ATTACHMENT 2 – SPECIES CHECKLIST FOR LLNL PLANTS

Attachment 2.1 – Site 300
Attachment 2.2 – Livermore Site

Attachment 2.1 – Site 300 (from Jones & Stokes 2002a)

Annotated Checklist of the Vascular Plants of Lawrence Livermore Laboratory Site 300

This list was compiled from Jones & Stokes (J&S) site surveys performed in May and September, 1997, and March and April, 2002. It also incorporates species reported by BioSystems (BS) (1986). Nomenclature follows *The Jepson Manual* (Hickman 1993), except where noted. Synonyms [in brackets] are provided for plant names used in BioSystems' checklist that have been superceded. Common names generally are taken from *The Jepson Manual* or CalFlora (2000). Introduced species are preceded with an asterisk.

Pterophyta (Ferns)

Pteridaceae (Brake Family)

Pellaea andromedifolia (Kaulf.) Fee. At base of rocks in coastal scrub. Local, uncommon. Coffee fern. (BS, J&S)

Pellaea mucronata (D. Eaton) D. Eaton. Bird's-foot fern. Rock outcrops in blue oak woodland. Uncommon. (J&S)

Pentagramma triangularis (Kaulf.) G. Yatskievych, M. D. Wyndham, & E. Wollenweber. Gold-back fern. Rock outcrops in blue oak woodland. Locally common. [*Pityrogramma triangularis* Kaulf.] (BS, J&S)

Coniferophyta (Conifers)

Cupressaceae (Cypress Family)

Juniperus californica Hook. California juniper. Juniper woodland and scrub, juniper-oak woodland, and scattered in grasslands. Widespread, common. (BS, J&S)

Anthophyta--Dicotyledones

Amaranthaceae (Amaranth Family)

**Amaranthus albus* L. Tumbleweed. Wetlands. Uncommon. (J&S)

Amaranthus blitoides Wats. Prostrate amaranth. (BS)

Amaranthus californicus (Moq.) Wats. California amaranth. Wetlands. Uncommon. (J&S)

Anacardiaceae (Sumac Family)

Toxicodendron diversilobum (T. & G.) Greene. Poison-oak. Poison-oak scrub. Local, in one stand on the west side of Site 300. (BS, J&S)

Apiaceae (Carrot Family)

Apiastrum angustifolium Nutt. Wild celery. Blue oak woodland. Local, uncommon. (BS, J&S)

Bowlesia incana Ruiz Lopez & Pav. Bowlesia. At base of rocks in grasslands. Local, uncommon. (BS, J&S)

Lomatium caruifolium (Hook. & Arn.) Coult. & Rose. Caraway-leaved lomatium. Grasslands. Widespread but uncommon. (BS, J&S)

Lomatium utriculatum (T. & G.) Coult. & Rose. Common lomatium. Grasslands. Widespread but uncommon. (BS, J&S)

Sanicula bipinnata Hook. & Arn. Poison sanicle. Blue oak woodland, coastal scrub. Widespread, common. (BS, J&S)

Sanicula bipinnatifida Hook. Purple sanicle. Grasslands. Local, uncommon. (BS, J&S)

Sanicula crassicaulis DC. Pacific sanicle. Elderberry scrub. Local, uncommon. (J&S)

**Torilis nodosa* (L.) Gaertner. Knotted hedge parsley. (BS)

Yabea microcarpa (Hook. & Arn.) Koso-Polj. California hedge-parsley. Blue oak woodland. Local, uncommon. (BS, J&S)

Asclepiadaceae (Milkweed Family)

Asclepias fascicularis Decne. Narrow-leaf milkweed. Grassland. Uncommon. (BS, J&S)

Asteraceae (Sunflower Family)

Achillea millefolium L. Common yarrow. Grasslands, coastal scrub, blue oak woodland. Widespread, common. [var. *californica* (Pollard) Keck] (BS, J&S)

Achyrachaena mollis Schauer. Blow-wives. Grasslands, vernal pool. Widespread but uncommon. (BS, J&S)

Agoseris grandiflora (Nutt.) Greene. Large-flowered agoseris. Grassland. Local, uncommon. (BS, J&S)

Agoseris heterophylla (Nutt.) Greene. Annual agoseris. Grasslands. Widespread but uncommon. (BS, J&S)

Ancistrocarphus filagineus Gray. Woolly fishhooks. Bare soil in grasslands, coastal scrub. Local, uncommon. [*Stylocline filaginea* (Gray) Gray] (BS, J&S)

Artemisia californica Less. California sage. Coastal scrub. Widespread, common. (BS, J&S)

Baccharis pilularis DC. Coyote brush. Blue oak woodland, along drainage. Local, uncommon. [var. *consanguinea* (DC.) Kuntze] (BS, J&S)

Baccharis salicifolius (Ruiz Lopez & Pav.) Pers. Mule fat. Along stream channels. Local, uncommon. [*B. viminea* DC.] (BS, J&S)

Blepharizonia laxa Greene. Viscid big tarplant. Grasslands, ruderal. Uncommon. [*B. plumosa* ssp. *viscida* Keck; see Baldwin et al. 2001 for nomenclature] (J&S)

Blepharizonia plumosa (Kell.) Greene. Big tarplant. Grasslands, ruderal. Widespread, common (see Figure 2). List 1B in CNPS Inventory. (J&S)

****Carduus pycnocephalus*** L. Italian thistle. Grasslands. Widespread but uncommon. (BS, J&S)

****Carduus tenuiflorus*** Curtis. Slender-flowered thistle. Wetlands, blue oak woodland. Common. (J&S)

Centromadia fitchii (Gray) Greene. Fitch's spikeweed. Ruderal. Local, uncommon. [*Hemizonia fitchii* Gray; see Baldwin 1999 for revised nomenclature] (J&S)

Centromadia pungens (Hook. & Arn.) Greene subsp. ***pungens***. Common spikeweed. Grasslands, ruderal. Local, uncommon. [*Hemizonia pungens* (Hook. & Arn.) T. & G; see Baldwin 1999 for revised nomenclature] (J&S)

****Centaurea melitensis*** L. Tocalote. Grasslands. Local, uncommon. (BS, J&S)

****Centaurea solstitialis*** L. Yellow star-thistle. Grasslands. Uncommon. (BS, J&S)

****Chamomilla suaveolens*** (Greene) Rydb. Pineapple weed. Ruderal. Local, uncommon. (BS, J&S) [*Matricaria matricarioides* (Less.) Porter]

****Cirsium occidentale*** (Nutt.) Jeps. ssp. ***venustum*** (Greene) Jeps. Venus thistle. Grasslands. Local, uncommon. [*C. proteanum* J. Howell] (BS, J&S)

****Cirsium vulgare*** (Savi) Ten. Bull thistle. Freshwater seeps. Local, uncommon. (BS, J&S)

Conyza canadensis (L.) Cronq. Horseweed. Wetlands, ruderal. Uncommon. (BS, J&S)

Coreopsis calliopsidea (DC.) Gray. Leafy-stemmed coreopsis. (BS)

****Cynara cardunculus*** L. Artichoke thistle. Grasslands. Local, uncommon. (J&S)

Deinandra kelloggii (Greene) Greene. Kellogg's tarplant. Grasslands, coastal scrub, ruderal. Common. [*Hemizonia kelloggii* Greene; see Baldwin 1999 for revised nomenclature] (BS, J&S)

Deinandra lobbii (Greene) Greene. Lobb's tarplant. Coastal scrub. Common. [*Hemizonia lobbii* Greene; see Baldwin 1999 for revised nomenclature] (BS, J&S)

****Dittrichia graveolens*** (L.) Greuter. Stinkweed. Ruderal. Local, uncommon. [not in The Jepson Manual; see Preston (1997)] (J&S)

Ericameria linearifolia (DC.) Urb. & J. Wussow. Interior goldenbush. Coastal scrub. Local, uncommon. (BS, J&S)

