

Don't plant a pest!

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



B. Richardson

Suggested alternatives for invasive Trees in California

Trees in California

California is home to the world's tallest, largest, and oldest trees—coast redwoods, giant sequoias, and bristlecone pines. We also enjoy many beautiful landscaping trees imported from around the world.

Unfortunately, a few of the trees we use in landscaping can cause serious ecological damage by escaping our gardens and spreading into California's wildlands.

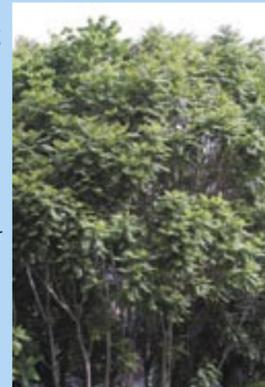
These invasive trees can push out native plants, reduce wildlife habitat, impair water resources, increase erosion, create fire hazards, and degrade recreational opportunities.

This brochure was developed to help gardeners and landscape designers choose trees that work for their sites while protecting the health and beauty of the California landscape.

The brochure includes eighteen trees that should be avoided in gardens and landscaping in California. On the reverse side, it describes a few of the many non-invasive alternatives that can be planted in place of invasive trees. Your local nursery may also suggest alternatives best suited to your location.

The invasive trees in this brochure fall into two categories. Those in the 'Don't Plant' section are known to scientists to cause serious damage to wildlands in at least a portion of California and should not be planted in those areas. The trees under 'Caution' have been observed escaping into wildlands, but full scientific studies have not been completed on the extent of their effects.

Cover: Blue gum eucalyptus (*Eucalyptus globulus*) invades open space in the San Francisco Bay Area.



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Tree-of-Heaven (*Ailanthus altissima*), at one time a popular street tree, has spread along the coast and through the Sierra foothills. It creates dense thickets that reduce or eliminate native vegetation and wildlife habitat.

Don't Plant

blue gum eucalyptus *Eucalyptus globulus*

Found along the coast from Humboldt to San Diego and in the Central Valley. Most invasive in coastal locations. Easily invades native plant communities, causing declines in native plant and animal populations. Extremely flammable.



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Russian olive *Elaeagnus angustifolia*

Found throughout California. Able to spread long distances with the help of birds and mammals. Invades river and stream corridors, pushing out native willows and cottonwoods. Reduces water levels. Provides poor wildlife habitat. Serious invader in other western states.



© 1998 John Randall, PhD

black locust *Robinia pseudoacacia*

Widely distributed, particularly in northern California and the Great Basin. Spreads by seeds and root sprouts. Forms large, dense stands. Seeds, leaves, and bark are toxic to humans and wildlife.



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Don't Plant

saltcedar *Tamarix* species

A serious riparian invader throughout California and southwestern states. Uses excessive amounts of water, salinates soil, changes water courses, diminishes wildlife habitat, and increases fire hazard. Not commonly sold, but still occasionally available.



© 2003 Michel Charrier

Chinese tallow tree *Sapium sebiferum*

A huge problem in southern states, this species has recently been found in California wildlands. Grows and spreads rapidly, pushing out native plants.



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myoporum *Myoporum laetum*

Invades along the coast from Sonoma County to San Diego. Forms dense stands with no other vegetation. Can cover large areas. Spread by birds. Leaves and fruits are toxic to wildlife and livestock. Burns easily. Doesn't typically spread in interior areas.



© 2002 Tony Moroso

Don't Plant

Brazilian peppertree *Schinus terebinthifolius*

A serious problem in southern California. Less of a problem in the San Francisco Bay area and the Central Valley, but caution should be used if planting near wildlands. Creates dense stands which shade out other vegetation within a few years of introduction.



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scarlet wisteria *Sesbania punicea*

New to California, spreading along the American River in central California. Also found in the Delta and in northern California. A serious problem in South Africa and Florida. Grows and spreads rapidly along river and stream corridors, pushing out native vegetation and wildlife. Seeds are moved by washing downstream.



