

Plants of the Sausal Creek Watershed and Joaquin Miller Park

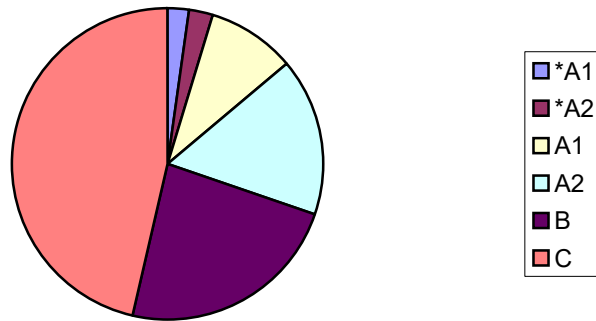
Rarity, Populations, Locations and Risks

Total Number of Species	270
Statewide Rare Plants	4
East Bay CNPS Rare Plants	86
Rare in Sausal Watershed and Joaquin Miller Park	150

One-third of the native species in the Sausal Creek Watershed are species of concern in Alameda and Contra Costa Counties, according to our local California Native Plant Society chapter.

FOSC considers over one-half of the native species in the Sausal Creek Watershed to be species of concern, capable of being extirpated by human impacts (including invasive species.)

East Bay CNPS-Ranked Plants



Summary of East Bay CNPS Rare Plant Ranks

Rank	Count	Criteria
*A1	2	Listed as rare, threatened or endangered statewide by federal or state agencies or by the state level of CNPS, known from 1 or 2 regions in Alameda and Contra Costa counties
*A2	2	Listed as rare, threatened or endangered statewide by federal or state agencies or by the state level of CNPS; known from 3 or more regions in the two counties
A1	8	Known from 1 or 2 regions in the two counties
A2	14	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.
B	20	Watch list B: occurs in 6 to 9 regions in the two counties or are otherwise subject to threat
C	40	Watch List C: occurs in 10 or more regions here but has potential threats
Total	86	

Scientific Name	Common Name	State CNPS Rank	EBCNPS Rank	Rare in Sausal/JMP	Location Notes
<i>Acaena pinnatifida</i> var. <i>californica</i>	California sheepburr		C	yes	2 small populations at 2 locations in JM Park; one on serpentine at risk from broom and star thistle and from grazing; one on a rocky outcrop; very few plants
<i>Acer macrophyllum</i>	big-leaf maple				large population near Zinn Trail; many trees near Palo Seco Creek; 2-3 near Fern Ravine
<i>Acer negundo</i>	box-elder				2 locations in JM Park; little viable seed
<i>Achillea millefolium</i>	yarrow				good populations on Sanborn serpentine; other scattered locations
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus			yes	2 small populations on Sanborn serpentine
<i>Acmispon brachycarpus</i>	woolly trefoil			yes	mostly on serpentine or rock outcrops
<i>Acmispon glaber</i> var. <i>glaber</i>	California broom			yes	few scattered individuals and small populations, mostly in JM Park, 1 at risk from French broom
<i>Acmispon parviflorus</i>	hill lotus			yes	1 known location in JM Park
<i>Acmispon wrangelianus</i>	California lotus			yes	scattered small populations on Sanborn serpentine
<i>Actaea rubra</i>	baneberry		B		scattered small populations in Dimond Canyon and JM Park
<i>Adenostoma fasciculatum</i> var. <i>fasciculatum</i>	chamise			yes	1 location in JM Park, several plants
<i>Adiantum jordanii</i>	California maidenhair			yes	scattered individuals and small populations
<i>Aesculus californica</i>	California buckeye				good populations in many locations; curiously, does not occur in JM Park
<i>Agoseris grandiflora</i> var. <i>grandiflora</i>	California dandelion				almost all on Sanborn or JM Road serpentine; much of its territory grazed
<i>Agrostis pallens</i>	bent grass				scattered good populations in JM Park
<i>Alnus rhombifolia</i>	white alder				aging trees in Dimond Park and lower Dimond Canyon; 2 or 3 at Beaconsfield
<i>Amsinckia</i> sp.	fiddleneck			yes	cannot find; in M Lowe thesis; possibly extirpated
<i>Anaphalis margaritacea</i>	pearly everlasting				3-4 large clones and scattered smaller populations near Sequoia Arena
<i>Angelica californica</i>	angelica			yes	scattered individuals and small populations in JM Park and Dimond Canyon; one good population JM Park but seed set limited by mildew from bay tree shading
<i>Antirrhinum vexillocalyculatum</i> subsp. <i>vexillocalyculatum</i>	wiry snapdragon		B	yes	1 location, very small population; not seen recently
<i>Aphanes occidentalis</i>	lady's mantle			yes	1 small population on Sanborn serpentine
<i>Apocynum androsaemifolium</i>	bitter dogbane		B	yes	2 populations at risk from fuel management; 1 on Skyline near Chabot, 1 on Monterey near golf course
<i>Aquilegia formosa</i>	columbine		C	yes	presumed extirpated; 1 location near Sinawik Loop subsumed by ivy and poison oak, nursery has a few plants grown from seeds of this population and has additional seed