Erigeron reductus (Cronq.) G. Nesom var. ***angustatus*** (Gray) G. Nesom. California rayless daisy. [*E. inornatus* Gray var. *angustatus* Gray] (BS)

Filago californica Nutt. California filago. Thin soils, coastal scrub. Widespread but uncommon. (BS, J&S)

**Filago gallica* L. Narrow-leaved filago. Grasslands. Local, uncommon. [*Logfia gallica* Coss. & Germ.] (BS, J&S)

Gnaphalium californicum DC. California cudweed. Grasslands. Local, uncommon. (J&S)

**Gnaphalium luteo-album* L. Weedy cudweed. Along stream channel. Local, uncommon. (J&S)

Gnaphalium palustre Nutt. Marsh cudweed. Vernal pool, freshwater seep. Local, uncommon. (BS, J&S)

Grindelia camporum Greene. Great Valley gumplant. Grasslands, coastal scrub, blue oak woodland; Widespread, common. (BS, J&S)

Gutierrezia californica (DC.) T. & G. California matchweed. Coastal scrub, grasslands. Widespread, common. [*G. bracteata* Abrams] (BS, J&S)

Helianthus annuus L. Common sunflower. Wetlands. Uncommon. (J&S)

Hesperevax caulescens (Benth.) Gray. Hogwallow starfish. Grasslands, with moist, clay soils. One population (See Figure 2). CNPS List 4. [*Evax caulescens* Benth.] (BS, J&S)

Hesperevax sparsiflora (Gray) Greene. Erect evax. [*Evax sparsiflora* Gray] (BS)

Heterotheca grandiflora Nutt. Telegraph weed. Rock outcrops in grassland. Uncommon. (J&S)

Heterotheca sessiflora (Nutt.) Shinn. ssp. ***echioides*** (Benth.) Semple. Goldenaster. Grasslands. Uncommon. [*H. echioides* Benth.] (BS, J&S)

Holocarpha obconica (Clausen & Keck) Keck. San Joaquin tarplant. Grasslands, coastal scrub. Common. (BS, J&S)

**Hypochaeris glabra* L. Smooth cat's-ear. Grasslands. Widespread but uncommon. (BS, J&S)

**Hypochaeris radicata* L. Rough cat's-ear. Blue oak woodland, grasslands. Local, uncommon. (BS, J&S)

**Lactuca serriola* L. Prickly lettuce. Grassland. Common. (BS, J&S)

Lagophylla ramosissima Nutt. Common hareleaf. Grassland, Common. (J&S)

Lasthenia gracilis (DC.) Greene. California goldfields. Thin soil in grasslands, coastal scrub. Widespread but uncommon. [*L. chrysostoma* (Fisch. & Mey.) Greene; recently segregated from *L. californica* Lindley by Chan (2001)] (BS, J&S)

Lasthenia microglossa (A. DC.) Greene. Small-rayed goldfields. Moist areas in grasslands. Widespread, common (BS, J&S)

Lasthenia minor (A. DC.) Ornduff. Woolly goldfields. Grasslands. Widespread but uncommon. (BS, J&S)

Layia gaillardioides (Hook. & Arn.) DC. Woodland layia. Grasslands. Widespread but uncommon. (BS, J&S)

Layia platyglossa (Fisch. & Mey.) Gray. Tidytips. Grasslands. Local, uncommon. (BS, J&S)

Madia gracilis (Smith) Keck. Slender tarweed. (BS)

Malacothrix coulteri Gray. Snake's-head. Grasslands. Widespread but uncommon. (BS, J&S)

Micropus californicus Fisch. & Mey. Slender cottonweed. Grasslands. Local, uncommon. (BS, J&S)

Microseris acuminata E. Greene. Needle microseris. Grasslands. Local, uncommon. (J&S)

Microseris douglasii (DC.) Schultz-Bip subsp. ***douglasii***. Douglas' microseris. Grasslands. Local, uncommon. (J&S)

Microseris douglasii (DC.) Schultz-Bip subsp. ***tenella*** (Gray) Chambers. Small microseris. Grasslands. Local, uncommon. (BS, J&S)

Monolopia major DC. Cupped monolopia. Grasslands. Widespread, common. (BS, J&S)

Pentachaeta alsinoides Greene. Pentachaeta. Grassland. Local, uncommon. (BS, J&S)

****Picris echioides*** L. Bristly ox-tongue. Freshwater seep. Local, uncommon. (BS, J&S)

Psilocarphus brevissimus Nutt. Woolly marbles. (BS)

Psilocarphus tenellus Nutt. Slender woolly marbles. (BS)

Rafinesquia californica Nutt. California chicory. (BS)

Senecio breweri Davy. Brewer's butterweed. Blue oak woodland. Local, uncommon. (BS, J&S)

****Senecio vulgaris*** L. Common groundsel. Grasslands, coastal scrub. Widespread, common. (BS, J&S)

**Silybum marianum* (L.) Gaertner. Milk thistle. In stream channels. Widespread but uncommon. (BS, J&S)

Solidago canadensis L. Canada goldenrod. (BS)

**Sonchus asper* (L.) Hill. Prickly sow-thistle. Freshwater seeps. Uncommon. (BS, J&S)

**Sonchus oleraceus* L. Common sow-thistle. Ruderal. Widespread but uncommon. (BS, J&S)

Stebbinsoseris heterocarpa (Nutt.) Chambers. Derived microseris. Grasslands. Uncommon. (J&S)

Stephanomeria virgata Benth. var. ***pleurocarpa*** (Greene) Gottlieb. Tall stephanomeria. Grasslands. Uncommon. (J&S)

Stylocline gnaphaloides Nutt. Everlasting nest straw. Rock outcrops in coastal scrub. Local, uncommon. (BS, J&S)

**Taraxacum officinale* Wigg. Common dandelion. (BS)

Uropappus lindleyi (DC.) Nutt. Silver puffs. Grasslands, coastal scrub. Widespread but uncommon. [*Microseris lindleyi* (DC.) Gray] (BS, J&S)

Xanthium strumarium L. Common cocklebur. Freshwater seeps, along stream channels. Uncommon. [var. *canadense* (Miller) T. & G.] (BS, J&S)

Boraginaceae (Borage Family)

Amsinckia eastwoodiae J. F. Macbr. Eastwood's fiddleneck. Moist areas in grasslands. Widespread but uncommon. (J&S)

Amsinckia grandiflora Gray. Large-flowered fiddleneck. Blue oak woodland. Restricted to a single population (see Figure 2). Federally-listed as endangered. (BS, J&S).

Amsinckia lycopsoides Lehm. Tarweed fiddleneck. Grasslands, blue oak woodland. Widespread, common. (J&S)

Amsinckia menziesii (Lehm.) Nels. & Macbr. var. ***intermedia*** (Fisch. & Mey.) Ganders. Common fiddleneck. Grasslands, coastal scrub, blue oak woodland. Widespread, common. (BS, J&S)

Amsinckia menziesii (Lehm.) Nels. & Macbr. var. ***menziesii***. Menzies' fiddleneck. Grasslands. Widespread but uncommon. (BS, J&S)

Amsinckia tessellata Gray var. ***tessellata***. Devil's lettuce. Grasslands, oak woodland, coastal scrub. Widespread, common. (BS, J&S)

Amsinckia vernicosa Hook. & Arn. Green fiddleneck. Clay barrens. Uncommon. (BS)

Cryptantha flaccida (Lehm.) Greene. Weak-stemmed cryptantha. Rock outcrops in grassland. Uncommon. (BS, J&S)

Cryptantha intermedia (Gray) Greene. Common cryptantha. Rock outcrops in grassland. Uncommon. (BS, J&S)

Cryptantha microstachys (Gray) Greene. Tejon cryptantha. (BS)

Heliotropium curassavicum L. Salt heliotrope. Freshwater seeps. Uncommon. [var. *oculatum* (Heller) Jtn.] (BS, J&S)

Pectocarya penicillata (Hook. & Arn.) A. DC. Winged pectocarya. Coastal scrub. Widespread but uncommon. (BS, J&S)

