

# COMPATIBLE PLANTS

## Under & Around Oaks

PUBLISHED BY THE CALIFORNIA OAK FOUNDATION

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## PUBLISHER'S NOTE

The California Oak Foundation (COF) continues to dedicate its work toward achieving healthy and sustainable oak-forested lands to benefit people, wildlife and plants.

Population pressures are negatively affecting the state's important oak resources. In the interest of public information, COF's Board of Directors and Advisors are making this popular booklet available to everyone at no cost. Achieving oak sustainability in a fast-growing state will take responsible actions by each of us. Thanks to the many people over the years who have made this project possible: Ginger Strong, Karen Leigh, Faith Bell, Helen Cannen, Larry Miller, Judy Tretheway, Keith Oldham, Flow Fahrenheit, Kate Greene, Elizabeth Proctor, Amy Larson, Claudia Cowan, Gary Jones, the Sacramento Tree Foundation and Huge Media.

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## INTRODUCTION

The distinctive and enduring oak trees scattered across the state's valleys, woodlands and foothills have come to symbolize California's native landscape. These trees are admired for their natural beauty, longevity and value to wildlife and the environment. Despite this admiration and concern for preserving oaks, developers and homeowners often damage trees inadvertently as they build homes and install landscaping around them. Although tough and resilient, oak trees can be decimated by construction-related injuries and by changes in soil aeration and moisture levels. This book has been prepared to help you landscape appropriately around oaks. By recognizing their basic growing requirements and environmental tolerances, you can incorporate existing oaks into your landscape without jeopardizing their health. A list of plants compatible with the environmental requirements of native oaks is provided. While comprehensive, the list of plants is by no means complete. Preference has been given to plants that are readily available. Proper irrigation practices and tree care tips to maintain tree health are also discussed.

## APPROPRIATE LANDSCAPING

Avoid injuring oak roots or altering the soil conditions where they grow, particularly within the dripline (periphery of foliage). Keep this area relatively undisturbed and free of water-demanding ornamental vegetation such as lawns, ground covers and shrubs like rhododendrons, azaleas and camellias. Do not remove the natural leaf mulch unless there is a serious fire hazard. This organic material conserves water, provides nutrients, improves soil structure, decreases soil pH and moderates soil temperatures.

Although attractive when planted beneath native oaks, the water required by lush, green lawns and ornamental vegetation can kill them. If turf and/or water-loving ornamentals are present under oaks, discontinue watering that portion within the drip zone (inside circumference of the dripline). If this is impractical, redesign the turf or planting area and the irrigation system to prevent water from hitting the trunk and wetting the soil within at least 10 feet of the tree's base (root crown). This is the critical zone for root diseases.

Minimize the use of ornamental vegetation under old, established oaks. Keep the area within the dripline as natural and undisturbed as possible. Use plants as accents rather than as ground covers. Extensive landscaping will disturb the root system and compete for available water and minerals. Consequently, supplemental watering and fertilizing may be needed to prevent drought stress and mineral deficiency. Avoid all planting under declining oaks, and allow trees that have sustained construction damage several years to recover before landscaping beneath them. Plant no closer than 10 feet from the trunk (see figure 1). Select plants that will not ultimately grow into or compete with the oak's lower canopy. Plant taller growing shrubs outside the dripline.

Select plants that will tolerate the dry soils and partial shade typically found beneath native oaks during the summer. Many of California's native plants are well suited to this environment; they are also attractive and pest resistant. These plants are available from nurseries specializing in native plants (see Nurseries). Many exotic species also perform well, and are available at local nurseries. Plant ornamentals requiring full sun outside the dripline.

Native bunch grasses, which naturally grow under oaks, and other ornamental grasses are becoming increasingly popular. Unlike regular lawn grasses they require little water and need less maintenance. Their attractive textures and colors allow them to be used as specimen (feature) plants. When massed together, native grasses give the appearance of a meadow, ideal for the establishment of colorful wildflower annuals.

Plant bulbs, seeds and container plants during the fall and winter to ensure their survival. Seeds propagated in flats before planting out in soil are more likely to survive. If rain is lacking, water these plants twice a week for several weeks. Use a drip system or slow running hose to wet the roots and 4-6 inches of surrounding soil. Thereafter, water twice a month until fall rains begin. The following season, water monthly during the summer, wetting the soil to a depth and radius of 12 inches around each plant. By the third season, most of the plants should be well established, requiring little or no additional watering. Avoid root damage from trenching for irrigation systems by placing waterlines and soaker hoses directly on the soil surface and covering with mulch.

## OAK ROOTS

To properly plant and manage landscaping around trees, especially native oaks, it is important to understand what tree roots do, where they grow, and what they need. Roots support and anchor the tree, absorb water and minerals, store energy and produce important chemicals. They grow where oxygen, water and minerals are most abundant. However, when any of these factors are deficient or in excess, root function and, ultimately, tree health may suffer.

The roots of mature oaks grow predominantly within the upper three feet of soil. Most of the roots responsible for the uptake of water and minerals are concentrated within 12 inches of the surface. Few roots grow deeper than three feet. Much of the root system is contained within the dripline, although roots typically radiate well beyond it (see figure 1).

Oak roots, like those of most trees, are extremely sensitive to environmental change (soil compaction, altered soil grade, increased moisture, paving, etc.). These changes reduce the soil oxygen, impair root function and create conditions more favorable to root pathogens (disease organisms).

## OAKS AND SUMMER WATER

Once established, native oaks seldom require supplemental irrigation to survive. Still, most oaks, especially those in urban settings, will benefit from one to several deep waterings during the hot, dry summer when drought stress is greatest. However, when the frequency of irrigation exceeds a monthly application, root health and function are likely to suffer.

Frequent irrigation displaces much of the oxygen in the soil, producing unfavorable growing conditions for oaks. This can lead to reduced growth and vitality, increased susceptibility to insect and disease pests, die-back and decline. Oak roots, particularly those originating at the base of the tree (root crown), are quite vulnerable to root pathogens. Although normally inactive in dry soil, common root pathogens proliferate under warm, moist conditions created when water is frequently applied to the soil during the summer. Root diseases are more severe when soil drainage is restricted as in heavy clay soil, hardpan, and in low areas.

Frequent summer irrigation near the root crown is likely to cause root decay which, over time, will destroy the roots, kill the tree or cause structural failure. Disease prevention and management involves changing or maintaining environmental conditions to favor tree growth, while discouraging root diseases. This involves the reduction of plant stress through judicious watering, appropriate landscaping and proper tree care. Avoiding irrigation for lawns and water-loving ornamental vegetation under native oaks helps ensure their health.

Contrary to conventional wisdom, young oaks do not adapt to frequent irrigation. Although oaks in turf or irrigation settings often appear healthy, most become increasingly susceptible to root disease with age. Soil conditions also play a role in disease development. Oaks planted in fast draining soil may survive frequent irrigation for many years. Newly planted oaks do require frequent and regular irrigation until they are established, usually two to three years. This fact is often overlooked by people who assume that because oaks are drought tolerant, they don't need supplemental watering.

# Guidelines For Tree Protection

Figure 1

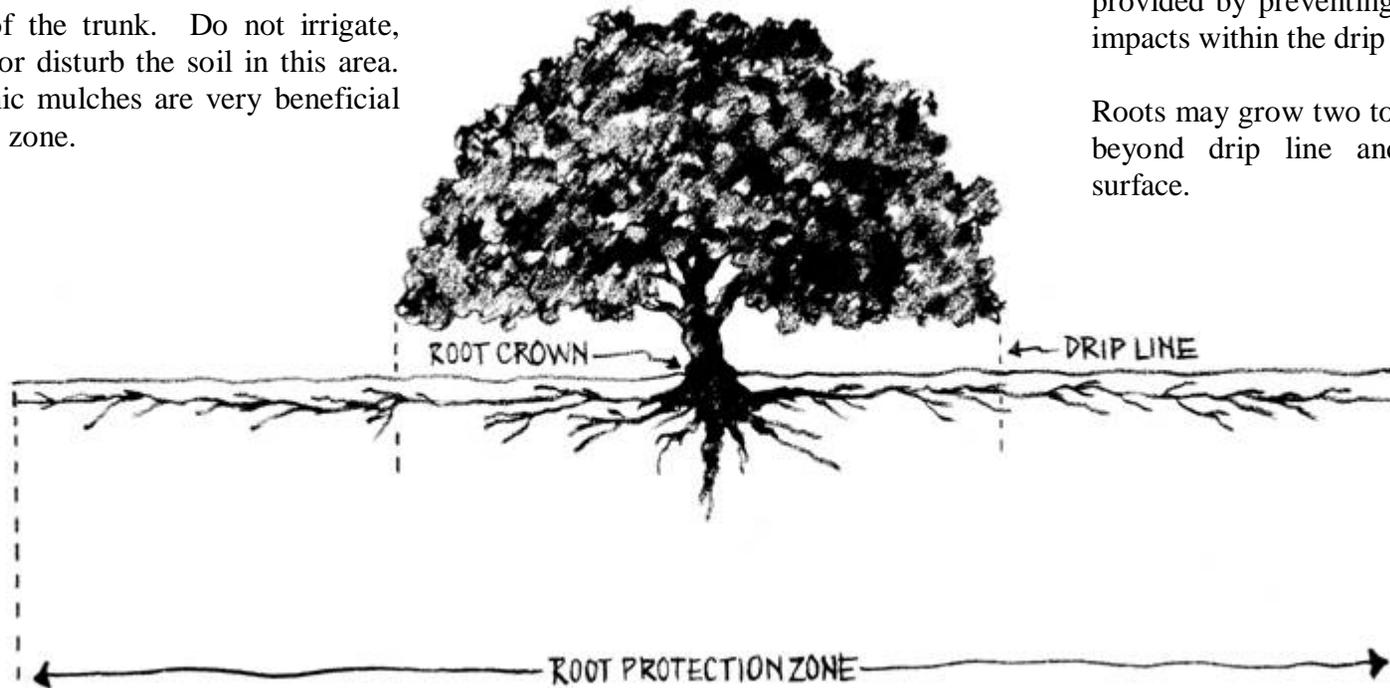
## Root Disease Critical Zone

The most crucial area is within ten feet of the trunk. Do not irrigate, plant or disturb the soil in this area. Organic mulches are very beneficial in this zone.

