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The Weed Flora of California: A Checklist

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THE WEED FLORA OF CALIFORNIA: A CHECKLIST

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*"What is a weed?
A plant whose virtues have not yet been discovered."
(Ralph Waldo Emerson)*

*"A weed is more than a flower in disguise."
(James Russell Lowell)*

*"Whatever countries beyond the seas we may visit, in the temperate regions of the globe, we find that their vegetation has been invaded, and in many cases profoundly modified by immigrant plants from other countries..."
(Sir Joseph Dalton Hooker)*

INTRODUCTION

The word itself comes from *woēd*, Old English for an herb or grass. It is also applied to articles of clothing, as a common name for marijuana, and as an act of removing unwanted plants, etc.

A plant is typically considered a weed if it: (1) thrives outside its natural range; (2) appears without being planted or cultivated; (3) grows where we don't want it to grow; (4) is not easily controlled or eradicated; (5) interferes with agriculture, horticulture, and other human activity; (6) out competes for light, nutrients, etc. and replaces the native flora; (7) appears to be useless or undesirable; and (8) it is ugly.

Weeds also tend to exhibit a syndrome of biological traits, including the ability to: (1) reproduce sexually and/or asexually; (2) germinate early in the season; (3) produce a large number of seeds; (4) germinate, thrive, and set seed in diverse, and especially disturbed habitats; (5) be unpalatable or even toxic to herbivores; and (6) persist from year to year, sometimes via seed banks in the soil.

Many of the plants that we encounter in our daily lives are often weeds or ornamentals. Think of the fields of bright yellow weedy mustards in our early spring flora. We also plant them to prevent or retard erosion.

Who decides whether a particular plant is a weed? As is so often the case, it depends on who you ask. Everyone from a homeowner tending a garden or lawn to the federal government has an opinion. Of course, we rely on the expert opinion of botanists, agronomists, and horticulturists. There are also professional organizations, such as the California Weed Science Society and the Weed Science Society of America. The WSSA has identified 2847 weedy species.

It is worth noting that not all of our weeds are alien to California. Of the 693 species listed in Robbins et al. (1970), 256 (37%) were indigenous. Although this list deals only with vascular plants (lycophytes, ferns, conifers, and flowering plants), a few algal species have also been recognized as weeds.

Generic names used by the U. S. Department of Agriculture and the California Department of Food and Agriculture are shown in parentheses when they differ from currently accepted nomenclature.

SOURCES

The United States Department of Agriculture. Under the provisions of the 1974 Federal Noxious Weed Act of 1974, the Secretary of Agriculture is authorized to declare that a plant is, to use its legal title, a noxious weed, which is defined as "... any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment." [Coded as 1]

There can be economic impact on property owners where these noxious weeds occur. They may be required to eradicate the plants and can be fined if they fail to do so. If you move a federal noxious weed from one location to another, you can be fined up to \$1000, imprisoned for up to one year, or both.

The California Department of Food and Agriculture. Under California law, the director may designate "... any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation ... to be a noxious weed. In determining whether or not a species shall be designated a noxious weed for the purposes of protecting silviculture or important native plant species, the director shall not make that designation if the designation will be detrimental to agriculture." [Coded as 2]

The California Invasive Plant Council. The Cal-IPC was formed in 1992. Its mission "... is to protect California's lands and waters from ecologically-damaging invasive plants through science, education and policy." Its inventory includes not only plants that currently cause damage in California, but those that are likely to become invasive. [Coded as 3]

The Invasive Species Council of California. The ISCC was established in 2009 as an interagency state council. It defines an invasive species as "non-native organisms which cause economic or environmental harm." Humans, domestic livestock and non-harmful exotic organisms are excluded. [Coded as 4]

Weeds of California and Other Western States. This two volume comprehensive treatment by Joseph M. DiTomaso and Evelyn A. Healy contains detailed descriptions and outstanding photographs, many of them very useful close-ups. [Coded as 5]

Most of the plants derived from these sources are common. A few are known from only one or a few sites, and others have not been collected in

recent years. I have included plants placed on "watch lists," but have excluded those not known to be currently present in California.

The criteria used by the U. S. D. A. and the C. D. F. A. clearly emphasize a plants negative economic impact on agriculture. Other entities used harm to the environment, especially to natural areas.

I have taken the liberty of adding some plants based on my own botanical peregrinations. My view of weediness is conceptually similar to the authors of sources 3 through 5. I should admit that I am more familiar with the plants in northwestern California and that I have an inordinate fondness for grasses, even the weedy ones. [Coded as 6]

Alternative generic names, either from the traditional literature or recent publications, are shown in parentheses.

NUMERICAL CONSPECTUS

Source	Number of Plants*
United States Dept. of Agriculture	33
California Dept. of Food & Agriculture	179
California Invasive Plant Council	301
Invasive Species Council of California	372
DiTomaso & Healy	406
JPS (not on other lists)	13

* Includes plants on watch lists, but excludes non-vasculars and species not currently known to be present in California.

CALIFORNIA WEEDS

FERNS

Ceratopteris thalictroides • water sprite • 2
Equisetum arvense • field horsetail • 5
Equisetum hyemale • scouring-rush • 5
Pteridium aquilinum • bracken fern • 5
Salvinia molesta • giant salvinia, kariba weed • 1, 4

CONIFERS

Cupressus macrocarpa • Monterey cypress • 3
Juniperus occidentalis • western juniper • 5
Pinus radiata (cultivars) • Monterey pine • 3

FLOWERING PLANTS

Aizoaceae — Ice Plant Family

Carpobrotus chilensis • ice plant, sea-fig • 3
Carpobrotus edulis • Hottentot-fig, ice plant • 3, 4, 5
Conicosia pugioniformis • narrow-leaved ice plant • 3, 4
Malephora crocea • coppery mesembryanthemum • 4
Mesembryanthemum crystallinum • crystalline ice plant • 3, 4
Mesembryanthemum nodiflorum • slender-leaved ice plant • 3
Tetragonia tetragonioides • New Zealand-spinach • 3