Plagiobothrys bracteatus (T. J. Howell) Jtn. Bracted popcorn flower. Vernal pool. Local, uncommon. (J&S)

Plagiobothrys canescens Benth. Soft popcorn flower. Grasslands. Widespread, common. (BS, J&S)

Plagiobothrys stipitatus (Greene) Jtn. var. ***micranthus*** (Piper) Jtn. Small-flowered popcorn flower. Vernal pool. Local, uncommon. (BS, J&S)

Plagiobothrys tenellus (Nutt.) Gray. Grasslands. Local, uncommon. (BS, J&S)

Brassicaceae (Mustard Family)

Athysanus pusillus (Hook.) Greene. Petty athysanus. Rock outcrops in grassland. Widespread but uncommon. (BS, J&S)

****Brassica nigra*** (L.) Czernov. Black mustard. Grasslands. Uncommon. (BS, J&S)

****Capsella bursa-pastoris*** (L.) Medik. Shepherd's purse. Blue oak woodland. Widespread, common. (BS, J&S)

****Cardaria pubescens*** (C. Meyer) Jarmol. White-top. (BS)

****Descurainia sophia*** (L.) Webb. Tansy mustard. Grasslands. Local, uncommon. (BS, J&S)

Erysimum capitatum (Dougl.) Greene. Western wallflower. (BS)

Guillenia flavescens (Hook.) Greene. Yellow-flowered guillenia. Grasslands. Local, uncommon. Flower color varies from pale yellow to lilac within Site 300. Hoover (1936) treated the lilac- to purple-flowered forms as *Streptanthus lilacinus*. [*Caulanthus flavescens* (Hook.) Pays.] (BS, J&S)

Guillenia lasiophylla (Hook. & Arn). Greene. California mustard. Grasslands. Widespread, common. [*Caulanthus lasiophyllus* (Hook. & Arn.) Greene] (BS, J&S)

**Hirschfeldia incana* (L.) Lagr.-Foss. Mediterranean mustard. Grasslands, coastal scrub, ruderal. Widespread, common. [*Brassica geniculata* (Desf.) Ball] (BS, J&S)

Lepidium nitidum (Nutt.) T. & G. Shining peppergrass. Grasslands. Widespread, common. [var. *insigne* Greene] (BS, J&S)

Nasturtium officinale R. Br. Watercress. Freshwater seeps. Local, uncommon. [*Rorippa nasturtium-aquaticum* (L.) Hayek; see Al-Shehbaz & Price (1998) for nomenclature] (BS, J&S)

**Sinapis arvensis* L. Charlock. Grasslands. Uncommon. (J&S)

**Sisymbrium altissimum* L. Tumble mustard. (BS)

**Sisymbrium officinale* L. Hedge mustard. (BS)

**Sisymbrium orientale* L. Oriental mustard. Outcrops in coastal scrub, grasslands. Locally common. (J&S)

Tropidocarpum gracile Hook. Dobie pod. Grasslands. Widespread but uncommon. (J&S)

Thysanocarpus curvipes Hook. var. *curvipes*. Lacepod. Blue oak woodland, grasslands. Widespread, common. (BS, J&S)

Thysanocarpus curvipes Hook. var. *elegans* (Fisch. & Mey.) Rob. Fringepod. Grasslands. Local, uncommon [*T. elegans* Fisch. & Mey.] (BS, J&S)

Callitrichaceae (Water Starwort Family)

Callitriche marginata Torr. California water-starwort. Vernal pool. Local, uncommon. (J&S)

Callitriche verna L. Vernal water-starwort. (BS)

Campanulaceae (Bluebell Family)

Downingia insignis Greene. Cupped downingia. Vernal pool. Local, uncommon. (BS, J&S)

Caprifoliaceae (Honeysuckle Family)

Lonicera interrupta Benth. Chaparral honeysuckle. Along stream, in blue oak woodland. Local, uncommon. (BS, J&S)

Sambucus mexicana C. Presl. Blue elderberry. Elderberry scrub, scattered along stream channels, or at base of rock outcrops. Local, uncommon. (BS, J&S)

Caryophyllaceae (Pink Family)

****Cerastium glomeratum*** Thuill. Mouse-ear chickweed. Grasslands, coastal scrub. Local, uncommon. (BS, J&S)

****Herniaria hirsuta*** L. ssp. ***cinerea*** (DC.) Cout. Gray herniaria. Coastal scrub. Widespread but uncommon. (BS, J&S)

Loeflingia squarrosa Nutt. California loeflingia. (BS)

Minuartia californica (Gray) Mattf. California sandwort. Thin soils in coastal scrub. Local, uncommon (BS, J&S)

Minuartia douglasii (T. & G.) Mattf. Douglas' sandwort. (BS)

Sagina apetala Ard. Dwarf pearlwort. Rock outcrop in grasslands. Local, uncommon. (J&S)

Sagina decumbens (Elliot) T. & G. var. ***occidentalis*** (Wats.) G. Crow. Western pearlwort. (BS)

Silene antirrhina L. Snapdragon catchfly. Grasslands, coastal scrub. Uncommon. (BS, J&S)

****Silene gallica*** L. Common catchfly. Grasslands, coastal scrub. Widespread but uncommon. (BS, J&S)

Spergularia marina (L.) Griseb. Saltmarsh sand-spurry. (BS)

**Stellaria media* (L.) Villars. Common chickweed. Grasslands, blue oak woodland, coastal scrub. Widespread but uncommon. (BS, J&S)

Stellaria nitens Nutt. Shining chickweed. Rock outcrops in grassland, coastal scrub. Widespread but uncommon. (BS, J&S)

Chenopodiaceae (Goosefoot Family)

Atriplex patula L. Spear oracle. (BS)

**Atriplex rosea* L. Tumbling oracle. Ruderal. Uncommon. (J&S)

**Atriplex semibaccata* R. Br. Australian saltbush. Ruderal, grasslands. Local, uncommon. (BS, J&S)

Atriplex serenana Nels. Bractscale. Ruderal. Uncommon. (J&S)

**Chenopodium album* L. Pigweed. Ruderal. Uncommon. (J&S)

Chenopodium californicum (Wats.) Wats. California goosefoot. Grasslands; uncommon. (BS, J&S)

**Chenopodium murale* L. Nettle-leaved goosefoot. Rock outcrops in grasslands. Uncommon. (J&S)

Chenopodium rubrum L. Red goosefoot. (BS)

**Chenopodium vulvaria* L. Stinking goosefoot. (BS)

Monolepis nuttalliana (Schultes) Greene. Poverty weed. (BS)

**Salsola tragus* L. Russian thistle. Grasslands, ruderal. Widespread, common. [*S. kali* L.] (BS, J&S)

Convolvulaceae (Morning-glory Family)

**Convolvulus arvensis* L. Field bindweed. Grasslands. Uncommon. (J&S)

Crassulaceae (Stonecrop Family)

Crassula connata (Ruiz Lopez & Pav.) Berger. Pygmyweed. Rock outcrops in grasslands, coastal scrub. Widespread, common. [*C. erecta* (Hook. & Arn.) Berger] (BS, J&S)

Cucurbitaceae (Gourd Family)

Marah fabaceus (Naudin) Greene. California manroot. Grasslands. Widespread, common. [var. *agrestis* (Greene) K. M. Stocking] (BS, J&S)

Euphorbiaceae (Spurge Family)

Chamaesyce ocellata (Durand & Hilg.) Millsp. Valley spurge. Grasslands. Uncommon. (J&S)

Croton setigerus Hook. Turkey mullein. Grasslands, ruderal. Common. [*Eremocarpus setigerus* (Hook.) Benth.; see Webster (1992) for nomenclature] (BS, J&S)

Euphorbia spathulata Lam. Reticulate-seeded spurge. Blue oak woodland. Local, uncommon. (BS, J&S)

Fabaceae (Pea Family)

Astragalus asymmetricus E. Sheldon. Rattleweed. Grasslands. Widespread but uncommon. (BS, J&S)

