



# Water-Wise Gardening

University of California Cooperative Extension  
Stanislaus County



A Guide to Reducing Water Use in the Landscape

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# Water-Wise Gardening

At one time, the Central Valley of California was covered in grasslands, woodlands and marshes. These areas were lush and green after spring rain, but quickly dried and turned brown once the rains ceased.

The advent of irrigation in California changed the appearance of the Central Valley. Brown turned green, and water flowed. Industry, agriculture, and home owners began to draw from the supply.

## **THE ADVENT OF LAWN**

In the 1850's, settlers on the West Coast were influenced by the European style of gardening, with its plant palette of species from temperate, subtropical and tropical places.

Although they embraced the European plant palette, Americans rejected the geometric patterns found in European gardens. They disliked the formal layout of the grand country estates, with their large lawns and gardens hidden from view by tall hedges.

American writer Frank Scott noted that gardens with hedges and barriers designed to hide a beautiful landscape were "undemocratic and selfish." He advocated for front yards that were open and inviting, with small patches of lawn. This is how

lawns became such a common feature in the American landscape.

## **WATER, WATER, EVERYWHERE**

In the past, our water supply was abundant and cheap. In recent years, our population has expanded greatly. Now we must use the same amount of water for a larger population.

## **WHAT IS A WATER-WISE PLANT?**

The average rainfall for Stanislaus County is about 12 inches per year. A water-wise plant can exist in this environment with a little supplemental irrigation. The Water-Wise Guide on pages 6-29 of this publication lists water-wise landscape plants available locally.

## **WHAT IS XERISCAPING?**

The term "xeriscape" was coined by the Denver Water Department in Colorado. The principle behind xeriscaping is to create a landscape that thrives without supplemental irrigation. Most xeriscapes take about one year to establish and must be hand-watered. By the second year, a xeriscape should not need further irrigation. However, it is always helpful to keep an eye on large trees if a very hot summer occurs in the second year.

In this publication, plants considered "drought tolerant once established" have a check mark in the Xeriscape column in the

Water-Wise Guide (pages 9-31). Plants without this check mark are considered "low water" users, but may need a little supplemental irrigation water during the hot summer months.

## **CAVEAT**

Every climate has a set of plants that may live as xeriscape plants. For purposes of this publication, plants that are known to be water-wise according to various gardening experts are listed. However, these plants have not yet been tested in Stanislaus County.

A helpful reference used in this publication is the WUCOLS (Water Use Classifications of Landscape Species) Guide published by UC Davis and the California Department of Water Resources. Unfortunately, the WUCOLS guide does not always agree with information found in xeriscape books.

In short, there is more work to be done in the field of water-wise gardening. Please contact me at the UC Cooperative Extension Office at (209) 525-6800 or [aschellman@ucdavis.edu](mailto:aschellman@ucdavis.edu) with any comments regarding your experience. I thank you ahead of time for your consideration.

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## **ZONING**

Zoning is the idea of placing plants with similar water requirements together.

Vegetable crops and fruit trees need the most water and care. Also, plants you may not want to part with such as azaleas, gardenias and hydrangeas should live in this area, as well as lawn. Let's call this "Zone 3." "Zone 2" plants are low water users that may need supplemental irrigation in summer. They do not have an X in the Xeriscape column in the plant guide. "Zone 1" plants are the xeriscape plants. Your yard can include any number of these zones. As you water, you will get a feel for how much is needed in each of these zones. Don't be afraid to let plants wilt a little bit until you figure out just how frequently water should be applied.

## **SHOULD I START OVER?**

Removing a lawn and/or an entire landscape to install a new one is costly. Instead, try changing how you water. This can help reduce your water use. In fact, in some cases, water-wise landscapes can use as much or more than traditional landscapes. This is because many gardeners change their landscape, but do not change their watering practices. Some water-wise plants will tolerate extra water, but others will die.

An easy way to make your landscape water-wise is to slowly incorporate low water use

plants into your landscape. You can also remove small strips of lawn, one area at a time to create small areas of Zone 1 or 2 plants.

## **HOW OFTEN SHOULD I WATER?**

Sometimes gardeners are afraid to reset their sprinkler system. Don't be intimidated by your control box. For a water-wise landscape, rely on weather patterns for irrigation, then decide how to set your irrigation system. Read the instruction manual and practice using your system. Most companies have instruction manuals online, so if you have misplaced yours, it should be easily found.

Turn your system off during the rainy season and monitor your plants. If they start looking droopy, it's time to water.

Don't be afraid to let plants show signs of wilting as you explore how much water they really need. As the climate changes during the year, take note of how long your soil can go in between watering. Monitor plants, and as long as they are growing and look healthy, keep the water turned off.

To really get a picture of how often to water, check your soil using a soil-sampling tube. You may have to order this from an online supply company.

## **WATERING EQUIPMENT TIPS**

When using sprinklers, remember the key is to completely wet the soil throughout the root zone. The depth of your root zone depends on the plant. Never rely completely on sprinkler water to irrigate a tree or large shrub.

Observe your sprinklers as they water. Make sure they are adjusted to hit lawn and plants and not sidewalk. If sprinkler water runs off the landscape before the end of a 20 minutes cycle, lower the time to 15 minutes and so on. If soil isn't saturated after 20 minutes, increase the time. Repeat watering when soil is dry. Also, remember to water during the morning to prevent evaporation. Avoid watering on windy days.

If you use drip irrigation, make sure the emitters are not clogged. Check drip irrigation systems weekly.

## **WHAT ABOUT CALIFORNIA NATIVES?**

It's important to note that not all native plants are water-wise, as some come from riparian (near the river) habitats.

You may have noticed that many California native plants aren't found at local nurseries or garden centers. There are a few reasons for this, as explained by nursery owners. The first is that nursery

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and garden center personnel follow a normal watering schedule for all plants. Native plants are particular about being overwatered, so many end up dying.

Secondly, because many native plants are not long-lived, nursery owners feel uncomfortable selling them to customers. For example, California Lilac (*Ceanothus*) must be replaced every 5-7 years. Often it will die before this, due to overwatering by gardeners. Nurseries would rather sell plants that are successful for long periods of time.

If you can't find the native plants you are looking, ask a nursery or garden center if they would be willing to special order it for you.

Two places that have yearly native plant sales in the spring are The Great Valley Museum and the UC Davis Arboretum. The Great Valley Museum is located at 1100 Stoddard Avenue in Modesto. For more information, call them at (209) 575-6196. For more information about the UC Davis Arboretum plant sale, visit their website at: <http://arboretum.ucdavis.edu/> or call (530) 752-4880.

## **PRUNING NATIVES**

California natives often “do their own thing” in the landscape. They can be bushy, shaggy and spindly. Sometimes they are summer dormant and lose leaves. Most

native plants are better as part of a blended landscape. Their beauty is not what is normally accepted as attractive in most urban landscapes. Plants that are U.S. and California natives are noted in the guide. The guide will inform you what to do for basic also details basic plant care.

When pruning, study the plant ahead of time. What is its natural shape? You want your yard to be aesthetically pleasing, so avoid making severe cuts that leave a plant looking like it had a bad haircut. Go slowly at first, selecting branches carefully. Use a pruning guide if necessary.

## **ARBORETUM ALL-STARS**

The Water-Wise Guide may mention a plant that is an Arboretum All-Star. These plants are listed on the UC Davis website because they have been tested and found to be tough, reliable and easy to grow.

## **WHAT'S MY SOIL TYPE AND WHY DO I CARE?**

Understanding the relationship between soil and your plants is the best way to solve the many mysteries related to plant death and decline. Many people feel their plants grow poorly because they have “bad” soil, when in reality their watering practices should be examined. In a majority of plant failure cases,

overwatering is the culprit. This is especially true if you have a clay-type soil. These soils become waterlogged easily, and plants deprived of oxygen eventually die.

## **SOILS 101**

Soil is composed of a mixture of particles called sand, silt and clay. To get a basic idea of your garden soil texture, do a simple home test.



Step 1- Take a handful of soil, moisten it lightly and squeeze it in your hand. If the soil forms a cast of your hand

that breaks when handled, you have a loamy-sand textured soil. If not, go to step 2.



Step 2-Roll the soil between your hands to form a “ribbon” that extends over your hand. If the ribbon

breaks at about ½” or less, your soil is most likely loam. If not, go to step 3.



