BayScaping to Conserve Water - A Homeowner's Guide

BayScapes are environmentally sound landscapes benefiting people, wildlife and Chesapeake Bay. BayScaping advocates a "holistic"approach through principles inspired by the relationships found in the natural world.

Why is conserving water in landscapes important?

The population in the Chesapeake Bay watershed continues to grow by leaps and bounds. It is anticipated that no fewer than 3 million new residents will make the mid-Atlantic region their home during the next 25 years. This will undoubtedly put serious strains upon natural resources, including fresh water. In some households as much as 40 percent of the water used each month finds its way into the landscape, so future fresh water supplies depend upon wise outdoor water use.

Water-wise landscaping means many things. It means evaluating how much water the lawn and landscape really need, learning how and when to apply water in the landscape, understanding that plants thrive with well developed, deep root systems, using plants with lower water requirements and minimizing water waste in the garden. In the Bay region, water-wise landscaping, or

xeriscaping, is one of the BayScapes program principles. Keep in mind that excess, or wasted, water runs off the land carrying nutrients, sediments and even traces of toxic products into nearby creeks and streams.

Protection of local waterways feeding into the Bay, therefore, hinges upon reduced surface water runoff. Each of us must make an individual effort to steward our shared water resources. This guide provides tips to help you become water-wise and explains how water conservation contributes to healthy rivers and a healthy Bay.

How can we reduce outdoor water use?

You can reduce the amount of water used to maintain your lawn and garden with little significant expense or serious effort. For the most part, reducing water use means changing the way you have watered in the past. Key elements include: timing, thoroughness, proper equipment, mulching, plant selection and water zoning. Together, they can cut your normal water use by as much as two-thirds during summer months.

Timing means watering plants and lawns only when they need it. Too often, lawns are watered as an automatic reaction to hot temperatures. Instead, you should water the lawn when it has shown you it is thirsty. A thirsty lawn is easy to spot: when walked on, the grass will lie flat and reveal footprints. Similarly, shrubs show you they need water by wilting. In both cases, water during the coolest part of the day to avoid unnecessary evaporation. Early morning or early evening hours are generally best.

Thoroughness means watering sufficiently. Water deeply and carefully, but not too often. Thorough watering promotes stronger root systems, enabling plants

to find below-surface water during droughts or hot spells. Watering too lightly or too often actually harms plants by encouraging shallow root systems. Shallow roots make landscape plants more vulnerable to temperature extremes and the damage caused by drought and disease.

Proper equipment applies water carefully and prudently, and you cannot expect to significantly reduce water use without it. For example, standing with a water hose and a spray nozzle watering your lawn is both time-consuming and ineffective, since the lawn is not getting a deep soaking. If you follow timing guidelines, water sprinklers do an excellent job of deep watering. Adjust the sprinkler position as each area of the lawn has been thoroughly soaked. For shrubs and flower beds, soaker hoses deliver deep watering over a few hours. The most efficient way to thoroughly water shrubs, flower beds, vegetable gardens and container gardens, however, is with a drip irrigation system hooked directly to your hose. Drip irrigation sends water straight to a plant's roots with virtually no loss to evaporation.

Mulching shrub beds, flower beds and vegetable gardens results in dramatic water savings. Most people use wood chips, shredded hardwood and softwood bark, grass clippings, and tree leaves as mulch. A mulch cover 3 to 4 inches deep will significantly reduce evaporation loss and prevent unwanted weeds from sprouting in your garden. Remember not to pile mulch too high against the base of a tree or shrub to avoid deterioration of the outer skin layer that may damage or possibly kill it. Mulch can be purchased in 3-cubic-foot bags, or in bulk by the pickup truck or dump truck load. Your local municipality may even offer mulch on a pickup basis at no charge or a nominal fee.

Plant selection plays an important role in reducing water use. Drought-tolerant, or xeriphytic, plants available at nurseries and garden centers require very little water to thrive in the Bay region. "Xeriscaping" is an emerging landscape philosophy centered around water-wise landscaping. It has gained tremendous

acceptance in arid parts of the United States, such as the desert southwest, Texas and California. The new focus on drought-tolerant or low water-use plants has stimulated nurseries and garden centers in the Bay region to expand their stock, and they now offer many species to choose from today.

Water zoning means laying out your landscape, lawn and garden areas in zones according to water need. High water-use plants, such as colorful flower beds of bulbs, perennials or annuals, are grouped very close to the house and walkways to be enjoyed from both outside and inside the house. Group medium water-use plants as well as lawn areas a bit farther out from the house, and plant low water-use plants, such as natives, on the perimeter for screening and privacy.

How can I provide water for wildlife?

By practicing water conservation techniques you will be able to allocate water for the wildlife. Water is critical to Bay area inhabitants, since naturally occurring sources are declining or seasonally stressed. Direct watering can be as simple as putting out a bird bath or a shallow pan of water to provide a drink for thirsty birds, butterflies, and other wildlife passing through your yard. For frogs, turtles, salamanders, fish and other aquatic species, you may want to provide a small garden pool, complete with nearby plantings of berry or nut-bearing varieties of trees and shrubs. Provide water for shy animals near a brush pile or other safe cover. No matter how you provide wildlife with water, you will be pleasantly rewarded.

How else can I use water wisely in my landscape?

