



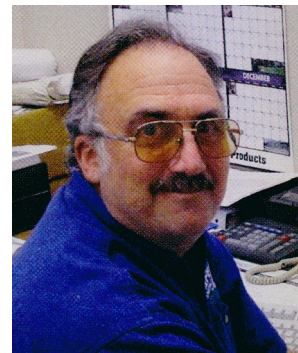
Designing a Water-Efficient Landscape

By Dr. Steven C. Carlin, Ph.D.

Can you redesign a thirsty Portland garden to use less water? Yes. Attack the Lawn First. Watering your thirsty lawn and garden typically consumes half of the total amount of water your family uses each summer. That's a lot of water. If only you could wave a magic wand and cut your outdoor water use in half, you could do your part to help avoid future water shortages and keep your own water bill from becoming a financial burden as water rates rise.

That all sounds fine and well, you may be thinking, but... there are no magic wands and... use half as much water? How can that be done without compromising the beauty and usefulness of your yard?

Here's how: You can cut your outdoor water use by 20 to 60 percent by choosing less thirsty plants for new and replacement plantings, using drip irrigation, mulching to manage water use more efficiently and designing your yard's overall layout for greater water economy.



Whether you are landscaping a new yard or re-landscaping an older one, there are many ways to design it for greater water efficiency. Ideas presented here will enable you to develop a master plan which will ensure that, even if you implement the plan in timely stages and do some, or all, of the work yourself to keep the cost down, the pieces will all fit together into a cohesive whole when you are finished.

If you have trouble translating our general ideas on water-thrifty landscaping into a practical nuts-and-bolts plan, consult a landscape architect or qualified landscape designer. Some local garden centers offer low-cost consultation and design services coupled with special discounts on plants and materials.

Whether you develop your own plan or get help, you should first establish a theme. Water conserving plants can be used to achieve informal, formal, Oriental, English, native, woody, or practically any other theme. Next, decide which functions you want the different areas of your yard to serve. The

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suggestions that follow can help you decide how to achieve these functions in the most water-efficient manner.

Minimize ornamental lawns

Use lawns where they can serve both recreational and aesthetic functions. Lawns generally consume more water than any other segment of the landscape. A bluegrass lawn, for example, requires at least one inch of water per week in the dry months to stay lush and green. Even though grass lawns have long been one of the cheapest and most-used ground covers in Portland yards, increasing water prices are likely to accelerate the present trend away from traditional front-yard lawns.

Match lawn size to intended function

Give the kids enough room to play, but don't plant the entire yard with lawn. Placing swing sets in a sandy play area bordered by railroad ties, placed horizontally or in short, vertical sections, not only cuts down on the amount of lawn to water and mow, but makes a fun playground for the children. Likewise, installing a 2 1/2 to 3-foot-wide concrete or gravel mowing strip around the backyard lawn makes it easier to keep the lawn from encroaching on shrub and flower borders and vice versa, while providing a safe race track for those tricycles that otherwise get ridden in the street.

Use water conserving shrub borders to define lawn and garden areas

Creative definition of lawn shapes with shrub borders can actually make your yard seem larger, while saving you precious water. Another visual trick to make small areas look bigger is to add vertical dimension with gently rolling mounds or by elevating the entire lawn for an expansive plateau effect. You can accentuate the vertical effect of mounds and add depth by planting groups of open, wispy accent trees, such as European white birch. Conversely, you can make a small lawn seem smaller and create a private retreat by planting large shade trees in or around the lawn.

Choose less-thirsty grasses

Of the commonly used lawn grasses in Portland, the new turf varieties of tall fescue grass such as Conchise II, Cortez, Ninja, and Expedition (see www.ampacseed.com/tallfescueturf.htm for more information) are the most drought-tolerant, whereas traditional cool-season grasses such as Kentucky bluegrass, creeping red fescue, perennial ryegrass, and bent grasses are much thirstier. This is because tall fescue is much deeper rooted with roots that penetrate up to twice as deep as the more shallow-rooted grasses.

The hybrid zoysia grasses are fine-textured, warm-season grasses that are drought-tolerant when established, but they are very slow to cover (10 to 15 months), form heavy thatch and completely lose their green color for a prolonged period in winter and into mid-Spring in the Pacific Northwest. They are planted from plugs, and even though they have good drought-tolerance when

established, they are probably not the best choice for most Portland gardens because of their winter dormancy and need for weeding until the plugs grow together.