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<i>Aralia californica</i>	elk-clover		B		several locations in JM Park; good population near Ascot on private property; some in Castle area on private property; some may be at risk from high streamflows
<i>Arbutus menziesii</i>	Pacific madrone		C		only 1 or 2 known below Highway 13; good populations in other upper watershed locations; susceptible to <i>Phytophthora cinnamomi</i>
<i>Arctostaphylos crustacea subsp. crustacea</i>	brittleleaf manzanita		C	yes	even-aged stand near Sequoia-Bayview Trail is senescent; newly found stand nearby with many aged large plants and some younger plants
<i>Arctostaphylos pallida</i>	pallid manzanita	1B.1	*A1	yes	along Manzanita Drive; near Exeter; in JM Park near Chabot & Roberts at risk from soil pathogen (<i>Phytophthora</i>) and fuel management; Federal status: threatened; CA status: endangered
<i>Arnica discoidea</i>	rayless coast arnica		B	yes	1 population near Sinawik Loop Trail; plants do not bloom some years, others have sparse bloom; at risk from bootleg trails
<i>Artemisia californica</i>	California sagebrush				many locations
<i>Artemisia douglasiana</i>	mugwort				many locations
<i>Asarum caudatum</i>	wild ginger		A2		large patch in JM Park being invaded by Ehrharta grass; scattered other locations in JM Park; 1 tiny patch in Dimond Canyon; some former locations overgrown by ivy
<i>Astragalus gambelianus</i>	Gambel's dwarf milk-vetch			yes	large population near Butters Drive, small population near Skyline and JM Road
<i>Athyrium filix-femina var. cyclosorum</i>	western lady fern				many riparian sites, some very good populations; some sites at risk from increasing peak storm flows
<i>Baccharis glutinosa</i>	marsh baccharis				1 small population near Sequoia Arena; all female!
<i>Baccharis pilularis subsp. consanguinea</i>	coyote brush				many locations
<i>Barbarea orthoceras</i>	winter cress				small, scattered populations
<i>Berberis pinnata subsp. pinnata</i>	California barberry		C	yes	1 very small population near Sinawik Loop Trail at risk from competing shrubs; 1 small population along Cinderella Trail
<i>Brodiaea elegans subsp. elegans</i>	harvest brodiaea			yes	2 small populations on Sanborn serpentine, formerly grazed; other scattered individuals
<i>Bromus carinatus var. carinatus</i>	California brome				many locations
<i>Bromus laevipes</i>	woodland brome				many locations
<i>Calamagrostis rubescens</i>	pinegrass		B	yes	1 small population under brittleleaf manzanitas near Sequoia-Bayview Trail; does not bloom but reproduces vegetatively; at risk from loss of this population of manzanitas due to senescence
<i>Calandrinia menziesii</i>	red maids			yes	very small populations on serpentine outcrops
<i>Callitriche marginata</i>	water starwort			yes	small population at Fern Ravine wetland

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<i>Calochortus luteus</i>	yellow mariposa lily		C		mostly on Sanborn serpentine; a small population near Skyline and JM Road at risk from fuel management
<i>Calochortus umbellatus</i>	Oakland star-tulip	4.2	*A2	yes	good populations at scattered locations on Sanborn serpentine, 1 formerly grazed, 1 at risk from off-trail cyclists 1 at risk from broom and star thistle; another tiny patch near Castle Drive
<i>Calystegia purpurata subsp. purpurata</i>	morning glory				many scattered locations
<i>Calystegia subacaulis subsp. subacaulis</i>	hill morning-glory				mostly on Sanborn serpentine and in Sunset grassland, scattered populations
<i>Cardamine californica</i>	milk maids				many scattered locations in JM Park
<i>Cardamine oligosperma</i>	bitter cress				locations not tracked; nursery "weed"
<i>Carex barbarae</i>	Santa Barbara sedge		C	yes	3 populations in JM Park; extensive near Cinderella Trail; small near Sunset and Castle Park Trails
<i>Carex globosa</i>	round-fruit sedge		A1	yes	few scattered plants in JM Park redwoods; several plants at good site near/in Roberts Recreation Area
<i>Carex leptopoda</i>	short-scale sedge		A1	yes	very few individuals, 1 or 2 locations near Palo Seco Creek; at high risk of extirpation from erosion, foot traffic
<i>Carex subbracteata</i>	small-bracted sedge		B		good populations near Fern Ravine and Sequoia Arena; some across Skyline near Roberts; a few plants in Beaconsfield
<i>Carex tumulicola</i>	Berkeley sedge		C	yes	one large clump near Sanborn; formerly grazed; protected by FOSC during recent grazing
<i>Caulanthus lasiophyllus</i>	California mustard				small, sporadic populations in JM Park
<i>Ceanothus oliganthus var. sorediatus</i>	jimbrush			yes	very few plants; mostly individuals in scattered locations
<i>Ceanothus thyrsoiflorus</i>	blueblossom			yes	has not been found recently; may be near Chaparral Trail
<i>Cercocarpus betuloides var. betuloides</i>	birch-leafmountain mahogany		C	yes	2 plants in each of 2 locations near Bridgeview Trail; 1 at risk from PG&E right of way; planted population at Native Plant Nursery in JM Park doing well.
<i>Chlorogalum pomeridianum var. pomeridianum</i>	soap plant				good populations in many locations; many impacted by fuel management; some flower stalk harvesting for food by humans and deer
<i>Chrysolepis chrysophylla var. minor</i>	golden chinquapin		A2	yes	1 plant near brittleleaf manzanitas off Sequoia-Bayview Trail; may be others in dense chaparral area
<i>Cirsium occidentale var. venustum</i>	Venus thistle			yes	very small populations near Sunset Trail, some grazed; special attention is required to avoid extirpation
<i>Clarkia rubicunda</i>	farewell-to-spring			yes	1 small population in JM Park; formerly grazed; at risk from dense annual grass
<i>Claytonia exigua subsp. exigua</i>	serpentine spring beauty		C	yes	small population at JM Rd and Skyline; at risk from fuel management and drought; extirpated? Not found in 2018