Amaranthaceae — Pigweed Family

Alternanthera philoxeroides • alligator weed • 1, 2, 3, 4
Amaranthus albus • tumble pigweed • 4, 5
Amaranthus blitoides • prostrate pigweed • 5
Amarnathus deflexus • low amaranth • 5
Amaranthus hybridus • slim amaranth • 4, 5
Amaranthus retroflexus • red-rooted amaranth • 4
Atriplex amnicola • river saltbush • 2
Atriplex rosea • red orach • 5
Atriplex semibaccata • Australian salt bush • 3, 4, 5
Bassia hyssopifolia • five-hooked bassia • 3, 4, 5
Beta vulgaris • wild beet • 5
Chenopodium album • common lamb's-quarters • 5
Chenopodium ambrosioides • Mexican tea • 5
Halogeton glomeratus • halogeton • 2, 3, 4, 5
Kochia scoparia • kochia • 3, 4, 5
Salsola collina • spineless Russian thistle • 2, 5
Salsola damascena • worm-leaved salsola • 2

Salsola paulsenii • barbwire Russian thistle • 2, 3, 4, 5
Salsola ryanii • Ryan's Russian thistle • 3
Salsola soda • opposite-leaved Russian thistle • 3, 4
Salsola tragus • common Russian thistle • 2, 3, 4, 5

Amaryllidaceae — Onion Family

Allium paniculatum • paniced onion • 2, 4
Allium triquetrum • three-cornered leek • 5
Allium vineale • wild-garlic • 2, 4, 5
Nothoscordum inodorum • false garlic • 4, 5

Anacardiaceae — Cashew Family

Schinus molle • Peruvian pepper tree • 3, 4, 5
Schinus terebinthifolius • Brazilian pepper tree • 3, 4, 5
Toxicodendron diversilobum • Pacific poison-oak • 5

Apocynaceae — Dogbane Family

Araujia sericifera • bladder flower • 2, 4, 5
Catharanthus roseus • periwinkle • 3
Nerium oleander • oleander • 4
Vinca major • big periwinkle • 3, 4, 5

Aquifoliaceae — Holly Family

Ilex aquifolium • English holly • 3, 4, 5

Araceae — Philodendron or Aroid Family

Colocasia esculenta • coco-yam • 3
Zantedeschia aethiopica • calla-lily • 3, 4

Araliaceae — Ginseng Family

Hedera canariensis • Algerian ivy • 3, 4
Hedera helix • English ivy • 3, 4, 5

Asparagaceae — Hyacinth or Asparagus Family

Asparagus asparagoides • bridal creeper • 3, 4
Cordyline australis • giant dracaena • 3, 4

Asphodelaceae — Day-Lily Family

Asphodelus fistulosus • onion weed • 1, 2, 3, 4, 5
Kniphofia uvaria • red hot poker • 3

Berberidaceae — Barberry Family

Berberis darwinii • Darwin's barberry • 3

Boraginaceae — Borage Family

Amsinckia menziesii var. *intermedia* • coast fiddleneck • 5

Amsinckia menziesii var. *menziesii* • Menzies' fiddleneck • 5
Anchusa arvensis • annual bugloss • 4
Anchusa officinalis • common bugloss • 4
Cynoglossum officinale • hound's-tongue • 3, 4, 5
Echium candicans • pride-of-Madeira • 3, 4, 5
Echium plantagineum • Paterson's curse • 4, 5
Heliotropium amplexicaule • clasping heliotrope • 3
Heliotropium curassavicum • seaside heliotrope • 5
Heliotropium europaeum • European heliotrope • 5
Myosotis latifolia • broad-leaved forget-me-not • 3, 4, 5
Symphytum asperum • rough or prickly comfrey • 2, 4, 5
Symphytum officinale • common comfrey • 5

Buddlejaceae — Summer-Lilac Family

Buddleja davidii • summer-lilac, butterfly bush • 4

Cabombaceae — Fanwort Family

Cabomba caroliniana • Carolina fanwort • 2, 4

Cannabaceae — Hemp Family

Cannabis sativa • marijuana, pot, weed • 5

Caryophyllaceae — Carnation or Pink Family

Cerastium fontanum • mouse-eared chickweed • 5
Cerastium glomeratum • sticky chickweed • 5
Drymaria cordata • tropical chickweed • 2
Gypsophila paniculata • baby's-breath • 4, 5
Sagina apetala • dwarf pearlwort • 5
Saponaria officinalis • bouncing bet • 3, 4, 5
Silene gallica • English catchfly • 5
Silene latifolia ssp. *alba* • bladder campion • 4
Stellaria media • common chickweed • 4, 5

Casuarinaceae — Beefwood Family

Casuarina equisetifolia • Australian-pine • 3

Celastraceae — Bittersweet Family

Maytenus boaria • mayten • 4

Commelinaceae — Spiderwort Family

Commelina benghalensis • Bengal dayflower • 1, 4

Compositae (Asteraceae) — Sunflower Family

Acroptilon repens • Russian knapweed • 2, 3, 4, 5
Ageratina adenophora • Crofton weed • 1, 3, 4
Ambrosia acanthocarpa • annual bur sage • 5