## Root Protection Zone

Adequate root protection is usually provided by preventing or limiting impacts within the drip line.

Roots may grow two to three times beyond drip line and near the surface.



## DO

- § Select appropriate plants
- § Mulch with 2" to 4" of organic matter
- § Protect from compaction
- § Tunnel through soil for utility line installation
- § If paving is required, use porous paving, such as brick on sand or gravel

## DO NOT

- § Compact soil with heavy machinery, vehicles or livestock
- § Change drainage patterns
- § Raise soil grade
- § Lower soil grade
- § Trench or otherwise cut roots
- § Till

**DISEASES:** When growing under natural, undisturbed conditions, native California oaks typically resist most diseases. When weakened by disturbance and/or improper landscaping and irrigation, they become particularly susceptible to diseases. Two serious root diseases commonly encountered in irrigated settings are Crown Rot and Oak Root Fungus.

### **Crown Rot (*Phytophthora spp.*)**

Crown Rot is one of the most common and serious problems of oaks in residential landscapes. Caused by a fungus, it is fostered by excess moisture, poor drainage and inadequate soil aeration.

Symptoms and signs of this disease include:

- § decline (general loss of vigor)
- § reduced growth
- § twig and branch die-back
- § wilting
- § chlorotic (yellow) foliage
- § sparse and stunted foliage
- § premature leaf drop
- § formation of lesions on the bark of large roots and lower trunk accompanied by oozing of dark or rusty colored fluid.

In most cases, people notice the symptoms too late for successful treatment. However, if the disease is detected early, steps can be taken to save the tree. Treatment is best left to a certified arborist as homeowners are seldom equipped to deal with these problems. If a specialist cannot be called in, the following measures may be of benefit:

1. Stop all frequent (more than once a month) watering within the drip zone or, at the very least, within ten feet of the trunk. Cap or adjust sprinklers as necessary.
2. Remove any soil, mulch or debris that has been placed or has accumulated against the trunk above the natural soil line.
3. If fill soil has been placed around the tree, expose the tree's flared base (root-crown) at the original soil line. By careful excavation of the soil the buried bark can dry. Remove soil within about one foot of the trunk and down until the large, buttress roots are exposed.

4. Leave the root-crown exposed. If necessary, provide drainage to prevent water from collecting around the root-crown during the winter. Cover the excavated area with a grate or decking if it is deep, or if you use the area around the tree.

**CAUTION:** Trees that have had moist soil around their bases often develop decay in the root-crown. Such trees are often structurally weak and prone to fall, even if their tops appear healthy. Consult a certified arborist to determine their health and safety.

5. Allow turf in the unirrigated area to die and slowly decompose.
6. Remove ornamentals that require frequent irrigation.
7. Water drought tolerant plants no more than monthly. Hand water or use a drip system or soaker hose.
8. Fertilization usually is not necessary and may encourage the disease or even slow recovery.

### **Oak Root Fungus (*Armillaria mellea*)**

This disease occurs in many oaks throughout California. However, healthy oaks and those growing under natural, undisturbed conditions typically resist damage. Oaks weakened by root loss, drought, defoliation, over pruning, soil compaction, pavement, impeded drainage, fill soil and/or frequent summer irrigation are most susceptible. Once the symptoms of this disease become obvious there may be little that can be done.

Symptoms and signs of this disease are similar to those of crown rot:

- § gradual die-back or sudden death
- § twig and branch die-back
- § chlorotic (yellow) foliage
- § premature leaf drop
- § occasional presence of clumps of honey-colored mushrooms at the base of the tree in the fall
- § white, fan-shaped fungal growth between the bark and wood
- § dead bark
- § wet, stringy, decayed wood
- § presence of black, root-like structures (rhizomorphs) on the root and in the surrounding soil

Treatment for oak root fungus is similar to that for crown rot, however, prevention is the best approach. The key is to keep oaks healthy and disease resistant. Avoid frequent summer irrigation around oaks. Prevent mechanical damage to the major roots, root crown, trunk and branches, and avoid soil compaction within the dripline. Control insect outbreaks before serious defoliation occurs, (see University of California Publication Leaflet 2783, *Oaks on the Home Grounds* and Leaflet 2542, *Oakworm [Oakmoth] and Its Control*). Chemical control, e.g., soil fumigants or soil drenches have not proven effective. Replace disease-killed oaks with resistant tree species, (see University of California Publication Leaflet 2591, *Resistance and Susceptibility of Certain Plants to Armillaria Root Rot*).

**WATERING:** Although native oaks usually do not require summer irrigation, there are several instances when supplemental watering is appropriate. First and foremost is the need to minimize the effects of drought. If the winter is unusually dry, supplemental watering in the spring can complement natural rainfall. Another reason for the occasional watering of oaks is when natural water sources have been diverted, e.g., extensive pavement, retaining walls, culverts, drains, etc., causing precipitation to run off rather than penetrate the soil around the trees. One further very important reason is to reduce stress due to lack of water following moderate to severe root loss from construction injury or transplanting.

Water the soil from halfway between the trunk and the dripline to 10 to 15 feet beyond, allowing water to penetrate the soil to a depth of 18 to 24 inches (see figure 2). It may take 8 to 12 hours to penetrate to this depth. Apply additional watering 1 to 2 times during dry summers. Keep water at least 10 feet from the trunk. The length of time for irrigation will vary based on the rate of water flow, method of irrigation (soaker hose, sprinkler, etc.), area covered, rate of water penetration and topography. You may have to experiment a little to get good water penetration. To check the depth of penetration, dig a small hole in the irrigated area 24 hours after watering. If the soil is moist at the desired level, the watering time is adequate. Insufficient watering is marked by dry soil, while excessive watering or impaired drainage is indicated by standing water.

**FERTILIZING:** Healthy, mature oaks growing under natural conditions normally do not require supplemental fertilizer (mineral elements). However, oaks in landscaped areas where the leaf-litter is regularly

removed, or where there is extensive landscaping may benefit from periodic light fertilization. Stressed and weakened oaks should not be fertilized. Poor growth and appearance are usually the result of poor growing conditions rather than mineral deficiencies. These problems are exacerbated by fertilizing because it increases top growth at the expense of root growth. This can result in further weakening of the tree. Improving the root environment through mulching, judicious watering, aeration (shallow holes or careful soil loosening) will usually improve tree growth.

Young oaks may be fertilized to encourage growth. Mature oaks, on the other hand, may be fertilized to maintain health rather than stimulate growth. If the leaves of your tree are dark green and it appears to be healthy, fertilization may be unnecessary. If you suspect a mineral deficiency, consider a soil analysis. Consult your local University of California Cooperative Extension office for detailed information.

When appropriate, apply nitrogen based fertilizer in the late winter to early spring when there is rain to carry the water soluble mineral elements into the soil. Nitrogen applied in the fall may gradually dissipate due to leaching and degradation by soil organisms. As long as it is thoroughly watered in, nitrogen fertilizer may also be applied in the late spring and summer when nitrogen uptake is greatest. Fertilizer is best applied by broadcasting (spread by hand) over the tree's root zone (see figure 2). If rain is lacking, water the minerals into the soil, 6 to 12 inches deep, avoiding the area within 10 feet of the trunk. Use fertilizers such as ammonium sulfate, ammonium nitrate or urea. Complete fertilizers containing nitrogen (N), phosphorous (P) and potassium (K) are more expensive and often unnecessary. If you use a complete fertilizer, select one with a N-P-K ratio of 3-1-1 or 3-1-2. Fertilize healthy, mature oaks sparingly, e.g., 1 to 2 pounds actual nitrogen per 1000 square feet of exposed soil surface every other year, or less frequently. Split applications, using 1/2 rate in the late winter and again in the early summer, may be beneficial. Younger trees can be fertilized more frequently and at more moderate rates, e.g., 2 to 4 pounds per 1000 square feet of exposed soil surface area.

