

Water we waiting for?

With stricter conservation rules in the pipeline, it's time to put our yards and gardens on an H₂O diet

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Water is an everyday priority for the UC Davis Arboretum, which tends almost 100 thirsty acres in a region that can go nearly bone-dry for months.

Like most Sacramento Valley gardeners, Ellen Zagory, the arboretum's horticulture director, is always looking for more ways to save water while coping with a three-year drought. That effort starts with drought-tolerant plants, especially ones that offer garden color or attract beneficial insects.

In Sacramento, our gardens are our biggest water users - and often our biggest water wasters. State mandates may soon force us to curb our collective thirst. How can we prepare? Zagory shares some ideas and background.

Drought seems to be a constant in California. Why is so much emphasis placed on water-wise gardening right now?

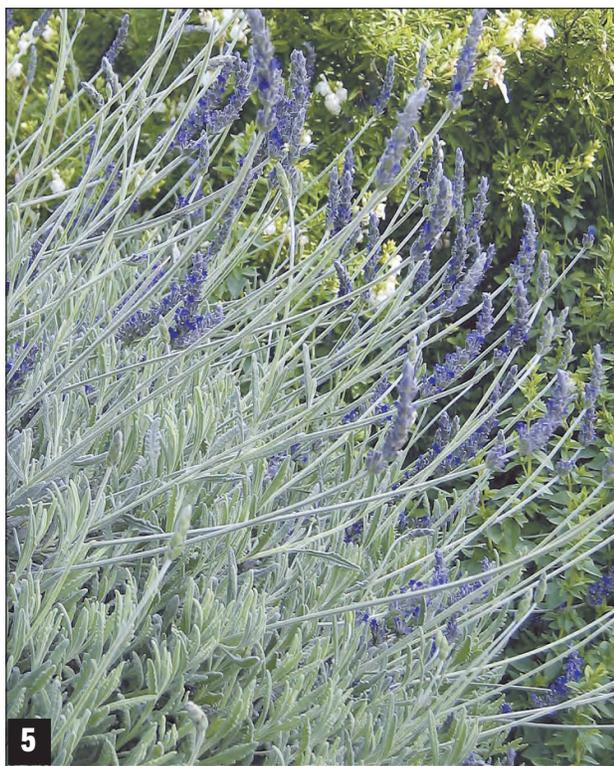
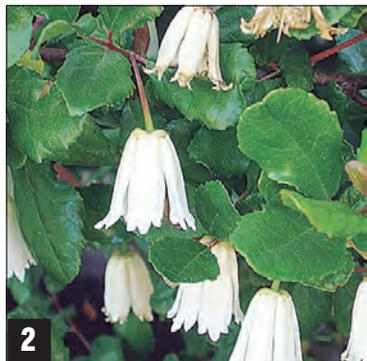
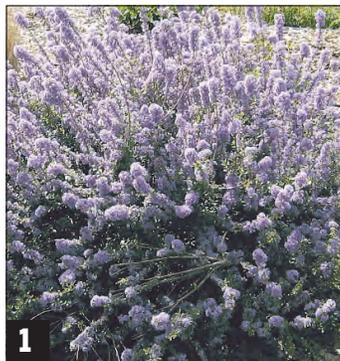
Last November, the Legislature passed a comprehensive water package, including four Senate bills and an \$11.1 billion water bond, to be voted on in this year's November election. Despite the political battles and disagreement on the effectiveness of this attempt to plan for our state's water future, what stood out to me as a home gardener and horticultural educator was the mandate to reduce urban water use by 20 percent by 2020.

Population growth and continued construction of new homes and landscapes are taxing the state's water supplies. As a result, state water managers are calling for citizens to do everything they can to conserve water and reduce waste.

What can we do in our gardens about water waste?

According to the California Public Utilities Commission, outdoor water use

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Five that thrive

Looking for dependable water-wise plants for your garden? These standouts from the UC Davis Arboretum's collection are available for sale to the public.

1. Valley Violet ceanothus

(*Ceanothus maritimus*
"Valley Violet")

A smaller California lilac that fits better in the average landscape than many larger types. Field tests showed this plant had an amazing tolerance of low irrigation. "When it bloomed in spring, Valley Violet was spectacular," said UC researcher Karrie Reid. "It's an eye-popping display of violet

3. Compact Oregon grape

(*Berberis aquifolium*
"Compactum")

A good evergreen for dry shade with golden spring flowers, attractive leaves and tints of red in winter. A nectar source early in its growing season, it also provides fruit for birds. Oregon grape tolerates partial shade beautifully.

2. Lily-of-the-valley tree (*Crinodendron patagua*)

A small, shiny-leaved upright evergreen that's perfect for screening out unsightly views. In spring, this tough, drought-tolerant plant is covered with inch-long white, bell-shaped flowers.

4. Feather reed grass (*Calamagrostis X acutiflora* "Karl Foerster")

An attractive, three-season feature with bright green 2-foot puffs of foliage. The long, soft wands of delicate flowers in spring dry to long-lasting, buff-colored accents above the plant. Ladybird beetles love to hide in the leaves of grasses. Cut to the ground once a year – that's our kind of mowing.

