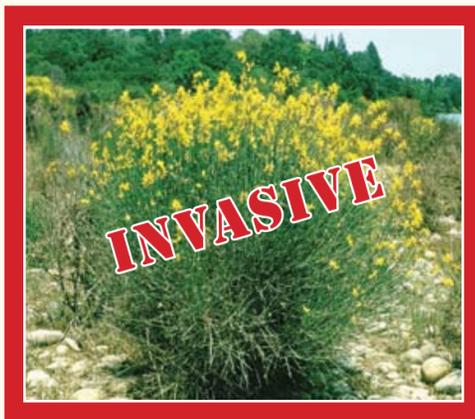


Don't Plant a Pest!

Give them an inch and they'll take an acre...



Spanish broom (*Spartium junceum*) is an invasive plant that quickly outcompetes natives across California.

Suggested alternatives for invasive garden plants

Central Valley Version

Gardening Responsibly

California is a gardener's dream. Our Mediterranean climate allows us to have fantastic gardens that showcase a wide variety of ornamental plants from around the world. However, some of our garden plants don't stay in the garden but "jump the fence" and invade natural areas. These invasive plants can become serious wildland weeds that threaten California's biodiversity by displacing native species, changing the structure of plant communities, and ultimately reducing the value of habitat for wildlife. They also affect our state's economy by lowering agricultural productivity, increasing fire danger, and add to the cost of maintaining roads, parks, and waterways.



English ivy (*Hedera helix*)
Photo by C. Martus

Some of the plants currently damaging California's natural areas were originally introduced for landscaping purposes. Garden escapees may have desirable characteristics in a garden setting, but they have certain characteristics, such as prolific seed production, that allow them to spread outside the garden and rapidly invade wildlands. Other invasive plants reveal their weedy tendencies in the garden. For example, English ivy can take over a yard and damage buildings and fences. Likewise, when birds drop English ivy seeds near a stream, it can take over native riparian vegetation and degrade habitat for wildlife.

Of course, gardeners don't plant invasive species intentionally. Like most Californians, gardeners have a deep respect for our state's rich natural heritage. Fortunately, most ornamental plants behave perfectly well in their intended roles and are not a threat to wildlands. By choosing suitable alternatives for the few problem plants, we can save ourselves and our neighbors trouble and expense while helping to protect California's natural and agricultural landscapes from invasive plants.

Invasive plants are by nature a regional problem. A plant that jumps out of the garden in one climate and habitat type might behave perfectly in another. The problem plants listed here have escaped from gardens and have invaded natural areas throughout the Central Valley.

Many of the characteristics that make a plant a good choice for the garden may also make it a successful invader:

Garden Plants

Are easy to propagate
Establish rapidly
Mature early
Have abundant flowers
Are pest/disease tolerant

Invasive Plants

Seeds germinate early
Like disturbed areas
Mature early and vigorously
Have prolific seeds
Have few natural predators

How to use this brochure:

This brochure suggests safe alternatives for these invasive plants. When you are buying new plants for your garden, consider these alternatives or ask your local nursery for other non-invasive plants. If one of the invasive plants is already in your yard, especially if you live near wildlands, you should consider removing it and replacing it with a recommended alternative. If you are thinking about planting one of these problem plants for its appearance, finding a replacement is often easy – some of the alternatives listed here are selected especially for their similar looks. If you need a plant to fill a functional role, such as a groundcover that grows well in a shady place, or a border plant that likes full sun, the alternatives listed here thrive in the same environments as problem plants while offering added benefits such as attracting wildlife. Care has been taken to suggest both California native plants, for those wishing to rediscover some of California's unique native plant heritage, as well as non-invasive ornamental plant alternatives. Many of these alternatives are readily available, while others may be found in specialty or native plant nurseries.

- Full sun
- Part shade
- Full shade
- Regular water
- Medium water
- Low water
- California native

Both native and non-invasive non-native plants have been recommended as alternatives in this brochure. When landscaping adjacent to natural lands or preserves, we recommend you use locally native California plants. Care has been taken to ensure that none of the recommended non-natives are invasive or a fire hazard. However, plants can adapt over time, and there is no guarantee that some of these plants will not themselves become pests in the future. If the recommended alternatives are not watered or pruned, they too may become a fire hazard over time. If you notice one of these alternatives invading natural areas, notify Cal-IPC. Pay close attention to plant names, since a few of our recommended plants may have invasive relatives - even in the same genus or family. Invasive plants such as Pampas grass (*Cortaderia*), Fountain grass (*Pennisetum*), and broom species have many cultivars and varieties. Until these cultivars and varieties can be independently tested and verified, they are not recommended as substitutes.

Ground Covers

DO NOT PLANT! INVASIVE!