© Larry Allan @ USDA-NRCS PLANTS Database

single seed hawthorn *Crataegus monogyna*

An established invader in the Pacific Northwest, now spreading through northern California. Capable of long-range seed dispersal by birds. Creates dense thickets, changing the structure of woodland understories. May hybridize with and threaten native hawthorn species.



© 2000 Joe DiTomaso

Caution

The trees in the Caution section have been observed escaping into California wildlands, but it remains unclear whether they cause serious damage. You may want to avoid these if your property is located near natural areas.

California peppertree *Schinus molle*

Despite its common name, this South American plant is not native to California. Found throughout northern and central California, as well as southern parts of the state. Seeds spread by birds. Invasive in stream and riverside habitat.



© 1999 John Randall, PhD



Forest & Kim Starr, USGS

Canary Island date palm *Phoenix canariensis*

Can spread quickly in southern California wetlands and riverside habitats. Seeds spread by birds.



Courtesy NZ Palm www.nzpalm.co.nz

Caution

acacia *Acacia decurrens*, *A. dealbata*, and *A. melanoxylon*

Acacias grow along most of the coast and inland in the central portion of the state. They spread by seed, root suckers, and stump sprouts, forming dense stands.



A. decurrens

© 2000 Joe DiTomaso



A. dealbata

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A. melanoxylon

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mayten *Maytenus boaria*

Has been found escaping gardens in Davis and the surrounding area. More information is being gathered about potential ecological damage this tree may cause.



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Caution

olive *Olea europaea*

Produces hundreds of seeds which are spread by birds and mammals. Creates dense canopies that shade out other vegetation. Though commonly grown as a crop in California, gardeners should use caution planting this



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edible fig *Ficus carica*

Can be a problem in the San Francisco Bay area, the Central Valley, and southern California. May be spread by birds and deer, as well as by vegetation fragments. Can dominate stream and riverside habitat.



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Melaleuca quinquenervia, *the Australian paperbark tree*, was introduced to Florida from Australia for landscaping purposes. Today the tree covers more than 450,000 acres of south Florida natural areas, and is one of the biggest threats to the Florida Everglades.



The California Invasive Plant Council works to protect California's wildlands from invasive plants through education, restoration, and research. For more information please visit our website.

www.cal-ipc.org

The following individuals made valuable contributions to the content of this brochure:

Fran Clarke
Sacramento Tree Foundation

Barrie D. Coate
Consulting Arborist

Holly Forbes
U.C. Berkeley Botanical Garden

Bruce W. Hagan
California Dept. of Forestry and Fire Protection

Warren G. Roberts
U.C. Davis Arboretum

Jake Sigg
California Native Plant Society

Non-Invasive Alternatives

There are hundreds of beautiful, functional trees that do not pose an ecological threat to California's wildlands. This brochure recommends only a selection of the trees that can be planted in place of the invasive trees on the opposite panels. Consult your local nursery or Master Gardener for additional information on choosing the right tree for your site.

Native alternatives

California native trees are not found for sale as often as non-native trees. However, where conditions are appropriate, the right native tree can be a good choice—particularly those grown from locally occurring stock. Redwoods, coast live oak, and California buckeye can often be obtained at native plant sales held by chapters of the California Native Plant Society.

Non-native alternatives

Many non-native trees are "wildland-safe" because they cannot survive and reproduce in the wild without human care. However, much remains unknown about the ability of plants to become invasive over time. Care has been taken to ensure that none of the recommended non-natives is invasive, but it is possible that some of these trees may become pests in the future. If you see one of the recommended alternatives growing in wildlands, please contact Cal-IPC.

A note about oaks. Sudden Oak Death (SOD) is a serious disease killing oak trees and other plants in California. The three oak species recommended in this brochure are white oaks, which are less susceptible to SOD. In addition, trees planted for landscaping purposes have not, to date, been found to contract SOD. There is, however, a chance that these oaks may in the future be found to be susceptible to, or carriers of, this serious disease.