Step 3-If you can extend the ribbon to at least ¾” before it breaks, your soil is clay loam.

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Step 4-If the soil ribbon continues to extend to at least 1” long, your soil is composed mostly of clay.

There are actually a total of twelve soil textures, but determining if your soil is close to one of these four types will help you better understand its water and nutrient holding capacity.

## Loamy Sand

Sandy textured soils are the first to warm up to optimal temperatures for spring planting, which may give gardeners a few days advantage in the growing season. Sandy soils have large particles, and large pore (air) spaces. Water and nutrients move through these soils readily, so they need water more often than clay soil. The addition of compost to a loamy sand will improve its ability to hold onto both nutrients and water.

## Loam

Loam soils contain about 5-10% organic matter and provides an excellent mixture of sand, silt and clay for gardening. This soil holds onto both water and nutrients well, but can still benefit from the addition of compost.

## Clay Loam

Clay-based soils hold onto water and nutrients longer than sandy soils. Clay soils have smaller particles and so water, air and nutrients do not travel through the smaller pore spaces as quickly. The addition of compost will help this soil type drain better.

## Clay

Clay soil has the smallest particles, so air spaces in the soil are small too. This means the movement of water, air and nutrients is limited. Clay soils greatly benefit from the addition of compost on a regular basis.

## **HOW DO I MAKE MY LANDSCAPE ENVIRONMENTALLY FRIENDLY?**

Installing water-wise plants is a great first step towards creating an environmentally-friendly landscape. One of the biggest challenges our country and state will face in the future is our dwindling supply of water. Tied in with this is the issue of water pollution. One contributor to water pollution is fertilizer. Fertilizers contain nitrogen, an element that occurs naturally. However, when too much nitrogen enters the water supply, it causes ponds and waterways to produce an excess of algae. This algae clogs waterways and uses up oxygen in the water, which in some cases causes the death of fish and amphibians. The excessive use of nitrogen fertilizers and overwatering can

also lead to nitrate pollution of the ground water.

Having an environmentally-friendly landscape means using fertilizer correctly. Always follow package directions and never add more than the instructions indicate. Or, use fertilizers such as blood or fish meal.

Grasscycling is a way to keep your lawn naturally fertilized. Simply mow your lawn without using a bag. The clippings will breakdown and supply needed nitrogen. Contrary to popular belief, grasscycling does not create thatch problems. Thatch is a layer of living and dead grass stems and roots that accumulate over time. Dethatch your lawn to avoid this problem.

Before you grasscycle, make sure your lawnmower has a safety flap that covers the opening where the bag fits into the chute. If not, purchase a retrofit kit from the dealer of your particular brand of mower. If you are looking for a new lawn mower, there are “mulching mowers” available on the market.

Avoid fertilizing your lawn before hot summer months begin. Lush grass has less ability to withstand hot summer temperatures.

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## **MULCH MULCH MULCH!**

Many gardeners know the value of a good mulch. You can use shredded bark or clippings from your own yard. Adding a 3 inch layer of mulch helps protect soil from evaporation and has the added benefit of preventing weeds.

## **DRAINAGE!**

To have a successful water-wise garden, your plants must have good drainage. When soil stays wet, plants do not receive enough oxygen. In the case of water-wise plants, this is almost certain death. Allow soil to dry out in between watering and enrich your soil with compost before planting. Never add sand to help a drainage problem, this will only make it worse.

## **INVASIVE PLANTS**

Some water-wise plants can cause problems in natural landscapes. They may “escape” the yard where they were planted and begin to take over natural spaces. Or they can make your yard work an overwhelming task.

If you live near a river or other natural area, avoid planting the following plants.

*Artemisia absinthum*, *Arundo*, *Berberis thunbergii*, *Centaurea cyanthus*, *Cortaderia selloana* (Pampass Grass), *Euonymus alatus*, *Euonymus fortunei*, *Gypsophila paniculata* (baby’s breath), *Lonicera maackii*, *Lonicera tatarica* (both honeysuckles), *Miscanthus sinensis*, *Poa*

*compressa*, *Poa pratensis*, *Sedum acre*, *Spirea japonica*, *Syringa vulgaris* (Lilac), and *Vinca minor*.

## **MINIMAL CARE PLANTS**

Many people would like a water-wise landscape but don’t have time to maintain one. Fortunately, there are plants to match your lifestyle. Look for the asterisk (\*) next to the plant name. This indicates plants that need minimal pruning and cleanup. All annuals are considered minimal care although they do need replacing each season which may be too much for the average, busy homeowner.

## **PLANT CATEGORIES**

The Water Wise Guide places plants into categories that describe how they are used in the landscape.

Annuals brighten up the yard for a season, set seed, and die. Many reseed themselves if allowed. Annuals are planted in either spring or fall. The guide will tell you which time to plant.

Herbs can be annual or perennial. For more detailed information on herbs and their culinary uses see the free publication “Herbs in Your Garden” available from the Stanislaus County UCCE Office.

Perennials live for 2 or more years. Many are short-lived and may live for just 3-4 years. Most perennials become dormant in the winter (lose their leaves). The term

“perennial” also describes the life cycle of most plants (except annuals) live for 2 or more years.

Ground Covers provide plant cover in the landscape. Not all of them can take foot traffic. Most are perennial, but some annuals may be listed.

Grasses provide spiky interest throughout the yard and can help accent the colors of other plants.

Vines provide cover for fences and can hide unsightly views.

Shrubs provide the “bones” of the landscape by defining your yard space. They are typically longer lived perennials. Most shrubs listed in this publication, are evergreen.

Trees live for many years and should be a focal point in your landscape. They also provide shade, block wind and help save energy. It is not necessary to stake every tree you plant. Trees that can stand by themselves may not need staking. Please see the publication “Trees in Your Home Garden” available from the UCCE Office for \$1 or free online at <http://cestanislaus.ucdavis.edu/Gardening/> Click on “Publications” to access. If you do stake a tree, do so for only one year.

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## Annuals\*

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Alyssum</b> <i>Lobularia maritima</i>	white, pink, purple flowers		10-12" 4-6"	Plant in full sun or partial shade. Flowers spring through frost. Flowers are honey scented and attract bees. Often reseeds itself. Available in plant or seed form, plant in spring.
<b>Bachelor Buttons</b> <i>Centaurea cyanus</i>	blue, pink, white flowers		1-3' 6-18"	Plant in full sun. Flowers spring through summer. Pull out plants as they fade. Often reseeds itself. Makes an excellent cut or dried flower. Available in plant or seed form, plant in spring.
<b>Black-Eyed Susan</b> <i>Rudbeckia hirta</i>	yellow, red, gold and bi-colored flowers	X	10"-3' 12-18"	Plant in full sun. Flowers in summer. Makes a great long-lasting vase flower. Short-lived biennial or perennial often grown as an annual. Plants may be available in spring, or plant seed in spring. Native to eastern U.S.
<b>Blanket Flower</b> <i>Gaillardia pulchella</i>	red, yellow, gold flowers	X	1 1/2-2' 1'	Plant in full sun. Flowers in summer. Plants may be available spring, or plant seed in spring. Native to central and western U.S.
<b>California Poppy</b> <i>Escholzia californica</i>	orange, red, yellow, cream flowers	X	8-18" 8-18"	Plant in full sun. Flowers early spring. Often reseeds itself. Plants available in spring but not fall, in fall plant from seed. California native.
<b>Cleome</b> (Spider Flower) <i>Cleome</i>	pink, rose, violet, white flowers	X	4-6' 4-5'	Plant in full sun. Flowers summer through fall. Flowers have a lemony scent. Makes a great background for a border. Some varieties available in plant form in spring. Plant seed in spring.
<b>Clarkia</b> <i>Clarkia amoena</i>	pink, rose, white, red flowers		1-2' 1-2'	Plant in full sun. Flowers spring through early summer. Makes a great cut flower. Some varieties available in plant form in spring. Plant seed in spring. Native to North and South America.
<b>Clary Sage</b> <i>Salvia sclarea</i>	whorls of lilac, pink or blue flowers	X	3-4' 2-3'	Plant in full sun. Flowers spring through fall. Biennial or short-lived perennial grown as an annual. Flowers are aromatic, but foliage is not. Some varieties available in plant form in spring. Plant seed in spring.