Astragalus didymocarpus Hook. & Arn. Two-seeded milkvetch. Grassland, coastal scrub. Widespread but uncommon. (BS, J&S)

Astragalus gambelianus E. Sheldon. Grasslands. Widespread but uncommon. (J&S)

Lotus humistratus Greene. Hairy lotus. Grasslands, coastal scrub. Widespread but uncommon. (BS, J&S)

Lotus wrangellianus Fisch. & Mey. Chile lotus. Grasslands. Widespread, common. [*L. subpinnatus* Lagasca] (BS, J&S)

Lupinus albifrons Benth. Bush lupine. Blue oak woodland, coastal scrub. Widespread, common,. often dominant in small stands. (BS, J&S)

Lupinus benthamii Heller. Spider lupine. Grasslands. Uncommon. (BS, J&S)

Lupinus bicolor Lindley. Miniature lupine. Grasslands, coastal scrub, oak woodland. Widespread, common. [var. *umbellatus* (Greene) D. Dunn] (BS, J&S)

Lupinus microcarpus Sims var. ***densiflorus*** (Benth.) Jeps. Chick lupine. Grasslands, blue oak woodland. Widespread, common. [*L. densiflorus* Benth. var. *aureus* (Kell.) Munz and var. *lacteus* (Kell.) C.P. Smith] (BS, J&S)

Lupinus microcarpus Sims var. ***microcarpus***. Chick lupine. [*L. densiflorus* Benth. var. *palustris* (Kell.) C.P. Smith] (BS)

Lupinus succulentus Koch. Arroyo lupine. Grasslands. Widespread, common. (BS, J&S)

****Medicago polymorpha*** L. California bur-clover. Grasslands. Widespread, common. (BS, J&S)

****Melilotus alba*** Medik. White sweet-clover. Ruderal. Uncommon. (BS, J&S)

****Melilotus indica*** (L.) All. Indian sweet-clover. Ruderal. Widespread but uncommon. (BS, J&S)

Trifolium albopurpureum T. & G. var. ***albopurpureum***. Common Indian clover. Grasslands. Widespread but uncommon. (BS, J&S)

Trifolium albopurpureum T. & G. var. ***dichotomum*** (Hook. & Arn.) Isely. Branched Indian clover. [*T. dichotomum* Hook. & Arn.] (BS)

Trifolium ciliolatum Benth. Tree clover. Grasslands. Local, uncommon. (J&S)

Trifolium depauperatum Desv. var. ***amplectans*** (T. & G.) L.F. McDermott. Pale sac clover. [*T. amplectans* T. & G.] (BS)

Trifolium depauperatum Desv. var. ***truncatum*** (E. Greene) Isely. Narrow-leaved sac clover. Grasslands. Local, uncommon. (J&S)

Trifolium gracilentum T. & G. Pinpoint clover. Grasslands, coastal scrub. Widespread, common. (BS, J&S)

****Trifolium hirtum*** All. Rose clover. Grasslands, ruderal. Local, uncommon. (J&S)

Trifolium microcephalum Pursh. Small-headed clover. Grasslands. Local, uncommon. (J&S)

Trifolium microdon Hook. & Arn. Valparaiso clover. (BS)

Trifolium oliganthum Steudel. Few-flowered clover. Coastal scrub. (BS)

Trifolium willdenovii Sprengel. Tomcat clover. Grasslands; coastal scrub, oak woodland. Widespread, common. [*T. tridentatum* Lindley] (BS, J&S)

****Vicia sativa*** L. Common vetch, Grassland. Uncommon. (J&S)

****Vicia tetrasperma*** (L.) Schreber. Slender vetch. (BS)

****Vicia villosa*** Roth ssp. ***varia*** (Host) Corbiere. Winter vetch. (BS)

****Vicia villosa*** Roth ssp. ***villosa***. Hairy vetch. Grassland. Uncommon. (J&S)

Fagaceae (Beech Family)

Quercus douglasii Hook. & Arn. Blue oak. Blue oak woodland, juniper oak woodland. Widespread, common. (BS, J&S)

Quercus lobata Nee. Valley oak. Valley oak woodland, blue oak woodland. Local, uncommon. (BS, J&S)

Geraniaceae (Geranium Family)

****Erodium botrys*** (Cav.) Bertol. Big heronbill. Grassland, coastal scrub. Widespread, common. (BS, J&S)

****Erodium brachycarpum*** (Godron) Thell. Heronbill. Grasslands. Widespread, uncommon. (BS, J&S)

****Erodium cicutarium*** (L.) L'Her. Red-stemmed filaree. Grasslands, coastal scrub, oak woodland. Widespread, common. (BS, J&S)

Erodium macrophyllum Hook. & Arn. Round-leaved filaree. Grassland, on friable clay soil. Restricted to a single population (see Figure 2). CNPS List 2. (J&S)

****Erodium moschatum*** (L.) L'Her. White-stemmed filaree. Grasslands. Local, uncommon. (BS, J&S)

****Geranium dissectum*** L. Cut-leaf geranium. Grasslands. Uncommon. (J&S)

**Geranium molle* L. Dove's-foot geranium. (BS)

Grossulariaceae (Gooseberry Family)

Ribes quercetorum Greene. Oak gooseberry. Elderberry scrub. Local, uncommon. (J&S)

Ribes malvaceum Smith. Chaparral current. Elderberry scrub. local, uncommon. (BS, J&S)

Hippocastanaceae (Buckeye Family)

Aesculus californicus (Spach) Nutt. California buckeye. Blue oak woodland. Local, uncommon. (BS, J&S)

Hydrophyllaceae (Waterleaf Family)

Emmenanthe penduliflora Benth. var. ***penduliflora***. Whispering bells. Coastal scrub. Local, uncommon. (J&S)

Eriodictyon californicum (Hook. & Arn.) Torr. Yerba santa. Coastal scrub. Local, uncommon. (BS, J&S)

Nemophila menziesii Hook. & Arn. Baby blue-eyes. Grasslands. Local, uncommon. (BS, J&S)

Nemophila pedunculata Dougl. Spreading nemophila. (BS)

Phacelia ciliata Benth. Great Valley phacelia. Grasslands. Widespread, common. (BS, J&S)

Phacelia distans Benth. Common phacelia. Rock outcrops in grasslands, coastal scrub. Widespread, common. (BS, J&S)

Phacelia douglasii (Benth.) Torr. Douglas' phacelia. Coastal scrub. Local, uncommon. (BS, J&S)

Phacelia imbricata Greene. Imbricate phacelia. Rock outcrops in grasslands, coastal scrub. Local, uncommon. (BS, J&S)

Phacelia tanacetifolia Benth. Tansy phacelia. Rock outcrops in grasslands, coastal scrub. Widespread, common. (BS, J&S)

Pholistoma membranaceum (Benth.) Constance. White fiesta-flower. Blue oak woodland, base of rock outcrops in grasslands. Local, uncommon. (BS, J&S)

Lamiaceae (Mint Family)

****Lamium amplexicaule*** L. Henbit. (BS)

****Marrubium vulgare*** L. Horehound. Coastal scrub, freshwater seep, ruderal. Widespread but uncommon. (BS, J&S)

****Mentha pulegium*** L. Pennyroyal. Freshwater seep. Local, uncommon. (J&S)

Pogogyne serpylloides (Torr.) Gray. Thyme-like pogogyne. Elderberry scrub. Local, uncommon. (BS, J&S)

Salvia columbariae Benth. Chia. Coastal scrub. Locally common. (BS, J&S)

Salvia mellifera Greene. Black sage. Coastal scrub. Local, uncommon. (BS, J&S)

Stachys albens Gray. White hedgenettle. Freshwater seep. Local, uncommon. (BS, J&S)

Trichostema lanceolatum Benth. Vinegar curls. Grasslands. Common. (BS, J&S)

Linaceae (Flax Family)

Hesperolinon californicum (Benth.) Small. California dwarf flax. Grasslands. Uncommon. (BS, J&S)

