



Environmental Horticulture Notes

EHN 60A

PLANTS AND MORE: AN OVERVIEW OF WATER EFFICIENT LANDSCAPES

When you think of water conserving landscapes, do images of deserts and cactus come to mind? Or, perhaps you think it means eliminating grass and replacing it with artificial turf or white rock. These types of landscapes do save water; however, they aren't very attractive. Water conserving landscapes don't need to be ugly. On the contrary, they can be attractive, colorful and offer a diverse and interesting variety of non-thirsty plants.

The typical water thirsty landscape with its large expanse of grass, a few shrubs and a tree or two is not only boring, it also uses between 37% and 74% more water than a water conserving landscape according to actual water use figures kept by the Northridge Water District.

Water efficient plants and landscapes are sometimes a necessity such as around established native oaks. Native oaks look beautiful with lawn and flowers around them, unfortunately, oaks landscaped in this manner often die within months of the installation of these water-loving plants. The summer irrigation needed to keep lawns, marigolds and petunias healthy can't be tolerated by our native oaks.

Whether you're switching to a water conserving landscape to keep a venerable old oak healthy, to save water or just to spend less time on watering chores, a water conserving landscape makes good sense. However, a water conserving landscape doesn't just happen because you plant a few native or water efficient plants. In fact, being native doesn't necessarily mean a plant is appropriate to use. After all, poison oak is native! And, one of the most widely planted, but totally inappropriate plants for our area is the native Monterey pine. It is adapted to a coastal climate and in our hot, dry valley environment frequently succumbs to bark beetle attack in less than 15 years.

Water conserving landscapes frequently combine natives from California's Mediterranean climate with exotics from the other four Mediterranean areas of Europe, Africa, Australia and South America where climates and plant habitats are similar to ours. The Ruth Storer garden at the University of California, Davis Arboretum is a fine example of natives and exotics combined in a landscape that is both colorful and water thrifty.

Many common landscape plants are actually water conserving, and will thrive on much less water than we often give them. One of the major causes of poor performance and death of landscape trees and shrubs is from overwatering. For instance, junipers prefer to be kept dry, when watered too frequently they often fall victim to phytophthora crown and root rot disease.

For a successful water conserving/water efficient landscape there are seven fundamentals to observe:

1. Planning and Design
2. Limited Turf Area
3. Efficient Irrigation
4. Soil Improvement
5. Mulches
6. Low-Water Use Plants
7. Appropriate Maintenance

Let's discuss each of these briefly.

The University of California prohibits discrimination or harassment of any person in any of its programs or activities. (Complete nondiscrimination policy statement can be found at http://danr.ucop.edu/aa/danr_nondiscrimination_and_affir.htm). Direct inquiries regarding the University's nondiscrimination policies to the Affirmative Action Director, University of California, ANR, 1111 Franklin St., 6th Floor, Oakland, CA 94607, (510) 987-0096.

Agriculture • Community Resource Development • Nutrition, Family and Consumer Sciences • Master Food Preservers • 4-H Youth Development • Horticulture • Master Gardeners University of California, U.S. Department of Agriculture, and the County of Sacramento cooperating.

Sacramento County Board of Supervisors -- Phil Serna, 1st District; Jimmy Yee, 2nd District; Susan Peters, 3rd District; Roberta MacGlashan, 4th District; and Don Nottoli, 5th District. Also, Steve Szalay, County Executive; Bruce Wagstaff, Countywide Services Agency; and Yvonne Nicholson and Chuck Ingels, Cooperative Extension.

Putting together an attractive landscape and one that will save water starts with proper planning and design. You need to make decisions about the use of the landscape, what kinds of hardscape materials you want, how much lawn you need and what kinds of plants you like. Once you have a plan, it's easy to plant and install in stages without the landscape looking as if it were put together piecemeal.

One of the surest ways to conserve water in a landscape is to limit the amount of turf. Turf is often the single largest user of water in the landscape and this water is frequently misapplied. Water running off the lawn onto the sidewalk and into the gutter not only wastes water, it does nothing to improve the health and appearance of the lawn either.

Grass can be replaced with shrubs and groundcovers that need less water, as well as with non-plant items like brick, stone or mulch. Reducing turf and substituting with perennials or other colorful plants also breaks the monotony of large expanses of grass. When grass is needed, select a water efficient grass like Bermuda or one of the new improved turf-type tall fescues.

The California Department of Water Resources estimates that residential landscapes are overwatered by as much as 40%. Applying water efficiently is another important fundamental that starts with a properly designed irrigation system. Construct the system so that plants with different water needs are on separate valves. That way you can water the water efficient plants less often than lawns and other high water use plants. Use low volume irrigation systems to conserve even more water. Micro sprinklers or sprayers apply only 8-15 gallons per hour versus the ¼ to one gallon per minute of standard spray heads. This allows the soil to absorb the water that is applied and reduces runoff. Several manufacturers are also now marketing low-volume spray heads that work well for lawns. Drip emitters are even more efficient, since you only wet specific plants and areas.

Once you install an efficient irrigation system it's still up to you to determine how frequently to water and how much to apply. This can be done manually, but more and more landscapes are watered by controllers or time clocks. Versatility is the key when looking for a controller that will be used in a water conserving landscape. Multiple programs, various "run" times and being able to program from one to several days between waterings are just some of the things to consider when selecting a controller. And, remember, a controller is only as good as the programmer. Become familiar with the water needs of your plants. And, be sure to adjust for seasonal differences in temperature and rainfall.

The fourth fundamental of a water conserving landscape is soil improvement: Provide drainage, loosen hardpan or claypan layers if possible, and, where feasible, add organic amendments to the entire planting area. University research has cast serious doubt on the benefit of adding amendments to individual planting holes, however. Instead of putting organic amendment in planting holes, put it on top as mulch. The benefits of using mulch in a water conserving landscape are several. Mulch reduces evaporation, reduces weed growth, keeps the soil cooler in the day and warmer at night, and makes the landscape look "well kept."

Another water conserving landscape fundamental is to use plants that don't need as much water or are more efficient in their water use. It's fun selecting plants for a water conserving landscape since there are so many from which to choose. (See Appendix) You can combine natives with exotics such as in the Sacramento landscape that successfully mixes three exotics; dwarf pittosporum, mayten tree, and mugho pine with three California natives; Carpenteria, "Howard McMinn" manzanita and "Eve Case" coffeeberry. During the summer, these plants are watered for three to four hours every two to three weeks and they stay healthy and attractive.

Lastly, keep a water conserving landscape efficient and healthy by practicing good maintenance: This includes adjusting watering practices as the plants mature, keeping irrigation equipment in good repair, improving drainage and aerating if necessary, fertilizing only as needed, pruning correctly and practicing good integrated pest management.

As you've seen in this brief look at water conserving landscapes, it is possible to save water and still have beautiful landscapes without sacrificing the plants you love. If you want to know more about water conserving landscapes or selecting water efficient plants, information is available from water districts, nurseries, landscape contractors, magazines and books and the University of California Cooperative Extension.