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## Annuals\*

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Coreopsis</b> <i>Coreopsis tinctoria</i>	yellow, red, orange, brown, bi-colored flowers	X	8''-2' 8-18''	Plant in full sun. Flowers in summer. Reseeds itself every year. Makes an excellent cut flower. Dwarf and double flower varieties exist. Available in plant or seed form, plant in spring.
<b>Cosmos</b> <i>Cosmos</i> species	pink, white, yellow, red, orange flowers	X	1-7' 1-2'	Plant in full sun, without it flower stalks tend to fall over. Flowers late spring through early fall. Makes an excellent cut flower. Available in plant or seed form, plant in spring.
<b>Dianthus or Sweet William</b> <i>Dianthus barbatus</i>	white, pink, red, purplish, bi-colored flowers		1-1 1/2' 1'	Plant in partial shade. Flowers spring through fall. Most are treated as annuals. Can live through the winter but may not look attractive, replace if necessary. Available year-round in plant form. Plant seed in spring.
<b>Forget-Me-Not</b> <i>Myosotis sylvatica</i>	blue, pink, white flowers		6-12'' 5-6''	Plant in partial shade. Flowers in spring when planted in fall. Name refers to tendency to reseed every year. Great for use in containers and rock gardens; also among spring bulbs. Plant seed in late summer or early fall. Not generally available in plant form. Can be invasive.
<b>Four o'clock</b> <i>Mirabilis jalapa</i>	blue, pink, white flowers	X	3-4' 3-4'	Plant in full sun. Flowers summer through fall. Name refers to it's habit of opening in the afternoon. White flowered plants are fragrant; other colors are newer hybrids and less fragrant and bloom during the day. Plant from seed in spring. Not generally available in plant form.
<b>Iceland Poppy &amp; Shirley Poppy</b> <i>Papaver nudicale &amp; rhoeas</i>	white, yellow, pink, purple, orange, red flowers	X	10''-3' 6-12''	Plant in full sun. Flowering plants purchased in fall bloom fall through late spring. Or plant seed in late fall for spring bloom the following year. Does not tolerate heat, dies when summer arrives.



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## Annuals\*

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
<b>Love-in-a-Mist</b> <i>Nigella damascena</i>	white, pink, purple, blue flowers; seed pods		1-2' 9-12"	Plant in full sun or partial shade. Flowers in spring. Makes an excellent cut or dried flower. Often reseeds itself. After flowers fade, attractive seed pod remains. Not available in plant form, plant seed in early spring.
<b>Mallow</b> <i>Lavatera trimestris</i>	pink, red, white flowers	X	3-6' 3-6'	Plant in full sun. Flowers midsummer until frost. Remove spent flowers to keep plant blooming. Great for use as a fast-growing background plant. Available in plant or seed form, plant in spring.
<b>Marigold (African)</b> <i>Tagetes erecta</i>	yellow, red, orange flowers		18"-3' 1'	Plant in full sun. Flowers early summer through frost. Plant en masse for a brilliant show of color. This plant does well during hot weather. Available in plant or seed form, plant in spring. <i>T. erecta</i> 'Linnaeus' is the traditional "Day of the Dead" flower in Mexico.
<b>Moss Rose</b> <i>Portulaca grandiflora</i>	white, pink, yellow, red, orange flowers	X	4-8" 12-18"	Plant in full sun. Flowers early summer through frost. Excellent for use in containers and as a temporary ground cover. Available in plant or seed form, plant in spring.
<b>Nicotiana</b> <i>Nicotiana glauca</i>	white, pink, red, green		2-4' 1-2'	Plant in full sun or partial shade. Flowers spring through fall. Flowers are extremely fragrant. Available in plant or seed form, plant in spring.
<b>Nasturtium</b> <i>Tropaeolum majus</i>	orange, red, yellow flowers		1-2' 1-2'	Plant in partial shade. Can be planted in both fall and spring. Flowers in fall or spring, but may only last during the season planted. Tends to die out during hot weather and during a freeze. Young leaves and flowers sometimes used in salads. Plants and seeds available in fall and spring.
<b>Ornamental Cabbage</b> <i>Brassica</i>	white & green or purplish pink & green foliage		1-2' 1-2'	Plant in full sun or partial shade. Flowers appear when temperatures warm, an indicator it is time to remove the plant. Plants and seeds available in fall. Plant in fall.

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## Annuals\*

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
<b>Phlox</b> <i>Phlox drummondii</i>	purple, pink, white, blue, red, yellow		6-18" 10"	Plant in full sun. Flowers summer through fall. Makes a wonderful accent plant in rock gardens and hanging baskets; also as a temporary groundcover. Available in plant or seed form, plant in spring .
<b>Pansy &amp; Johnny-Jump-Up</b> <i>Viola species</i>	white, blue purple, black orange, yellow flowers	X	6-12" 6-12"	Plant in full sun or partial shade. Flowers fall through spring. Does not tolerate hot weather. Flowers come in a multitude of color combinations. Great for use in hanging baskets and containers. Available in plant or seed form, plant in fall.
<b>Statice</b> <i>Limonium sinuatum</i>	white, yellow, blue, orange, pink, purple flowers	X	1-3' 9-11"	Plant in full sun. Flowers in summer. Makes an excellent cut or dried flower. Available in plant or seed form, plant in spring. Tolerates heat well.
<b>Stock</b> <i>Matthiola incana</i>	pink, white red, purple flowers		8"-3' 1'	Plant in full sun or partial shade. Flowers fall through early summer. Makes an excellent cut flower. Flowers have a sweet fragrance. Available in plant or seed form, plant in fall.
<b>Strawflower</b> <i>Helichrysum bracteatum</i>	yellow, red, orange, pink, white flowers	X	1-3' 1-2'	Plant in full sun. Flowers summer through frost. Makes an excellent cut or dried flower. Also known as "everlasting" flowers because blooms last indefinitely. Available in plant or seed form, plant in spring.

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## Herbs

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
<b>Anise Hyssop</b> <i>Agastache foeniculum</i>	Leaves can be used in salads; also for tea.		3' 2'	Plant in full sun or partial shade. Has eye-catching, blue colored flower spikes that attract hummingbirds and butterflies. Foliage and flowers are licorice scented. Trim off dead flowers to keep it looking fresh.
<b>Borage*</b> <i>Borago officinalis</i>	Flowers used in salads. Remove flower from prickly sepal.	X	2-3' 1'	Plant in full sun to partial shade. Flowers in spring. Borage plant reseeds itself yearly. Thin and keep only desired plants. Leaves are prickly. The bright blue flowers are attractive and will draw many bees to your garden.
<b>Catmint &amp; Catnip</b> <i>Nepeta faassenii</i> & <i>N. cataria</i>	Attractive, low growing plants cats enjoy.		1-2' 2-3'	Plant in full sun or partial shade. Flowers in spring. Shear plant after blooms fade to encourage re-bloom. Reseeds itself readily and also forms clumping mounds. Keep contained or in a confined area of the garden. Share clumps with friends or move elsewhere in winter or early spring. May look rangy in winter, pinch back dead growth in spring.
<b>Chamomile</b> <i>Matricaria recutita</i>	Daisy-like flowers used fresh or dry for tea.		2' 2'	Plant in full sun. Dead-head (cut off old blossoms) for more blooms. Flowers have a pleasant scent. Another form of chamomile, <i>Chamaemelum nobile</i> is used as a lawn substitute that is not considered "water-wise".
<b>Echinacea*</b> <i>Echinacea</i> hybrids	Makes excellent cut flowers.		2-4' 1-3'	Plant in full sun. Flowers spring through frost. Clumps become crowded after 3-4 years. Share clumps with friends or move elsewhere in winter or early spring. Native to central and eastern North America.
<b>Fennel</b> <i>Foeniculum vulgare</i>	Leaves used in salad, seeds whole or ground.	X	3-6' 3-4'	Plant in full sun. Reseeds itself and can become invasive. Similar in appearance to dill, but with yellow, umbel-like flowers. Bronze fennel has a bronzy-purple foliage. Fennel is best used fresh. Leaves and seeds have a licorice flavor.