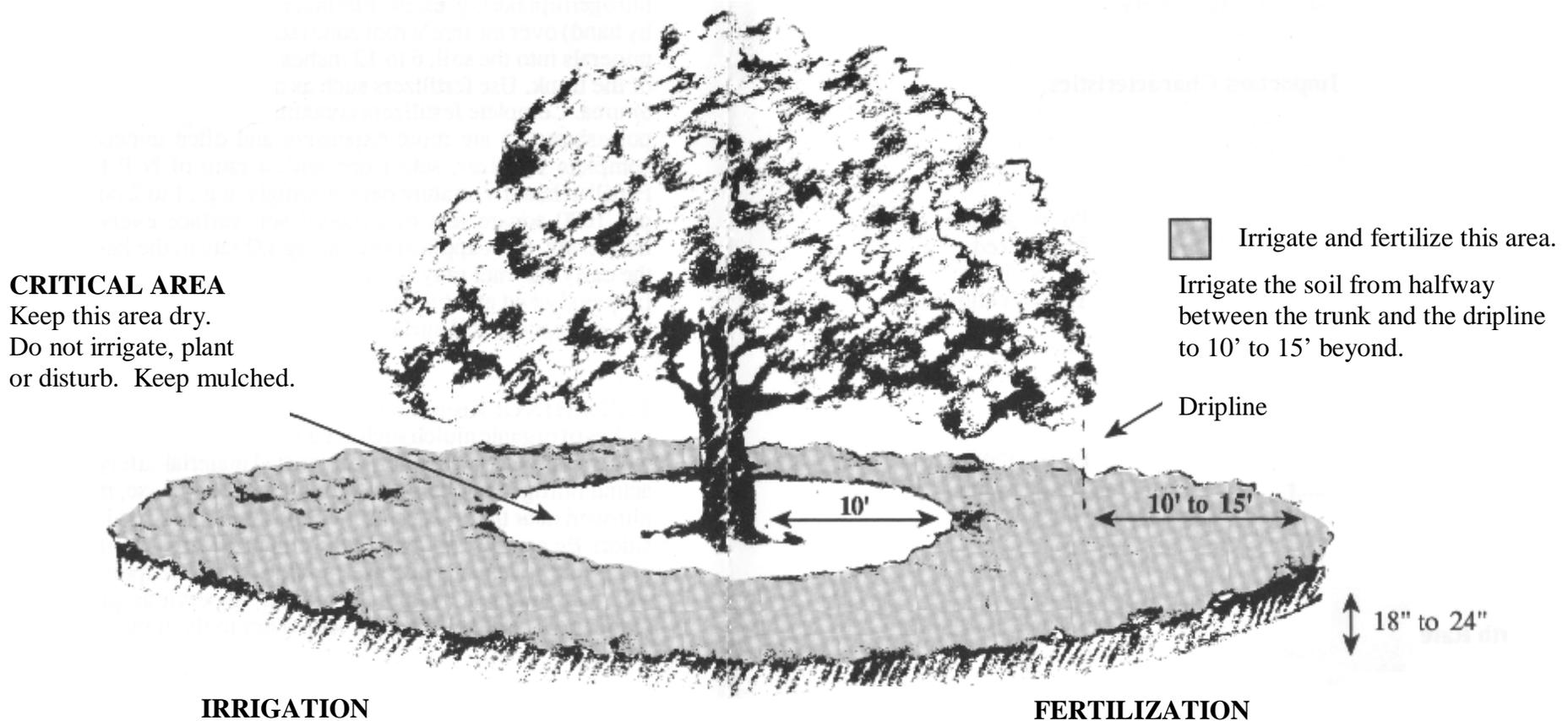
**MULCHING:** Keep the soil surface beneath oaks mulched with 2 to 4 inches of organic mulch such as natural leaf-litter, shredded or chipped bark, wood chips, etc. To use non-composted material safely, add three pounds of actual nitrogen per cubic yard of mulch. Otherwise, much of the available nitrogen near the soil surface will be temporarily tied up

during decomposition. Be careful not to place the mulch directly against the trunk. Organic mulch improves soil structure, provides minerals upon decay and moderates soil temperatures. Avoid the use of impervious plastic tarping, which reduces the availability of air and water to the roots.

**PRUNING:** Don't top oaks to reduce tree height. Instead, prune by careful thinning to maintain natural shape, health and safety. Rather than stubbing tree branches, remove the entire branch or cut it back to a branch that can assume the new lead. Remove no more than 10 to 20 percent of the foliage of a healthy, mature oak and even less for an older or declining one. Don't make cuts flush to the trunk or branch. The collar or swollen area at the base of most branches protects the tree from decay. Cut just outside this collar, leaving it intact without leaving a stub. Wound dressing does not prevent decay and should not be used on pruning cuts. Prune in the late winter, to early spring or early to mid-summer. Dead and weak branches can be removed at anytime. Avoid pruning when the leaves are forming and in the fall. Pruning large trees is both dangerous and difficult; it is best left to professionals. Consult an arborist, preferably someone certified by the Western Chapter of the International Society of Arboriculture.

# GUIDELINES FOR IRRIGATION AND FERTILIZATION

Figure 2



Generally, native oaks do not require irrigation.

Additional water may be appropriate

- § to minimize drought stress
- § when natural water sources have been altered
- § after root loss due to construction injury or transplanting
- § to establish compatible plants
- § when using fertilizer

Do not use sprinkler system; use dripline or soaker hose placed on surface and cover with mulch.  
Check water infiltration.

Healthy oaks growing in undisturbed conditions normally do not need supplemental fertilizer.

Stressed and weakened oaks should not be fertilized.

If needed, broadcast fertilizer in late winter or early spring when soil is moist and water in.

If fertilizer is applied in summer, irrigate soil before application then water in thoroughly (6" to 12" deep).

# USING THE PLANT SELECTION CHARTS

CN after the plant name indicates that it is a California Native.

Some column headings are self-explanatory.

## Important Characteristics

### Flower Color abbreviations

B	=	Blue	Pu	=	Purple
C	=	Cream	R	=	Red
La	=	Lavender	W	=	White
O	=	Orange	Y	=	Yellow
P	=	Pink			

### Flower Season abbreviations

Sp	=	Spring	Fa	=	Fall
Su	=	Summer	W	=	Winter

### Growth Rate

F	=	Fast
M	=	Moderate
S	=	Slow

## Cultural Preference

### Sun/Part Shade/Dense Shade

**P** under the Sun heading indicates the plant prefers sun.

**PP** under the Part Shade heading indicates the plant prefers part shade.

**PPP** under the Dense Shade heading indicates the plant prefers dense shade.

### Good Drainage

**P** indicates the plant needs good drainage.

# USING THE PLANT SELECTION CHARTS

## Plant Tolerance

**P** under a column heading indicates the plant will tolerate that condition.

### Seacoast

**P** indicates a plant will grow within 1,000 feet of the ocean where salt air and wind are common.

### Wind

**P** indicates a plant will tolerate regular winds of 10 miles per hour or more.

### Hillside (Erosion Control)

**P** indicates a plant will tolerate the harsher conditions of hillsides, and that the root structure will help prevent soil erosion.

### Drought

**PP** indicates moderate drought tolerance.

**PPP** indicates high drought tolerance.

### Deer Susceptibility

1 low susceptibility to deer

2 moderate susceptibility to deer

3 high susceptibility to deer

Deer preferences vary greatly by location and availability of preferred food plants. If you have experienced problems in the past, do a trial planting to see which plants are best for your area.

### Sunset Zone

Refer to *Sunset Western Garden Book* for a map and definitions of these zone numbers.

# Shrubs

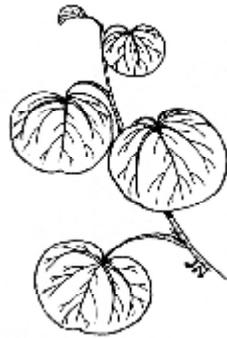


*Berberis darwinii*

<p><b><i>Abelia grandiflora</i> — Glossy Abelia</b> Dependable arching form 3' to 7'. Leaves are shiny, bronze color in spring and fall. A.g. 'Sherwoodii' is covered with smaller maroon foliage and reaches 4' tall. A.g. 'Prostrata' is a ground cover.</p>
<p><b><i>Arbutus unedo</i> — Strawberry Tree</b> Attractive, reddish, shaggy bark. Forms a good screen up to 25' tall with an 8' spread. Plant outside dripline. Red fruit edible, but not tasty. <i>A. unedo</i> 'Compacta' remains a smaller shrub to 6' tall.</p>
<p><b><i>Arctostaphylos densiflora</i> — Manzanita (CN)</b> A.d. 'Howard McMinn' is a reliable, mounding shrub 3' to 5' high with a spread of 7'. Attractive, smooth, reddish bark. Olive foliage can be sheared. Good on hillsides.</p>
<p><b><i>Berberis darwinii</i> — Darwin's Barberry</b> Dense mound of dark, glossy leaves, 5' to 7' tall. Dark blue berries attract birds. Spiny foliage makes it a good barrier plant. Sprinklers inside foliage will kill it. Plant at edge of dripline.</p>
<p><b><i>Buddleia davidii</i> — Butterfly Bush</b> Grows 10' to 12' tall with arching stems. Leaves are 6" long. Flowers are 12" long, sweetly fragrant and attractive to butterflies. Prune to 12-18" in winter. Plant outside dripline.</p>
<p><b><i>Carpenteria californica</i> — Carpenteria (CN)</b> Grows to 5' with dark green leaves and lovely fragrant flowers. Annual removal of old wood will keep it looking good. Plant at edge of dripline. Resistant to oak root fungus.</p>