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<i>Claytonia parviflora</i> subsp. <i>parviflora</i>	miner's lettuce				many locations
<i>Claytonia perfoliata</i> subsp. <i>mexicana</i>	miner's lettuce				near Sinawik Trail; locations not tracked
<i>Claytonia perfoliata</i> subsp. <i>perfoliata</i>	miner's lettuce				populations not tracked
<i>Clematis lasiantha</i>	pipestems, chaparral clematis			yes	most in Dimond Canyon: largest plants felled by fallen pine; some individuals cut during fuel abatement; 1 in JM Park near Sinawik Trail
<i>Clinopodium douglasii</i>	yerba buena				many locations; some at risk from veldt grass
<i>Collinsia heterophylla</i> var. <i>heterophylla</i>	Chinese houses			yes	1 small population near Palos Colorados Trail; some impact from off-trail traffic; did not appear during drought years
<i>Corallorhiza maculata</i> var. <i>maculata</i>	spotted coralroot		A2	yes	1 small population near Sinawik Loop Trail
<i>Cornus sericea</i> subsp. <i>sericea</i>	western creek dogwood		C		1 large specimen, few other individuals on Cinderella Creek at Sunset Trail; others near Cinderella and Palo Seco Creeks; small plants found near Ascot and on Larry Lane; many successful outplants in Dimond Park and Canyon
<i>Corylus cornuta</i> subsp. <i>californica</i>	California hazelnut				many locations
<i>Cynoglossum grande</i>	hound's tongue			yes	3 known moderate populations, 2 in JM Park, 1 in Dimond Canyon, others scattered
<i>Cyperus eragrostis</i>	tall nutsedge				many locations
<i>Danthonia californica</i>	California oatgrass		C	yes	recent find on Butters parcel; not found in last survey
<i>Daucus pusillus</i>	wild carrot			yes	small population on Sanborn serpentine, at extreme risk from off-trail cyclists
<i>Deschampsia cespitosa</i> subsp. <i>cespitosa</i>	tufted hairgrass			yes	very small population in Fern Ravine wetland; at risk from drought, not seen for 2 years
<i>Dicentra formosa</i>	western bleeding hearts		A2	yes	1 small population near Ascot in Marj Saunders Park at risk from fuel management
<i>Dichelostemma capitatum</i> subsp. <i>capitatum</i>	blue dicks				most in grazed areas on Sanborn serpentine or in Sinawik Loop Trail meadow; some populations at risk from invasive veldt grass
<i>Dichondra donelliana</i>	California ponysfoot			yes	small population at 1 location between sidewalk and park road
<i>Diplacus aurantiacus</i> var. <i>aurantiacus</i>	bush monkeyflower				many good populations in many locations, some at risk from acacia and other encroaching trees
<i>Dirca occidentalis</i>	western leatherwood	1B.2	*A2	yes	1 population of several plants in heavy shade, one other plant near Sequoia-Bayview Trail; recent newly found off-trail site in Cinderella ravine has as least 5 plants; rare plant statewide
<i>Distichlis spicata</i>	salt grass			yes	1 small population at estuary

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<i>Drymocallis glandulosa</i> var. <i>glandulosa</i>	sticky cinquefoil			yes	very few individuals near Sequoia Arena; some near trail to Browning Monument
<i>Dryopteris arguta</i>	coastal wood fern				good populations at many locations
<i>Elymus glaucus</i> subsp. <i>glaucus</i>	blue wildrye				good populations at many locations
<i>Elymus multisetus</i>	big squirreltail		C	yes	3 populations, all on serpentine; near Sanborn; on Butters parcel, and at JM Rd & Skyline; JM Rd population at risk from fuel management; Butters population in grazing exclusion
<i>Epilobium brachycarpum</i>	annual fireweed			yes	one known population on Sanborn serpentine
<i>Epilobium canum</i> subsp. <i>canum</i>	California fuchsia				most plants in grazed areas; plants remain small and rarely flower and fruit
<i>Epilobium ciliatum</i> subsp. <i>ciliatum</i>	willow-herb				Fern Ravine wetland; may have come with nursery outplants; 2 locations
<i>Epilobium minutum</i>	little willowherb			yes	small populations at 2 locations: Sanborn serpentine population at risk from off-trail cyclists; JM Rd & Skyline population at risk from fuel management
<i>Equisetum arvense</i>	common horsetail			yes	very small population near Cinderella Creek and Sunset Trail
<i>Equisetum hyemale</i> subsp. <i>affine</i>	scouring rush			yes	1 large population on private property and on street near Chelsea and Longcroft; small population in JM Park near Cinderella Creek at risk from off-trail activities
<i>Equisetum telmateia</i> subsp. <i>braunii</i>	giant horsetail				widespread in riparian areas and seeps
<i>Eriogonum luteolum</i> var. <i>caninum</i>	Tiburon buckwheat	1B.2	*A1	yes	2 populations; small population on Sanborn serpentine at dire risk from off-trail cyclists, population at JM Rd and Skyline almost extirpated by fuel management
<i>Eriogonum nudum</i> var. <i>auriculatum</i>	eared buckwheat				mostly on serpentine or rock outcrops; most areas formerly grazed; recent change in grazing to avoid rocky outcrops has help some populations
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	golden yarrow			yes	mostly on Sanborn serpentine or at JM Rd and Skyline; most sites at risk from fuel management
<i>Erysimum capitatum</i> var. <i>capitatum</i>	western/foothill wallflower			yes	1 very small population at JM Rd and Skyline at severe risk from fuel management; may have been extirpated (2017)
<i>Erythranthe cardinalis</i>	red monkeyflower		C	yes	no sites currently known with natural occurrences in parks; FOSC needs to check out outplant sites; 1 location known on private property; we still have some seed
<i>Erythranthe guttatus</i>	yellow monkeyflower			yes	good populations on seeps and in riparian areas; mostly in JM Park and Dimond Canyon
<i>Eschscholzia californica</i>	California poppy				good populations in scattered locations
<i>Euphorbia serpyllifolia</i> subsp. <i>serpyllifolia</i>	spurge			yes	found in Ranger Station parking lot