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<b>Lavender</b> <i>Lavandula species</i>	<i>L. angustifolia</i> used in cooking. Other species used in sachets.	X	1-2' 1-3'	Plant in full sun. Flowers in spring. Very drought tolerant. Prune lavender every year in spring, <u>after</u> danger of frost has passed. Plant may appear to be dead, but wait until mid spring before making this judgment, as plant may grow back. Lavender flower color can range from purplish blue to pink or white. To dry lavender, gather flowers as they open and set them on trays in a dry place or hang upside down in bunches. Lavender aroma is said to discourage moths.
<b>Marjoram*</b> <i>Origanum majorana</i>	Fresh or dried leaves used to season meat and stuffing.	X	1-2' 1-2'	Plant in full sun. Flowers in spring. Marjoram is in the same family as oregano and is similar in appearance and scent. Flowers are tiny, white or pink. This herb is often used as an oregano substitute.
<b>Oregano*</b> <i>Origanum vulgare</i>	Leaves used to flavor sauces.	X	2 1/2' 2 1/2'	Plant in full sun. Best known for flavoring tomato sauces. Makes a great container plant. <i>O. vulgare</i> 'Compactum' has best flavor for cooking.
<b>Rosemary*</b> <i>Rosmarinus species</i>	Use fresh or dried.	X	Varies depending on variety	Plant in full sun. Flowers in spring. Can also be used as a groundcover, small to large shrub or a groundcover. Tall types make a good hedge. Prune lightly for shape. Flower color can be blue, purple, pink or white. To harvest: remove 4" pieces from the branch tips. Sprigs used when cooking with meat or vegetables. 'Mozart' is an <b>Arboretum All-Star</b> .
<b>Sage*</b> <i>Salvia officinalis</i>	Fresh or dried leaves used in cooking.		1-3' 1-2'	Plant in full sun to partial shade. Flowers in spring. Prune sage yearly in spring, <u>after</u> danger of frost has passed. In winter, if plant appears to be destroyed by a hard freeze, do not prune. Wait until spring to see if new growth appears. Leaves can be harvested anytime but are best used fresh. All varieties vary in their flavor and can be used for cooking.

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Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
<b>Tarragon*</b> <i>Artemisia dracunculus</i>	Fresh or dried leaves used in salads.	X	2' 2'	Plant in full sun. Makes an excellent good container plant. French tarragon is used in cooking, Russian tarragon has little flavor. Hang upside down to dry. Stores well in the freezer.
<b>Thyme*</b> <i>Thymus vulgaris</i>	Fresh or dried leaves used in many dishes.	X	8" 1'	Plant in full sun or partial shade. Makes a good container plant, keep on the dry side. For best flavor, pick before flowering. Bees are attracted to the small white or purple flowers. May look rangy in winter, pinch back dead growth in spring.
<b>Yarrow*</b> <i>Achillea millefolium</i>	Flowers are used to make dye.	X	2-3' 1-2'	Plant in full sun. Flowers spring through fall. Grows in clumps that get larger each year. Divide in spring if desired. Plant has a tendency to fall over when overhead watered, stake if necessary. Flower colors include white, pink, yellow and red. Dried flowers make excellent bouquets.

# Water-Wise Guide

## Perennials

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Baby's Breath</b> <i>Gypsophila paniculata</i>	tiny white or pink flowers.	X	3' 2-3'	Plant in full sun. Flowers in summer. Use as an accent plant between shrubs so airy flowers can peek through. Ideal for rock gardens. Makes an excellent cut flower. Can be invasive, plant where it can be contained.
<b>Blue Flax*</b> <i>Linum perenne</i>	blue flowers, wispy foliage	X	12-18" 1'	Plant in full sun or partial shade. Flowers late spring through summer, then dies back and looks unattractive. Reseeds itself, and flowers will come back. Looks best in between evergreen plants where it can be hidden part of the time.
<b>Blue Mist Spirea</b> <i>Caryopteris x clandonensis</i>	blue flowers	X	2' 2'	Plant in full sun. Flowers late summer through fall. Trim after flowers die to keep plant blooming. Attracts butterflies. Wait until spring before cutting plant back. Hard freeze may kill the plant.
<b>Buckwheat*</b> <i>Eriogonum umbellatum</i>	pale flowers	X	6-12" 1-2'	Plant in full sun. Flowers in summer. Requires some pruning to keep it compact. Attracts birds, bees and butterflies. Ideal for rock gardens. Plant dies down and forms a purplish mat in the winter. California native. <b>Arboretum All-Star.</b>
<b>Butterfly Weed</b> <i>Asclepias tuberosa</i>	orange flowers	X	1-1 1/2' 1-2'	Plant in full sun. Flowers midsummer for 2-4 weeks. Attracts butterflies, particularly monarchs caterpillars, which may defoliate the plant. The plant will recover. May not be available in plant form, purchase as seed.
<b>California Fuchsia</b> <i>Zauschenaria</i>	orange to red trumpet-shaped flowers	X	6"-4' 3-4'	Plant in full sun. Flowers late summer through fall. Attracts hummingbirds. Fast growing plant, may become rangy. Prune after blooming is finished. Can be somewhat invasive. Available from some nurseries. California native. <b>Arboretum All-Star.</b>
<b>Day Lily*</b> <i>Hemerocallis</i> hybrids	orange, red yellow, pink, cream flowers		2-4' 2-3'	Plant in full sun or partial shade. Flowers mid spring through fall. Capable of withstanding drought when soil is well mulched. Divide clumps in fall or early spring every 3-6 years.
<b>Dusty Miller</b> <i>Senecio</i>	powdery colored leaves	X	2-3' 2-3'	Plant in full sun. Flowers most of the year; yellow blooms. Makes a great border plant. Has a tendency to get rangy, shear occasionally.

# Water-Wise Guide

## Perennials

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
<b>Evening Primrose*</b> <i>Oenothera speciosa</i>	pink or white flowers	X	1-3' 1-3'	Plant in full sun or partial shade. Flowers spring or early summer through fall. Can be invasive, spreads by underground runner and/or seed.
<b>Fortnight Lily*</b> <i>Dietes iridoides</i>	iris-like white		2-3' 2-3'	Plant in full sun or partial shade. Flowers sporadically during the year. Avoid cutting flower stems as they last for at least one year. Clumps can remain undisturbed for many years.
<b>Iris*</b> <i>Iris</i> species	white, pink, purple, blue, yellow flowers		8-12" 5-8"	Plant in full sun or partial shade. May do best with a little additional water during bloom time and for a few weeks after. No additional water needed in summer. Clumps become crowded every 3-4 years. Share clumps with friends or move elsewhere in fall.
<b>Lamb's Ears</b> <i>Stachys</i>	soft, silvery green leaves		1-2' 1-3'	Plant in full sun or partial shade. Flowers midsummer through frost. Divide clumps when plants begin to look rangy. Excellent groundcover, especially for under oak trees. Can be somewhat invasive. Remove flowers to prevent reseeding.
<b>Liatris or Blazing Star</b> <i>Liatris</i>	bright, spiky purple flowers	X	3-4' 2-3'	Plant in full sun. Flowers in summer. Makes an excellent cut or dried flower. Native to eastern and central North America. Divide clumps when plants begin to look rangy.
<b>Penstemon</b> <i>Penstemon</i> species	spiky flowers in many colors	X	2-4' 1-3'	Plant in full sun to partial shade. Flowers spring through fall. Most varieties are short-lived (3-4 years) and should be replaced. Needs well-drained soil to thrive.
<b>Phlomis or Jerusalem Sage*</b> <i>Phlomis fruticosa</i>	bright yellow whorled flowers	X	3-4' 3-4'	Plant in full sun, will tolerate partial shade for part of the day. Flowers spring through summer. Does best with a little additional water in summer. Makes an excellent cut or dried flower.

# Water-Wise Guide

## Perennials

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Prairie Coneflower</b> <i>Ratbida</i> species	yellow to red petal flowers	X	1-2' 1-1 1/2'	Plant in full sun. Flowers in summer. Short life-span (2-3 years) but often re-seeds itself. Use as an accent among grass-like plants. Native to North America.
<b>Salvia</b> <i>Salvia</i> species	red, purple, blue, pink, white, flowers	X	varies	Plant in full sun. Flower bloom time varies with species. Look for <i>S. apiana</i> , <i>S. argentea</i> , <i>S. clevelandii</i> , <i>S. nemorosa</i> , <i>S. 'Bee's Bliss'</i> , <i>S. greggii</i> 'Autumn Sage,' and other species listed as "drought tolerant." Most salvias are short-lived and need replacing every 4-5 years. Prune in spring after danger of frost has passed. <i>S. apiana</i> , <i>S. clevelandii</i> 'Winnifred Gilman' and <i>greggii</i> are <b>Arboretum All-Stars</b> .
<b>Santolina*</b> or <b>Lavender Cotton</b> <i>Santolina</i>	yellow, button-like flowers	X	2' 2-3'	Plant in full sun. Flowers in summer. Aromatic plant. Give plant a "haircut" when it becomes rangy.
<b>Teucrium*</b> or <b>Germander</b> <i>Teucrium</i>	small purple or blue flowers		varies	Plant in full sun. Flowering time depends upon variety. Aromatic plant has silvery leaves and stems. <b>Arboretum All-Star</b> .