5. Goodwin Creek gray lavender

(*Lavandula X ginginsii*
"Goodwin Creek Gray")

A midsize lavender, this perennial grows to about 2 feet tall with scalloped gray leaves. This is one of the arboretum staff's favorites. It needs less pruning than many lavenders and produces a compact, attractive ball topped with wands of dark flowers attractive to butterflies, pollinators and beneficial insects.

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Water: Start with irrigation system, drought-tolerant plants

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accounts for between 50 and 70 percent of all household water use in California. Home landscapes – in particular, lawns – have been identified as major areas where urban water expenditures can be reduced.

Most of us have seen irrigation systems running in the rain unnecessarily and have watched landscape runoff on sidewalks and streets disappear down storm drains. Reducing water lost due to improper delivery is the first step to landscape water conservation.

Check your irrigation system and keep it in good repair, or find someone who can. Many water suppliers will provide an assessment of your landscape irrigation for free.

For example, the Sacramento Suburban Water

District will test your irrigation system, look for leaks or broken sprinkler heads, troubleshoot your irrigation system and even show you how to operate your controller if needed.

On your own, check spray heads and make sure they apply the water to the soil around plant roots, not to sidewalks and streets.

Is the application rate slow enough that the water is completely absorbed by the soil? If not, consider retrofitting with low-flow heads. Shorten and stagger the run times to allow the soil to absorb all the water applied.

Simply turning off your automatic system during the rainy season, scheduling irrigation in the early morning hours and using mulch around plants can help conserve water. Regular system maintenance can

ensure that precious water goes to the plants that need it and not down the street drain.

What about plants?

Intelligent landscape design and the selection of plants that thrive with less watering are the next steps to conservation.

At the UC Davis Arboretum, we focus our educational outreach on letting people know about beautiful garden plants that don't need a lot of water. Much of the 96-acre arboretum is irrigated every other week or less in the summer. Large areas are planted with plants native to California (and better adapted to dry summers) and other Mediterranean and seasonally dry regions of the world.

In demonstration gardens, we grow and display many plants that perform well

with watering only in the summer months. Some of these plants can be found among the Arboretum All-Stars, our top 100 recommended plants for Central Valley gardens.

See our Web site (www.arboretum.ucdavis.edu), where the plant list can be searched by water use.

What's your watering philosophy?

Water only as needed. Irrigation at the arboretum is based on replacing the amount of water lost due to evaporation from the soil and from the plant (technically, that's evapotranspiration).

We use water-use estimates for specific plants based on our experience and estimates provided by the Water Use Classification of Landscape Species in con-

junction with weather monitoring to determine the correct amount of water needed and the run time of the irrigation system. According to Emily Griswold, assistant director of horticulture at the arboretum, irrigating our Ruth Risdon Storer demonstration garden uses only 35 percent of the water needed for an equivalent area of lawn. Amounts range between only four-tenths of an inch every other week in April (in a typical year for a landscape with clay loam soil) to nearly 3 inches every other week in the hottest months of summer.

Also, because many plants in the Storer Garden are shrubs, grasses and trees, and typically grow deeper root systems than leafy vegetables and annuals, the system runs only once every two weeks.

How can people find out more?

Central Valley gardeners can see how easy it can be to do a water-wise makeover and learn about the best plants for water-wise gardens at a special arboretum plant sale April 10 focusing on water-conserving plants. Shoppers can browse displays showing recommended water-conserving plant combinations. Arboretum experts will be available to provide personalized advice for specific garden conditions.

Call The Bee's Debbie Arrington, (916) 321-1075.

Help the honeybees and other beneficial bugs of the garden to help you

What's all this buzz about beneficial insects?

Ellen Zagory, horticulture director for the UC Davis Arboretum, tried to put the need for bees and other "good bugs" in perspective. (Note to the water-wise: Many plants that attract such insects are also excellent water-savers.)

"European honeybee colonies are disappearing, and their decreasing numbers have farmers and scientists concerned," she says. "European honeybees are important pollinators – insects that transfer pollen, the package of male DNA, to female parts of flowers, resulting in seeds and fruits, which then end up on our dinner table.

"Pollinators are critical for many ... crops like squash, watermelon, almonds, apples, onions, broccoli, carrots, sunflower, cantaloupe and honeydews. ... If there are not enough pollinators, fruit and vegetable crops will be reduced and food shortages will result."

What does this have to do with the home gardener? "Take a look at your garden flowers," Zagory says. "Are they being visited by honeybees? Or do you have those giant, shiny black bees – Valley carpenter bees – that punch holes in the

bottom of flowers to steal nectar without pollination?"

Zagory points to other beneficial insects that work like bees, but aren't.

"If you look closely, you may see hoverflies," she says. "They're bee lookalikes – they're actually flies – with a curious habit of hovering in one place, apparently in defiance of gravity, and then zipping to the next location where they yet again hang in midair.