Important Characteristics					Cultural Preference			Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	W Pi	Su		F	☺	☺☺				☺	☺	☺☺☺	2	5-24
	☺	W	Sp	☺	M	☺	☺☺		☺		☺		☺☺☺	2	4-24
	☺	W R	S	☺	M	☺	☺☺		☺		☺	☺	☺☺☺	2	7-9 14-21
	☺	O	Su	☺	S- M	☺	☺☺		☺		☺	☺	☺☺	1	1-11 14-17
	☺		Pu Su		F	☺	☺☺			☺			☺☺☺	1	1-9 12-24
	☺	W	Sp		S		☺☺	☺☺☺					☺☺☺	1	5-9 14-24

# Shrubs



*Cercis occidentalis*

<p><b><i>Ceanothus</i> ‘Concha’ — Wild Lilac (CN)</b> Shrub 5’ to 7’ tall by 6’ to 8’ wide with characteristic blue flowers. <i>Ceanothus</i> ‘Dark Star’ is similar but is a broader, lower shrub; more disease resistant than most ceanothus. Plant at edge of dripline.</p>
<p><b><i>Ceanothus thyrsiflorus</i> ‘Skylark’ — Ceanothus (CN)</b> Forms a dense mounding shrub 4’ to 6’ tall. Flowers are dark blue. C. t. ‘Snow Furry’ has a variable height of 6’ to 12’ and has snow white flowers; plant outside dripline.</p>
<p><b><i>Cercis occidentalis</i> — Western Redbud (CN)</b> Multi-stemmed shrub 8’ to 12’ tall. Best outside dripline. Magenta flowers bloom before leaves open. Cold winters below 28°F turn foliage rose-red. Resistant to oak root fungus. Plant young.</p>
<p><b><i>Daphne odorata</i> — Fragrant Daphne</b> Can be 4’ to 6’ tall with an 8’ spread. Neat, glossy 3” leaves. Sweetly fragrant flowers. Needs excellent drainage to prevent water mold attack. <i>D. o.</i> ‘Marginata’ has leaves with yellow edges.</p>
<p><b><i>Diplacus hybrids</i> — Monkey Flower (CN)</b> Grows to 4’ tall and wide. Foliage is narrow and sticky. Best pruned back annually in February to keep compact. Several different hybrids available with color ranges from pale yellow to mahogany red.</p>
<p><b><i>Eriogonum spp.</i> — Buckwheat (CN)</b> Several species available. <i>E. arborescens</i> is 3’ to 4’ tall. <i>E. crocatum</i> forms an 18” mound with 4” yellow flowers. <i>E. umbellatum polyanthum</i> grows to 8” tall and 3’ wide.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	B	Sp		M-F	☺			☺		☺	☺	☺☺☺	2	4-7 14-24
	☺	B	Sp		F	☺			☺		☺	☺	☺☺☺	3	4-7 14-24
	☺	Pu	Sp	☺	F	☺	☺☺		☺			☺	☺☺☺	2	2-24
	☺	Pi	W		S		☺☺		☺				☺☺	2	4-9 14-24
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	☺	Y	Su		M-F	☺					☺	☺	☺☺☺	1	14-24

# Shrubs



*Heteromeles arbutifolia*

<p><b><i>Forsythia x intermedia</i> — Forsythia</b>          Arching branches reach 7' to 10' tall. Stiff stems covered with flowers before leaf buds open. Branches can be cut for indoor winter bloom. Prune 1/3 of flowering stems to ground after bloom.</p>
<p><b><i>Garrya elliptica</i> — Coast Silktassel (CN)</b>          Grows 8' to 10' tall with dark green, leathery leaves. Greenish-yellow, 12-14" long catkins produced in early spring. Prune to improve shape. Good screen or hedge, plant outside dripline.</p>
<p><b><i>Galvezia speciosa</i> — Island Bush Snapdragon (CN)</b>          Shrub 3' to 5' across. Tubular flowers attract hummingbirds. Flowers sporadically all summer.</p>
<p><b><i>Grevillea rosmarinifolia</i> — Rosemary Grevillea</b>          Forms a dense, dark green shrub 4' to 5' tall. Dark green leaves are spiny, undersides are white. Flowers attract hummingbirds.</p>
<p><b><i>Heteromeles arbutifolia</i> — Toyon (CN)</b>          Large shrub 8' or so, can be pruned to shape and size. Good in a background situation at edge or outside dripline. Red berries attract birds in the fall.</p>
<p><b><i>Holodiscus discolor</i> — Ocean Spray (CN)</b>          Variable height from 4' to 15' depending on conditions. Attracts birds. Good on hillsides, flowers are fragrant, prune back after flowers fade.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☺		Y	W		M	☺	☺☺			☺	☺		☺☺☺	2	2-11 14-16 18,19
	☺	Y	Sp	☺	F	☺	☺☺		☺		☺		☺☺☺	1	5-9 14-21
	☺	R	Sp-Su		M-F	☺	☺☺			☺	☺	☺	☺☺	2-3	14-24
	☺	R C	Fa-Sp		M	☺			☺			☺	☺☺☺	1	8, 9 12-24
	☺	W	Sp-Su	☺	M	☺	☺☺			☺	☺	☺	☺☺☺	2	5-24
☺		W	Sp		M		☺☺	☺☺☺				☺	☺☺	1	1-7 14-17

# Shrubs



*Myrica californica*

<p><b><i>Ilex cornuta rotunda</i> — Dwarf Chinese Holly</b> Rounded shrub reaches 3' tall and wide. Glossy, spiny leaves make it a good barrier plant. English holly (<i>Ilex aquifolium</i>) will grow to 30' unless pruned. Plant outside dripline.</p>
<p><b><i>Isomeris arborea</i> — Bladderpod (CN)</b> Mounds to 4' in height. Foliage is ill-scented if bruised. A good plant for tough background locations. Native to coastal bluffs and desert washes.</p>
<p><b><i>Mahonia aquifolium</i> — Oregon Holly Grape (CN)</b> Upright growth 3' to 6' tall, with dark green, spiny leaves. <i>M.a.</i> 'Compacta' grows 2' tall. <i>M. pinnata</i> grows 5' to 6' tall. Tolerates sun and drought better than <i>M. aquifolium</i>. Resistant to oak root fungus.</p>
<p><b><i>Myrica californica</i> — Pacific Wax Myrtle (CN)</b> Upright growth 8' to 25' tall. Foliage is glossy green. Makes a good screen or hedge or can be pruned into multi-stemmed tree. Plant outside dripline. Mites may be a problem.</p>
<p><b><i>Myrsine africanum</i> — African Box</b> Stiff, vertical stems with dark green, small leaves. Will grow to 6' but can be maintained by shearing to any height. Can be used as a formal hedge.</p>
<p><b><i>Myrtus communis</i> — Myrtle</b> Dense rounded shrub 5' to 8' with dark green, aromatic leaves. Plant at edge of dripline. Tolerates shearing. <i>M.c.</i> 'Compacta' is 2' tall and makes a good formal hedge.</p>

Important Characteristics				Cultural Preference				Plant Tolerance						
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺			☺	S-M	☺☺				☺	☺	☺☺☺	1	6-15 17
	☺	Y	All year		M				☺	☺	☺	☺☺☺	1	All
	☺	Y	Sp	☺	M	☺☺				☺	☺	☺☺	1	1-21
	☺				M	☺☺			☺	☺	☺	☺☺☺	2	8, 9 14-17
	☺				M	☺☺				☺	☺	☺☺☺	1	8, 9 14-17
	☺	W	Su	☺	M	☺☺					☺	☺☺☺	2	8-24

# Shrubs



*Philadelphus virginalis*

<p><b><i>Nandina domestica</i> — Heavenly Bamboo</b> Upright form grows to 5'. Compound leaves create lacy appearance and show fall color of pink to red. Resistant to oak root fungus. Lower growing forms are <i>N.d.</i> 'Compacta' and <i>N.d.</i> 'Nana'.</p>
<p><b><i>Nerium oleander</i> — Oleander</b> Frequently used shrub for screen, growing 4' to 12' tall depending on cultivar. Long summer bloom in white, pink, salmon or red. Plant at edge or outside dripline.</p>
<p><b><i>Ochna serrulata</i> — Mickey Mouse Plant</b> Will grow 4' to 8' in height and as wide. Leaves are narrow, bronzy in spring turning dark green later. Plant at edge of dripline.</p>
<p><b><i>Philadelphus virginalis</i> — Mock Orange</b> Vase shaped, reaching 3' to 7' depending on variety. Flowers are delightfully fragrant. Prune 1/3 of oldest canes to 12" after spring bloom.</p>
<p><b><i>Pinus mugo</i> — Mugho Pine</b> Forms a neat compact dome to 4'. Dark green needles. Looks good in rock gardens.</p>
<p><b><i>Plumbago auriculata</i> — Cape Plumbago</b> Spreading arch form to 10' tall. Plant at edge of dripline. Blooms for a long time. Can be damaged by frost. Prune out dead wood.</p>