# Water-Wise Guide

## Ground Covers

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Artemisia</b> <i>Artemisia</i> species	silvery gray foliage		2-3 1-6'	Plant in full sun. Flowers are insignificant. Choose low-growing species like <i>A. ludovicina albula</i> (perennial), <i>A. caucasia</i> (evergreen), and <i>A. 'Powis Castle'</i> (woody perennial). Prune perennials at beginning of spring, cutting into older wood if necessary.
<b>Bearberry*</b> <i>Arctostaphylos uva-ursi</i>	white bell-shaped flowers; red berries	X	6-8" 8-18"	Plant in full sun. Flowers late winter to early spring. Evergreen plant grows slowly until established. Mulch between plants to prevent weeds until plants fills in the bare spots. California native.
<b>Cranesbill</b> <i>Geranium</i> species	flower colors vary		1-3' 1-3'	Plant in full sun or partial shade. Not in the same genus as garden geraniums. <i>G. macrorrhizum</i> (keep contained) <i>G. oxonianum</i> and <i>G. sanguineum</i> make excellent groundcovers. Cut back this garden perennial after flowering to encourage blooms.
<b>Cotoneaster*</b> <i>Cotoneaster</i> species	attractive red berries, foliage changes color in fall	X		Plant in full sun. Flowers insignificant. Evergreen groundcover that is on the tall side. Allow them to maintain their natural, flowing shape. Avoid pruning severely or planting too close to walkways where they may need to be hedged. (Pronounced keh-toe-nee-aster).
<b>Freeway Daisy*</b> <i>Osteospermum fruticosum</i>	white, pink, yellow or purple flowers		6-12" 2-4'	Plant in full sun. Flowers year round. These perennial plants frequently grown along freeways tolerate harsh conditions. More colors available than the purple and white variety.
<b>Ice plant*</b> <i>Lampranthus</i>	various colors	X	varies	Plant in full sun. Flowers spring through fall. Perennial plant does not tolerate foot traffic.
<b>Juniper*</b> <i>Juniperus horizontalis</i>	greenish-blue foliage		6"-1' 6-10'	Plant in full sun or partial shade. Does not tolerate foot traffic. Evergreen plants are low-growing. In sandy soils, junipers may need summer watering. Very little pruning needed.

# Water-Wise Guide

## Ground Covers

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Mock Strawberry*</b> <i>Duchesnea indica</i>	small yellow flowers; red fruit		4” 1’	Plant in full sun, partial shade or full shade. Flowers in spring. Berries are attractive but tasteless, although liked by birds. This perennial plant can be invasive if overwatered. Does not tolerate foot traffic.
<b>Santa Barbara Daisy</b> <i>Erigeron karvinskianus</i>	small white, lavender or pink flowers	X	10-20” 2-3’	Plant in full sun or partial shade. Flowers continuously. Cut back this perennial plant after flowering for quick re-bloom. Does not tolerate foot traffic. Can be invasive unless controlled.
<b>Snow in Summer</b> <i>Cerastium tomentosum</i>	small, white flowers, silvery gray foliage		6-8” 2-3’	Plant in full sun or partial shade. Flowers in early summer. Short lived perennial looks shabby during winter but improves once spring arrives. Replace bare spots by moving other plants. <b>Arboretum All-Star.</b>
<b>Succulents– Sedum*</b> <i>Sedum species</i>	yellow, pink, purple or white flowers	X	varies	Plant in partial shade. Flowers in spring and summer. Does not tolerate foot traffic. <i>S. spathulifolium</i> is native to CA coast ranges. Excellent choices are <i>S. ‘Cape Blanco’</i> , <i>S. ‘Purpureum’</i> , <i>S. spurium</i> , <i>S. ‘Dragon’s Blood’</i> and <i>S. ‘Red Carpet.’</i> Easy to propagate from cuttings.
<b>Succulents– Sempervivum*</b> <i>Sempervivum species</i>	red to orange flowers	X		Plant in partial shade. Flowers in spring and summer. Does not tolerate foot traffic. <i>S. arachnoideum</i> is covered in fine, cobweb-like hairs. <i>S. tectorum</i> is the popular ‘Hen and Chickens.’ Easy to propagate from cuttings.
<b>Veronica*</b> <i>Veronica pectinata</i> or <i>V. ‘Blue Reflection’</i>	purplish blue flowers	X	3” 1’	Plant in full sun or partial shade. Flowers spring to early summer. Mow like a lawn or trim with a weed trimmer yearly to keep it looking healthy. Perennial plant grows densely enough to help prevent weeds.
<b>Wooly Thyme</b> <i>Thymus pseudolanuginosus</i>	tiny pink flowers	X	2-3” 2-3’	Plant in partial shade. Flowers inconsistently. Aromatic perennial tolerates some foot traffic. Looks rangy in winter, pinch back dead growth in spring. Use in rock gardens and between stepping stones.
<b>Wooly Yarrow</b> <i>Achillea tomentosa</i>	yellow flowers	X	2-6” 1-2’	Plant in full sun. Flowers midsummer through fall. Perennial tolerates some foot traffic. Trim off flowers to keep ground cover low. Use in rock gardens and between stepping stones.

# Water-Wise Guide

## Grasses

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
				<i>All perennial grasses die back in winter. Give them a yearly "haircut" in late winter.</i>
<b>Blue Grama Grass</b> <i>Bouteloua gracilis</i>	interesting "flowering" plumes	X	1 1/2' 1'	Plant in full sun. Turns reddish in summer, then bleaches to white. Can be planted as a lawn and mowed to 1 1/2" high. Once established needs virtually no irrigation. Native to North America. Can be special ordered if not available. <b>Arboretum All-Star.</b>
<b>Carex</b> <i>Carex species</i>	clumping plant		1-2' 1-2'	Plant in full sun or partial shade. Great in container or rock gardens. Perennial plants may need replacing every 3-5 years. <i>C. flagellifera</i> has reddish brown leaves. <i>C. divulsa</i> (Berkeley Sedge) has greenish flowers in spring.
<b>Deer Grass</b> <i>Muhlenbergia rigens</i>	yellow or purplish plumes	X	4' 4'	Plant in partial shade. Bright green grass forms clumps that become 2 feet taller when they "bloom." California native.
<b>Fountain Grass</b> <i>Pennisetum species</i>	colorful plumes	X	2-6' 1-5'	Plant in full sun or partial shade. "Flowers" summer through fall. <i>P. setaceum</i> 'rubrum' has purplish foliage, this group of plants can be invasive. <i>P. orientale</i> 'Tall Tails' can reach 6' tall and is usually well-behaved. Both species are great in containers and rock gardens.
<b>Giant Feather Grass*</b> <i>Stipa gigantea</i>	yellow plumes in summer	X	2-3' 3-4'	Plant in full sun. Flowers in summer add height, with the plant reaching 6 feet tall. Leaves are evergreen. <b>Arboretum All-Star.</b>
<b>Miscanthus species</b> <i>Miscanthus</i>	spiky plumes		2-7' 2-5'	Plant in full sun or partial shade. Nurseries carry Maiden Grass, Zebra Grass among others. Maiden grass can become a pest if allowed to seed itself. Both plants may need staking as the plumes tend to fall over.
<b>Pink Muhly Grass*</b> <i>Muhlenbergia capillaris</i>	fluffy pink plumes		3' 6'	Plant in full sun or partial shade. Plumes add an additional 2 1/2 feet when they "bloom" in spring. Cut back in late winter for spring growth.
<b>Purple Needle Grass*</b> <i>Nassella pulchra</i>	purple foliage	X	2-3' 1-2'	Plant in full sun. "Blooms" late winter through early spring. Goes dormant in summer when weather gets hot. Plant among other plants that can hide this. Comes back in fall with rain. California Native.