Symbols Used:

- Full sun
- Part shade
- Full shade
- Drought tolerant
- Low water
- Moderate water
- Regular water
- High water

Zones noted from Sunset Western Garden Book

Good Alternatives

Arranged roughly from smallest to largest...

hybrid crape myrtle *Lagerströmeia* hybrids

Stunning tree, great in a hot area. Showy summer flowers in hot pink, white, lavender, and other colors typically give way to brilliant fall foliage. Somewhat susceptible to aphids. Not the best choice for coastal locations.



© Jay Evans, North Carolina Cooperative Extension Service

Deciduous
Zones: Varies by hybrid
Height: 8 to 25 feet, varies by hybrid.

Chinese fringe tree *Chionanthus retusus*

Blooms like clouds of the whitest, feathery flowers. Handsome bark provides winter interest. Will grow in most central California environments. The olive-like fruits can be a litter problem. May produce a significant amount of pollen.



Courtesy Salisbury University Arboretum

Deciduous
Zones: 3-9, 14-24
Height: To 20 feet, not quite as wide.

Most of these suggested trees are readily available from retail nurseries. Some can be more difficult to locate, but are worth the effort. Your local nursery may be able to special order these, or you can find them on-line and through mail order.

Good Alternatives

bronze loquat *Eriobotrya deflexa*

Fast growing and easily trained. New leaves emerge bright copper before turning green. Bunches of creamy white flowers in spring. Easy to plant and care for. Requires well-drained soil. Can be subject to fireblight.

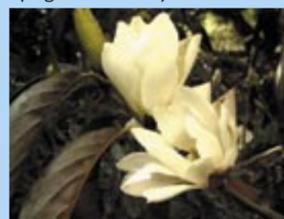


www.worldplants.com

Evergreen
Zones: 8-24
Height: 12-30 feet
Width: 15-30 feet

sweet michelia *Michelia doltsopa*

Prune to create a narrow, upright tree. Furry brown buds open to cream or white blossoms. Thin, leathery, dark green leaves are red underneath.



Luen Miller, Monterey Bay Nursery, Inc.

Evergreen
Zones: 15-24
Height: To 25 feet

eastern redbud *Cercis canadensis*

Can be fast-growing. Rosy pink flowers bloom before new leaves appear and are followed by beanlike pods. Prefers well-drained soil. *Cercis reniformis* 'Oklahoma' is also popular.



Paul Redburn, Ozarks Regional Herbarium, Southwest Missouri State University

Deciduous
Zones: 1-24
Height: 25-35 feet
Width: 25-35 feet

Good Alternatives

Japanese snowdrop tree *Styrax japonicus*

Slender, graceful trunk. Broad crown. Leaves may turn red or yellow in fall. Delicate, fragrant, white flowers hang below leaves, creating a layered effect.



J.C. Hanson Arboretum, North Carolina State University

Deciduous
Zones: 4-9, 14-21
Height: 30 feet, narrow in youth, wide in maturity

marina strawberry tree *Arbutus 'Marina'*

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. Can be slow to reach tree size.



© Monrovia

Evergreen
Zones: 8, 9, 14-24
Height & Width: To 40 feet

water gum *Tristaniopsis laurina*

Formal plant, can be trained as a single or multistemmed tree. Mahogany-colored bark peels, revealing new, satiny white bark beneath. Yellow flowers produce a good show. Can be slow-growing. Damaged by very cold winters. Try cultivar 'Elegant.'



© Murray Hogg, Australian National Botanic Gardens

Evergreen
Zones: 15-24
Height: To 45 feet
Width: 5-30 feet

Good Alternatives

Nichol's willow-leaved peppermint *Eucalyptus nicholii*

One of the cleanest, most graceful eucalyptus, with weeping branches and not too much litter. Crushed leaves smell a bit like peppermint. Furrowed, rich, reddish-brown bark. Damaged by very cold winters.