Important Characteristics		Cultural Preference				Plant Tolerance								
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☐	☑	Pi W	Sp	☑	M	☑☑			☑	☑		☑☑☑	1	5-24
	☑	W R	Su		F	☑				☑	☑	☑☑☑	1	8-16 18-23
	☑	Y	Su	☑	S	☑☑						☑☑	2-3	14-24
☑		W	Sp		F	☑☑						☑☑	3	1-17
	☑			☑	S	☑☑				☑	☑	☑☑☑	1	All
	☑	B	Su		M	☑					☑	☑☑☑	2	8, 9 12-24

# Shrubs



*Prunus illicifolia*

<p><b><i>Prunus illicifolia</i> — Holly Leaf Cherry (CN)</b> Will grow to 15'. Can be pruned to any height. Glossy green, spiny-edged leaves. Best used in background as screen or hedge, outside dripline. Resistant to oak root fungus.</p>
<p><b><i>Prunus lusitanica</i> — Portugal Laurel</b> Forms a shrub 6' to 15' tall with dark, glossy leaves and dark purple berries in summer. Plant outside dripline. Prune to shape.</p>
<p><b><i>Punica granatum</i> 'Wonderful' — Pomegranate</b> Vase shaped shrub to 10' tall with glossy, narrow leaves. Does not fruit well in low water situations. Plant outside dripline. Dwarf forms will reach 1-1/2-3' tall, with small inedible fruit.</p>
<p><b><i>Rhamnus californica</i> — Coffee Berry (CN)</b> Variable height from 3' to 15'. Flowers are inconspicuous but berries turn from green to red to black. R.c. 'Eve Case' is more compact, growing 4' to 8' tall, with lighter leaves. Plant at edge of dripline.</p>
<p><b><i>Rhus integrifolia</i> — Lemonade Berry (CN)</b> Another good screen plant 4' to 10' tall. Tolerates shearing. The fruit can be used to flavor drinks. Plant at edge or outside dripline. <i>R. ovata</i> (Sugar Bush) is similar, but will do better in inland areas.</p>
<p><b><i>Ribes sanguineum</i> — Flowering Current (CN)</b> Upright form, variable height 3' to 10' tall. Distinctive smell to flowers in spring, followed by black berries. White fly can be a problem.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☺		Y	W		M	☺	☺☺			☺	☺		☺☺☺	2	2-11 14-16 18,19
	☺	Y	Sp	☺	F	☺	☺☺		☺		☺		☺☺☺	1	5-9 14-21
	☺	R	Sp-Su		M-F	☺	☺☺			☺	☺	☺	☺☺	2-3	14-24
	☺	R C	Fa- Sp		M	☺			☺			☺	☺☺☺	1	8, 9 12-24
	☺	W	Sp-Su	☺	M	☺	☺☺			☺	☺	☺	☺☺☺	2	5-24
☺		W	Sp		M		☺☺	☺☺☺				☺	☺☺	1	1-7 14-17

# Shrubs



*Sarcococca ruscifolia*

<p><b><i>Ribes speciosum</i> — Fuchsia Gooseberry (CN)</b>                  Spiny branches 3' to 6' long. Red, tubular flowers make it attractive to hummingbirds. Will lose leaves in summer, but with a little extra water will be nearly evergreen.</p>
<p><b><i>Rosa californica</i> — California Wild Rose (CN)</b>                  Grows to 4' in height. Stems are spiny. Flowers are pink and sweetly fragrant, followed by colorful red hips. Attracts birds.</p>
<p><b><i>Salvia clevelandii</i> — Cleveland Sage (CN)</b>                  Open shrub to 4' with gray-green, aromatic leaves. 'Aromas' has blue-violet flowers. Prune old flower clusters to extend flowering.</p>
<p><b><i>Salvia greggii</i> — Autumn Sage</b>                  Upright growth 4' to 6' tall. Rosy-red flowers held in loose clusters. Leaves 1/2" to 1", medium green. Foliage can be sheared into a hedge.</p>
<p><b><i>Sarcococca ruscifolia</i> — Fragrant Sarcococca</b>                  Grows to 6' but usually less. Glossy leaves. Fragrant, inconspicuous flowers are delightful cut and used indoors. Flowers followed by red fruit. <i>S. hookerana humilis</i> is a low ground cover form reaching 18".</p>
<p><b><i>Syringa vulgaris</i> — Lilac</b>                  Will reach 15' but can be kept smaller by pruning. Flowers are sweetly fragrant. In mild winter areas use one of the Descanso hybrids such as 'Lavender Lady'. Best planted outside dripline.</p>

Important Characteristics					Cultural Preference				Plant Tolerance						
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☹	☹	R	Sp	☹	M	☹	☹☹		☹				☹☹☹	1	8, 9 14-24
☹		Pi	Sp	☹	M		☹☹☹						☹☹☹	1	14-16
	☹	B	Sp-Su		F	☹	☹☹☹		☹			☹	☹☹☹☹	2	10-24
	☹	R	Su		F	☹	☹☹☹					☹	☹☹☹	1	8-24
	☹	W	Sp	☹	S-M		☹☹☹	☹☹☹					☹☹☹☹	1	14-24
☹		W La Pu	Sp		S	☹	☹☹☹						☹☹☹	1	1-12 14-18



# Ground Covers



*Ceanothus griseus horizontalis*

***Arctostaphylos hookeri* — Monterey Manzanita (CN)**

A.h. ‘Monterey Carpet’ will reach 1’ tall with a spread of 4’ to 6’. Needs shade or north or east exposure in zones 14 and 15. A.h. ‘Wayside’ grows 2’ to 3’ with billowy habit.

***Arctostaphylos* ‘Point Reyes’ — Pt. Reyes Manzanita (CN)**

Low spreading to 15’. Reliable flowering ground cover. Dark green foliage will tolerate some smog. Best on north or east exposure. Good on banks.

***Baccharis pilularis* ‘Twin peaks’ — Coyote Bush (CN)**

Forms a dense cover 8” to 24” high with a 6’ spread. Tolerates drought but looks better with monthly water. Lace bugs may be a problem.

***Ceanothus griseus horizontalis* — Carmel Creeper (CN)**

Grows 1’ to 2’ tall with a spread of 5’ to 15’. Glossy, 2”, bright green leaves and light blue flowers. May be winter damaged in zones 4-7. Use near the coast only.

***Ceanothus gloriosus porrectus* — Mount Vision (CN)**

This is one of the toughest ground cover ceanothus. Grows 2’ tall by 6’ to 8’ wide. Leaves are small, dark green and spiny. Flowers are lavender-blue. Best near coast.

***Ceanothus rigidus* — Snowball (CN)**

Dense, mounding shrub 3’ tall by 6’ to 10’ spread. Small, spiny leaves are dark green in contrast to full, white flowers. The most drought tolerant ceanothus.

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	W	Sp		S-M	☺	☺☺			☺		☺	☺☺☺	1	6-9 14-17
	☺	W-Pi	Sp	☺	F	☺	☺☺		☺	☺	☺	☺	☺☺☺	2	1-9 14-17
	☺				F	☺				☺	☺	☺	☺☺☺	1	5-11 14-24
	☺	B	Sp		M	☺	☺☺		☺			☺	☺☺☺	3	4-7 16-24
	☺	L B	Sp		M-F	☺	☺☺		☺		☺	☺	☺☺☺	2	4-7 14-24
	☺	W	Sp		M	☺	☺☺		☺		☺	☺	☺☺☺	2	4-7 14-24

# Ground Covers



*Cistus salvifolius*

<p><b><i>Ceratostigma plumbaginoides</i> — Dwarf plumbago</b>                  Low ground cover 6” to 12” tall. Green leaves turn bronzy in heat and red in the fall. Long bloom of sky blue flowers.</p>
<p><b><i>Cistus salvifolius</i> — Sageleaf Rock Rose</b>                  Foliage is gray-green, white flowers have yellow centers. Spreading habit 2’ tall by 6’ wide. Best in zones 16,17, 23 and 24.</p>
<p><b><i>Coprosma kirkii</i> — Creeping Coprosma</b>                  Olive green foliage, spreads 2’ to 3’. Will need some pruning to keep plants dense. Good, tough plant for hillsides.</p>
<p><b><i>Correa ‘Carmines Bells’</i> — Australian Fuchsia</b>                  Grows 3’ high by 6’ wide. Dense spreading habit, leaves are dark green above and pale green below. Flowers attract hummingbirds. Good drainage is essential. C. ‘Ivory bells’ has cream white flowers.</p>
<p><b><i>Cotoneaster spp.</i> — Cotoneaster</b>                  Low growing shrubs with stiff branches, dark green foliage, white flowers and red berries. <i>C. congesta</i> -‘Likiang’ is good for small areas. <i>C. horizontalis</i> and <i>C. ‘Lowfast’</i> can take more shade.</p>
<p><b><i>Fragaria chiloensis</i> — California Strawberry (CN)</b>                  Low growing mat 6” to 12” high and spreading by stolons. Red fruit attracts birds. Fertilize annually in late spring. Will grow best in coastal areas.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☹		B	Su-Fa		M	☹☹☹	☹☹		☹				☹☹☹☹	2	14-24
	☹	W	Sp		F	☹				☹	☹	☹	☹☹☹	2	7-9 12-18 22-24
	☹				M	☹	☹☹☹			☹	☹	☹	☹☹☹☹	3	8, 9 14-17 21-24
	☹	R	Su-Sp		S-M	☹	☹☹☹		☹		☹	☹	☹☹☹☹	1	14-24
	☹	W	Sp	☹	F	☹	☹☹☹				☹	☹	☹☹☹	2	2-24
	☹	W	Sp	☹	M	☹	☹☹☹			☹		☹	☹☹☹	3	4-24