English ivy; Algerian ivy; Irish ivy (*Hedera helix*; *Hedera canariensis*; *Hedera hibernica*)

Some ivy species in the *Hedera* genus are a major problem in California. They can smother understory vegetation, climb and kill trees, and harbor non-native pests like rats and snails. It is difficult to distinguish problem species from less invasive ones. Do not plant near natural areas, and never dispose of ivy in natural areas. Plants should not be allowed to fruit, as birds often spread the berries.

Missouri Botanical Garden



Big periwinkle (*Vinca major*)

A commonly used groundcover with small, infrequent lavender flowers and shiny, leathery leaves. It can provide habitat for rats and other pests. It is an aggressive grower with trailing stems that root wherever they touch the soil. Its ability to resprout from stem fragments makes big periwinkle very hard to remove, and it will spread rapidly in riparian areas, shady creeks and drainages, smothering the native plant community. It can also be found on some shady, dry banks.

© Richard Old (www.xidservices.com)

CONSIDER PLANTING THESE INSTEAD

Star jasmine; Asian star jasmine (*Trachelospermum jasminoides*; *T. asiaticum*)



Star jasmine has glossy, dark green leaves and pale white or yellow, pinwheel-shaped flowers with a jasmine-like scent.

Photo by C. Martus

Giant alumroot/Coral bells (*Heuchera maxima* and hybrids)



Evergreen groundcover with heart-shaped leaves and tiny, bell-shaped pink or white flowers that hang gracefully from thin stalks.

El Natio Growers, Inc.

Heartleaf bergenia (*Bergenia cordifolia* and hybrids)



An evergreen groundcover with large, dark green leaves and clusters of bright, deep pink flowers.

Pachysandra (*Pachysandra terminalis*)



Grows more slowly than ivy or periwinkle, but has a crisp, neat growth form. New foliage is bright green changing to dark green with age.

Missouri Botanical Garden

Common yarrow (*Achillea millefolium*)



Perennial groundcover from 1' to 4' high. Can be used as lawn substitute. Produces white flowers. Should be pruned or mowed annually.

Photo by S. Mason

California wild lilac (*Ceanothus* species)



Requires well-drained soil. Good for slopes, many low growing varieties. Purple flowers in spring attract butterflies.

Photo by S. Mason

Also Consider: Candytuft (*Iberis sempervirens*), Dwarf coyotebrush (*Baccharis pilularis*), Lamium (*Lamium maculatum*), Scaevola (*Scaevola aemula*), Taiwan raspberry (*Rubus pentalobus*), Vinca minor (so far not shown to be invasive, but shouldn't be planted near wildlands), Purple sage (*Salvia leucophylla*)

Ornamental Grasses

DO NOT PLANT! INVASIVE!

Giant reed (*Arundo donax*; *A. donax* 'Variegata')



An extremely fast-growing plant that grows in moist areas, usually along streams and ditches. Highly flammable, burning even when green. Giant reed spreads by sprouts or stem sections, can cause erosion and flooding, and displaces native plants.

Photo by Joseph DiTomaso

Fountaingrass (*Pennisetum setaceum*)



Seeds are spread by wind, water, or hitchhiking on vehicles. Fast grower, impedes the growth of native plants and eventually takes over natural areas. Also raises fuel loads and fire frequency in natural areas. Existing research indicates that red varieties (*P. setaceum* 'Rubrum') are not invasive.

Photo by C. Martus

Pampasgrass; Jubatagrass (*Cortaderia selloana*; *C. jubata*)



Wind can carry the tiny seeds up to 20 miles. The massive size of each pampasgrass plant with its accumulated litter reduces wildlife habitat, limits recreational opportunities in natural lands, and creates a serious fire and flood hazard. Sharp blades are hazardous to people, and plants harbor pests such as rats and snakes. "Sterile" varieties of this plant are *not* recommended as substitutes.

Photo by C. Martus

CONSIDER PLANTING THESE INSTEAD

Giant wildrye 'Canyon Prince' (*Leymus condensatus*)



This tall grass grows well throughout the state. It can reach nine feet in height and spread up to six feet wide. It has green leaves which mature to a bright silvery blue.

Santa Barbara Botanical Society

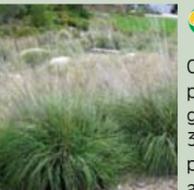
New Zealand flax (*Phormium tenax*)



Not a true grass, though it fills a similar function in the landscape. Large, hardy, and require minimal care. Many varieties include striking stripes of pink, yellow and green.

Chris Morris, San Luis Obispo Co. Dept. of Agriculture

Deergrass (*Muhlenbergia rigens*)



Clumping perennial grass growing up to 3' tall with 2' plumes rising above the plant. Native Americans use it for making baskets.