Ambrosia artemisifolia • ragweed • 4
Ambrosia trifida • giant ragweed • 2, 4, 5
Anthemis arvensis • scentless chamomile • 4
Anthemis cotula • May weed • 4, 5
Arctium minus • common burdock • 4
Arctotheca calendula • capeweed • 1, 2, 3, 4, 5
Arctotheca prostrata • prostrate capeweed • 3
Artemisia absinthium • wormwood • 4
Artemisia tridentata • big sagebrush • 5
Aster subulatus • slender aster • 5
Bellis perennis • lawn or English daisy • 5
Bidens pilosa • hairy beggar's-ticks • 5
Carduus acanthoides • plumeless thistle • 2, 3, 4, 5
Carduus nutans • musk thistle • 2, 3, 4, 5
Carduus pycnocephalus • Italian thistle • 2, 3, 4, 5
Carduus tenuiflorus • slender-flowered thistle • 2, 3, 4, 5
Carthamus creticus • smooth distaff thistle • 2, 4
Carthamus lanatus • woolly distaff thistle • 2, 3, 4
Carthamus leucocaulos • white-stemmed distaff thistle • 2, 4
Carthamus oxyacantha • jeweled distaff thistle • 1, 4
Centaurea biebersteinii • spotted knapweed • 5
Centaurea calcitrapa • purple star thistle • 2, 3, 4
Centaurea cyanus • bachelor's button, corn flower • 6
Centaurea debeuaxii • meadow knapweed • 4
Centaurea diffusa • diffuse knapweed • 2, 3, 4, 5
Centaurea diluta • North American knapweed • 3
Centaurea iberica • Iberian star thistle • 2, 4, 5
Centaurea jacea • brown knapweed • 2, 4
Centaurea melitensis • tocalote • 2, 3, 4, 5
Centaurea solstitialis • yellow star thistle • 2, 3, 4, 5
Centaurea stoebe ssp. *micranthos* • spotted knapweed • 2, 4
Centaurea sulphurea • Sicilian knapweed • 2, 4, 5
Centaurea virgata ssp. *squarrosa* • squarrose knapweed • 5
Chondrilla juncea • skeletonweed • 2, 3, 4, 5
Chrysanthemoides moniliflora ssp. *moniliflora* • brother berry • 3
Chrysanthemum coronarium • crown daisy • 3, 4
Cichorium intybus • chicory • 4, 5
Cirsium arvense • Canada thistle • 2, 3, 4, 5
Cirsium japonicum • Japanese thistle • 2
Cirsium ochrocentrum • yellow-spined thistle • 2, 4, 5
Cirsium undulatum • wavy-leaved thistle • 2, 4, 5
Cirsium vulgare • bull thistle • 2, 3, 4, 5
Conyza bonariensis • asthma weed • 4, 5
Conyza canadensis • horse weed • 5
Cotula coronopifolia • brass buttons • 3, 4, 5
Crepis capillaris • smooth hawk's-beard • 5

Crupina vulgaris • bearded creeper • 1, 2, 3, 4, 5
Cynara cardunculus ssp. *flavescens* • artichoke thistle • 2, 3, 4, 5
Delairea odorata • Cape ivy, German ivy • 2, 3, 4, 5
Dittrichia graveolens • stinkwort • 2, 3, 4
Erechtites glomerata • Australian fireweed • 3, 4, 5
Erechtites minima • Australian burnweed • 3, 4, 5
Erigeron karvinskianus • Mexican daisy • 4
Galinsoga parviflora • small-flowered galinsoga • 5
Galinsoga quadriradiata • hairy galinsoga • 5
Gazania linearis • treasure flower • 3
Glebionis (Chrysanthemum) coronaria • crown daisy • 3, 4
Gnaphalium luteo-album • everlasting cudweed • 5
Gnaphalium purpureum • purple cudweed • 5
Grindelia squarrosa • curly-cupped gumweed • 5
Helianthus annuus • common sunflower • 5
Helianthus ciliaris • blueweed • 2, 4, 5
Helianthus tuberosus • Jerusalem-artichoke • 3
Helichrysum petiolare • licorice plant • 3, 4
Helminthotheca echioides • bristly ox-tongue • 3, 4, 5
Heterozia pungens • spike weed • 5
Heterotheca grandiflora • telegraph plant • 5
Hieracium aurantiacum • orange hawkweed • 5
Holocarpha virgata • virgate tarweed • 5
Hypochaeris glabra • smooth cat's-ear • 3, 4, 5
Hypochaeris radicata • rough cat's-ear • 3, 4, 5
Lactuca saligna • willow-leaved lettuce • 5
Lactuca serriola • prickly lettuce • 3, 4, 5
Leucanthemum vulgare • ox-eye daisy • 3, 4, 5
Logfia filaginoides • California cottonrose • 6
Logfia gallica • narrow- or dagger-leaved cottonrose • 6
Matricaria (Chamomilla) discoidea • pineapple weed • 5
Oncosiphon piluliferum • stinknet • 3
Onopordum acanthium • Scotch thistle • 2, 3, 4, 5
Onopordum illyricum • illyrian thistle • 1, 2, 4, 5
Onopordum tauricum • Taurian thistle • 2, 4, 5
Parthenium hysterophorus • Santa Maria feverfew • 2
Rhagadiolus stellatus • star endive • 2
Scolymus hispanicus • golden thistle • 2, 4
Senecio glomeratus • Australian fireweed • 5
Senecio jacobaea • stinking willie • 2, 3, 4, 5
Senecio linearifolius • narrow-leaved ragwort • 2, 4
Senecio squalidus • Oxford ragwort • 2, 4
Senecio vulgaris • old-man-in-the-spring • 4
Silybum marianum • milk or blessed thistle • 3, 4, 5
Soliva sessilis • lawn or field burr weed • 4, 5
Sonchus arvensis • perennial sow thistle • 2, 4

Sonchus asper • spiny sow thistle • 5
Sonchus oleraceus • annual sow thistle • 5
Stephanomeria exigua • small wire-lettuce • 5
Tagetes minuta • wild marigold • 2, 4
Tanacetum parthenium • feverfew • 5
Tanacetum vulgare • common tansy • 3, 4, 5
Tragopogon dubius • western salsify • 5
Tragopogon porrifolius • common salsify • 5
Volutaria canariensis • Canary Island knapweed • 2
Xanthium spinosum • spiny cocklebur • 5
Xanthium strumarium • rough cocklebur • 5

Convolvulaceae — Bindweed Family

Convolvulus arvensis • field bindweed • 2, 4, 5
Cressa truxillensis • alkali weed • 5
Cuscuta approximata • alfalfa dodder • 4
Cuscuta japonica • Japanese dodder • 4
Cuscuta reflexa • giant dodder • 4, 5
Cuscuta spp. (non-natives) • dodders • 1, 2
Ipomoea aquatica • swamp morning glory • 1, 4
Ipomoea indica • ocean-blue morning-glory • 3
Ipomoea nil • Japanese morning glory • 5
Ipomoea purpurea • tall morning glory • 5
Ipomoea triloba • three-cornered morning glory • 4