# Water-Wise Guide

## Shrubs

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Australian Tea Tree*</b> <i>Leptospermum laevigatum</i>	white, pink or red flowers	X	10-30' 10-30'	Plant in full sun. Flowers in spring. Minimal pruning needed, over-pruning can ruin shape. Soil must have adequate drainage. Can be used as a wind break, set plants 3-6 feet apart.
<b>Buckwheat or Saint Catherine's Lace*</b> <i>Eriogonum giganteum</i>	pale flowers	X	6' 6'	Plant in full sun. Flowers in summer. This perennial plant requires some pruning to keep its shape. Ideal for rock gardens. Attracts birds, bees and butterflies. California native. <b>Arboretum All-Star'</b>
<b>Ceanothus or California Lilac*</b> <i>Ceanothus 'Concha'</i>	showy deep blue flowers	X	6-7' 6-8'	Plant in full sun. Flowers in spring. Perennial plant is not long-lived, 5-10 years is typical. Can withstand temperatures as low as 15°F. Some nurseries carry 'Joyce Coulter.' California Native. <b>Arboretum All-Star.</b>
<b>Cotoneaster*</b> <i>Cotoneaster species</i>	leaves turn red in autumn; red berries	X		Plant in full sun or partial shade. Deciduous and evergreen shrubs look great with minimal care. Prune in spring after danger of frost is past. Do not over-prune.
<b>Euryops*</b> <i>Euryops pectinatus</i>	bright yellow daisy-like flowers	X	3-6' 3-6'	Plant in full sun. Flowers year-round. Perennial plant requires minimal care. 'Munchkin' has gray green foliage and is 3' tall and 4' wide.
<b>Forsythia*</b> <i>Forsythia species</i>	bright yellow flowers	X	varies	Plant in full sun. Flowers appear on bare branches. Bloom period is about 3 weeks in late winter/early spring. Perennial shrub makes a good background plant. Prune 1/3 of tree branches that bloomed, also remove weak and dead wood.
<b>Indian Hawthorn*</b> <i>Raphiolepis indica</i>	pink flowers	X	4-5' 5-6'	Plant in full sun or partial shade. Flowers late fall through spring followed by dark berries. This tough, evergreen plant is used in many landscapes. Can easily be pruned and kept to 3 feet.

# Water-Wise Guide

## Shrubs

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks
<b>Juniper*</b> <i>Juniperus</i> species	blue, yellow or silvery gray foliage		varies	Plant in full sun to partial shade. Berries are attractive to birds. Some shrubs may grow into trees unless pruned to control size. Plants may need additional water in sandy soils.
<b>Lantana</b> <i>Lantana</i> species	yellow, orange and red flowers	X	2-8' 2-8'	Plant in full sun. Flowers spring through fall. Black fruit should not be eaten. Prune in spring after danger of frost is past. Perennial plant looks woody and scraggly in winter, avoid using as a focal point.
<b>Lemon Bottle Brush</b> <i>Callistemon citrinus</i>	bright reddish flowers; lemon scented foliage		10-15' 10-15'	Plant in full sun. Flowers sporadically year-round. Evergreen plant attracts butterflies and hummingbirds. Minimal pruning needed, simply remove weak or dead branches in late spring. If left alone, can reach 20-25' tall and wide.
<b>Manzanita*</b> <i>Arctostaphylos</i> <i>Densiflorus</i> 'Howard McMinn'	whitish pink bell-shaped flowers	X	5-6' 6-7'	Plant in full sun or partial shade. Flowers in spring. Prune branch tips as they grow to keep plant more compact. Evergreen plant has smooth, reddish purple bark. California native. <b>Arboretum All-Star.</b>
<b>Myrtle*</b> <i>Myrtus communis</i>	tiny white flowers	X	5-6' 4-5'	Plant in full sun or partial shade. Evergreen plant has flowers in summer followed by bluish black berries. Foliage has a pleasant scent. Needs hardly any pruning.
<b>Nandina*</b> <i>Nandina domestica</i>	small red berries	X	6-8' 3-4'	Plant in full sun or partial shade. In fall, foliage becomes red, orange and purple. Plant is semi-evergreen. Prune for size and shape. If foliage becomes yellow all over, it may be chlorotic due to lack of iron.
<b>New Zealand Flax*</b> <i>Phormium tenax</i>	spiky leaves	X	4-8' 4-8'	Plant in full sun or partial shade. Evergreen plant exists in various shades, bronze shades take on a deeper color when planted in the sun. Colors range from light yellowish green to purple, orange, and brownish red.

# Water-Wise Guide

## Shrubs

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Oleander</b> <i>Nerium oleander</i>	white, pink or red flowers	X	3-20' 4-12'	Plant in full sun. Flowers late spring through fall. <b>All parts are poisonous.</b> Oleanders attract pests and also are prone to dying when temperatures drop.
<b>Olive*</b> <i>Olea europaea</i> 'Little Ollie'	Mediterranean style plant	X	6-8' 6-8'	Plant in full sun. Flowers are tiny, this species is reported to bear very little fruit. Evergreen plant makes an excellent hedge or screen. Thin out dead wood in mid spring, prune for size and shape.
<b>Oregon Grape*</b> <i>Mahonia aquifolium</i>	edible blue-black fruit	X	5-6' 4-5'	Plant in partial shade. Flowers in spring. In fall, foliage becomes red, orange and purple. 'Compacta' is an <b>Arboretum All-Star</b> . Evergreen plant.
<b>Rhamnus</b> <i>Rhamnus californica</i> , <i>R. alaternus</i>	evergreen shrubs with berries	X	10-15' 6-12'	Plant in full sun or partial shade. Flowers in spring followed by black or red berries. May be special ordered if not available. Make great background plants. Recommended species are evergreen.
<b>Ribes</b> <i>Ribes malvaceum</i>	red fruit	X		Plant in full sun or partial shade. Flowers in fall and winter. Deciduous shrub goes dormant in summer unless watered. California Native may be difficult to find locally. <b>Arboretum All-Star.</b>
<b>Rockrose*</b> <i>Cistus</i> species	white, pink or purple flowers	X	2-6' 4-8'	Plant in full sun. Flowers spring through summer. Do not over prune; lightly shear the plant for shape in summer. Evergreen shrub.
<b>Snowberry</b> <i>Symphoricarpos albus</i> 'Tilden Park'	pink flowers; white berries		2-6' 2-6'	Plant in partial shade. Flowers in late spring; unique white fruit fall to winter. Deciduous plant does well under oaks. North American native plant may need to be special-ordered.
<b>Spirea*</b> <i>Spirea vanhouttei</i>	bridal, wreath-like white flowers		5-6' 7-8'	Plant in full sun or partial shade. Flowers mid to late spring. Prune flowering wood to the ground after flowers have finished blooming. Deciduous plant has dark green leaves that may turn purplish in fall.
<b>Texas Ranger*</b> <i>Leucophyllum frutescens</i>	silvery gray foliage; pink or white flowers	X	5' 5'	Plant in full sun. Flowers in spring or summer. Plants require little pruning, but straggly plants can be rejuvenated by pruning close to the ground, after danger of frost has passed. <b>Arboretum All-Star.</b>

# Water-Wise Guide

## Vines

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks  <i>Prune and remove old vine wood yearly after March 21st.</i>
<b>Cape Honeysuckle</b> <i>Tecoma capensis</i>	bright orange blossoms		15-30' 10-15'	Plant in full sun or light shade. Flowers fall through spring. Needs protection from frost, plant against a fence, house, etc. Prune after danger of frost has passed. Deciduous vine loses its leaves in winter.
<b>Carolina Jessamine*</b> <i>Gelsemium sempervirens</i>	fragrant yellow flowers	X	20' 10-15'	Plant in full sun or partial shade. Flowers late winter through spring. Evergreen vine does not damage houses or fences. If plant gets “top heavy” prune it back. Often seen planted along freeways.
<b>Japanese Honeysuckle</b> <i>Lonicera periclymenum</i>	fragrant tubular yellow flowers		25-30' 20-25'	Plant in full sun or partial shade. Flowers in spring and summer. Flowers attract hummingbirds. Needs staking until it can support itself. Tie tendrils if necessary. Prune severely after danger of frost has passed to desired shape. Can be invasive. Evergreen vine.
<b>Lilac Vine*</b> <i>Hardenbergia violacea</i>	lilac, pink or white sweet pea shaped flowers	X	9-10' 6-8'	Plant in partial shade. Flowers late winter to early spring, usually just a few weeks. Evergreen vine is one of the first vines to bloom in spring. <b>Arboretum All-Star.</b>
<b>Potato vine*</b> <i>Solanum laxum</i>	dainty white flowers with yellow centers		15-20' 10-15'	Plant in full sun or partial shade. Flowers almost continuously year round but heaviest in spring. Evergreen, well-behaved vine that doesn't try to take over.
<b>Silver Lace Vine</b> <i>Fallopia baldshuanica</i>	creamy white flowers	X	35-40' 30-35'	Plant in full sun or partial shade. Flowers spring through fall. Evergreen plant is a vigorous grower and needs pruning on a yearly basis after danger of frost has passed.
<b>Violet Trumpet Vine</b> <i>Clytostoma callistegioides</i>	lavender to violet trumpet shaped flowers		16-20' 10-15'	Plant in full sun or partial shade. Flowers late spring through fall. Prune evergreen vine after danger of frost has passed. Remove spent flowers and tangled vines anytime during the year.