# Ground Covers



*Polygonum capitatum*

<p><b><i>Juniperus chinensis</i> ‘Parsonii’ — Prostrata Juniper</b> Grows 1’ to 2’ high with 8’ to 10’ spread. Gray-green foliage is spiny, makes a good barrier plant. <i>J. virginiana</i> ‘Silver Spreader’ has bright silver-gray foliage. More resistant to root fungus than other Junipers.</p>
<p><b><i>Mahonia repens</i> — Creeping Mahonia (CN)</b> Grows to 3’ tall and spreads by underground stems to 10’ and more with time. Blue-green, spiny leaves turn bronzy in winter. Blue berries attract birds.</p>
<p><b><i>Polygonum capitatum</i> — Pink Knotweed</b> Spreading 6” to 8” tall with green leaves turning pink with age. Will be deciduous where temperatures drop below 28°F.</p>
<p><b><i>Ribes viburnifolium</i> — Catalina Fragrance (CN)</b> Arching stems to 3’ high spreading 4’ to 12’. Dark green aromatic leaves 1” round. Small red berries follow flowers. Should be pruned to 12” to keep it dense. Good on banks.</p>
<p><b><i>Rosmarinus officinalis</i> cultivars — Rosemary</b> Dark green leaves, strongly aromatic, used in cooking. <i>R.o. prostrata</i> spreads to 6’ and is good used over a wall. <i>R.o.</i> ‘Collingwood Ingram’ will reach 2-1/2’. <i>R.o.</i> ‘Tuscan Blue’ is upright to 6’ tall.</p>
<p><b><i>Salvia sonomensis</i> — Creeping Sage (CN)</b> Grows 6” to 9” forming low mat. Leaves are blue-green. <i>S.</i> ‘Dara’s Choice’ forms a mounding vigorous ground cover.</p>

Important Characteristics					Cultural Preference			Plant Tolerance						
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
ü	ü				F	ü				ü	ü	üüü	1	All
	ü	Y	Sp	ü	S	üü					ü	üüü	1	1-24
ü	ü	Pi	Su		F	üü		ü	ü	ü	ü	üü	2	8, 9 12-24
	ü	Pi	Sp	ü	M	üü	üüü				ü	üü	2	8, 9 14-24
	ü	B	W-Sp		F	ü		ü	ü	ü	ü	üüü	1	4-24
ü	ü	B	Sp Su		F	ü		ü			ü	üüü	1	

## Ground Covers



*Sollya heterophylla*

### *Sollya heterophylla* — Australian Bluebell Creeper

Loose spreading shrub to 2'. Narrow, glossy green leaves. Flowers bell-shaped. Looks better with frequent pruning to make it more dense. Use on banks.

### *Symphoricarpos rivularis* — Common Snowberry (CN)

Wiry stems with height and spread of 6'. Flowers inconspicuous but in winter white berries are decorative. Tolerates poor soil and smog. *S. moths* is similar but grows to a height of 1' to 2' tall.

Important Characteristics				Cultural Preference			Plant Tolerance								
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	B	Su	☺	S-M	☺☺☺	☺☺	☺☺☺	☺	☺		☺	☺☺☺	2	8, 9 14-24
	☺	I	Sp	☺	F	☺☺☺	☺☺	☺☺☺				☺	☺☺☺	1	All

## Garden Notes



# Perennials



<p><b><i>Acanthus molliss</i> — Bear’s Breech</b> Basal leaves are lustrous, spiny-tipped and 2’ long. Flowers are held on 4’ stalks. If unwatered, will go dormant. Withstands neglect.</p>
<p><b><i>Achillea tomentosa</i> — Woolly Yarrow</b> Forms a mat of fern-like, deep green leaves with golden flower heads 6” to 10” tall. Shear off dead flowers. Needs shelter from frost. <i>A. millefolium</i> has white flowers. Can be mowed to 3” tall.</p>
<p><b><i>Aloe spp.</i></b> Variable sizes available from 8” to 18” tall. All have fleshy succulent leaves. Tubular flower clusters are held on stalks. Needs shelter from frost.</p>
<p><b><i>Artemisia pycnocephala</i> — Artemisia (CN)</b> Native to beaches of N. California, grows to 2’ in height. White to gray foliage. Becomes ragged with age. Remove flower stalks to keep compact. <i>A. californica</i> ‘Canyon Gray’ has white-gray foliage.</p>
<p><b><i>Aspidistra elatior</i> — Cast Iron Plant</b> Dark green 2’ long leaves grow in upright clumps. Grows well in dark places.</p>
<p><b><i>Bergenia crassifolia</i> — Winter Blooming Bergenia</b> A coarse textured plant 12” tall with large 8” diameter leaves. Cut back annually to prevent legginess. Divide crowded clumps. Spreads to form a ground cover.</p>

Important Characteristics				Cultural Preference				Plant Tolerance						
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☹	☹	W	Sp		F	☹☹☹	☹☹☹		☹			☹☹☹	1	4-24
	☹	Y	Su		M	☹☹☹					☹	☹☹☹☹	1	All
	☹	O Y Pi	Su		M	☹☹☹		☹				☹☹☹☹	1	8, 9 12-24
	☹	Y	Su		F	☹		☹			☹	☹☹☹☹	1	All
	☹				S	☹☹☹	☹☹☹☹		☹	☹	☹	☹☹☹☹	1	12-24
	☹	Pi	W Sp		M	☹☹☹	☹☹☹☹					☹☹☹	1	1-9 14-24

# Perennials



*Iris douglasiana*

<p><b><i>Centranthus rubra</i> — Red Valerian</b>          Bushy to 3'. Good plant for tough locations, but can be invasive. Cut off old flower stems to prolong bloom and prevent leggy appearance. Good cut flower. Variety 'Albus' is white.</p>
<p><b><i>Dudleya spp.</i> (CN)</b>          Many different species, including natives adapted to coastal environment. Succulent leaves range in color from green to bright gray. Will be damaged by 22°F but not killed. Best massed together.</p>
<p><b><i>Erigeron karvinskianus</i> — Fleabane</b>          Clumping 10" to 20" tall. Needs shearing to prevent getting rangy. Use as ground cover or in hanging baskets. Naturalizes easily and may become invasive.</p>
<p><b><i>Hemerocallis hybrids</i> — Day Lily</b>          Arching sword-like leaves reaching 2' long, in clumps. Flowers rise above leaves in orange, yellow, and maroon. May be used as cut flowers. Dwarf cultivars available.</p>
<p><b><i>Heuchera spp.</i> — Coral Bells (CN)</b>          Roundish hairy leaves and flowers on stalks make a 2' to 4' mound. <i>H. maxima</i> native to coastal areas (Zones 15-24). Pinkish flowers. Best planted in groups.</p>
<p><b><i>Iris douglasiana</i> and hybrids — Douglas Iris (CN)</b>          Clumps of dark green, strap-like leaves with flowers of white, cream, yellow, lavender-blue to reddish-purple on 1' to 2' stalks. Avoid soil in crown and getting wet from sprinklers. Divide clumps in fall.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	Pi R	Sp Su		S	☺	☺☺			☺	☺	☺	☺☺☺	1	7-9 14-24
	☺				S	☺	☺☺		☺	☺	☺	☺	☺☺☺	1	16,17 21-24
	☺	W	Sp Su Fa		F	☺	☺☺			☺	☺	☺	☺☺☺	1	12-24
☺	☺	O Y R	Su		M	☺	☺☺			☺			☺☺	2	All
	☺	W Pi	Sp Su		M		☺☺	☺☺☺				☺	☺☺	2-3	All
	☺	W Y La	W Sp		S- M	☺	☺☺		☺	☺	☺	☺	☺☺☺	1	4-24

# Perennials



*Myosotis sylvatica*

<p><b><i>Iris hybrids</i> — Bearded Iris</b> Many species and varieties available with wide range of color and height. Grow in light shade in hottest areas. Cut spent flower stalks and remove withered foliage. Divide crowded rhizomes after 3 to 4 years.</p>
<p><b><i>Kniphofia uvaria</i> — Red Hot Poker</b> Forms a dense clump of grass-like leaves reaching 2' to 4' tall. Flower stalks rise above leaves 4' to 6'. Takes neglect but looks better if old leaves and stalks are removed. Use in background situation.</p>
<p><b><i>Limonium perezii</i> — Sea Lavender</b> Forms a clump up to 3' tall and wide. Leaves 6" long and round. Flowers can be used in dried arrangements.</p>
<p><b><i>Monardella villosa</i> — Coyote Mint (CN)</b> Woody stems grow 9" to 18" tall. Mounding, dark green foliage is strongly aromatic. Flower color varies white, pink to lavender. <i>M. macrantha</i> is recommended for coastal areas.</p>
<p><b><i>Myosotis sylvatica</i> — Forget-Me-Not</b> Grows 6" to 12" tall. Hairy leaves 1-1/2" cover the bases of the stems. Usually an annual that reseeds freely and can become invasive. Good bulb cover.</p>
<p><b><i>Nepeta faassenii</i> — Catmint</b> Mounding, 2' tall with gray-green foliage. Shear old flowers to encourage blooming and to keep foliage looking neat.</p>

Important Characteristics			Cultural Preferences				Plant Tolerance								
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☺		Pu La Y	Sp		S	☺			☺		☺		☺☺☺	1	All
	☺	R O Y	Su		M- F	☺	☺☺			☺	☺	☺	☺☺☺	1	1-9 14-17
	☺	La	All year		F	☺	☺☺		☺	☺	☺	☺	☺☺☺	2	16,17 20-24
	☺	La Pi	Su		M	☺	☺☺					☺	☺☺☺	1	
☺	☺	B	W Sp		M		☺☺		☺	☺	☺	☺	☺☺☺	2	All
	☺	La B	Su		M	☺	☺☺			☺			☺☺☺	1	All

# Perennials



*Penstemon heterophyllus purdyi*

***Oenothera berlandieri* — Mexican Evening Primrose**

Stems grow 10” to 12” tall in summer and die back after flowering. Less invasive in dry conditions. O.b. ‘Siskiyou’ has an improved form.

