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Xeriscaping: how to retrofit your yard to reduce water use

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Quick Facts

As much as 50 percent of household water is used for the yard and garden.

Change turf areas on steep slopes, hard to water places and narrow mowing strips to low-water ground covers.

Modify sprinkler systems to water only turf areas.

A drip system can save water.

Black plastics and large areas of gravel or rock waste water through run-off and increase soil and air temperatures.

It is estimated that the average home landscape uses as much as 50 percent of the water in a household. Even if you already have a well-established landscape, you can substantially reduce water usage by following some simple steps to make changes in your yard.

Make a Survey of Your Yard

1. Observe turfgrass areas that are difficult to water and maintain such as along fences or on steep slopes where water tends to run-off. Difficult areas include corners of lawns where it is hard to water without overlap into other areas; narrow strips of lawn between the house and a sidewalk or driveway and irregularly-shaped lawn areas that do not fit the normal pattern of most sprinklers.

If you have an underground sprinkler system, turn it on and observe where water is going. Better yet, place shallow containers such as plastic margarine tubs or metal coffee cans in various locations and measure the water depth after about 20 minutes. Areas that don't receive as much water as others may be good candidates for change from turf to other plantings such as low water-requiring ground covers, shrubs or garden flowers.

Steep slopes, especially those on south and west exposures waste water through run-off and high loss due to evaporation. These areas can be converted to ground covers that tolerate the exposure and thrive with less water than most turfgrasses. They also are easier to maintain because you won't need to mow them.

Table 1: Low ground covers for hot, steep slopes.

Blue Rug Juniper	*Juniperus horizontalis 'Wilton' ('Blue Rug')*
Buffalo Juniper	*Juniperus sabina* 'Buffalo'
"Tammy" Juniper	*Juniperus sabina 'Tamariscifolia'*
Blue Fescue	*Festuca ovina glauca*
Hardy Ice Plant	*Delosperma nubigenum*
Lavender-cotton	*Santolina chamaecyparissus*
Creeping Phlox	*Phlox subulata*
*Snow-in-summer	*Cerastium tomentosum*
Creeping Veronica	*Veronica rupestris*
Silver Mound Sage	*Artemisia schmidtiana 'Silver Mound'*
Buffalograss	*Buchloe dactyloides*
Creeping Red Penstemon	*Penstemon pinifolius*
Wooly Thyme	*Thymus pseudolanuginosus*

2. Take note of the normal foot traffic areas in your yard, including play areas for children and pets. These areas are best left in turfgrasses that can take the wear. Turf areas outside of this, however, are not needed and can be converted to shrub borders, flower gardens and non-turf ground covers that use less water.

3. Make note of lawn areas that do poorly (thinning) as a result of heavy shade from trees or structures. Rather than try to maintain these areas in turf, plant alternative ground covers that tolerate the shade or, if the location is appropriate, install a patio or raised deck.

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Mark off unneeded or unwanted turf areas with a string and stakes or a garden hose. Avoid leaving lawn areas with sharp angles or small strips that are difficult to water without overlap into non-turf areas.

Modify existing sprinkling system so that water is applied only to the turf you retain. In some cases, this may only involve changing the spray patterns of the heads from a full circle to a partial circle. In other cases, it may require only reorientation of heads to direct water away from the non-turf areas. Major changes, however, may require installation of in-line shutoff valves or even relocation of complete sprinkler lines.

It is *not* necessary to strip sod from the areas you want to remove from turf grasses. An easier method is to apply glyphosate (sold as Roundup or Kleenup) to actively-growing grass. Wait about seven days, then plant to alternative ground covers, shrubs or flowers. Glyphosate must be applied carefully, however, because even the slightest drift onto adjoining grass or other non-target plants will cause damage. Use a low pressure, coarse-droplet spray or, better yet, a wick-type applicator available at many garden centers. Apply only when you are certain it will not rain for at least eight hours after application.

Another way is to overlap newspaper on the lawn you want to kill. Lay newspaper on the grass in overlapping sections at least 10 sheets thick. Weigh the paper down with 3 to 4 inches of wood chips to keep the paper from blowing. You usually can purchase wood chips from tree service companies. Sprinkle the chips with water to settle and keep them from blowing.

The newspaper and wood-chip mulch smothers the grass. After a few weeks, the grass will be dead and the newspaper will begin to decompose, creating the extra organic matter that is beneficial to the soil.

In areas where you plan to use mulches or if you are going to plant on a steep slope, **leave killed grass in place.** The dead grass and its roots and runners help reduce soil erosion until the new planting is established. A covering of mulch such as wood chips or bark chunks about 5 inches thick over the dead grass improves appearance and reduces future weed growth. Grasses and other weeds that appear through the mulch are easily spot-treated with the glyphosate. As the dead grass decays it will contribute organic matter to the soil.

Where flower gardens are wanted instead of ground covers, it is best to till under the dead grass. Any residue of the glyphosate that comes in contact with soil will be deactivated and will not harm new plantings **except where direct seeding is done.**

If direct seeding of flowers, alternative grasses and vegetables is desired in the treated areas, removal of dead grass and roots is advised because residue *in* the dead plant material can interfere with seed germination. An alternative is to thoroughly rototill the dead grass into the soil and wait until the grass has fully decomposed. This may take one month to six weeks in warm weather if kept moist (but not wet).

Drip Systems

Drip systems can be a good way to water non-turf areas and reduce water use. Most are easy to install and modify. Handy drip irrigation kits are available at most garden centers. They allow the flexibility of watering each plant separately and enlarging the system as the plants grow or as new plants are added.

Drip systems should be used to maintain constant moisture in the root zone of plants but must never be used to "water-in" new plantings. New plantings will need rapid, deep watering best done by hand. Once the soil has been settled around a new plant, the drip system can maintain moisture. (See Service in Action sheet no. 4.702, Trickle irrigation for the home garden for additional information).

Table 2: Plants for narrow planting strips (between walks and buildings, parking strips between sidewalks and curbs). Use any of the ground covers in Table 1 unless shaded. If shaded, use one or more of the following:

*Bishops' Weed	*Aegopodium podograria variegatum*
*Carpathian harebell	*Campanula carpatica*
*Hall' Honeysuckle	*Lonicera japonica 'Halliana'*
*Lily-of-the-Valley	*Convallaria majalis*
Mahonia (Creeping)	*Mahonia repens*
Periwinkle	*Vinca minor*
*Sweet Woodruff	*Galium odoratum*

***Caution** — These plants can be very invasive if kept too moist.

Practices to Avoid

When removing areas from turf grasses, it is common to cover the areas with black plastic and some gravel, rock or volcanic cinder. Avoid this practice. Plastics shed water and create wasteful run off. They also exclude essential air exchange to plant roots and increase evaporation of water from surrounding areas by increasing local soil and air temperatures.

Rocked or graveled areas should be kept to a minimum because they tend to increase heating of air and soil. Instead of black plastic, use weed barrier fabrics (geotextiles) available in garden centers. These materials allow water penetration and air exchange. Polyethylene plastics, exclude air and water needed for plant growth and can cause root injury due to heat buildup.

Instead of rock and gravel, consider organic materials such as wood chips and chunk bark. They give a natural look and help retain moisture as well as hold weeds in check.

Rock may have to be an option if cover is desired on a steep slope where wood chips and gravel may wash. In these cases, use natural riverbed "cobble" of varying sizes. Lay rock over a weed barrier fabric in much the same way as if you were constructing a rock wall.

Another option for steep slopes is to install a natural rock garden with water-conserving alpine plants. For more information on rock gardens see 7.401, Rock gardens.