Cruciferae (Brassicaceae) — Mustard Family

Berteroa incana • hoary alyssum • 2
Brassica napus • rapeseed mustard • 5
Brassica nigra • black mustard • 3, 4, 5
Brassica rapa • field mustard • 3, 4, 5
Brassica tournefortii • Saharan mustard • 3, 4, 5
Brassica vulgaris • yellow rocket • 5
Cakile maritima • European sea-rocket • 3, 4
Capsella bursa-pastoris • shepherd's-purse • 4, 5
Cardamine hirsuta • hairy bitter cress • 5
Cardamine oligosperma • little bitter cress • 5
Carrichtera annua • Ward's weed • 3
Chorispora tenella • purple mustard • 2, 5
Coincya monensis • star mustard • 2
Coronopus didymus • lesser swine cress • 5
Descurainia sophia • tansy mustard, flix weed • 3, 4, 5
Hesperis matronalis • dame's rocket • 4
Hirschfeldia incana • short-podded mustard • 3, 4, 5
Isatis tinctoria • dyer's woad • 2, 3, 4, 5
Lepidium appelianum • globe-podded hoary cress • 2, 3, 4, 5
Lepidium campestre • field pepper weed • 5

Lepidium chalepensis · lens-podded hoary cress · 2, 3, 4, 5
Lepidium coronopus · swine cress · 2, 4
Lepidium draba · heat-podded hoary cress · 2, 4, 5
Lepidium latifolium · perennial pepper-grass · 2, 3, 4, 5
Lepidium perfoliatum · clasping pepper weed · 5
Lobularia maritima · sweet-alyssum · 3, 4
Raphanus raphanistrum · wild radish · 4, 5
Raphanus sativus · radish · 3, 4, 5
Rorippa austriaca · Austrian field cress · 2, 4, 5
Rorippa sylvestris · creeping yellow field cress · 2, 4, 5
Sinapis arvensis · charlock, wild mustard · 3, 4, 5
Sisymbrium altissimum · tall tumble mustard · 5
Sisymbrium irio · London rocket · 3, 4, 5
Sisymbrium officinale · hedge mustard · 5
Thlaspi arvense · field penny cress · 5

Cucurbitaceae — Squash Family

Citrullus melon · citron melon · 5
Cucumis melo var. *dudaim* · dudaim melon · 2, 4
Cucumis myriocarpus · paddy melon · 2, 4

Cyperaceae — Sedge Family

Carex pendula · drooping sedge · 3
Cyperus difformis · variable flatsedge · 4, 5
Cyperus eragrostis · tall flat sedge · 5
Cyperus esculentus · yellow nutsedge · 2, 5
Cyperus rotundus · purple nutsedge · 2, 4, 5
Kyllingia brevifolia · green kyllingia · 5

Dipsacaceae — Teasel Family

Dipsacus fullonum · common teasel · 3, 4, 5
Dipsacus sativus · fuller's teasel · 3, 4, 5
Scabiosa atropurpurea · mourning bride · 3

Elaeagnaceae — Oleaster Family

Elaeagnus angustifolia · Russian-olive · 3, 4, 5

Ericaceae — Heath Family

Erica lusitanica · Spanish heath · 3

Euphorbiaceae — Spurge Family

Croton (Eremocarpus) setigera · turkey mullein · 5
Euphorbia cyparissias · cypress spurge · 4
Euphorbia dendroides · tree spurge · 2
Euphorbia dentata · toothed spurge · 4
Euphorbia graminea · grass-leaved spurge · 2

Euphorbia lathyris · caper or gopher spurge · 5
Euphorbia maculata · spotted spurge · 5
Euphorbia myrsinites · myrtle spurge · 4
Euphorbia nutans · nodding spurge · 5
Euphorbia oblongata · oblong spurge · 2, 3, 4, 5
Euphorbia peplus · petty spurge · 5
Euphorbia prostrata · prostrate spurge · 5
Euphorbia serpens · creeping spurge · 5
Euphorbia serrata · serrate spurge · 2, 4, 5
Euphorbia terracina · carnation spurge · 1, 2, 3, 4
Euphorbia virgata · leafy or green spurge · 2, 3, 4, 5
Mercurialis ambigua · Spanish mercury · 2
Ricinus communis · castor bean · 3, 4, 5
Triadica (Sapium) sebifera · Chines tallow tree · 3, 4, 5

Geraniaceae — Geranium Family

Erodium botrys · broad-leaved filaree · 4, 5
Erodium cicutarium · red-stemmed filaree · 3, 4, 5
Erodium moschatum · white-stemmed filaree · 4, 5
Geranium dissectum · cut-leaved geranium · 3, 4, 5
Geranium lucidum · shining geranium · 3
Geranium molle · dove-footed geranium · 5
Geranium purpureum · little robin · 3
Geranium robertianum · herb-robert · 4

Gramineae (Poaceae) — Grass Family

Aegilops cylindrica · jointed goat grass · 2, 4, 5
Aegilops geniculata · ovate goat grass · 2, 4, 5
Aegilops neglecta · three-awned goat grass · 6
Aegilops triuncialis · barbed goat grass · 2, 3, 4, 5
Agrostis avenacea · Pacific bent grass · 3, 4
Agrostis stolonifera · creeping bent grass · 3, 4, 5
Alopecurus myosuroides · black grass · 4
Alopecurus pratensis · meadow foxtail · 3,
Ammophila arenaria · European beach grass · 3, 4, 5
Anthoxanthum odoratum · sweet vernal grass · 3, 4, 5
Arundo donax · giant reed · 2, 3, 4, 5
Avena barbata · slender wild oat · 3, 4, 5
Avena fatua · wild oat · 3, 4, 5
Avena sterilis · animated oat · 1, 4
Brachypodium distachyon · annual false brome · 3, 4, 5
Brachypodium sylvaticum · slender false brome · 2, 3, 4
Briza maxima · rattlesnake grass · 3, 4, 5
Briza minor · lesser or little quaking grass · 5
Bromus catharticus · rescue grass · 5
Bromus diandrus · ripgut brome · 3, 4, 5