****Linum usitatissimum*** L. Common flax. Grassland, ruderal. Uncommon. (J&S)

Loasaceae (Loasa Family)

Mentzelia affinis Greene. Hydra stick-leaf. Rock outcrops. Local, uncommon. (BS, J&S)

Mentzelia dispersa Wats. Small-flowered mentzelia. Rock outcrops in grasslands, coastal scrub. Local, uncommon. (J&S)

Malvaceae (Mallow Family)

Eremalche parryi (Greene) Greene. Parry's mallow. Grasslands, on lower canyon slope. Local, uncommon. (BS, J&S)

****Malva parviflora*** L. Cheeseweed. Blue oak woodland. Uncommon. (BS, J&S)

Malvella leprosa (Ortega) Krapov. Alkali mallow. Freshwater seep, grasslands, ruderal. Uncommon. (BS, J&S)

Oleaceae (Olive Family)

Forestiera pubescens Nutt. Desert olive. Along stream. Single stand on west side of Site 300. [*F. neomexicana* Gray] (BS, J&S)

Onagraceae (Evening Primrose Family)

Camissonia boothii (Dougl.) Raven ssp. ***decorticans*** (Hook. & Arn.) Raven. Shredding evening primrose. Coastal scrub. Local, uncommon. (BS, J&S)

Camissonia contorta (Dougl.) Raven. Plains evening primrose. Coastal scrub. Local, uncommon. [*Camissonia cruciata*, an unpublished name based on *Oenothera cruciata* (Wats.) Munz] (BS, J&S)

Camissonia graciliflora (Hook. & Arn.) Raven. Slender-flowered primrose. Open area in grasslands. Local, uncommon. (BS, J&S)

Camissonia hirtella (Greene) Raven. Hairy sun-cups. Coastal scrub. Widespread but uncommon. (BS, J&S)

Camissonia intermedia Raven. Intermediate sun-cups. Coastal scrub. Local, uncommon. (J&S)

Clarkia affinis H. Lewis & M. Lewis. Clarkia. Blue oak woodland, grasslands. Common. (BS, J&S)

Clarkia purpurea (Curtis) Nels. & Macbr. ssp. ***purpurea***. Purple clarkia. Grasslands. Uncommon. (BS, J&S)

Clarkia temblorensis Vasek. Temblor clarkia. Blue oak woodland. Uncommon. (BS, J&S)

Clarkia unguiculata Lindley. Elegant clarkia. Blue oak woodland. Uncommon. (BS, J&S)

Epilobium brachycarpum C. Presl. Panicled willow-herb. Grasslands. Uncommon. (BS, J&S) [*E. paniculatum* T. & G.]

Epilobium canum (Greene) Raven. California fuschia. Coastal scrub. Local, uncommon. [ssp. *mexicana* (C. Presl) Raven] (BS, J&S)

Epilobium cleistogamum (Curran) P. Hoch & Raven. Cleistogamous spike primrose. Vernal pool. Local, uncommon. (J&S)

Epilobium pygmaeum (Speg.) P. Hoch & Raven. Smooth spike-primrose. Vernal pool. (BS)

Orobanchaceae (Broomrape Family)

Orobanche californica Cham. & Schldl. ssp. ***jepsonii*** (Munz) Heckard. Jepson's broom-rape. Coastal scrub. Local, uncommon. (BS, J&S)

Orobanche uniflora L. Naked broom-rape. Grassland, parasitic on *Saxifraga californica*. Local, uncommon. [var. *minuta* (Suksd.) D. B. Achey] (BS, J&S)

Papaveraceae (Poppy Family)

Eschscholzia californica Cham. California poppy. Grasslands. Widespread, common. (BS, J&S)

Eschscholzia rhombipetala Greene. Diamond-petaled poppy. Grasslands. Restricted to two small occurrences (see Figure 2). CNPS List 1B. (J&S)

Papaver californicum A. Gray. Fire poppy. Grasslands. Local, uncommon. (J&S)

Platystemon californicus Benth. Cream cups. Grasslands. Widespread, common. (BS, J&S)

Stylomecon heterophylla (Benth.) G. C. Taylor. Wind poppy. Moist areas in grasslands. Widespread, common. (BS, J&S)

Plantaginaceae (Plantain Family)

Plantago elongata Pursh. Annual coast plantain. [*Plantago bigelovii* Gray] (BS)

Plantago erecta E. Morris. California plantain. Grasslands, coastal scrub. Widespread, common. (BS, J&S)

Plantago lanceolata L. English plantain. (BS)

Platanaceae (Sycamore Family)

Platanus racemosa Nutt. Western sycamore. (BS)

Polemoniaceae (Phlox Family)

Allophyllum divericatum (Nutt.) A.D. Grant & V. Grant. Straggling gilia. (BS)

Eriastrum pluriflorum (Heller) Mason. Many-flowered eriastrum. Grasslands. Local, uncommon. (BS, J&S)

Gilia capitata Sims ssp. ***staminea*** (Greene) V. Grant. Blue field gilia. Rock outcrops in coastal scrub. Widespread, common. (BS, J&S)

Gilia clivorum (Jeps.) V. Grant. Many-stemmed gilia. Grasslands, coastal scrub. Widespread but uncommon. (J&S)

Gilia tricolor Benth. Bird's-eye gilia. Grasslands. Widespread, common. (BS, J&S)

Linanthus bicolor (Nutt.) Greene. Bicolored linanthus. Coastal scrub. Widespread, common (BS, J&S)

Linanthus dichotomus Benth. Evening snow. Coastal scrub. (BS)

Navarretia nigelliformis Greene. Adobe navarretia. Grasslands. Uncommon. (BS, J&S)

Navarretia pubescens (Benth.) Hook. & Arn. Downy navarretia. Grasslands. Uncommon. (J&S)

Phlox gracilis Hook. Slender phlox. Moist areas in grasslands. Widespread, common. (BS, J&S)

Polygonaceae (Buckwheat Family)

Eriogonum angulosum Benth. Angle-stemmed buckwheat. Open areas in grasslands, coastal scrub. Widespread, common. (BS, J&S)

Eriogonum fasciculatum Benth. var. ***polifolium*** (A. DC.) T. & G. California buckwheat. Coastal scrub. Widespread, common. (BS, J&S)

Eriogonum gracile Benth. Slender woolly wild buckwheat. Grasslands. Uncommon. (J&S)

Eriogonum nudum Benth. var. ***pauciflorum*** Benth. Naked-stemmed buckwheat. Grassland. coastal scrub. Widespread, common. According to Professor James Reveal (pers. comm.), var. *pauciflorum* is a southern California entity, and the *Eriogonum nudum* from the Coast Ranges between Mount Diablo and Santa Barbara County may be an undescribed taxon. He suggested that we treat our material as var. *pauciflorum* until he is able to determine whether it is sufficiently distinct to warrant describing it as a new variety. (BS, J&S)

Eriogonum wrightii Benth. var. ***subscaposum*** Wats. Wright's buckwheat. Coastal scrub. Local, uncommon. (J&S)

Eriogonum wrightii Benth. var. ***trachygonum*** (Benth.) Jeps. Wright's buckwheat. (BS)

****Polygonum arenastrum*** Boreau. Common knotweed. (BS)

Pterostegia drymarioides Fisch. & Mey. Pterostegia. At base of rock outcrops and under shrubs, in blue oak woodland, coastal scrub, and grasslands. Widespread, common. (BS, J&S)

****Rumex conglomeratus*** Murray. Whorled dock. (BS)

****Rumex crispus*** L. Curly dock. Freshwater seep. Local, uncommon. (BS, J&S)

Rumex salicifolius J. A. Weinm. var. ***denticulatus*** Torr. Willow dock. Freshwater seep. Local, uncommon. (BS, J&S)

Portulacaceae (Purslane Family)

Calandrinia ciliata (Ruiz Lopez & Pav.) DC. Red maids. Grasslands, ruderal. Widespread, common. (BS, J&S)