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<i>Euphorbia spathulata</i>	warty spurge			yes	at spur trail between Palos Colorados Trail and Joaquin Miller Rd. (opposite Crockett Place)
<i>Eurybia radulina</i>	rough-leaved aster				good populations in many locations
<i>Festuca californica</i>	California fescue		C	yes	2 individuals near Sinawik Loop Trail; not seen on recent searches
<i>Festuca microstachys</i>	Pacific fescue				on Sanborn serpentine and on Butters serpentine; small and easily overlooked, population not assessed
<i>Fragaria vesca</i>	wood strawberry				many good populations at many locations
<i>Frangula californica subsp. californica</i>	California coffeeberry				many scattered individuals at many locations
<i>Fritillaria affinis</i>	checker lily			yes	several small populations in JM Park, most grazed; near Sinawik Loop or Sanborn
<i>Galium aparine</i>	goose grass, bedstraw				many scattered populations, some very large
<i>Galium californicum subsp. californicum</i>	California bedstraw			yes	few individuals plants in JM Park
<i>Galium porrigens var. porrigens</i>	climbing bedstraw				many plants in scattered locations
<i>Galium triflorum</i>	sweet-scented bedstraw		B	yes	along east portion of Palos Colorados Trail -- the switchbacks from the trail rerouting, various other places including Fern Ravine
<i>Gamochaeta ustulata</i>	featherweed			yes	small population near Castle Park Trail
<i>Garrya elliptica</i>	coast silk-tassle		B	yes	2 locations along Bridgeview; 2 along Sinawik Trail, a few on Browning Hill; significant stand on private property
<i>Gaultheria shallon</i>	salal		A1	yes	very small populations in 3 locations in JM Park redwoods & Redwood Park; rarely bloom and fruit; at the edge of their range
<i>Gilia achilleifolia subsp. multicaulis</i>	California gilia			yes	1 very small population in Sunset grassland; grazed; from M Lowe thesis, not recently found
<i>Gilia clivorum</i>	purlespot gilia			yes	2 small populations: Sanborn serpentine and JM Rd and Skyline; at risk from fuel management and grazing
<i>Grindelia hirsutula</i>	gumplant		C	yes	small populations on Sanborn serpentine and JM Rd and Skyline; JM Rd population at risk from fuel management
<i>Grindelia stricta var. angustifolia</i>	gumplant			yes	2-3 plants at Oakland Estuary
<i>Gutierrezia californica</i>	matchweed		C	yes	4-5 plants at JM Rd and Skyline at severe risk from fuel management
<i>Helenium puberulum</i>	sneezeweed			yes	in M Lowe thesis, location not known
<i>Hemizonia congesta subsp. luzulifolia</i>	hayfield tarweed				good populations, mostly on Sanborn serpentine; mostly grazed; some at risk from veldt grass invasion
<i>Heracleum maximum</i>	cow parsnip				good populations in many locations
<i>Hesperis matronalis var. sparsiflora</i>	few-flowered evax			yes	small population on Sanborn serpentine and at JM Road and Skyline
<i>Heteromeles arbutifolia</i>	toyon				small stands and individuals in many locations