Bromus hordeaceus · soft brome · 3, 4, 5
Bromus japonicus · Japanese brome · 3, 4, 5
Bromus madritensis ssp. *rubens* · red brome · 3, 4, 5
Bromus tectorum · downy brome, cheat grass · 3, 4, 5
Cenchrus (Pennisetum) ciliaris · buffel grass · 4
Cenchrus echinatus · southern sandbur · 2, 4, 5
Cenchrus incertus · coast sandbur · 2, 4, 5
Cenchrus lonsispinus · mat sandbur · 2, 4, 5
Cenchrus (Pennisetum) setaceus · crimson fountain grass · 3, 4
Cenchrus (Pennisetum) villosus · feather grass · 4
Chloris virgata · feather finger or windmill grass · 5
Cortaderia jubata · jubata grass · 2, 3, 4, 5
Cortaderia selloana · pampas grass · 3, 4, 5
Crypsis schoenoides · swamp prickly grass · 5
Cynodon dactylon · Bermuda grass · 3, 4, 5
Cynosurus cristatus · crested dogtail grass · 6
Cynosurus echinatus · hedgehog dogtail grass · 3, 4, 5
Dactylis glomerata · orchard grass · 3, 4, 5
Digitaria ischaemum · smooth crab grass · 5
Digitaria sanguinalis · hairy crab grass · 4, 5
Distichlis spicata · salt grass · 6
Echinochloa colona · jungle-rice · 4, 5
Echinochloa crus-galli · barnyard grass · 5
Echinochloa oryzicola · early water grass · 4
Echinochloa phyllopogon · rice barnyard grass · 4
Ehrharta calycina · purple veldt grass · 3, 4, 5
Ehrharta erecta · erect veldt grass · 3, 4
Ehrharta longiflora · long-flowered veldt grass · 3, 4
Eleusine indica · goose grass · 5
Elymus (Taeniatherum) caput-medusae · medusa head · 2, 3, 4, 5
Elymus (Elytrigia) repens · quack grass · 2, 4, 5
Eragrostis cilianensis · stink grass · 5
Eragrostis minor · little love grass · 5
Eragrostis pectinacea · tufted love grass · 5
Eriochloa acuminata · southwestern cup grass · 5
Festuca arundinacea · tall fescue · 3, 4, 5
Festuca (Vulpia) myuros · rat-tail fescue · 3, 4, 5
Festuca (Lolium) perennis · rye grass · 4
Festuca (Lolium) temulenta · darnel · 6
Gastridium pheloides · nit grass · 5
Glyceria declinata · waxy manna grass · 3, 4
Heteropogon contortus · tanglehead · 2, 5
Holcus lanatus · common velvet grass · 3, 4, 5
Hordeum marinum · Mediterranean barley · 3, 4, 5
Hordeum murinum · wall barley · 3, 4, 5
Hyparrhenia hirta · thatching grass · 3

Kikuyuochloa (Pennisetum) clandestina · Kikuyu grass · 1, 2, 3, 4, 5
Leptochloa fascicularis · bearded sprangletop · 5
Leptochloa uninervia · Mexican sprangletop · 5
Muhlenbergia schreberi · nimblewill · 2, 4, 5
Oryza rufipogon · perennial wild red rice · 1, 2, 4
Panicum antidotale · blue panic grass · 2, 5
Panicum capillare · witch grass · 5
Panicum miliaceum · proso millet · 4
Panicum repens · torpedo grass · 4
Parapholis incurva · sickle grass · 6
Parapholis strigosa · strigose sickle grass · 6
Paspalum dilatatum · Dallis grass · 5
Paspalum distichum · knot grass · 5
Paspalum urvillei · Vasey's grass · 3
Paspalum vaginatum · seashore paspalum · 3
Pennisetum (Cenchrus) macrourum · African feather grass · 1
Phalaris aquatica · Harding grass · 3, 4, 5
Phalaris arundinacea · reed canary grass · 4
Phalaris minor · little-seeded canary grass · 5
Phalaris paradoxa · hooded canary grass · 5
Phragmites australis · common reed · 3, 4
Phyllostachys aurea · golden bamboo · 6
Poa annua · annual blue grass, winter grass · 5
Poa bulbosa · bulbous blue grass · 5
Poa pratensis · Kentucky blue grass · 3, 4, 5
Polypogon monspeliensis · rabbit's-foot grass · 3, 4, 5
Rostraria (Koeleria) cristata · Mediterranean hair grass · 5
Rytidosperma (Danthonia) caespitosum · wallaby grass · 3
Rytidosperma (Danthonia) penicillatum · hairy poverty grass · 3
Saccharum ravennae · Ravenna grass · 2, 3, 4
Schismus barbatus var. *arabicus* · Arabian grass · 3, 4, 5
Schismus barbatus var. *barbatus* · Mediterranean grass · 3, 4, 5
Secale cereale · rye · 4
Setaria faberi · giant foxtail · 2, 4
Setaria pumila · yellow foxtail · 4, 5
Setaria viridis · green bristle grass · 4
Sorghum bicolor · sorghum · 4, 5
Sorghum halepense · Johnson grass · 2, 4, 5
Spartina alterniflora x *S. foliosa* hybrids · 4
Spartina alterniflora · smooth cord grass · 2, 3, 4, 5
Spartina anglica · common cord grass · 2, 3, 4
Spartina densiflora · dense-flowered cord grass · 2, 3, 4
Spartina patens · salt meadow cord grass · 3, 4
Sporobolus indicus · smut grass · 5
Stipa (Achnatherum) brachychaeta · puna grass · 2, 4, 5
Stipa (Oryzopsis, Piptatherum) miliacea · smilo grass · 3, 4

Stipa capensis • Mediterranean steppe grass • 3, 4
Stipa manicata • Andean tussock grass • 3
Stipa tenuissima • Mexican feather grass • 3
Tribolium obliterum • Capetown grass • 2
Ventenata dubia • North Africa grass, venenata • 3