# Water-Wise Guide

## Vines

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Trumpet Creeper</b> <i>Campsis radicans</i>	brilliant orange trumpet-shaped flowers		35-40' 30-35'	Plant in full sun or partial shade. Flowers midsummer through fall. Semi-evergreen to deciduous vine can be killed by a hard freeze, but usually comes back. Grows quickly and makes a nice screen. Trim regularly and tie to a climbing surface to get it established. Vines have tendrils that attach to structures and are difficult to remove. Plants can become top heavy and fall off structures unless pruned correctly. Unmanageable plants can be cut to the ground and allowed to re-grow after danger of frost has passed.
<b>Virginia Creeper</b> <i>Parthenocissus quinquefolia</i>	leaves change color in fall		50-60' 55-60'	Plant in full sun or partial shade. Flowers are insignificant but black berries that follow are attractive. Deciduous vine has green foliage that turns bronze to red in the fall. The tendrils of this vine attach to structures and can be difficult to remove. Trim frequently to direct growth. Prune in dormant season to desired size each year. Native to eastern U.S.
<b>Wisteria</b> <i>Wisteria sinensis</i>	fragrant white or purple flowers	X	20-30' 20-30'	Plant in full sun or partial shade. Flowers in spring. Deciduous vine goes dormant in the winter. This plant is a vigorous grower, train early to establish. Allow plant to grow while young, then decide on how many trunks to keep. Plant will have considerable weight once established, ensure vine is supported well. Tie stems loosely to supports using plastic tape. When plant has reached desired form, prune every winter to re-establish the structure. In summer, cut back long shoots so they do not tangle up with the main body of the vine. Avoid fertilizing this plant as it may interfere with blooming.



# Water-Wise Guide

## Small Trees

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks <i>Water trees deeply during their first year.</i>
<b>Australian Tea Tree</b> <i>Leptospermum laevigatum</i>	white, pink or red flowers	X	10-30' 10-30'	Plant in full sun. Flowers in spring. Evergreen tree needs minimal pruning. Over-pruning can ruin shape. Soil must have adequate drainage. Can be used as a wind break, set plants 3-6 feet apart.
<b>Australian Willow</b> <i>Geijera parviflora</i>	willowy foliage	X	25-30' 15-20'	Plant in full sun. Flowers are small and inconspicuous. Evergreen tree grows quickly. Makes an excellent patio or street tree. Resembles a weeping willow in appearance, but has the advantage of deep, non-invasive roots. Frost-sensitive, plant near a structure for protection.
<b>Chitalpa</b> <i>X Chitalpa tashkentensis</i>	trumpet-shaped pink, white or lavender flowers	X	20-30' 20-25'	Plant in full sun. Deciduous tree grows quickly. Susceptible to powdery mildew and anthracnose. Some cleanup required due to flowers that drop in springtime. Not always available, may need to be special ordered.
<b>Crape Myrtle*</b> <i>Lagerstroemia</i> (hybrids)	pink, white, red, or purple flowers; smooth bark striking in winter		10-25' 10-25'	Plant in full sun. Flowers summer through fall. Moderate growth rate. Deciduous tree requires some cleanup. Makes an excellent patio tree. To avoid powdery mildew, choose disease resistant cultivars like Catawba, Cherokee, and Hopi. Ask your local nursery person for more choices. Leaves may turn yellow (chlorotic) in high pH soils, use an iron fertilizer to remedy the problem. <b>Arboretum All-Star.</b>
<b>Desert Willow</b> <i>Chilopsis linearis</i>	pink, purple, rose, white or lavender flowers	X	15-30' 10-20'	Plant in full sun. Flowers in spring followed by seedpods that hang on the tree in winter. Deciduous tree is willow-like in appearance. Attracts hummingbirds. Grows quickly when young, then slower. Not always available, may need to be special ordered. California native.
<b>English Hawthorn</b> <i>Crataegus laevigata</i>	tiny white flower clusters; mini apple-like fruit		18-25' 15-20'	Plant in full sun. Flowers in spring followed by fruit. Deciduous tree has a moderate growth rate. Do not over-water or fertilize as new growth is susceptible to fire blight. 'Paul's Scarlet' cultivar has double rose-colored blooms.

# Water-Wise Guide

## Small Trees

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Olive Tree*</b> <i>Olea europaea</i>	fruitless varieties are best for near sidewalk	X	25-30' 25-30'	Plant in full sun. Flowers are insignificant. Evergreen tree grows quickly when young, then slower. Prune early to create shape. 'Majestic Beauty' bears almost no fruit. 'Bonita' is sold as fruitless but actually bears tiny fruits. Male flowers can cause hay fever in allergic people.
<b>Pineapple Guava*</b> <i>Feijoa sellowiana</i>	whitish-purple flowers with red center; edible green fruit	X	18-25' 18-25'	Plant in full sun. Flowers in spring. Evergreen tree is drought tolerant unless grown for fruit, in which case it will need regular water. Fruit is soft, sweet and somewhat bland and attracts birds. Multi-trunk tree has attractive grayish-green leaves. <b>Arboretum All-Star.</b>
<b>Smoke Tree</b> <i>Cotinus coggygia</i>	faded blooms produce a smoky look		20-30' 20-30'	Plant in full sun. Deciduous tree has a moderate growth rate. Normally multi-trunked, it can be trained into a single tree trunk. Leaves are bluish green or purple depending on the species. Foliage turns yellow, orange and/or red in the fall.
<b>Strawberry Tree*</b> <i>Arbutus unedo</i>	greenish white flowers; attractive red fruit.	X	10-30' 10-30'	Plant in full sun or partial shade. Flowers in fall and winter followed by fruit. Evergreen tree has a slow to moderate growth rate. Makes an excellent lawn tree. Bark is dark brown and fibrous, but peels away to reveal a smooth, lighter colored skin. Strawberry-like fruit is bland but edible.
<b>Trident Maple</b> <i>Acer buergerianum</i>	fall color can be red, yellow or orange		20-25' 20-25'	Plant in partial shade, or on north or east-facing site or in partially shaded area, as leaves may burn in Central Valley heat. Deciduous tree works well as a patio tree. The bark of older trees peels attractively.
<b>Western Redbud*</b> <i>Cercis occidentalis</i>	sweet-pea shaped purple flowers; seedpods	X	10-18' 10-18'	Plant in full sun or light shade. Flowers in spring. Deciduous tree is usually multi-trunked. Heart-shaped leaves are bluish green. Foliage turns light yellow or red in fall. Not always available, may need to be special ordered. <b>Arboretum All-Star.</b>