Claytonia exigua T. &. G. Common montia. Rock outcrops. Local, uncommon. [*C. spathulata* Dougl. var. *exigua* (T. & G.) Robinson and var. *tenuifolia* (T. & G.) Munz] (BS, J&S)

Claytonia parviflora Hook. var. ***parviflora***. Narrow-leaved miner's lettuce. Blue oak woodland. Widespread but uncommon. (BS, J&S)

Claytonia perfoliata Willd. Miner's lettuce. Blue oak woodland, coastal scrub. Widespread, common. (BS, J&S)

Claytonia rubra (Howell) Tidestrom. Red miner's lettuce. Grasslands. Uncommon. (J&S)

Primulaceae (Primrose Family)

Androsace elongata L. ssp. ***acuta*** (Greene) G. Robb. California androsace. Moss-covered rock outcrops and open areas in adjacent grassland. Widespread and common, but restricted to highly localized microhabitat sites (see Figure 2). CNPS List 4. (BS, J&S)

Dodecatheon hendersonii Gray. Mosquito bills. Grasslands. Locally common. (BS, J&S)

Ranunculaceae (Buttercup Family)

Delphinium gypsophilum Ewan ssp. ***gypsophilum***. Gypsum-loving larkspur. Grasslands. Restricted to several occurrences along the east side of Site 300 (see Figure 2). CNPS List 4. (BS; J&S)

Delphinium hesperium Gray. Western larkspur. (BS)

Delphinium hesperium Gray ssp. ***pallescens*** (Ewan) H. Lewis & Epling. Pale western larkspur. Blue oak woodland, grasslands. Common. (J&S)

Delphinium parryi Gray. Parry's larkspur. Blue oak woodland, grasslands. Common. (J&S)

Delphinium patens Benth. Coastal scrub, oak woodland. Spreading larkspur. Widespread, common. (BS, J&S)

Ranunculus canus Benth. Sacramento Valley buttercup. Grasslands. Local, uncommon. [var. *laetus* (Greene) Benson] (BS, J&S)

Ranunculus hebecarpus Hook. & Arn. Pubescent-fruited buttercup. (BS)

**Ranunculus muricatus* L. Prickle-fruited buttercup. Wetlands. Uncommon. (J&S)

Ranunculus sceleratus L. Celery-leaved buttercup. (BS)

Rosaceae (Rose Family)

Aphanes occidentalis (Nutt.) Rydb.. Western ladies'-mantle. Grasslands, oak woodland. Widespread but uncommon. (BS, J&S)

Heteromeles arbutifolia (Lindley) Roemer. Toyon. Blue oak woodland. Local, uncommon. (BS, J&S)

Prunus virginiana L. var. *demissa* (Nutt.) Torr. Western choke-cherry. Elderberry scrub. Local, uncommon. (BS, J&S)

Rubus leucodermis Torr. & Gray. Blackcap raspberry. (BS)

Rubus ursinus Cham. & Schldl. California blackberry. Elderberry scrub. Local, uncommon. (J&S)

Rubiaceae (Madder Family)

Galium aparine L. Common bedstraw. Blue oak woodland, grasslands. Widespread but uncommon. (BS, J&S)

**Galium parisiense* L. Wall bedstraw. Ruderal, grasslands. Widespread but uncommon. (J&S)

Galium porrigens Dempster var. *tenue* (Dempster) Dempster. Climbing bedstraw. Blue oak woodland. Local, uncommon. (BS, J&S)

Salicaceae (Willow Family)

Populus fremontii Wats. Fremont cottonwood. Fremont cottonwood riparian forest, valley oak woodland. Local, uncommon. (BS, J&S)

Salix laevigata Bebb. Red willow. Great Valley willow scrub, Fremont cottonwood riparian forest . Local, uncommon. (BS, J&S)

Salix lasiolepis Benth. Arroyo willow. Great Valley willow scrub. Local, uncommon. (J&S)

Saxifragaceae (Saxifrage Family)

Lithophragma affine Gray. Woodland star. (BS)

Lithophragma parviflorum (Hook.) Torrey & A. Gray var. ***parviflorum***. Moist areas in grasslands. Widespread, common. (J&S)

Saxifraga californica Greene. California saxifrage. Moist areas in grasslands. Widespread, common. (BS, J&S)

Scrophulariaceae (Figwort Family)

Castilleja attenuata (Gray) Chuang & Heckard. Valley tassels. Grasslands. Local, uncommon. [*Orthocarpus attenuatus* Gray] (BS, J&S)

Castilleja exerta (Heller) Chuang & Heckard. Purple owl's-clover. Grasslands, coastal scrub, blue oak woodland. Widespread, common. [*Orthocarpus purpurascens* Benth.] (BS, J&S)

Castilleja foliolosa Hook. & Arn. Ash-grey Indian paintbrush. Coastal scrub. Local, uncommon. (BS, J&S)

Collinsia heterophylla Buist. Chinese houses. Blue oak woodland. Locally common. (BS, J&S)

Collinsia sparsiflora Fisch. & Mey. Few-flowered blue-eyed Mary. (BS)

Collinsia sparsiflora Fisch. & Mey. var. ***collina*** (Jeps.) V. Newsom. Remote-flowered blue-eyed Mary. Rock outcrops and open, moist areas in grasslands. Widespread, common. (BS, J&S)

Linaria canadensis (L.) Dum.-Cours. Blue toadflax. [*L. texana* Scheele] (BS)

Mimulus aurantiacus Curtis. Bush monkey flower. Elderberry scrub. Local, uncommon. (BS, J&S)

Mimulus guttatus DC. Seep-spring monkey flower. Freshwater seep, vernal pool. Uncommon. [*M. nasutus* Greene] (BS, J&S)

Mimulus latidens (Gray) Greene. Broad-toothed monkey flower. (BS)

Scrophularia californica Cham. & Schldl. California figwort. Rock outcrops in blue oak woodland, elderberry scrub. Local, uncommon. (BS, J&S)

Veronica peregrina L. ssp. ***xalapensis*** (Kunth) Pennel. Purslane speedwell. Vernal pool. Local, uncommon. (BS, J&S)

Solanaceae (Nightshade Family)

Datura wrightii Regel. Jimson weed. Ruderal, Great Valley willow scrub. Uncommon. (J&S)

****Nicotiana acuminata*** Hook. var. ***multiflora*** (Philippi) Reiche. Many-flowered tobacco. Freshwater seep. Uncommon. (J&S)

****Nicotiana glauca*** Graham. Tree tobacco. Along streams. Local, uncommon. (BS, J&S)

Nicotiana quadrivalvis Pursh. Indian tobacco. [*N. bigelovii* (Torr.) Wats.] (BS)

Solanum americanum Miller. Small-flowered nightshade. Ruderal. Uncommon. [*S. nodiflorum* Jacq.] (BS, J&S)

Solanum umbelliferum Eschsch. Blue witch. Grasslands. Uncommon. (BS, J&S)

Urticaceae (Nettle Family)

Hesperocnide tenella Torr. Western nettle. Rock outcrops in grasslands, coastal scrub. Local, uncommon. (BS, J&S)

Urtica dioica L. subsp. ***holosericea*** (Nutt.) Thorne. Hoary nettle. Freshwater seep. Local, uncommon. (BS, J&S)

****Urtica urens*** L. Dwarf nettle. Ruderal, blue oak woodland. Local, uncommon. (BS, J&S)

Valerianaceae (Valerian Family)

Plectritis brachystemon Fischer & C. Meyer. Short-spurred plectritis. Moist areas in grasslands. Local, uncommon. (J&S)

Plectritis ciliosa (Greene) Jeps. subsp. ***insignis*** (Susksd.) D. Morey. Long-spurred plectritis. Blue oak woodland, grasslands. Widespread but uncommon. (BS, J&S)

Plectritis congesta (Lindley) A. DC. Pink plectritis. (BS)

Plectritis macrocera Torrey & A. Gray. White plectritis. Grasslands. Local, uncommon. (J&S)

Verbenaceae (Vervain Family)