Gunneraceae — Gunnera Family

Gunnera tinctoria • Chilean- or giant-rhubarb • 3

Guttiferae — St. John's Wort Family

Hypericum androsaemum • sweet amber • 3
Hypericum canariense • Canary Island St. John's wort • 2, 3, 4
Hypericum perforatum • Klamath weed • 2, 3, 4, 5
Hypericum grandifolium • large-leaved hypericum • 3

Haloragaceae — Water Milfoil Family

Myriophyllum aquaticum • parrot-feather • 3, 4
Myriophyllum spicatum • Eurasian waterfoil • 3, 4

Hydrocharitaceae — Water Weed Family

Egeria densa • Brazilian waterweed • 2, 3, 4
Hydrilla verticillata • hydrilla • 1, 2, 3, 4
Limnobium spongia • sponge plant • 2, 4

Hydrocotylaceae — Water Pennywort Family

Hydrocotyle ranunculoides • floating pennywort • 5

Iridaceae — Iris Family

Chasmanthe floribunda • African flag • 3
Crocsmia x crocosmiiflora • montbretia • 3, 4
Iris douglasiana • Douglas' iris • 5
Iris missouriensis • western blue flag iris • 5
Iris pseudacorus • yellow flag • 3
Romulea rosea • rosy sand-crocus • 3
Watsonia meriana • bulbil watsonia • 3, 4

Juncaceae — Rush Family

Juncus bufonius • toad rush • 5
Juncus effusus • soft rush • 5
Juncus patens • spreading rush • 5

Labiatae (Lamiaceae) — Mint Family

Lamium amplexicaule • henbit dead-nettle • 4, 5
Lamium purpureum • purple dead-nettle • 5
Marrubium vulgare • white horehound • 3, 4, 5
Mentha pulegium • pennyroyal • 3, 4, 5

Prunella vulgaris var. *vulgaris* • self-heal, heal-all • 5
Salvia aethiopsis • Mediterranean sage • 2, 3, 4
Salvia virgata • southern meadow sage • 2, 4

Leguminosae (Fabaceae) — Legume Family

Acacia baileyana • Cootamundra wattle • 3
Acacia cyclops • coastal wattle • 3
Acacia dealbata • silver wattle • 3, 4
Acacia melanoxylon • blackwood acacia • 3, 4
Acacia paradoxa • kangaroo thorn • 2, 3, 4, 5
Acacia pycnantha • golden wattle • 3
Aeschynomene rudis • rough joint-vetch • 3, 4
Aeschynomene spp. • rough joint-vetch • 2
Alhagi maurorum • camel thorn • 2, 3, 4, 5
Amorpha fruticosa • indigo bush • 4
Astragalus spp. • loco weed, milkvetch • 5
Cytisus multiflorus • Spanish or Portugese broom • 3
Cytisus proliferus • tree lucerne • 3
Cytisus scoparius • Scotch broom • 2, 3, 4, 5
Cytisus striatus • Portuguese broom • 3, 4
Genista linifolia • Mediterranean broom • 3
Genista monosperma • bridal or bridal veil broom • 3
Genista monspessulana • French broom • 2, 3, 4, 5
Gleditsia triacanthos • honey locust • 4
Glycyrrhiza lepidota • wild licorice • 5
Halimodendron halodendron • Russian salt tree • 2, 4
Lathyrus latifolius • everlasting or perennial pea • 5
Lotus corniculatus • bird's-foot trefoil • 5
Lupinus arboreus • yellow bush lupine • 3, 5
Medicago lupulina • black medic • 5
Medicago polymorpha • California bur clover • 3, 4, 5
Melilotus indicus • Indian sweet clover • 5
Melilotus officinalis • yellow or white sweet clover • 5
Ononis alopecuroides • foxtail restharrow • 2, 3, 4
Paraserianthes (Acacia) lophantha • plumed albizia • 3
Prosopis strombulifera • creeping mesquite • 1, 2, 4, 5
Prosopis velutina • velvet mesquite • 4, 5
Retama monosperma • bridal broom • 2, 3, 4
Robinia pseudoacacia • black locust • 3, 4, 5
Senna obtusifolia • sickle-pod, Java bean, blunt-leaved senna • 4
Sesbania punicea • scarlet wisteria • 2, 3, 4, 5
Spartium junceum • Spanish broom • 2, 3, 4, 5
Sphaerophysa salsula • Austrian pea weed • 2, 4, 5
Trifolium dubium • small hop clover • 5
Trifolium fragiferum • strawberry clover • 5
Trifolium hirtum • rose clover • 3, 4, 5

Trifolium incarnatum • crimson clover • 5
Trifolium repens • white clover • 5
Ulex europaeus • gorse • 2, 3, 4, 5
Vicia sativa ssp. *nigra* • narrow-leaved vetch • 5
Vicia sativa ssp. *sativa* • garden or common vetch • 4, 5
Vicia villosa var. *villosa* • hairy or winter vetch • 4

Lythraceae — Loosestrife Family

Lythrum hyssopifolium • hyssop loosestrife • 3, 4, 5
Lythrum salicaria • purple loosestrife • 2, 3, 4, 5

Malvaceae — Mallow or Cotton Family

Abutilon theophrasti • velvet leaf • 4, 5
Anoda costata • spurred anoda • 4
Malva neglecta • common mallow • 4, 5
Malva niaceensis • bull mallow • 4, 5
Malva parviflora • cheeseweed mallow • 4, 5
Malva sylvestris • high mallow • 4, 5

Martyniaceae — Unicorn Plant Family

Ibicella lutea • yellow devil's-claw • 5
Proboscidea louisianica • common unicorn plant, ram's-horn • 4, 5

Melanthiaceae — Wake Robin Family

Zigadenus spp. • death-camas • 5

Menyanthaceae — Bog Bean Family

Nymphoides peltata • yellow floating heart • 2, 4

Molluginaceae — Carpet Weed Family

Mollugo verticillata • carpet weed • 5

Montiaceae — Miner's-Lettuce Family

Calandrinia ciliata • fringed red maids • 5
Claytonia perfoliata • miner's-lettuce • 5