***Origanum dictamnus* — Dittany of Crete**

Woolly, silver leaves are on arching stems 1’ tall. Flowers are 1” pine cone shaped and vary in color from chartreuse, pink or lavender depending on cultivar.

***Penstemon heterophyllus purdyi* — Beard Tongue (CN)**

Dark green leaves reaching a height of 8” to 24” with upright stems. Narrow 2” leaves and spike like flower clusters.

***Romneya coulteri* — Matilija Poppy (CN)**

Grows 6’ to 8’ on upright stems. Leaves are gray-blue color. Large 6” white flowers with 2” centers of yellow stamens. Use in background situation as it can become invasive. Prune old stems to ground.

***Salvia leucantha* — Mexican Sage**

Reaches 3’ to 4’ tall and as wide. Velvet, purple flower spikes contrast with gray-green foliage. Cut old stems to ground each winter.

***Santolina chamaecyparissus* — Gray Lavender Cotton**

Dependable gray mounding shrub 2’ tall and 4’ wide. Needs pruning to keep compact. S.c. ‘Compacta’ has a better form. S. virens (Green Lavender Cotton) has green foliage.

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☹		Pi	Su		M	☹						☹	☹☹	2	All
	☹	Pi La	Su Fa		S	☹	☹☹		☹	☹			☹☹☹	2	8-24
	☹	B	Sp		F	☹	☹☹		☹	☹	☹		☹☹	2	6-24
	☹	W	Su		M-F	☹			☹		☹	☹	☹☹☹	1	12-24
	☹	Pu	Su		F	☹	☹☹						☹☹	1	10-24
	☹	Y	Su		M-F	☹			☹	☹	☹	☹	☹☹☹	1	All

# Perennials



*Sisyrinchium bellum*

<p><b><i>Sedum acre</i> — Golden Moss Sedum</b>                  Low growing 4” tall trailing stems. Rounded, blue-green leaves.  <i>S.s. purpureum</i> has deep purple leaves. Makes a good small scale ground cover.</p>
<p><b><i>Sisyrinchium bellum</i> — Blue-eyed Grass (CN)</b>                  Bluish-green grass-like leaves 5” to 12” high. Looks best if massed together. Can be divided to multiply.</p>
<p><b><i>Thymus praecox arcticus</i> — Mother-of-Thyme</b>                  Forms a flat mat 2” to 6” high. Leaves are aromatic and can be used for seasoning or potpourris.</p>
<p><b><i>Tulbaghia violacea</i> — Society Garlic</b>                  Bluish-green, grass-like leaves reach 12” tall and have strong onion odor. Flower clusters are rosy-lavender. Will be killed at 20°F.</p>
<p><b><i>Vancouveria planipetala</i> — Inside-Out Flower (CN)</b>                  Light green leaflets are shallowly lobed and grow to 2’ tall. May go deciduous in cold winter areas. Closely related is the non-native <i>Epemedium</i>, which will also work under the oak canopy.</p>
<p><b><i>Viola odorata</i> — Sweet Violet</b>                  Dark green, heart shaped leaves form clumps 6” tall. Pink, violet or white flowers are fragrant. Mow old foliage in early winter. Will become very invasive.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	Y	Sp Su		S	☺	☺☺		☺	☺	☺	☺	☺☺☺	1	All
☺		Pu B	Sp		M	☺	☺☺			☺			☺☺☺	1	4-24
	☺	Pu W	Su		M	☺			☺				☺☺☺	1	All
	☺	La	Sp Su		S-M	☺	☺☺			☺	☺		☺☺	1	13-24
☺	☺	W	Sp		M		☺☺						☺☺	2	4-6 14-17
	☺	Pi W	Sp		M		☺☺			☺	☺	☺	☺☺	2	All

# Perennials



*Zauschneria californica*

## ***Zauschneria californica* — California Fuchsia (CN)**

Upright stems form a mat of gray-green foliage up to 12” tall. Red, tubular flowers may attract hummingbirds. May become ragged and need pruning to keep compact.

Important Characteristics				Cultural Preference			Plant Tolerance					
Deciduous	Evergreen	Flower Color	Flower Season	Growth Rate	Part Shade	Dense Shade	Good Drainage	Seacoast	Hillside	Drought	Deer Susceptibility	Sunset Zone
:5	:5	R W	Su Fa	F	:5:5				:5	:5:5:5	1	All

## Garden Notes



# Annuals



*Linanthus grandiflorus*

<p><b><i>Centaurea cyanus</i> — Cornflower, Bachelors' Button</b> Stiff stems to 2-1/2' tall, with wide ranging flower colors. Use as cut flower. Prune back after seed has dropped. Will reseed. 'Jubilee Gem' is compact, growing 1' tall.</p>
<p><b><i>Clarkia amoena</i> — Farewell-to-Spring (CN)</b> Grows 2' to 3' tall. Brilliant show of red to pink to lavender flowers in late spring. <i>C. concinna</i> grows to 18" tall. <i>C. unguiculata</i> grows 2' to 3' tall. Seed sown in fall will reseed in successive years.</p>
<p><b><i>Collinsia spp.</i> — Chinese Houses (CN)</b> Annual that grows 1' to 2' tall. Sow seeds in fall. Flowers give light delicate effect. Good bulb cover. Will self sow.</p>
<p><b><i>Eschscholzia californica</i> — California Poppy (CN)</b> State flower of California grows 8" to 18" tall. Sow seeds in fall and allow to naturalize. Plants that have become ragged can be pruned back to near ground level.</p>
<p><b><i>Linanthus grandiflorus</i> — Mountain Phlox (CN)</b> Grows 12" tall with lovely fragrant, long blooming flowers. Sow in drifts or masses.</p>
<p><b><i>Nigella damascena</i> — Love-in-a-Mist</b> Thin, lacy, gray-green foliage, grows 18" to 24". Sky blue flowers followed by attractive seed capsules used in dried flower arrangements. Self sows readily.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☺		B La W	Su		F	☺				☺	☺		☺☺	2	All
☺		La Pi R	Sp Su		M	☺	☺☺		☺				☺☺☺	2	All
☺		W R	Sp		M		☺☺						☺☺	2	
☺		O	Sp Su		F	☺							☺☺	2	All
☺		Pi W	Su		F	☺	☺						☺☺	2	
☺		B	Sp Su	☺	F	☺	☺☺						☺☺	2	All



# Bulbs



*Freesia Tecolote Hybrid*

<p><b><i>Alstroemeria ligtu</i> ‘hybrids’ — Peruvian Lily</b> Vertical stems reach a height of 2’ to 4’ topped with 2” yellow, pink, orange-red and lilac flowers in May to July. New hybrids have larger flowers and are less invasive.</p>
<p><b><i>Amaryllis belladonna</i> — Naked Lady Lily</b> Strap-like leaves appear in winter and grow 3’ then disappear by early summer. Followed by large 6” trumpet flowers. May not bloom 2-3 years after transplanting.</p>
<p><b><i>Anemone blanda</i></b> Grows to 3” high, with 1/2” sky blue, pink or white flowers. Best used in a rock garden. Plant tuberous roots in fall.</p>
<p><b><i>Crocsmia crocosmiflora</i> — Montbretia</b> Narrow leaves in 3’ clumps. Can be invasive so keep contained. <i>C. masoniorum</i> has orange-scarlet flowers. Good cut flower.</p>
<p><b><i>Cyclamen hederifolium</i> — Cyclamen</b> Low growing, 3” heart shaped, light green leaves with 1/2” rose-pink flowers. Easy to grow and reliable in cold winter areas. Set tubers at 1/2 their depth in the fall.</p>
<p><b><i>Freesia Tecolote Hybrids</i></b> Flowers of all colors are extremely fragrant and make good cut flowers. Branched stems grow to 8”. Plant corms in the fall.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
☹		Pi O Y	Su		M	☹			☹				☹☹☹	2	5-14 16-24
☹		Pi	Su		M	☹	☹☹		☹	☹			☹☹☹	1	4-24
☹		B Pi W	Sp		S		☹☹		☹				☹☹	1	1-9 4-23
☹		O R	Su		F	☹			☹	☹	☹	☹	☹☹	1	5-24
	☹	Pi	Fa		M		☹☹		☹				☹☹☹	2	1-9 14-24
☹		R La W	Sp		F	☹	☹☹		☹	☹	☹		☹☹☹	2	8, 9 12-24