Ian Barclay

Evergreen
Zones: 5, 6, 8-24
Height: 36-48 feet
Width: 15-36 feet

tupelo *Nyssa sylvatica*

Crooked branches and dark, red-tinged bark make a dramatic winter picture. Birds are attracted to the fruit. Leaves turn yellow, orange, and red before dropping in fall. Excellent shade tree. Poor in air pollution. Needs acidic soil with no salinity.



© 2000 W.J. Hayden

Deciduous
Zones: 2-10, 14-21
Height: 30-50 feet
Width: 15-25 feet

Japanese blueberry tree *Elaeocarpus decipiens*

New leaves rusty and hairy, turning smooth and bright green. Old leaves turn red before dropping. Blooms with tiny, scented white flowers in clusters followed by small, blue-black, edible fruits. Likes rich, well-drained soil. Needs little pruning.



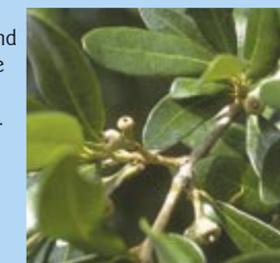
davegardner.com

Evergreen
Zones: 8-9, 14-24
Height: 30-60 feet
Width: 20-30 feet

Good Alternatives

southern live oak *Quercus virginiana*

Relatively fast-growing and long-lived. Very attractive in hot, interior climates. Easy to plant and care for.



© J.R. Manhart

Evergreen
Zones: 4-24
Height: 40-80 feet
Width: 80-160 feet

bald cypress *Taxodium distichum*

Delicate, feathery foliage sprays turn reddish-brown before dropping in the fall. Tolerates drought or very wet conditions, and any but the most alkaline soil. Trunk can be buttressed at the base. No pests or diseases. Easy to plant and care for. Tolerates any amount of water.



Courtesy Plant Resources Center, University of Texas at Austin

Deciduous
Zones: 2-10, 12-24
Height: 50-70 feet,
Width: 20-30 feet

burr oak *Quercus macrocarpa*

Rugged-looking tree with flaky grayish bark. Long, deeply lobed leaves are glossy green. Large, distinctive acorns covered in fringed cap. Tolerant of poor conditions. Acorns can be a trip hazard.



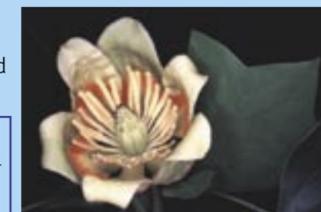
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Deciduous
Zones: 1-11, 14-23
Height: 60-75 feet, equally wide when mature

Good Alternatives

tulip tree *Liriodendron tulipifera*

Straight, columnar trunk with a tall, pyramidal crown. Unique lyre-shaped leaves. Foliage starts bright green, turns bright yellow in fall. Tulip-shaped flowers in late spring are interesting but not showy. Beautiful large shade or lawn tree. Likes slightly acidic, well-drained soil and plenty of room.



© 2001 David E. Lemke

Deciduous
Zones: 2-12, 14-24
Height: 60-80 feet
Width: To 40 feet

dawn redwood *Metasequoia glyptostroboides*

Soft pale green needles turn reddish-brown before falling in autumn, leaving a beautiful winter silhouette. Grows very fast when young. Older trees have fluted trunks. Resistant to oak root fungus. Not suitable for very arid regions or the coast.



Courtesy Barozz Paella

Deciduous
Zones: 3-10, 14-24
Height: To 90 feet
Width: To 20 feet

The trees suggested in this brochure represent only a small number of the beautiful, non-invasive trees available in California for home and professional landscaping. Ask your local nursery professional, or one of the many non-profit organizations dedicated to urban trees, for additional suggestions and advice.