Moraceae — Mulberry Family

Fatoua villosa • hairy crabweed • 2, 4
Ficus carica • edible fig • 3, 4, 5

Myoporaceae — Myoporum Family

Myoporum laetum • ngaio or mouse hole tree • 3, 4, 5

Myrtaceae — Myrtle Family

Eucalyptus camaldulensis • red gum • 3, 4
Eucalyptus globulus • Tasmanian blue gum • 3, 4, 5

Leptospermum laevigatum • Australian tea tree • 3
Melaleuca quinquenervia • broad-leaved paper bark tree • 1

Nitrariaceae — Nitraria Family

Peganum harmala • harmel • 2, 4

Nyctaginaceae — Four-O'Clock Family

Mirabilis nyctaginea • wild four-o'clock • 4

Nymphaeaceae — Water-lily Family

Nymphaea mexicana • banana waterlily • 2, 4
Nymphaea odorata ssp. *odorata* • fragrant waterlily • 3, 4

Oleaceae — Olive Family

Ligustrum lucidum • glossy or broad-leaved privet • 3
Olea europaea • olive • 3, 4

Onagraceae — Evening-Primrose Family

Epilobium brachycarpum • tall annual willow herb • 5
Epilobium ciliatum • fringed willow herb • 5
Fuchsia magellanica • hardy fuchsia • 6
Ludwigia decurrens • winged water-primrose • 2
Ludwigia grandiflora • large-flowered primrose-willow • 4
Ludwigia hexapetala • Uruguay water-primrose • 2, 3, 4
Ludwigia peploides ssp. *montevidensis* • creeping water-primrose • 3, 4
Ludwigia peruviana • Peruvian water-primrose • 2
Oenothera elata • Hooker's evening-primrose • 5
Oenothera laciniata • cut-leaved evening-primrose • 5
Oenothera (Gaura) sinuosa • wavy-leaved gaura • 2, 4
Oenothera (Gaura) suffrutescens • scarlet gaura • 5
Oenothera (Gaura) xenogaura • Drummond's gaura • 2

Oxalidaceae — Wood Sorrel Family

Oxalis corniculata • creeping wood sorrel • 4, 5
Oxalis pes-caprae • Bermuda-buttercup • 3, 4, 5

Palmae (Arecaceae) — Palm Family

Phoenix canariensis • Canary Island date palm • 3, 4
Washingtonia robusta • Mexican fan palm • 3, 4, 5