Photo by C. Martus

Bamboo (clumping species) (*Bambusa multiplex*)



Rhizomes of the clumping bamboo stay close to the plant, making it less invasive than the running species (see Caution section).

Photo by Steve Green

Lavender (*Lavandula* species)



Lavender makes a good replacement for fountaingrass. Many species are available. Fragrant, grows to about 1 1/2' - 2' tall and blooms with bright lavender flowers.

Photo by C. Martus

Lindheimer's muhly (*Muhlenbergia lindheimeri*)



Large, dependable, showy ornamental grass with blue-gray foliage and flowering spikes in fall and winter. Good in poor soils, grows up to 5' tall.

Bluestem Nursery www.bluestem.ca

Also Consider: Santa Barbara sedge (*Carex barbaeae*), San Diego sedge (*Carex spissa*), Bigelow's nolina (*Nolina bigelovii*)

Based on a brochure by the:



California Invasive Plant Council
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For more information about invasive plants visit:

- www.cal-ipc.org
- http://tncweeds.ucdavis.edu
- www.cdfa.ca.gov/wma/
- www.invasivespecies.gov
- www.cnps.org

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- Friends of Bidwell Park
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- Sacramento Weed Warriors, a project of the California Native Plant Society, Sacramento Chapter
- Sustainable Conservation-- Cal-HIP: Horticultural Invasives Prevention
- University of California, Davis Arboretum

To obtain more brochures, contact Cal-IPC

Cover photo: Joseph DiTomaso

Shrubs

DO NOT PLANT! INVASIVE!

Brooms (French; Portuguese; Scotch; Spanish)
(*Genista monspessulana*; *Cytisus striatus*; *Cytisus scoparius*; *Spartium junceum*)



Photo by Joseph DiTomaso



Photo by C. Martus

Brooms have invaded more than one million acres in California. The flowers produce thousands of seeds that build up in the soil over time, creating dense thickets that obliterate entire plant and animal communities. Grows quickly, easily creating a fire hazard in residential landscapes. "Sterile" varieties of these plants haven't been independently verified or tested and are not recommended as substitutes.

Scarlet wisteria
(*Sesbania punicea*)



Photo by Joseph DiTomaso

New to California, spreading along the American River, the Delta, and northern California. Grows and spreads rapidly along river and stream corridors, pushing out native vegetation and wildlife. Seeds are moved by pods that float downstream.

CONSIDER PLANTING THESE INSTEAD

Bush poppy; Island bush poppy (*Dendromecon rigida*; *D. harfordii*)



Photo by C. Martus

Native California shrub with showy yellow flowers from spring to early summer. Drought tolerant once established. Prune to maintain form.

Forsythia (*Forsythia x intermedia*)



© Monrovia

Often the first plant to bloom in spring, forsythia produces an astounding display of bright yellow flowers. Grows quickly. Many varieties.

Cleveland sage (*Salvia clevelandii*)



Photo by C. Martus

A California native with graceful silvery-green leaves, arching branches, and whorls of purple flowers in spring and summer. Grows up to 4' tall.

Golden currant (*Ribes aureum*)



Dr. Robert Thomas, Margaret Orr ©1999 Calif. Academy of Sciences

California native, shrub with profusion of yellow spring flowers turning into edible berries suitable for jams. Attracts birds and butterflies.

Jerusalem sage (*Phlomis fruticosa*)



© Joy Creek Nursery

A dependable shrub with whorls of yellow flowers that will thrive in any well-drained soil.

Toyon (*Heteromeles arbutifolia*)



Photo by C. Martus

California native, evergreen shrub producing delicate white flowers in spring and large clusters of red berries that birds love.

Also Consider: California sagebrush (*Artemisia californica*), Coffeeberry (*Rhamnus californica*), Evergreen currant/Island goose-berry (*Ribes viburnifolium*), Fringe flower (*Loropetalum chinense*), Glossy abelia (*Abelia grandiflora*), Japanese kerria (*Kerria japonica*), Japanese mock orange (*Pittosporum tobira*), St. Catherine's lace (*Eriogonum giganteum*), Flannel bush (*Fremontodendron californicum*)

Trees

DO NOT PLANT! INVASIVE!

Eucalyptus (Blue gum; Red gum) Chinese tallowtree
(*Eucalyptus globulus*; *E. camaldulensis*) (*Sapium sebiferum*)



Photo by B. Richardson

Grows aggressively, displacing surrounding native plants. Excessive leaf litter and shade eliminates understory plants. Fire depts. throughout California recommend against using eucalyptus trees for landscaping.



Photo by Joseph DiTomaso

Popular ornamental that can grow up to 40'. Seeds are spread by birds and flowing water, and new shoots can sprout from roots. Rapidly replaces native vegetation along river corridors and sandbars.

