensifolius(?)	three-stamened rush	Misc. Wetlands
*A1	LASTHENIA CONJUGENS	Contra Costa goldfields	Alkali areas; Vernal Pools; Misc. Wetlands
*A2	LASTHENIA FERRISIAE	Ferris's goldfields	Alkali areas; Vernal Pools
A2	Lasthenia fremontii	Fremont's goldfields	Vernal Pools; Misc. Wetlands
A2	Lasthenia minor	woolly goldfields	Grassland
A1	Lasthenia platycarpha	alkali goldfields	Alkali areas; Grassland
A1x	Layia glandulosa (historical-1983 but not seen since)	white layia	Sand or Sandstone
A2	Lepidium dictyotum var. acutidens	sharp-toothed pepper-grass	Alkali areas
A1	Lepidium nitidum var. oreganum (var. nitidum is more common)	shining pepper-grass	Alkali areas; Vernal Pools; Misc. habitats
A1	Lessingia nana	dwarf lessignia	Misc. habitats
A2	Limnanthes douglasii ssp. rosea	meadowfoam	Vernal Pools; Misc. Wetlands
A2	Lithophragma bolanderi	Bolander starflower	Misc. habitats
A1?	Lotus oblongifolius var. oblongifolius(?)	narrow-leaved lotus	Freshwater Marsh
A1	Ludwigia palustris	American marsh purslane	Freshwater Marsh
A1?	Melica bulbosa var. bulbosa(?)	oniongrass	Forest; Rock, Tallus or Scree
A2	Microseris campestris	San Joaquin microseris	Grassland; Vernal Pools
A2	Mimulus douglasii	Douglas monkeyflower	Chaparral; Gravel; Rock, Tallus or Scree; Serpentine; Woodland
A1	Mimulus kelloggii	Kellogg's monkeyflower	Woodlands
A1	Mimulus tricolor	tricolor monkeyflower	Vernal Pools
*A1	MONARDELLA ANTONINA SSP. ANTONINA	San Antonio hills monardella	Chaparral; Rock, Tallus or Scree; Woodland
A1	Monolepis nuttalliana	poverty weed	Alkali areas; Burns
A2	Myosurus minimus ssp. minimus	common mouse-tail	Freshwater Marsh; Vernal Pools
A2	Myosurus sessilis	sessile mouse-tail	Grassland; Vernal Pools
A2	Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Vernal Pools

A2	Nicotiana quadrivalvis	Indian tobacco	Dry Open Slopes; Dry Washes
A2	Papaver californicum	fire poppy	Burns; Woodland
A2	Parvisedum pentandrum	Mount Hamilton sedella	Rock, Tallus or Scree; Sand or Sandstone areas; Serpentine
A2	Pilularia americana	pillwort	Vernal Pools; Misc. Wetlands
A2	Plagiobothrys leptocladus	alkali plagiobothrys	Alkali areas
A2	Plagiobothrys tenellus	slender popcornflower	Misc. habitats
A2	Plectritis ciliosa ssp. unknown	long-spurred plectritis	Grassland; Woodland
A2	Plectritis congesta	sea blush	Coastal Bluff; Woodland
A2	Pleuropogon californicus	semaphore grass	Riparian areas; Misc. Wetlands
A2	Puccinellia simplex	little alkali grass	Alkali areas
A1	Quercus X joloensis	blue oak X valley oak	Forest; Woodland
A2	Ranunculus occidentalis	western buttercup	Grassland; Woodland
A2	Ribes quercetorum	oak gooseberry	Chaparral; Woodland
A2	Rorippa curvisiliqua	yellow cress	Freshwater Marsh
A2	Salix scouleriana	Scouler's willow	Misc. Wetlands
A2	Sesuvium verrucosum	sea-purslane	Alkali areas
A1?	Solanum xantii(?) (S. umbelliferum is more common)	purple nightshade	Forest; Scrub; Woodland
A2	Spergularia macrotheca var. leucantha	large-flowered sand spurry	Alkali areas; Vernal Pools
A2	Sporobolus airoides	alkali sacaton	Alkali areas
A2	Thysanocarpus radians	ribbed fringe pod	Misc. habitats
A2	Tropidocarpum gracile	slender tropidocarpum	Alkali areas; Grassland
A2	Viola purpurea ssp. quercetorum	mountain violet	Grassland; Scrub
A2	Vulpia microstachys var. microstachys (var. pauciflora is more common)	Nuttall's fescue	Dry Open Slopes; Rock, Tallus or Scree; Sand or Sandstone; Serpentine; Woodland
A1?	Zigadenus paniculatus(?) (Z. fremontii is more common)	panicled zygadene	Dry Open Slopes; Forest; Misc. habitats