Verbena bracteata Lagasca & J.D. Rodriguez. Prostrate vervain. Vernal pool. Local, uncommon. (J&S)

Violaceae (Violet Family)

Viola pedunculata T. &. G. Johnny jump-up. Grasslands. Local, uncommon. (J&S)

Viola purpurea Kell. ssp. ***quercetorum*** (M. Baker & J. Clausen) R. J. Little. Foothill violet. [*V. quercetorum* M. Baker & J. Clausen] (BS)

Viscaceae (Mistletoe Family)

Phoradendron villosum (Nutt.) Nutt. Oak mistletoe. Blue oak woodland. Local, uncommon. (BS, J&S)

Vitaceae (Grape Family)

Vitus californica Benth. California wild grape. Along stream in blue oak woodland. Local, uncommon. (J&S)

Anthophyta--Monocotyledones

Cyperaceae (Sedge Family)

Cyperus eragrostis Lam. Umbrella sedge. Vernal pool. Local, uncommon. (BS, J&S)

Eleocharis macrostachya Britton. Creeping spikerush. Vernal pool. Local, uncommon. [*E. palustris* (L.) Roemer & Schultes] (BS, J&S)

Scirpus acutus Bigelow. Hard-stem bulrush. (BS)

Scirpus fluviatilis (Torr.) Gray. River bulrush. (BS)

Iridaceae (Iris Family)

Sisyrinchium bellum Wats. Blue-eyed grass. Grasslands. Local, uncommon. (J&S)

Juncaceae (Rush Family)

Juncus balticus Willd. Baltic rush. Freshwater seep. Local, uncommon. (BS, J&S)

Juncus bufonius L. Toad rush. Freshwater seep. Local, uncommon. (BS, J&S)

Juncus occidentalis (Cov.) Wieg. Western rush. [*Juncus tenuis* Willd. var. *congestus* Engelm.] (BS)

Juncus oxymeris Engelm. Pointed rush. (BS)

Juncus patens E. Meyer. Spreading rush. Freshwater seep. Local, uncommon. (BS, J&S)

Juncus xiphioides E. Meyer. Iris-leaved rush. Freshwater seep. Local, uncommon. (J&S)

Juncaginaceae (Arrowgrass Family)

Lilaea scilloides (Poiret) Hauman. Flowering quillwort. Vernal pool. Local, uncommon. (BS, J&S)

Lemnaceae (Duckweed Family)

Lemna miniscula Herter. Least duckweed. [*L. minuta* Kunth] (BS)

Liliaceae (Lily Family)

Allium crispum Greene. Crinkled onion. Grasslands. Local, uncommon. (BS, J&S)

Allium serra D. McNeal & F. Ownbey. Serrated onion. Grasslands, blue oak woodland. Widespread, common. [*A. serratum* Wats.] (BS, J&S)

Brodiaea elegans Hoover. Harvest brodiaea. Grasslands. Common. (BS, J&S)

Calochortus clavatus Wats. ssp. ***pallidus*** (Hoov.) Munz. Mariposa lily. Grasslands. Uncommon. (BS, J&S)

Calochortus venustus Benth. Mariposa lily. Grasslands. Uncommon. (BS, J&S)

Chlorogalum pomerideanum (DC.) Kunth. Soap plant. Grasslands. Widespread, common (BS, J&S)

Dichelostemma capitata Alph. Wood. Blue dicks. Grasslands, blue oak woodland. Widespread, common. Rolf Berg (1996) argues that this species should be treated as *Dipterostemon capitatus* (Benth.) Rydb. on the basis of its distinctive embryogenesis. [*D. pulchellum* (Salisb.) Heller] (BS, J&S)

Fritillaria agrestis Greene. Stinkbells. Grasslands. Local, uncommon (see Figure 2). CNPS list 4. (BS, J&S)

Triteleia hyacinthina (Lindley) Greene. White hyacinth. Grasslands. Uncommon. (BS, J&S)

Triteleia laxa Benth. Ithuriel's spear. Grasslands, blue oak woodland, coastal scrub. Widespread, common. (BS, J&S)

Poaceae (Grass Family)

Alopecurus carolinianus Walter. Carolina foxtail. Vernal pool. Local, uncommon. (J&S)

Alopecurus saccatus Vasey. Pacific foxtail. Vernal pool. Local, uncommon. [*A. howellii* Vasey] (BS, J&S)

****Avena barbata*** Link. Slender wild oat. Grasslands, coastal scrub, blue oak woodland. Widespread, common. (BS, J&S)

****Avena fatua*** L. Wild oat. Grasslands. Widespread but uncommon. (BS, J&S)

****Bromus arenarius*** Labill. Australian brome. Grasslands. Uncommon. (BS, J&S)

Bromus carinatus Hook. & Arn. California brome. Blue oak woodland, grasslands. Local, uncommon. [*B. marginatus* Steudel] (BS, J&S)

****Bromus diandrus*** Roth. Ripgut brome. Grasslands, coastal scrub, blue oak woodland. Widespread, common. (BS, J&S)

****Bromus hordeaceus*** L. Soft chess. Grasslands, coastal scrub, blue oak woodland. Widespread, common. [*B. mollis* L., *B. molliformis* Godron] (BS, J&S)

****Bromus japonicus*** Murr. Japanese brome. (BS)

****Bromus madritensis*** L. subsp. ***madritensis***. Foxtail chess. Grasslands, blue oak woodland. Widespread but uncommon. (BS, J&S)

****Bromus madritensis*** L. subsp. ***rubens*** (L.) Husnot. Red brome. Grasslands, coastal scrub, blue oak woodland. Widespread, common. [*B. rubens* L.] (BS, J&S)

****Bromus sterilis*** L. Poverty brome. (BS)

****Bromus tectorum*** L. Cheat grass. Grasslands. Uncommon. (BS, J&S)

****Crypsis schoenoides*** (L.) Lam. Swamp timothy. Vernal pool. Local, uncommon. (J&S)

****Cynodon dactylon*** (L.) Pers. Bermuda grass. Freshwater seep, ruderal. Local, uncommon. (J&S)

Deschampsia danthonioides (Trin.) Benth. Annual hairgrass. Vernal pool. Local, uncommon. (BS, J&S)

Distichlis spicata (L.) Greene. Saltgrass. Grasslands, Freshwater seep. Local, uncommon. [var. *stricta* (Torr.) Beetle] (BS, J&S)

Elymus elymoides (Raf.) Swezey. Squirreltail. [*Sitanion hystrix* (Nutt.) J. G. Smith] (BS)

Elymus glaucus Buckley. Blue wildrye. Oak woodlands. Local, uncommon. (BS, J&S)

Elymus multisetus (J. G. Smith) Davy. Big squirreltail. Grasslands, blue oak woodland. Common. [*Sitanion jubatum* J. G. Smith] (BS, J&S)

****Gastridium ventricosum*** (Gouan) Schinz & Thell. Nitgrass. Grasslands. Local, uncommon. (J&S)

Hordeum depressum (Scribner & J. G. Smith) Rydb. Low barley. Swale in grasslands. Local, uncommon. (BS, J&S)

****Hordeum marinum*** Hudson ssp. ***gussoneanum*** (Parl.) Thell. Mediterranean barley. Vernal pool. Local, uncommon. [*H. geniculatum* All.] (BS, J&S)

****Hordeum murinum*** L. ssp. ***leporinum*** (Link) Arcang. Foxtail barley. Grasslands. Widespread, common. [*H. leporinum* Link] (BS, J&S)

Koeleria macrantha (Ledeb.) J. A. Schultes. Prairie junegrass. Grasslands. Local, uncommon. [*K. cristata* (L.) Pers., *K. nitida* Nutt.] (BS, J&S)

****Koeleria phleoides*** (Villars) Pers. Bristly junegrass. Open, thin-soiled areas in grasslands, coastal scrub. Local, uncommon. [*K. gerardii* (Villars) Shinners] (BS, J&S)