Papaveraceae — Poppy Family

Fumaria officinalis • fumitory • 5

Passifloraceae — Passion Flower Family

Passiflora tarminiana • banana passion fruit • 3

Phytolaccaceae — Pokeweed Family

Phytolacca americana • common pokeweed • 3, 4, 5

Pittosporaceae — Pittosporum Family

Pittosporum undulatum • Victorian box • 4

Plantaginaceae — Plantain Family

Plantago coronopus • cut-leaved plantain • 5

Plantago lanceolata • English plantain • 3, 4, 5

Plantago major • broad-leaved plantain • 5

Plumbaginaceae — Leadwort Family

Limonium duriusculum • European sea lavender

Limonium ramocissimum ssp. *provinciale* • Algerian sea lavender • 3

Polygalaceae — Milkwort Family

Polygala myrtifolia • myrtle-leaved milkwort • 3

Polygonaceae — Smartweed or Knotweed Family

Emex australis • three-cornered jack • 4

Emex spinosa • devil's-thorn • 3, 4

Muehlenbeckia complexa • maidenhair vine • 6

Polygonum (Persicaria) amphibium • swamp smartweed • 5

Polygonum arenastrum • common or oval-leaved knotweed • 4, 5

Polygonum argyrocoleon • silver-sheathed knotweed • 5

Polygonum aviculare • prostrate knotweed, knot-grass • 6

Polygonum (Fallopia) x bohemicum • Bohemian knotweed • 2

Polygonum (Fallopia) convolvulus • bindweed • 5

Polygonum (Fallopia) cuspidatum • Japanese knotweed • 2, 5

Polygonum (Persicaria) persicaria • lady's-thumb • 5

Polygonum (Persicaria) polystachya • Himalayan knotweed • 2, 5

Polygonum (Reynoutria) sachalinense • Sakhalin knotweed • 2, 3, 4, 5

Rumex acetosella • red-sorrel, sheep-sorrel • 3, 4, 5

Rumex crispus • curly dock • 3, 4, 5

Rumex obtusifolius • broad-leaved dock • 5

Rumex pulcher • fiddle-leaved dock • 5

Pontederiaceae — Pickerel Weed Family

Eichhornia crassipes • water-hyacinth • 3, 4

Monochoria vaginalis • false pickerel weed • 1, 4

Portulacaceae — Purslane Family

Portulaca oleracea • purslane • 4, 5

Potamogetonaceae — Pondweed Family

Potamogeton crispus • curly-leaved pondweed • 3, 4

Primulaceae — Primrose Family

Anagallis arvensis • scarlet pimpernel • 5

Proteaceae — Protea Family

Grevillea robusta • silk-oak • 3

Ranunculaceae — Buttercup Family

Clematis vitalba • old man's-beard • 4

Delphinium spp. • larkspures • 5

Ranunculus acris • tall buttercup • 4

Ranunculus muricatus • rough-seeded buttercup • 5

Ranunculus repens • creeping buttercup • 3, 4, 5

Ranunculus testiculatus • bur buttercup • 5

Rhamnaceae — Buckthorn Family

Rhamnus alaternus • Italian buckthorn • 3

Rosaceae — Rose Family

Acaena anserinifolia • biddy-biddy • 2

Acaena magellanica • biddy-biddy • 4

Acaena novae-zelandiae • biddy-biddy • 2, 4, 5

Acaena pallida • pale biddy-biddy • 2, 4

Cotoneaster franchetii • orange cotoneaster • 3, 4

Cotoneaster lacteus • Parney's cotoneaster • 3, 4, 5

Cotoneaster pannosus • silver-leaved cotoneaster • 3, 4, 5

Crataegus monogyna • hawthorn • 3, 4, 5

Potentilla recta • sulfur cinquefoil • 2, 4, 5

Prunus cerasifera • cherry plum • 3, 4

Pyracantha angustifolia • firethorn • 3, 4

Pyracantha coccinea • firethorn • 3, 4

Pyracantha crenulata • firethorn • 3, 4

Pyrus calleryana • Callery pear • 3

Rosa canina • dog rose • 5

Rosa eglanteria • sweetbriar rose • 5

Rubus armeniacus • Himalaya berry • 3, 4, 5

Rubus leucodermis • Pacific or western raspberry • 5

Rubus parviflorus • western thimbleberry • 5

Rubus ursinus • Pacific blackberry • 5

Rubiaceae — Madder Family

Diodia virginiana • Virginia button weed • 2

Galium aparine • cleavers, catchweed • 5

Galium parisiense • wall bedstraw • 5

Sherardia arvensis • field madder • 5

Salicaceae — Willow Family

Salix exigua • coyote willow • 5
Salix gooddingii • Goodding's black willow • 5
Salix laevigata • red willow • 5
Salix lasiolepis • arroyo willow • 5

Santalaceae — Sandalwood Family

Arceuthobium spp. • dwarf mistletoes • 5
Phoradendron spp. • American or true mistletoes • 5
Viscum album • European mistletoe • 2, 4

Scrophulariaceae — Scroph or Snapdragon Family

Bellardia trixago • bellardia • 3, 4, 5
Digitalis purpurea • purple foxglove • 3, 4, 5
Kicksia elatine • sharp-leaved cancerwort • 4, 5
Linaria genistifolia ssp. *dalmatica* • Dalmatian toadflax • 2, 3, 4, 5
Linaria vulgaris • yellow toadflax, butter and eggs • 3, 4, 5
Orobanche aegyptiaca • Egyptian broomrape • 3
Orobanche cooperi • Cooper's broomrape • 4, 5
Orobanche ramosa • branched broomrape • 2, 4, 5
Orobanche spp. • broomrapes • 1, 4
Parentucellia viscosa • yellow gland weed • 3, 4, 5
Verbsacum blattaria • moth mullein • 4, 5
Verbascum thapsus • common mullein • 3, 4, 5
Veronica anagallis-aquatica • water speedwell • 5
Veronica persica • Persian speedwell • 5

Simaroubaceae — Quassia Family

Ailanthus altissima • tree-of-heaven • 2, 3, 4, 5

Solanaceae — Nightshade Family

Cestrum parqui • Chilean-jessamine • 3
Datura ferox • Chinese thorn-apple • 5
Datura innoxia • sacred datura • 3
Datura stramonium • jimson weed • 5
Datura wrightii • sacred datura • 5
Hyoscyamus niger • black henbane • 2, 4, 5
Lycium ferocissimum • African boxthorn • 1, 4
Nicotiana acuminata • many-flowered tobacco • 5
Nicotiana glauca • tree tobacco • 3, 4, 5
Physalis acutifolia • Wright's ground-cherry • 5
Physalis angulata • cut-leaved ground-cherry • 5
Physalis longifolia • long-leaved ground-cherry • 2, 4
Physalis philadelphica • tomatillo ground-cherry • 5
Physalis viscosa • grape ground cherry • 2, 4
Salpichroa organifolia • lily-of-the valley vine • 3

Solanum americanum • American black nightshade • 5
Solanum aviculare • New Zealand nightshade • 3
Solanum cardiophyllum • heart-leaved horse-nettle • 2
Solanum carolinense • Carolina horse-nettle • 2, 4, 5
Solanum dimidiatum • Torrey's or robust nightshade • 2, 4, 5
Solanum elaeagnifolium • silver-leaved nightshade • 2, 4, 5
Solanum lanceolatum • lance-leaved nightshade • 2, 4, 5
Solanum marginatum • white-margined nightshade • 2, 4, 5
Solanum nigrum • black nightshade • 4, 5
Solanum physalifolium • hoe nightshade • 4, 5
Solanum rostratum • buffalo bur • 4

Tamaricaceae — Salt-cedar Family

Tamarix aphylla • Athel tamarisk • 3, 4, 5
Tamarix chinensis • Chinese tamarisk • 2, 4
Tamarix gallica • French tamarisk • 2
Tamarix parviflora • small-flowered tamarisk • 2, 3, 4, 5
Tamarix ramosissima • salt-cedar • 2, 3, 4, 5

Typhaceae — Cattail Family

Sparganium erectum • exotic bur reed • 1, 4

Ulmaceae — Elm Family

Ulmus pumila • Siberian elm • 4

Umbelliferae (Apiaceae) — Carrot Family

Ammi majus • greater ammi • 5
Ammi visagna • toothpick ammi • 5
Anthriscus caucalis • bur chervil • 5
Carum carvi • wild caraway • 4
Cicuta douglasii • western water hemlock • 5
Cicuta maculata • spotted hemlock, spotted western hemlock • 5
Conium maculatum • poison hemlock • 3, 4, 5
Cyclosporum leptophyllum • wild-celery • 5
Daucus carota • wild carrot, Queen Anne's lace • 4, 5
Foeniculum vulgare • fennel • 3, 4, 5
Torilis arvensis • hedge-parsley • 3, 4, 5

Urticaceae — Nettle Family

Urtica dioica • stinging nettle • 5
Urtica urens • burning nettle • 5

Verbenaceae — Verbena or Vervain Family

Phyla nodiflora • mat lippia • 5
Verbena bonariensis • purple-topped or tall vervain • 3, 5
Verbena litoralis • tall or seashore vervain • 4, 5

Violaceae — Violet Family

Viola odorata • English violet • 5

Zosteraceae — Eel-Grass Family

Zostera japonica • Japanese eel-grass • 2, 3, 4

Zygophyllaceae — Caltrop Family

Tribulus terrestris • puncture vine • 2, 4, 5

Zygophyllum fabago • Syrian bean-caper • 2, 4, 5

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