Saltcedar
(*Tamarisk* species)



Photo by Joseph DiTomaso

A serious riparian invader throughout CA and southwest. Uses excessive amounts of water, salinates soil, changes water courses, diminishes wildlife habitat, and increases fire hazard.

ALSO DO NOT PLANT: Black locust (*Robinia pseudoacacia*), Tree of heaven (*Ailanthus altissima*), Russian olive (*Elaeagnus angustifolia*)

CONSIDER PLANTING THESE INSTEAD

Marina strawberry tree (*Arbutus unedo* 'Marina')



Photos by Bob Perry

Rosy pink, urn-shaped flowers, deep red bark, and strawberry-like fruits in yellow and red. Easy to plant and care for. Can be susceptible to greenhouse thrips. Doesn't tolerate very alkaline or poorly drained soil.

Tupelo (*Nyssa sylvatica*)



Crooked branches and dark, red-tinged bark are dramatic in winter. Birds attracted to fruit. Excellent shade tree. Needs acidic soil with no salinity.

Crape myrtle (*Lagerstroemia* hybrids)



Photo by Steve Green

Stunning tree, great in a hot area. Showy summer flowers in hot pink, white, and lavender. Brilliant fall foliage. Somewhat susceptible to aphids.

Fern pine (*Podocarpus gracilor*)



Evergreen tree, grows 20'-60' tall. Makes an excellent street tree or individual specimen in a park setting. One of the most pest-free trees, able to tolerate a variety of soil conditions and temperatures. Can also be used as a hedge or screen plant. Many species and varieties are available in nurseries.

Valley oak (*Quercus lobata*)



This deciduous, graceful native tree provides habitat for birds, and has year-round appeal. Deeply lobed leaves, rough and grey bark. Grows up to 100' tall in many Central Valley soil types.

Eastern; Western redbud (*Cercis canadensis*; *C. occidentalis*)



Rosy pink flowers bloom before new leaves appear and are followed by beanlike pods. Prefers well-drained soil.

Also Consider: English oak (*Quercus robur*), Southern live oak (*Quercus virginiana*), Washington hawthorn (*Crataegus phaenopyrum*)

CAUTION! POTENTIAL PESTS!

The plants in this section have been observed escaping into California wildlands, but it remains unclear whether they cause serious damage. You may want to consider removing them if they are already growing on your own property, especially if your land is adjacent to a natural or open space area.

Bamboo (running varieties) (*Phyllostachys*, *Pseudosasa*, *Pleiblastus* species)



Photo by Steve Green

Bamboo spreads through rhizomes (underground shoots). Running bamboos send out rhizomes far away from the plant. These fast growing plants can quickly invade areas both in and out of the yard. Never plant a running bamboo variety.

Catalpa (Northern; Southern) (*Catalpa* species)



Photo by Steve Green

This tropical-looking tree has large, soft leaves and showy flowers, followed by long, bean-like seedpods, releasing seeds that can be carried by the wind. These trees compete with native vegetation in riparian areas.

Common olive (fruiting varieties) (*Olea europaea*)



Photo by B. Richardson

Produces hundreds of seeds that are spread by birds and mammals. Creates dense canopies that shade out other vegetation. Gardeners should not plant this tree near open space.

Privet (*Ligustrum* species)



Photo by S. Mason

Privet shrubs and trees generally have shiny, leathery leaves and are often used as hedging plants. If allowed to set fruit, birds can spread the berries throughout the winter. Some privet species are known to be invasive in landscaped and natural areas in several Central Valley counties.

Sweet fennel (*Foeniculum vulgare*)



Photos by Ken Owen

Fennel is a commonly planted perennial herb, and reproduces readily from seed and root crown. Tall, with small yellow flowers, fennel occupies disturbed, open areas, and is competitive against natives.

Edible fig (*Ficus carica*)



Photo by Steve Green

May be spread by birds and deer, as well as by vegetation fragments. Can dominate stream and riverside habitat.

ALSO CONSIDER AVOIDING: Chinese pistache (*Pistacia chinensis*), Italian arum (*Arum italicum*), Silktree/Mimosa (*Albizia julibrissin*), Osage orange (*Maclura pomifera*), Firethorn (*Pyracantha*), Ravennagrass (*Saccharum ravennae* or *Erianthus ravennae*), White mulberry (*Morus alba*), Silver wattle (*Acacia dealbata*).

Low Water Use and Xeriscaping

California has a limited supply of fresh water, and gardeners can do their part to conserve this precious resource, as well as save on water bills, by choosing plants that use less water. Native or low water use plants also require less fertilizer and fewer pest control measures, and are usually easier to maintain. Finally, most of the low water use plants tend to be good habitat for native birds and beneficial insects. Add interest to your garden while using fewer resources by choosing California natives and other "un-thirsty" plants.

Lavender is a low water user once established.