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<i>Heterotheca sessiliflora</i> subsp. <i>bolanderi</i>	hairy golden aster		C	yes	very small population on Sanborn serpentine; formerly grazed; protected by FOSC for last several grazing seasons
<i>Heuchera micrantha</i>	alumroot		C	yes	small, scattered populations near Sequoia-Bayview Trail
<i>Holodiscus discolor</i> var. <i>discolor</i>	ocean spray				many scattered stands and individuals at many locations
<i>Hosackia stipularis</i> var. <i>stipularis</i>	balsam bird's-foot trefoil; stipulate lotus		A1	yes	1 very small population (under 25) with brittleleaf manzanitas near Sequoia-Bayview Trail; only population in Alameda/Contra Costa Counties. At risk from loss of senescent manzanitas and encroaching trees; only site in Ala/CoCo Counties!
<i>Iris douglasiana</i>	Douglas' iris		A2		1 large original population near Chabot often cut by fuel management; some smaller satellite populations nearby sometimes cut; many strong outplantings in FOSC restoration sites and gardens
<i>Jaumea carnosa</i>	marsh jaumea			yes	small population at estuary may have been affected by invasive cordgrass extermination
<i>Juncus bufonius</i> var. <i>bufonius</i>	toad rush			yes	small population in Fern Ravine wetland; sporadic sitings in other wet areas
<i>Juncus effusus</i> subsp. <i>pacificus</i>	bog rush			yes	1 good population at Fern Ravine wetland at start of Fern Ravine Creek
<i>Juncus patens</i>	common rush				many populations and individuals at many locations
<i>Juncus xiphioides</i>	iris-leaf rush				scattered populations in several riparian and seep locations
<i>Koeleria macrantha</i>	junegrass		C	yes	scattered individuals and small populations, mostly on Sanborn serpentine and JM Rd and Skyline
<i>Lathyrus vestitus</i> var. <i>vestitus</i>	Pacific pea			yes	scattered locations in JM Park and near Bridgeview Trail; not plentiful
<i>Lepidium nitidum</i>	shining pepperweed			yes	1 very small population on Sanborn serpentine
<i>Lepidium strictum</i>	upright pepperweed			yes	1 population on Sequoia-Bayview Trail; populations on JM Road and Skyline and at Lookout Plant; one plant in Sanborn pavement crack
<i>Logfia filaginoides</i>	California cottonrose			yes	1 small population at JM Rd and Skyline; at risk from fuel management
<i>Lomatium utriculatum</i>	common lomatium			yes	3 plants near east end of Sinawik Loop Trail; 2 plants in low meadow below Browning Monument
<i>Lonicera hispidula</i>	California honeysuckle				good populations in many scattered locations
<i>Lonicera involucrata</i> var. <i>ledebourii</i>	black twinberry		B	yes	1 known site near Sequoia-Bayview burned in 2013; some successful outplants near El Centro
<i>Lonicera subspicata</i> var. <i>denudata</i>	wild honeysuckle				in M Lowe thesis, location not known

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<i>Lupinus albifrons</i> var. <i>albifrons</i>	silver bush lupine				most plants on Sanborn serpentine, population recovering from former grazing; scattered others in JM Park; some in Shepherd Canyon on rocky outcrops at risk from fuel management
<i>Lupinus bicolor</i>	bicolored lupine			yes	below Lookout Point and on Butters parcel
<i>Lupinus formosus</i> var. <i>formosus</i>	summer lupine				single plant on Sanborn serpentine; formerly grazed
<i>Lupinus nanus</i>	sky lupine			yes	on Butters parcel
<i>Lupinus succulentus</i>	arroyo lupine			yes	moderate population on Sanborn serpentine at risk from grazing; new moderate population in Montclair Park rebounded after broom removal
<i>Luzula comosa</i> var. <i>comosa</i>	common woodrush				small populations in JM Park; few locations (small cryptic plant)
<i>Lysimachia latifolia</i>	star flower		C		scattered populations, some very large, in JM Park
<i>Madia elegans</i>	common madia		C	yes	1 population near JM Rd and Skyline
<i>Madia gracilis</i>	slender tarweed				small populations; 2 on Sanborn serpentine, 1 near Sunset Trail; 1 on Butters parcel
<i>Madia sativa</i>	coast tarweed				good population at Fern Ravine; other scattered locations in JM Park
<i>Maianthemum racemosum</i>	large false Solomon's seal			yes	scattered individuals and stands in JM Park and Dimond Canyon; ivy competing with many
<i>Maianthemum stellatum</i>	small false Solomon's seal				many good populations in scattered locations; ivy competing with some areas
<i>Marah fabacea</i>	California man-root				many scattered locations
<i>Marah oregana</i>	coast man-root				scattered locations
<i>Melica californica</i>	California melic		C	yes	small populations in scattered locations; at risk from fuel management
<i>Melica torreyana</i>	Torrey's melic grass				many populations in many scattered locations
<i>Microseris douglasii</i> subsp. <i>douglasii</i>	Douglas' microseris			yes	very small populations at 2 locations on Sanborn serpentine, and 1 small population at JM Road and Skyline
<i>Monardella villosa</i> subsp. <i>villosa</i>	coyote mint			yes	small populations in JM Park, most at risk from grazing
<i>Nasturtium officinale</i>	watercress				scattered riparian locations
<i>Navarretia mellita</i>	honeyscented pincushionplant		C	yes	small population near Sequoia-Bayview Trail
<i>Navarretia squarrosa</i>	skunkweed				small scattered populations
<i>Nemophila heterophylla</i>	small baby-blue eyes				good populations at 2-3 scattered locations
<i>Oemleria cerasiformis</i>	oso berry				1 or 2 good stands in JM Park, many scattered individuals
<i>Oenanthe sarmentosa</i>	water parsley				good populations in Dimond Canyon riparian areas; one population known in JM Park along Castle Park Trail in ravine of Cinderella tributary
<i>Orobanche fasciculata</i>	clustered broomrape			yes	over 30 plants near western Sunsest Trail