****Lamarckia aurea*** (L.) Moench. Goldentop. Coastal scrub. Widespread but uncommon. (BS, J&S)

Leymus triticoides (Buckley) Pilger. Creeping wildrye. Grasslands, freshwater seep. Common. [*Elymus triticoides* Buckley] (BS, J&S)

****Lolium multiflorum*** Lam. Italian ryegrass. Grasslands, vernal pool. Common. (BS, J&S)

****Lolium perenne*** L. Perennial ryegrass. Swale in grasslands. Local, uncommon. (J&S)

Melica californica Scribner. California melic. Rock outcrops in grasslands, blue oak woodland. Local, uncommon (BS, J&S)

Nassella cernua (Stebbins & Love) Barkworth. Nodding needlegrass. Grasslands. Common. [*Stipa cernua* Stebbins & Love] (BS, J&S)

Nassella pulchra (A. Hitchc.) Barkworth. Purple needlegrass. Grasslands. Common. [*Stipa pulchra* A. Hitchc.] (BS, J&S)

****Phalaris paradoxa*** L. Paradox canary grass. Swale in grasslands; Local, uncommon. (J&S)

****Poa annua*** L. Annual bluegrass. Grasslands. Local, uncommon. (BS, J&S)

****Poa bulbosa*** L. Bulbous bluegrass. Grasslands. Local, uncommon. (BS, J&S)

Poa secunda J. S. Presl. One-sided bluegrass. Grasslands. Widespread, common. [*P. scabrella* (Thurb.) Vasey] (BS, J&S)

****Polypogon interruptus*** Kunth. Ditch beard grass. Freshwater seep. Local, uncommon. (BS, J&S)

****Polypogon monspeliensis*** (L.) Desf. Annual rabbit's-foot grass. Freshwater seep, vernal pool. Local, uncommon. (BS, J&S)

****Schismus arabicus*** Nees. Arabian grass. Rock outcrops in grasslands, ruderal. Widespread but uncommon. (BS, J&S)

****Schismus barbatus*** (L.) Thell. Mediterranean grass. Coastal scrub. Widespread but uncommon. (J&S)

****Taeniatherum caput-medusae*** (L.) Nevski. Medusa-head. (BS)

****Vulpia bromoides*** (L.) S. F. Gray. Foxtail fescue. Grasslands. Uncommon. (J&S)

Vulpia microstachys (Nutt.) Benth. var. ***ciliata*** (Beal) Leonard & Gould. Ciliate fescue. Blue oak woodland, grasslands. Widespread but uncommon. (J&S)

Vulpia microstachys (Nutt.) Benth. var. ***confusa*** (Piper) Leonard & Gould. Hairy-leaved fescue. Grasslands. Widespread but uncommon. (BS, J&S)

Vulpia microstachys (Nutt.) Benth. var. ***pauciflora*** (Beal) Leonard & Gould. Few-flowered fescue. Grasslands. Widespread but uncommon. (BS, J&S)

****Vulpia myuros*** (L.) C. Gmelin. Rattail fescue. Grasslands. Widespread but uncommon. (BS, J&S)

Vulpia octoflora (Walter) Rydb. var. ***hirtella*** (Piper) Henrard. Eight-weeks fescue. Coastal scrub. Local, uncommon. (BS, J&S)

Potamogetonaceae (Potamogeton Family)

**Potamogeton crispus* L. Crispate-leaved pondweed. (BS)

Typhaceae (Cattail Family)

Typha angustifolia L. Narrow-leaved cattail. Cattail wetland, freshwater seep. Local, uncommon. (BS, J&S)

Typha domingensis Pers. Southern cattail. (BS)

Typha latifolia L. Broad-leaved cattail. Cattail wetland, freshwater seep. Local, uncommon. (BS, J&S)

Excluded Species

BioSystems' survey included a number of taxa from Site 300 that appear to be erroneously reported. These taxa include:

Alyssum alyssoides (L.). This species does not occur in central western California; possibly a misidentification of erect-fruited *Lepidium nitidum* T. & G.

Fritillaria bicolor Lindley. Misidentification of *Fritillaria agrestis* Greene.

Gilia capitata Sims ssp. *abrotanifolia* (Greene) V. Grant. This is a southern California subspecies; probably a misidentification of ssp. *staminea*.

Hordeum pusillum Nutt. This is a synonym of *H. intercedens* Nevski, a southern California species; possibly a misidentification of *H. depressum*.

Lagophylla glandulosa Gray. This is a late summer- to fall-blooming species that does not occur in central western California; probably a misidentification of *Lagophylla ramosissima*.

Plagiobothrys hystriculus (Piper) Jtn. This species, which is presumed to be extinct, is endemic to Solano County; possibly a misidentification of *Plagiobothrys acanthocarpus* (Piper) Jtn.

Plagiobothrys tener (Greene) Jtn. This species does not occur in central western California; possibly a misidentification of *Plagiobothrys trachycarpus* (Gray) Jtn. or a typographic error for *P. tenellus* (Nutt.) Gray.

Plantago eriopoda Torr. This species does not occur in central western California; possibly a misidentification of *Plantago lanceolata*.

Poa palustris L. This is a montane species that does not occur in central western California; possibly a misidentification of *Poa pratensis* L.

Ribes divericatum Dougl. This species is coastal and does not occur in the interior foothills; probably a misidentification of *R. quercetorum* Greene.

Thelypodium lemmonii Greene. This species occurs in the central to southern South Coast Ranges but not as far north as Alameda County. Probably a misidentification of *Guillenia flavescens*.

Triteleia elegans. This is not a valid name; probably a typographic error for *Brodiaea elegans*.

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Attachment 2.2 – Livermore Site (from Jones & Stokes 2002a)

Table B-2. Checklist of Plant Species Observed in Arroyo Seco, Lawrence Livermore National Laboratory, June 27, 2002

Scientific Name	Common Name
Aesculus californica	California buckeye
Artemisia douglasiana	mugwort
Artemisia californica	California sagebrush
Avena fatua	wild oat
Baccharis salicifolius	mulefat
Bromus diandrus	ripgut brome
Bromus catharticus	rescue brome
Carduus pycnocephalus	Italian thistle
Carpobrotus sp.	ice-plant
Cirsium vulgare	bull thistle
Cynodon dactylon	Bermuda grass
Cyperus eragrostis	umbrella sedge
Epilobium canum	California fuschia
Epilobium brachycarpum	panicled willow-herb
Epilobium ciliatum	hairy willow-herb
Eschscholzia californica	California poppy
Euphorbia spathulata	reticulate-seeded spurge
Foeniculum vulgare	sweet fennel
Geranium dissectum	cut-leaved geranium
Grindelia camporum	Great Valley gumplant
Heliotropium curassavicum	salt heliotrope
Hirschfeldia incana	Mediterranean mustard
Hordeum murinum subsp. *leporinum*	foxtail barley
Juglans sp.	black walnut
Lactuca serriola	prickly lettuce
Lepidium latifolium	perennial peppercress
Leymus triticoides	creeping wildrye
Ligustrum lucidum	glossy privet

Table B-2. Continued

Scientific Name	Common Name
Lolium multiflorum	Italian ryegrass
Malva sp.	cheeseweed
Marrubium vulgare	horehound
Nicotiana glauca	tree tobacco
Oxalis corniculatus	creeping wood sorrel
Panicum capillare	witchgrass
Paspalum dilatatum	Dallisgrass
Piptatherum miliaceum	smilo grass
Plantago lanceolata	English plantain
Polypogon monspeliensis	annual rabbit's-foot grass
Prunus dulcis	almond
Pyracantha sp.	firethorn
Quercus sp.	oak
Raphanus sativus	wild radish
Rumex salicifolius var. *denticulatus*	willow dock
Rumex crispus	curly dock
Salix lasiolepis	arroyo willow
Senecio vulgaris	common groundsel
Silybum marianum	milk thistle
Sonchus oleraceus	common sow-thistle
Tragopogon porrifolius	salsify
Urtica dioica subsp. *holosericea*	hoary nettle
Vitis vinifera	cultivated grape
Xanthium strumarium	common cocklebur