Explanation of Ranks

***A1 or *A2**: Species in Alameda and Contra Costa counties listed as rare, threatened or endangered statewide by federal or state agencies or by the state level of CNPS.

A1x: Species previously known from Alameda or Contra Costa Counties, but now presumed extirpated here.

A1: Species currently known from 2 or less regions in Alameda and Contra Costa Counties.

A2: Species currently known from 3 to 5 regions in the two counties, or, if more, meeting other important criteria such as small populations, stressed or declining populations, small geographical range, limited or threatened habitat, etc.

A1?: Species with taxonomic or distribution problems that make it unclear if they actually occur here.

APPENDIX 2: **ESA and CEQA-Protected Rare and Unusual Plants found within the Nine Quad Search Area Containing Los Vaqueros**

Bent-flowered fiddleneck (*Amsinckia lunaris*)
Slender silver moss (*Anomobryum julaceum*)
Contra Costa Manzanita (*Arctostaphylos manzanita* ssp. *laevigata*)
Heartscale (*Atriplex cordulata*)
Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*)
Big tarplant (*Blepharizonia plumosa*)
Chaparral harebell (*Campanula exigua*)
Lemmon's jewelflower (*Caulanthus coulteri var. lemmonii*)
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)
Hispid bird's beak (*Cordylanthus mollis* ssp. *hispidus*)
Mt. Diablo bird's beak (*Cordylanthus nidularis*)
Palmate-bracted bird's beak (*Cordylanthus palmatus*)
Hoover's cryptantha (*Cryptantha hooveri*)
Livermore tarplant (*Deinandra bacigalupii*)
Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*)
Recurved larkspur (*Delphinium recurvatum*)
Norris's beard-moss (*Didymodon norrisii*)
Western leatherwood (*Dirca occidentalis*)
Brandegee's eriastrum (*Eriastrum brandegeeae*)
Mt. Diablo buckwheat (*Eriogonum truncatum*)
Round-leaved filaree (*Erodium macrophyllum*)
Delta button-celery (*Eryngium racemosum*)
Diamond-petaled California poppy (*Eschscholzia rhombipetala*)
Fragrant fritillary (*Fritillaria liliacea*)
Rose-mallow (*Hibiscus lasiocarpus*)
Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)
Showy madia (*Madia radiata*)
Hall's bush mallow (*Malacothamnus hallii*)
Mt. Diablo phacelia (*Phacelia phacelioides*)
Hairless popcorn-flower (*Plagiobothrys glaber*)
Rock sanicle (*Sanicula saxatilis*)
Marsh skullcap (*Scutellaria galericulata*)
Rayless ragwort (*Senecio aphanactis*)
Most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*)
Mt. Diablo jewel-flower (*Streptanthus hispidus*)
Showy Indian clover (*Trifolium amoenum*)
Saline clover (*Trifolium depauperatum* var. *hydrophilum*)
Coastal triquetrella (*Triquetrella californica*)
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)
Oval-leaved viburnum (*Viburnum ellipticum*)

Explanation of Ranks

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