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<i>Osmorhiza berteroi</i>	wood cicely				scattered in many locations in JM Park
<i>Oxalis oregana</i>	redwood sorrel		A1	yes	1 population in Dimond Canyon; many individuals; one FOSC-planted site from local natives at Fern Ravine; new site in JM Park planted (not by FOSC!) with nonlocal plants;
<i>Pellaea andromedifolia</i>	coffee fern			yes	small scattered populations or individuals, most on serpentine or rock outcrops
<i>Pentagramma triangularis subsp. triangularis</i>	goldback fern				many scattered locations; good revival at ivy removal sites
<i>Perideridia kelloggii</i>	yampah				3 small to moderate populations, some scattered individuals; sometimes grazed; some areas protected by FOSC recently
<i>Persicaria punctata</i>	water smartweed			yes	Found in Dimond Canyon creekbed on a hike with CNPS
<i>Phacelia californica</i>	California phacelia				good populations at scattered locations
<i>Phacelia imbricata subsp. imbricata</i>	imbricate phacelia				scattered populations in JM Park, most on serpentine or rock outcrops; moderate populations in Beaconsfield
<i>Pholistoma auritum var. auritum</i>	fiesta flower		B	yes	seen below Bridgeview Trail by Chris Thayer; location/population unknown; possibly extirpated
<i>Physocarpus capitatus</i>	ninebark		C		large healthy stands along Palo Seco Creek; some near Cinderella Creek; some in Beaconsfield recovering from fuel management
<i>Piperia elegans subsp. elegans</i>	elegant rein orchid		B	yes	few populations, generally small sizes
<i>Piperia elongata</i>	dense flowered rein orchid		A2	yes	4 known populations in JM Park, very small population sizes
<i>Piperia transversa</i>	royal rein orchid			yes	only a few locations recorded; no estimate of population size.
<i>Plantago erecta</i>	California plantain				various places on Sanborn serpentine; good populations, some at risk from grazing; population at JM Road and Skyline at risk from fuel management
<i>Polypodium calirhiza</i>	licorice fern				many good populations at scattered locations; some at risk from ivy
<i>Polypodium scouleri</i>	leather fern		A2	yes	1 population at Exeter chaparral area; private property
<i>Polystichum munitum</i>	western sword fern				many good populations at many locations
<i>Populus trichocarpa</i>	black cottonwood		C		Beaconsfield Canyon and upstream; many trees
<i>Primula hendersonii</i>	shooting stars			yes	1 small population near Sinawik Loop Trail
<i>Prosartes hookeri</i>	fairy bells		C		good scattering of plants along Palos Colorados trail; others scattered in JM Park and Dimond Canyon; some in Shepherd Canyon
<i>Prunus ilicifolia subsp. ilicifolia</i>	hollyleaf cherry		B	yes	1 or 2 plants near Sequoia Point don't seem to flower or fruit; also 1 plant near Sequoia-Bayview Trail and one near Sinawik Loop Trail
<i>Pseudognaphalium beneolens</i>	cudweed		C	yes	small population near West Ridge Trail; a few near JM Road and Skyline, 2 or 3 below Community Center near JM Road; all at risk from fuel management

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<i>Pseudognaphalium biolettii</i>	cudweed		A2		from M Lowe thesis; not recently located
<i>Pseudognaphalium californicum</i>	California cudweed				a few scattered small populations in JM Park on Sanborn serpentine and near Fern Ravine; some at risk from grazing
<i>Pseudognaphalium ramosissimum</i>	pink everlasting				a few scattered populations in JM Park, one large
<i>Pteridium aquilinum var. pubescens</i>	bracken fern				good populations at many locations
<i>Quercus agrifolia var. agrifolia</i>	coast live oak				throughout watershed; at risk from Sudden Oak Death
<i>Quercus chrysolepis</i>	canyon live oak		A2	yes	1 location along Cinderella Trail has several trees; 1 tree near Sanborn in nursery fence; 1 tree on Butters section. At risk from SOD?
<i>Quercus parvula var. shrevei</i>	Shreve oak		A2	yes	Exeter chaparral area; number unknown, very few plants. At risk from SOD?
<i>Quercus wislizeni var. wislizeni</i>	interior live oak			yes	1 location, several trees on Sinawik Loop Trail; 1 near Sequoia-Bayview and Chaparral Trails. At risk from SOD?
<i>Quercus X morehus</i>	oracle oak			yes	1 plant on Sequoia-Bayview Trail; Q. kelloggii/Q. wislizenii hybrid; very close to trail; could easily be lost during trail clearing
<i>Rafinesquia californica</i>	California chicory		B	yes	good population on new portion of eastern Sunset Trail in 2015 but few plants in 2016; in 2016, good bloom near Chaparral Trail; uncommon in JM Park
<i>Ranunculus californicus var. californicus</i>	California buttercup				almost all areas grazed, but large populations in scattered locations in JM Park and Dimond Canyon
<i>Rhamnus crocea</i>	redberry buckthorn		C	yes	1 small population in Castle Canyon at risk from fuel management
<i>Ribes californicum var. californicum</i>	hillside gooseberry			yes	a few scattered individuals in JM Park and Dimond Canyon
<i>Ribes divaricatum var. pubiflorum</i>	straggly gooseberry		B	yes	scattered individuals in JM Park and Beaconsfield
<i>Ribes menziesii</i>	canyon gooseberry			yes	scattered individuals in JM Park and Dimond Canyon
<i>Ribes sanguineum var. glutinosum</i>	pink-flowering currant		C		scattered individuals and populations
<i>Rosa californica</i>	California wild rose			yes	2 small stands in JM Park plus 1 large healthy stand near Sequoia Arena
<i>Rosa gymnocarpa var. gymnocarpa</i>	wood rose				good populations in scattered locations
<i>Rosa spithamea</i>	ground rose		C		good populations in 2 or 3 locations near Sinawik Loop Trail
<i>Rubus parviflorus</i>	thimbleberry				good populations in several locations
<i>Rubus ursinus</i>	California blackberry				good populations in several locations; seed reproduction at risk from hybridization with Himalayan blackberry
<i>Rupertia physodes</i>	California tea			yes	1 small population near Sinawik Loop Trail; 1 small population in Shepherd Canyon