Consider water-saving lawn substitutes

There are many varieties of low ground covers that tolerate some foot traffic and can be used in place of turf grass. An Oregon company that specializes in what they call “STEPABLES®” is Under A Foot Plant Company, 5326 72nd Ave. SE in Salem, Oregon (503-581-8915, web: www.stepables.com). Some of the best varieties for lawn substitutes include:

- Snow in Summer (Cerastium) which has low spreading silver foliage that forms a lovely gray carpet on the ground. It does extremely well around roses, along curbsides or as a lawn substitute. Lovely white flowers cover this plant completely in summer
- Blue Star Creeper (Isotoma). This is the #1 selling STEPABLE® plant, and is perfect as a lawn substitute, excellent between stepping stones, under roses and around ponds and decks. It is easy to grow, can bloom spring to frost and is easy to maintain
- Lysimachia minutissima has small green stems that root at each node, enabling it to take hold almost anywhere. It has yellow flowers on top in summer, and tolerates wet or dry conditions making it a great lawn substitute or between stepping stones
- Thyme Magic Carpet, a new creeping thyme that forms a tight grip on the ground to make an impressive lawn substitute and border plant. It has deep green foliage and has nice fresh scent of lemon when stepped on and it explodes in late spring with carmine pink flowers
- Bronze Dutch clover (Trifolium), a vigorous groundcover with deeply divided, reddish-bronze leaves edged in green. It has white pom-pom flowers that adorn the top in summer. Valuable in hot, dry areas, for erosion control on slopes or in a woodland setting where nothing else will grow.

Install a weather-based sprinkler timer and choose sprinklers that apply water slowly and evenly to deeply water your plants with minimum puddling and runoff

There are many new sprinkler timers that automatically adjust the watering schedule for your yard based on either inexpensive on-site weather sensors or broadcast signals from local weather stations. In the Portland area where the weather can vary greatly from day to day, these controllers can save a tremendous amount of water. With the frequent rains that we receive in the Northwest, a rain shutoff switch is a must. These devices prevent the sprinkler timer from watering in the rain. It is also important to use sprinklers that apply water slowly and evenly, such as rotor-type heads. Typically rotor type sprinkler heads are much better than spray heads that apply water faster than our clay soils can absorb and that tend to waste a lot of water because of misting and wind drift. A fairly new entry in the sprinkler market is a stream-rotor nozzle called a MP-Rotator (made by Walla Walla Sprinkler Company in Washington). These

nozzles can be used to convert an inefficient spray head into a much more efficient rotor pattern that uses one third as much water for each nozzle and still covers the same area. They are available in sizes from 10 to 30 feet in radius. For shrub areas, drip irrigation or bubblers are good ways to water your plants without having to use spray heads to cover the entire area. You can hide the drip lines under bark mulch, and local garden centers and hardware stores have kits that make it easy to install a drip system for your beds, pots or hanging baskets.

Be creative with functional paving

Why not make your front yard more useful by including an entry courtyard in your plans? Why not make front-door access easier—and prettier—by widening the driveway with decorative paving, or by installing a casual walkway, softened by borders of unthirsty plantings, that leads visitors directly from the street to your door? Why not build that new patio, deck, shade trellis, gazebo or outdoor barbecue that will make your yard so much more enjoyable? Indeed, why should you continue the religious watering and mowing of all that grass when so many other options could make your yard more practical to use and maintain?

When choosing new plantings, think drought-tolerance and drip irrigation

For shrub and flower borders that soften and define areas of the yard, plant unthirsty shrubs, trees, and ground covers. Use drip irrigation for all new plantings, except lawns and large expanses of ground cover where low-precipitation sprinkler heads should be used.

Group and irrigate plants according to water requirements. You need not totally eliminate thirsty azaleas, Rhododendrons, ferns and lush woodland plants from your garden, as long as you group all of these water-loving plants together where they can be pampered. Don't mix plants with greatly different water needs: Not only will you lose the potential water-saving benefit of less-thirsty shrubs, but the more sensitive plants might die from over- or under-watering. Many native plants especially are sensitive to over watering in the summer, so keep them out of reach of lawn sprinklers.

Space plants to avoid overgrowth

Spacing your plants based on their anticipated size in five years will allow plenty of room for growth without making the new planting seem skimpy. Your nursery expert should be able to advise you on proper plant spacing. Cover the ground between plants with water-saving mulch such as bark dust.

Vary the density of plantings

Concentrate them where they provide the most impact. Use lower-density plantings, such as fruit trees or widely spaced groups of accent shrubs and trees in little-used areas. For large, open spaces, consider landscaping only the visible perimeters, leaving the rest natural or covering it with mulch, bark or gravel. Or, seed the open spaces with self-renewing wildflowers to create a natural-looking

meadow that will bloom every spring and regenerate itself after periods of drought dormancy.

Fall is the best time of year to plant your yard, so make your master plan now. Start planting after the heat of summer has passed, but while the soil is still warm to promote good root growth and get your plants off to a fast start next spring!

About the Author

Dr. Steve Carlin—Ph.D., CCN, CID, CLIA—is a water management service line manager with Teufel Landscape in Portland, Oregon. Key landscape and irrigation accomplishments include authoring a six-part “low water use landscaping” series for San Diego Home & Garden Magazine, writing the Landscape Technical Manual and helping to develop citywide landscape regulations for San Diego. He has co-invented several state-of-the-art irrigation systems—most recently the WeatherSet residential self-scheduling irrigation controller with patent pending. Visit www.teufel.com for information about Teufel Nursery.