# Ferns



*Polystichum munitum*

<p><b><i>Dryopteris arguta</i> — Coastal Wood Fern (CN)</b>                  Dark green finely cut fronds reach 2-1/2' tall. Best in coast ranges.  <i>D. erythrosa</i> (Autumn Fern) has bronzy young fronds turning deep green by late spring.</p>
<p><b><i>Nephrolepis cordifolia</i> — Southern Sword Fern</b>                  Bright green stiff upright fronds 2' to 3' tall. Spreads by runners and can be very invasive, grow in enclosed area. Pnme to ground in spring and fertilize.</p>
<p><b><i>Polystichum munitum</i> — Western Sword Fern (CN)</b>                  Dark green arching fronds reach 2' to 3' tall. Fronds can be dried and used in winter bouquets.</p>

Important Characteristics			Cultural Preference			Plant Tolerance									
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺				M		☺☺						☺☺		
	☺				M		☺☺	☺☺☺				☺	☺☺	2	16,17
	☺				M		☺☺	☺☺☺					☺☺	2	All

## Garden Notes





# Grasses



*Deschampsia caespitosa*

<p><b><i>Deschampsia caespitosa</i> — Tufted Hairgrass (CN)</b> Clumping foliage grows 18” to 2’ tall. Medium green foliage contrasts with golden yellow flower spikes, that rise 12” above foliage. Found in mountain meadows and coast ranges.</p>
<p><b><i>Elymus glaucus</i> — Blue Wild Rye (CN)</b> Reaches 3’ to 4’ tall. Variable green to blue-gray foliage. Good for revegetation projects. <i>E. condensatus</i> ‘Canyon Prince’ grows 3’ to 4’ tall, with distinctive blue foliage. Good accent plant.</p>
<p><b><i>Festuca californica</i> — California fescue (CN)</b> Variable green to blue-gray foliage, grows 2’ to 3’ tall and 3’ wide. Attractive panicles rise another 2’. Foliage may blush reddish in winter. New cultivars available with rich blue foliage. Cut old foliage to encourage new growth.</p>
<p><b><i>Festuca rubra</i> — Red Fescue (CN)</b> Grows 1’ to 2’ tall with green to blue-green, fine-leaved foliage. Can be used to make a lumpy lawn for wildflowers. <i>F. idahoensis</i> has fine blue-green foliage reaching 2’ tall. Exhibits some summer dormancy.</p>
<p><b><i>Helictrichon sempervirens</i> — Blue Oat Grass</b> Grows 2’ to 3’ tall with attractive silver-gray foliage resembling blue fescue. Good accent plant or massed together in rock gardens. Needs less water in shade. Withered foliage can be removed.</p>
<p><b><i>Koeleria cristata</i> — Prairie Junegrass (CN)</b> Foliage is green to gray-green reaching a height and spread of 2’. Foliage will die back during summer. Best in coast ranges and higher elevations. Mass together as dry meadow with wild flowers.</p>

Important Characteristics				Cultural Preference				Plant Tolerance							
Deciduous	Evergreen	Flower Color	Flower Season	Fruit	Growth Rate	Sun	Part Shade	Dense Shade	Good Drainage	Seacoast	Wind	Hillside	Drought	Deer Susceptibility	Sunset Zone
	☺	Y	Sp		M	☺	☺☺					☺	☺☺	2	
☺	☺		Sp-Su		M-F	☺	☺☺			☺		☺	☺☺☺	1	All
	☺		Sp		M	☺	☺☺		☺		☺	☺	☺☺	1	All
	☺		Sp		M	☺	☺☺					☺	☺☺	2	
	☺		Sp		M	☺	☺☺		☺		☺	☺	☺☺	1	All
☺			Sp		M	☺	☺☺		☺	☺		☺	☺☺	2	



# NURSERIES/SEEDS AND BULB SOURCES

Check with your local nursery first, then try these for harder to find plants. "O.G." refers to nurseries that carry ornamental grasses.

## **California Flora Nursery (O.G.)**

Somers and D Streets  
P.O. Box 3  
Fulton, CA 94539  
707/528-8813  
www.calfloranursery.com  
wholesale & retail

## **Circuit Rider Productions (O.G.)**

Native Plant Nursery  
9619 Old Redwood Highway  
Windsor, CA 95492  
707/838-6641  
www.crpinc.org  
wholesale & retail by appt. only

## **Cornflower Farms**

P.O. Box 896  
Elk Grove, CA 95759  
916/689-1015  
www.cornflowerfarms.com  
wholesale only

## **Greenlee Nursery (O.G.)**

15993 El Prado Road  
Chino, CA 91708  
909/393-6544  
www.greenleenursery.com  
wholesale & retail/grasses only

## **Monterey Bay Nursery (O.G.)**

P.O. Box 1296  
Watsonville, CA 95077  
831/724-6361  
wholesale only

## **Mostly Natives (O.G.)**

27235 Highway One  
P.O. Box 258  
Tomales, CA 94971  
707/878-2009  
www.mostlynatives.com  
wholesale & retail

## **Native Sons (O.G.)**

379 West El Campo Road  
Arroyo Grande, CA 93420  
805/481-5996  
www.nativeson.com  
wholesale only

## **Soquel Nursery Growers (O.G.)**

3645 Main Street  
Soquel, CA 95073  
831/475-3533  
www.soquelnursery.com  
wholesale only

## **Tree of Life Nursery**

P.O. Box 635  
San Juan Capistrano, CA 92693  
949/728-0685  
www.treeoflifenuresery.com  
wholesale & retail

## **Yerba Buena Nursery (O.G.)**

19500 Skyline Boulevard  
Woodside, CA 94062  
650/851-1668  
www.yerbabuenanursery.com  
wholesale & retail

## SEEDS & BULBS

## **Pacific Coast Seed, Inc.**

533 Hawthorne Place  
Livermore, CA 94550  
800/733-3462  
www.pcseed.com

## **S & S Seeds**

6155 Carpinteria Avenue  
Carpinteria, CA 93013  
805/684-0436  
www.ssseeds.com

## REFERENCES

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- § ...1989 *Care of Native Oaks*, (Rev. 1990) California Oak Foundation, 1212 Broadway, Suite 842, Oakland, CA 94612. 510/763-0282
- § *Sunset Western Garden Book*, Lane Publishing Co., Menlo Park, CA

## NEWSLETTERS

- § *The Oak Report*, electronic monthly newsletter available on the Current Issues page at [www.californiaoaks.org](http://www.californiaoaks.org), or by free subscription for monthly e-mail delivery at [oakstaff@californiaoaks.org](mailto:oakstaff@californiaoaks.org). California Oak Foundation, 1212 Broadway, Suite 842, Oakland, CA 94612.
- § *Fremontia*, A Journal of the California Native Plant Society, available on the Publications page at [www.cnps.org](http://www.cnps.org). Sent to members. California Native Plant Society, 1722 J Street, Suite 17, Sacramento, CA 95814. Phone: (916) 447-2677, Fax: (916) 447-2727
- § *Oaks and Folks*, a newsletter of University of California Integrated Hardwood Management Program, available on the Publications page at [www.danr.ucop.edu/ihrmp](http://www.danr.ucop.edu/ihrmp). U.C. Cooperative Extension, 160 Mulford Hall, Berkeley, CA 94720. Phone: (510) 643-5428. Fax: (510) 643-5438

## PLACES TO VISIT

Check your local botanical gardens.

- § Arboretum of Los Angeles County, Los Angeles
- § Quail Botanical Gardens, Encinitas
- § Rancho Santa Ana Botanic Garden, Claremont
- § Santa Barbara Botanic Garden, Santa Barbara
- § Strybing Arboretum & Botanical Gardens, San Francisco
- § Regional Parks Botanic Garden, Tilden Regional Park, Berkeley
- § U.C. Berkeley Botanical Garden, Berkeley
- § University of California Arboretum, Davis

## ADDITIONAL RESOURCES

California Department of Forestry  
P0 Box 944246  
Sacramento, CA 94244-2460  
(916) 653-7772  
[www.fire.ca.gov](http://www.fire.ca.gov)

California Native Grass Association  
P0 Box 72405  
Davis, CA 95617  
(530) 759-8458  
[www.essexenv.com/cnga](http://www.essexenv.com/cnga)

Saratoga Horticultural Foundation  
15185 Murphy Avenue  
San Martin, CA 95046  
(408) 779-3303

California Oak Foundation  
1212 Broadway, Suite 842  
Oakland, CA 94612  
(510) 763-0282  
[www.californiaoaks.org](http://www.californiaoaks.org)

Integrated Hardwood Range  
Management Program (IHRMP)  
163 Mulford Hall  
University of California  
Berkeley, CA 94720  
(510) 642-2360  
[danr.ucop.edu/ihrmp](http://danr.ucop.edu/ihrmp)

California Native Plant Society  
[www.cnps.org](http://www.cnps.org)