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<i>Sagina apetala</i>	dwarf pearlwort			yes	growing in crack in parking lot pavement, Sanborn Dr
<i>Salicornia sp.</i>	pickleweed				small population at estuary
<i>Salix laevigata</i>	red willow			yes	1 in Dimond Park; 1-2 in Beaconsfield
<i>Salix lasiolepis</i>	arroyo willow				few original plants; most Dimond Canyon willows are clones; small populations in JM Park, Shepherd Canyon; scattered other occurrences
<i>Sambucus nigra subsp. caerulea</i>	blue elderberry				many scattered individuals at many locations
<i>Sambucus racemosa var. racemosa</i>	red elderberry		A1	yes	several plants along Cinderella Creek & tributaries in JM Park; several near northern end of Castle Park Trail; a few plants in Beaconsfield and upstream
<i>Sanicula bipinnatifida</i>	poison sanicle			yes	small scattered population on Sanborn serpentine; sometimes grazed; scattered plants on Butters section
<i>Sanicula crassicaulis</i>	Pacific sanicle				many scattered small populations in JM Park; scattered populations in Dimond Canyon and Shepherd Canyon
<i>Sanicula laciniata</i>	coastal blacksnakeroot		A2	yes	1 small population with brittleleaf manzanitas near Sequoia-Bayview Trail, at risk from loss of senescent manzanitas and encroaching trees
<i>Sanicula tuberosa</i>	tuberous sanicle		C	yes	1 very small population near Lookout Point at risk from grazing
<i>Scirpus microcarpus</i>	small-fruited bulrush		C	yes	in Larry Lane flood-control basin; large population at risk from silt, flood management
<i>Scrophularia californica</i>	bee plant				many scattered plants and populations in many locations
<i>Sequoia sempervirens</i>	coast redwood		B		large stands of second and third growth in JM Park and Dimond Canyon
<i>Setaria parviflora</i>	marsh bristlegrass			yes	one small population near Cascades; the area is mowed
<i>Sidalcea malviflora subsp. laciniata</i>	checker mallow		C	yes	few scattered individuals or small populations on Sanborn serpentine; sometimes grazed
<i>Silene laciniata subsp. californica</i>	Indian pink		B	yes	about 10 plants in 1 location near Sinawik Loop Trail
<i>Sisyrinchium bellum</i>	blue-eyed grass				3 significant populations in JM Park, all on serpentine; 2 formerly grazed; one at risk from broom and star thistle; one often mowed or grazed; other scattered individuals and small populations
<i>Solanum americanum</i>	common nightshade				scattered individuals and populations in many locations
<i>Solanum umbelliferum</i>	blue witch			yes	few scattered individuals in JM Park and near Bridgeview Trail in Dimond Canyon
<i>Solidago velutina subsp. californica</i>	California goldenrod				scattered populations, most at risk from grazing
<i>Stachys rigida var. quercetorum</i>	wood mint				many large populations in many locations

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<i>Stipa lepida</i>	foothill needlegrass		C		good populations in Sunset grasslands, Sanborn serpentine, and at JM Rd and Skyline; some in Shepherd Canyon and Beaconsfield; careful management of grazing needed to avoid damage to crowns of plants
<i>Stipa pulchra</i>	purple needlegrass		C		good populations in Sunset grasslands, Sanborn serpentine, at JM Rd and Skyline and Butters parcel; some in Shepherd Canyon and Beaconsfield; careful management of grazing needed to avoid damage to crowns of plants
<i>Streptanthus glandulosus</i> subsp. <i>glandulosus</i>	jewelflower		B	yes	very small population near Sunset Trail; most of area grazed; extreme risk of extirpation, if not already gone
<i>Stylocline gnaphaloides</i>	everlasting nest straw		A2	yes	small population on Sanborn serpentine at risk from off-trail cyclists
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	snowberry				many good populations at scattered locations
<i>Symphoricarpos mollis</i>	creeping snowberry				mostly on or near Sanborn serpentine in wooded areas, some in oak understory near Sequoia Arena; good populations
<i>Symphyotrichum chilense</i>	common aster				small populations on and near Sanborn serpentine; grazing reductions have improved stand size
<i>Taraxia ovata</i>	suncups		C	yes	2 very small populations: West Trail and Castle Park Trail in JM Park; near driveway to Sequoia Arena
<i>Tellima grandiflora</i>	fringe cups		B		scattered populations in JM Park
<i>Thalictrum fendleri</i> var. <i>polycarpum</i>	meadow-rue			yes	population above Bridgeview Trail often cut by PG&E; one clump in JM Park in heavy shade and very near trail
<i>Toxicodendron diversilobum</i>	poison oak				it's everywhere!
<i>Toxicoscordion fremontii</i>	death camas, star lily			yes	1 small population plus scattered individuals in Dimond Park and JM Park; good population on private property near Bridgeview Trail and another near Marj Saunders Park
<i>Trifolium albopurpureum</i> var. <i>albopurpureum</i>	Indian clover			yes	small population along Palos Colorados Trail
<i>Trifolium ciliolatum</i>	ciliate clover			yes	in M Lowe thesis but not found since 2000
<i>Trifolium gracilentum</i>	pinpoint clover			yes	3 small populations in JM Park: 1 near Sunset Trail; 1 near Sanborn, 1 on Butters parcel
<i>Trifolium microdon</i>	thimble clover			yes	1 plant at lower end of Sanborn Dr on serpentine
<i>Trifolium willdenovii</i>	tomcat clover			yes	1 plant near Wild Rose Tr
<i>Trillium chloropetalum</i>	giant trillium				3 good populations in 3 scattered locations; other small populations and individuals; natural recruitment by seed threatened by arrival of Argentine ants
<i>Trillium ovatum</i> subsp. <i>ovatum</i>	white trillium		A2		large population near Orchard Creek in Fern Ravinem approx. 150; many plants near 2015 reroute of Palos Colorados Trail; other small populations and individuals in JM Park