"If you are really lucky, you may spot a beautiful iridescent green bee, one of some 3,000 or more native bees that can pollinate both native and nonnative plants."

It's not just crops that need these bugs.

"Native plants in our parks, forests and grasslands depend upon native insects to reproduce," Zagory says. "California's natural beauty would not survive without native pollinators."

That's why the arboretum and other public gardens are encouraging communities to grow more plants to help good bugs.

"Parks and gardens need to do more than just provide our pleasure," she adds. "We need to fill them with plants that provide food and habitat for pollinators."

—Debbie Arrington



ELLEN ZAGORY, UC Davis Arboretum, except white sage, Nikhili Joshi
 if you'd like to attract honeybees and other good bugs, try planting, clockwise from top left, Ray Hartman ceanothus, Vine Hill manzanita, white sage, golden currant, Purple Dome aster, giant buckwheat (a.k.a. St. Catherine's Lace), goldenrod or Wayne Roderick seaside daisy.

Attract more bees

These drought-tolerant plants come with a bonus: Bees love them, too. If you want beneficial insects, consider these choices for winter and spring bloom.

Ray Hartman ceanothus

(Ceanothus "Ray Hartman")
 A taller, tree-like selection with sky blue flowers in large clusters. This California native lilac makes a nice multi-trunk small tree.

Vine Hill manzanita
(Arctostaphylos densiflora "Howard McMinn")
 This shrub blooms in winter and

entices hummingbirds to your garden.

White sage

(Salvia apiana)
 Beautiful white foliage makes a nice accent that will surprise you with tall white flower stalks. It needs shaping.

Golden currant

(Ribes aureum)
 Replace your forsythia with a drought-tolerant native plant. Golden-yellow blooms are produced in early spring.

They're a two-fer
 These summer and fall bloomers attract beneficial insects and save water, too.

Wayne Roderick seaside daisy

(Erigeron "Wayne Roderick")
 A small perennial with lavender flowers off and on all summer. It prefers afternoon shade. Native bees and small butterflies love it.

Goldenrod

(Solidago "Cascade Creek")

Both native and nonnative goldenrods have attractive, golden spikes of nectar and pollen-laden flowers, attractive to a variety of bees and butterflies – but not so much people

with allergies. Tiny aphid-eating hoverflies also gravitate to this plant.

Giant buckwheat or St. Catherine's lace

(Eriogonum giganteum)
 A perennial that acts like a shrub, it can be shaped to make a beautiful plant with large flat-topped white flower clusters. It's good for beneficial predatory insects.

Aster species and hybrids

Many asters (especially wild types) are attractive to butterflies and bees. The Purple Dome variety lives up to its name, creating a solid purple dome of flowers.



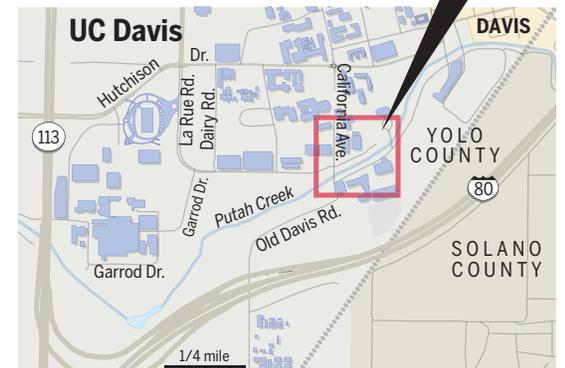
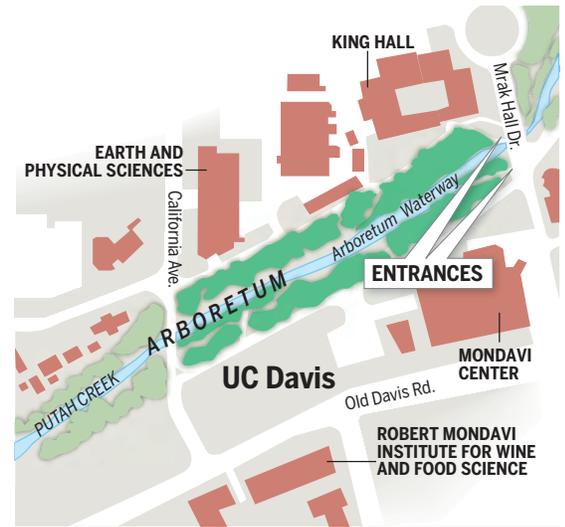
FLORENCE LOW Bee file, 2006

The Ruth Risdon Storer Valley-Wise Garden at the UC Davis Arboretum is home to many examples of water-wise gardening and landscaping.

Ways to get water wise

■ The UC Davis Arboretum will host a special sale emphasizing water-wise plants from 9 a.m. to 1 p.m. April 10 at the Arboretum Teaching Nursery on Garrod Drive at UC Davis. For more information: (530) 752-4880 or <http://arboretum.ucdavis.edu>.

■ Visit the arboretum's Ruth Risdon Storer Valley-Wise Garden on the UC Davis campus. This demonstration garden is devoted to drought-tolerant plants.



Source: UC Davis

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