# Water-Wise Guide

## Medium Trees

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks <i>Water trees regularly during their first year.</i>
<b>California Fan Palm*</b> <i>Washingtonia filifera</i>	large clusters of blackish-purple berries	X	50-60' 15-20'	Plant in full sun. Evergreen palm is best used on large properties, as it grows too large for most gardens. The trunk can reach up to 2' in diameter. Native to California and Arizona.
<b>California Pepper Tree</b> <i>Schinus molle</i>	fern-like foliage; rosy berries in fall and winter	X	25-40' 25-40'	Plant in full sun. Evergreen tree grows quickly and makes an excellent shade tree. Produces litter year round. Difficult to garden under due to aggressive roots, which also disrupt pavement. Frost sensitive tree in our area. Plant is best used in a space away from gardens and pavement. Not native to California.
<b>Camphor Tree</b> <i>Cinnamomum camphora</i>	inconspicuous flowers; small black berries	X	45-50' 50-60'	Plant in full sun or partial shade. Evergreen tree grows slowly, but does have competitive roots that may invade sidewalk and lawn. Aromatic foliage. Some cleanup required due to heavy leaf drop in spring followed by twig, flower and berry drop.
<b>Chinese Pistache*</b> <i>Pistacia chinensis</i>	female trees produce red fruit that ripens to black	X	30-50' 30-50'	Plant in full sun. Flowers are inconspicuous. Deciduous tree is a slow to moderate grower. Tolerates most watering situations, but deep, infrequent water is best. Non-aggressive roots make it an ideal plant in lawn or near sidewalk. Provides stunning fall colors of yellow, orange and red.
<b>European Hackberry</b> <i>Celtis australis</i>	small red berries		40-60' 40-50'	Plant in full sun or partial shade. Deciduous tree is a moderate grower. Good choice for a street or lawn tree as well as pavement. Stake young trees until established. Mature trees have attractive bark. Can be prey to hackberry aphids, if sticky dripping occurs, consult the UCCE Office.
<b>Flowering Pear</b> <i>Pyrus calleryana</i>	showy white flowers; small, inedible fruit		25-35' 15-20'	Plant in full sun. Choose <i>P. calleryana</i> and not <i>P. kawakammi</i> , as latter species is especially prone to fire blight. Cultivars of <i>P. calleryana</i> recommended for this area include 'Chanticleer', a narrow, pyramid-like tree with orange to red-dish-purple fall color and 'Trinity' which has a round-headed form and orange-red fall color. These evergreen trees require some cleanup due to the inedible fruits that drop in spring and summer.

# Water-Wise Guide

## Medium Trees

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Holly Oak*</b> <i>Quercus ilex</i>	oval, 1 1/2" brownish gray acorns	X	30-60' 30-60'	Plant in full sun. Evergreen tree has a moderate growth rate. Makes an excellent street or lawn tree. Deep roots do not disturb pavement.
<b>Japanese Pagoda Tree*</b> <i>Sophora japonica</i>	purple flowers and fern-like foliage		45-50' 45-50'	Plant in full sun or partial shade. Flowers in summer. Deciduous tree grows quickly when young, then slower. After 30 years, the tree may still be 25-30 feet tall, although it can reach 50-60' tall many years later. Excellent choice for shading a lawn.
<b>Locust Tree</b> <i>Robinia X ambigua</i>	purple flowers	X	40-50' 20-30'	Plant in full sun. Flowers mid spring to early summer. Deciduous tree grows quickly and adapts well to hot conditions. 'Idahoensis' has bright magenta flowers, 'Purple Robe' has darker purplish-pink flowers. Root system is aggressive, avoid planting near sidewalks.
<b>Sweet Bay*</b> <i>Laurus nobilis</i>	small yellow flower clusters; dark purple fruit		12-40' 12-40'	Plant in full sun or partial shade. Evergreen tree grows slowly. Can be trained as a topiary tree, but will need frequent pruning to achieve it. Aromatic leaves are used in cooking, remove the leaves once the dish is done. It's natural shape is a multi-trunked tree, 'Saratoga' is an excellent cultivar to train as a single trunk tree.
<b>Silver Dollar Eucalyptus</b> <i>Eucalyptus cinerea</i>	insignificant white flowers; small capsules.	X	20-55' 20-45'	Plant in full sun. Evergreen tree grows quickly. Young foliage has round leaves, mature foliage is slender and elongated. To use round foliage in decorations, cut back frequently as it will continuously regrow. Prune between March and August for shape and size.
<b>Tupelo</b> <i>Nyssa sylvatica</i>	inconspicuous flowers; bluish-black fruit		30-50' 20-30'	Plant in full sun or partial shade. Deciduous tree has a slow to moderate growth rate. Makes an excellent lawn tree. Fruit drop can be messy, avoid planting near sidewalks. Foliage turns yellow and orange before dropping in fall. Native to Eastern U.S.

# Water-Wise Guide

## Large Trees

Common & Botanical Name	Features of Interest	Xeriscape	Height & Width	Remarks <i>Water trees regularly during their first year.</i>
<b>Bald Cypress*</b> <i>Taxodium distichum</i>	fine textured foliage, small, round cones, shaggy bark	X	50-70' 20-30'	Plant in full sun. Deciduous tree grows quickly. Tolerates both wet and dry conditions. Needs minimal pruning. Remove dead, damaged or diseased wood only. Foliage turns orange-brown each fall before dropping, resulting in a “bald” tree. Native to south eastern U.S.
<b>Blue Gum</b> <i>Eucalyptus globulus</i>	warty seed capsules	X	45-150' 30-75'	Plant in full sun. Evergreen tree grows quickly. Some cleanup required due to bark, leaf, twig and seed capsule drop. Makes a great windbreak. ‘Compacta’ is a smaller, multi-trunk form. Can be damaged by frost at temperatures below 22° F.
<b>California Laurel</b> <i>Umbellularia californica</i>	tiny yellow flowers; purple inedible fruit	X	40-60' 40-60'	Plant in full sun, partial shade or shade. Flowers in spring. Evergreen tree makes a good shade tree. Slow growing until 25’ tall. Leaves may get black patches of sooty mold from aphid or scale infestation. Avoid planting near patios, sidewalks and driveways. California native.
<b>Canary Island Pine</b> <i>Pinus canariensis</i>	glossy brown 4-9” oval cones	X	50-80' 30-40'	Plant in full sun. Evergreen tree grow quickly. Very young plants are gawky but eventually fill in to become more graceful. Shiny, grass-green needles grow in bunches of three.
<b>Coast Live Oak*</b> <i>Quercus agrifolia</i>	cone shaped 3/4-1 1/2” acorns	X	20-70' 20-70'	Plant in full sun. Evergreen tree has a moderate growth rate. Shiny, prickly green leaves turn dry and drop in spring. Makes a handsome shade or street tree with some cleanup required. Susceptible to crown rot diseases if over-watered. California native.
<b>Incense Cedar*</b> <i>Calocedrus decurrens</i>	small yellow-brown to red cones		75-90' 10-15'	Plant in full sun or light shade. Evergreen tree is symmetrical and almost pyramidal in shape. Slow grower at first, but then can add 2’ per year. Foliage gives off a pleasant fragrance when crushed. Makes an excellent wind-break. Native to western California.

# Water-Wise Guide

## Large Trees

Common & Botanical Name	Features of Interest	Xeri scape	Height & Width	Remarks
<b>Italian Stone Pine*</b> <i>Pinus pinea</i>	globe-shaped brown 4-6" cones		40-80' 40-60'	Plant in full sun. Evergreen tree has a moderate growth rate. Tolerates dryness, some summer watering needed. Rigid, bright green needles grow in clusters of groups of two. Overall tree shape eventually similar to that of an umbrella. This tree is one source of the edible pine nut.
<b>Red Ironbark Eucalyptus</b> <i>Eucalyptus sideroxylon</i>	fluffy pink flower clusters; seed capsules	X	30-90' 30-60'	Plant in full sun. Flowers fall through late spring. Evergreen tree grows quickly. Makes good street tree or privacy screen. Blue-green leaves turn bronze in winter. Some cleanup required due to leaf, twig and bark drop. In windy conditions, limb breakage may occur. Frost sensitive below 23°F.
<b>Valley Oak*</b> <i>Quercus lobata</i>	Shiny, 1 1/2" acorns hang singly or in pairs		70'+ 65-70'+	Plant in full sun. Deciduous tree needs grows quickly while watered. Tapers off with less water. California oak woodlands along roads in Eastern Stanislaus County. Makes an excellent shade tree, although it constantly drops leaves, twigs and other debris. This tree has an interesting feature known as a "gall." Galls are structures that house tiny wasps (the size of a gnat). Gall wasps lay eggs in stems and leaves, which causes a tree response that creates a gall that encloses the egg, which later develops into larvae and hatches an adult wasp. Gall characteristic vary depending upon the type of wasp. A common gall found on this tree is a large, light green gall the size of a golf-ball, which later turns brown. Another type of wasp makes a tiny gall that appears to "jump" about and is known as the jumping oak gall wasp. All of these wasps are tiny and harmless to humans, and usually to the tree. High numbers of leaf galls may cause some defoliation, but in general the tree is unharmed. <b>Arboretum All-Star.</b>

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