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<i>Triphysaria pusilla</i>	dwarf owl's clover			yes	1 location near Pyramid; often grazed; very small annual
<i>Triteleia laxa</i>	Ithuriel's spear				most in grazed areas on Sanborn serpentine or in Sinawik Loop Trail meadow; also at risk from spreading veldt grass (<i>Ehrharta erecta</i>)
<i>Typha latifolia</i>	broad-leaved cattail			yes	small population at Fern Ravine wetland; sporadic appearances in seeps and leaks in JM Park
<i>Umbellularia californica</i>	California bay				throughout watershed
<i>Uropappus lindleyi</i>	silver puffs			yes	all on serpentine or rock outcrops in JM Park
<i>Urtica dioica subsp. holosericea</i>	stinging nettle				good populations in scattered riparian locations and seeps
<i>Vaccinium ovatum</i>	California huckleberry		B		widespread in upper JM Park, 1 known plant in Shepherd Canyon; small population in Beaconsfield
<i>Veronica americana</i>	American brooklime		C	yes	original find in Dimond Canyon; current locations not known; badly affected by heavy creek flows
<i>Vicia americana subsp. americana</i>	American vetch			yes	on Butters parcel and inside Sanborn loop drive
<i>Vicia gigantea</i>	giant vetch		C		many scattered creekside locations; some populations very healthy; some very small
<i>Viola adunca subsp. adunca</i>	western dog violet		A1	yes	1 location with few individuals; area used for parking by users of nearby picnic site
<i>Viola glabella</i>	stream violet		A2	yes	1 small population in Redwood Park near Chabot SSC
<i>Viola pedunculata</i>	Johnny jumpups		C	yes	1 small clump in area recently cleared of broom
<i>Viola sempervirens</i>	evergreen violet		A1	yes	2-3 small to moderate populations in JM Park redwoods
<i>Woodwardia fimbriata</i>	giant chain fern			yes	3 locations: 1 plant in Dimond Canyon; about 3 in Shepherd Canyon near Escher, several in JM Park near Cinderella Creek, very few plants
<i>Wyethia angustifolia</i>	narrowleaf mule-ears			yes	two locations on serpentine or rock outcrops near Sanborn or on Butters parcel; sometimes grazed; small populations

Park, trail, creek and street names can be found by looking at the *Trails and Tributaries* map:
http://www.documents.sausalcreek.org/Sausal_Trails_Map.pdf

Key to locations and abbreviations in the notes:

Chabot SSC	Chabot Space and Science Center
Estuary	The mouth of Sausal Creek, next to the Fruitvale Bridge
Exeter chaparral	Hillside near Exeter Drive and Chelton; private property
Fern Ravine	Wetland and creek headwaters located near entrance to Sequoia Arena
JM Park	Joaquin Miller Park
JM Road	Joaquin Miller Road
Roberts	Roberts Recreation Area, EBRPD
Sanborn serpentine	Area of JM Park surrounding Sanborn Dr. Serpentine stretches from Browning Monument to JM Rd; most of this area, including the nursery, is in the Peralta Creek watershed
Sunset grassland	Western end of Sunset Tr; some serpentine and rock outcrops
M Lowe thesis	Thesis by Martha Lowe, June 2000, <i>The Upper Sausal Creek Watershed (Oakland, California): Historical and Contemporary Ecology, Watershed Assessment, and Recommendations for Ecosystem Restoration and Management</i> , Sonoma State University. Plant list: http://www.documents.sausalcreek.org/plant_species.pdf

Information on the size and populations of rare plants covered in this chart comes from many observers. Martha Lowe's thesis on the watershed provided the basis. The seed-collection crew, active for over 15 years, has provided many details. Other information comes from CNPS members, herbarium and Calflora records, and most especially from Jeffrey Greenhouse, who is compiling a list of all the plants of Joaquin Miller Park. He's been especially helpful in finding many of the smallest plants in the park.

Most observations were made from hiking trails; there are certainly a some species and many populations still unknown in off-trail areas, especially on the steepest hills and densest understory areas. The "yes" in the "Rare in Sausal" column is based on observations of currently known distributions and populations sizes. FOSC has collected seed and planted thousands of natives throughout the watershed. The location and population data includes only natural occurrences of the species, and not the outplanted populations.

This list was compiled by Karen Paulsell, with assistance from Dianne Lake, Gregg Weber, Jeffrey Greenhouse and Nancy Jones.

Please provide any feedback, especially information on new locations for rare plant species to:

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