There are a number of additional ways to conserve water through wise practices. These include controlling runoff from your yard, replacing lawn areas with alternative landscapes, providing mulch cover for bare spots in your yard, aerating your lawn, and recycling water to your garden and yard.

You can do many things to reduce and control water running off your yard. When rainstorms hit, a tremendous amount of water falls rapidly to the yard surface, where it accumulates quickly and runs to lower ground. This runoff has the potential to carry nutrients (especially nitrogen and phosphorus) from lawn fertilizers and toxic substances from pesticides, which can cause problems for receiving streams and, ultimately, the Bay.

Runoff can be reduced by planting a mulched shrub bed or border at the low end of your yard to slow velocity. Altering the grade of your lawn can redirect fast moving runoff so it slows down and possibly supplies water for other plants. Trapping runoff can result in the creation of a miniature wetland in a small, inconspicuous part of your yard, enabling you to add wet-soil plant varieties to your landscape.

Replacing areas currently in lawn grass will make a big difference in your total landscape water requirements. Lawns require tremendous amounts of water. Where appropriate (and where legally permitted), wildflower meadows serve as colorful low-maintenance substitutes for lawns. On slopes or in heavily shaded areas, ground covers provide an excellent alternative requiring less water. Even converting a relatively small area to trees and shrubs will significantly save water over the course of a growing season.

Mulching bare spots in the yard can reduce both runoff and the amount of sediment that accompanies it in storm events. Bare spots generally occur where foot traffic has worn grass thin, where quickly moving water has undermined the root system and where the ground has recently been replanted. Consider a mulch cover, however temporary, to remedy the problem.

Lawn aeration significantly affects how water infiltrates, or percolates into, the underlying soil. A rented aerating machine operated much like a lawn mower will remove small earth cores from the lawn, leaving thousands of tiny holes for surface air and water to contact the root zone. When performed just prior to fertilizer application, aeration helps fertilizers penetrate the soil surface.

Recycling water may not be a conservation solution that all Bay residents can pursue but, where appropriate, it makes a significant difference in the amount of fresh tap water necessary to keep lawns and landscape plants alive and well. Gray water is water that has been used once but has not been contaminated to the point where it cannot be used again. Gray water, such as recycled sink dishwashing water or washing machine water (if filtered), can be piped through a 5/8 inch garden hose directly to where it is needed or fed into a reservoir for later use, perhaps after cooling. A little plumbing is required, but the savings in water use make the procedure readily justified! Be sure to first check local ordinances for permit requirements and written approval.

Where the use of gray water is prohibited, homeowners can recycle rain water, especially that which runs off the roof into gutters and downspouts. A container placed at the base of a downspout will provide fresh water for your garden and outdoor plantings at no cost while reducing erosion and runoff during heavy rains. Do not try to revamp all of your landscape water use practices at once. Study how you currently use water and then establish immediate and long term steps to conserve. You will be rewarded with less maintenance, lower water bills and the knowledge that you are helping wildlife as well as local streams

and Chesapeake Bay.

Xeriphytic (Low Water-use) Shrubs			
Common/Scientific Name	**Size (feet)**	**Evergreen/ Deciduous**	**Preferred Soil Type**
Creeping Juniper *Juniper horizontalis*	2	E	Tolerates any soil type
Juniper *Juniperus communis*	2-30	E	Tolerates dry, poor soil
Bayberry *Myrica pensylvanica*	4-8	E	Tolerates dry, poor soil
Black Chokeberry *Aronia melanocarpa*	3-6	D	Tolerates wet, acid, or dry soil
Gray Dogwood *Cornus racemosa*	8-15	D	Tolerates any soil type
Elderberry *Sambucus canadensis*	6-12	D	Needs deep, well-drained soil
Coralberry Indian Currant *Symphoricarpos orbiculatus*	3-6	D	Tolerates poor soil
Highbush Cranberry *Viburnum trilobum*	12	D	Needs well-drained, acid soil

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Suggested Reading List

Sawyers, Claire E. and Barbara B. Pesch, eds. *Gardening with Wildflowers and Native Plants*. Handbook #119, Brooklyn: Brooklyn Botanic Garden, Inc., 1989.

Schmidlin, Wilfred V. and Barbara B. Pesch, eds. *Water Gardening*. Brooklyn: Brooklyn Botanic Garden, Inc., 1985.

Schneck, Marcus. *Your Backyard Wildlife Garden*. Emmaus, Penn.: Rodale Press, 1992.

Parker, Cecilia I., ed. *Planting an Oasis for Wildlife*. Washington, D.C.: National Wildlife Federation, 1986.

Calkins, Carroll C., ed. *Illustrated Guide to Gardening*. Pleasantville, N.Y.: The Reader's Digest Association, Inc., 1978.

Hightshoe, Gary L. *Native Trees, Shrubs, and Vines for Urban and Rural America*. New York: Van Nostrand Reinhold, 1988.

Other resources

- *Backyard Wildlife* (monthly newsletter), Marcus Schneck Communications, Emmaus, PA 18049, (215) 481-9452.
- The Lawn Institute, P.O. Box 108, Pleasant Hill, TN 38578.
- Urban Areas Habitat Pac, National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, MD 21044.
- National Xeriscape Council, P.O. Box 163172, Austin, TX 78716-3172.

For More Information

For detailed specific instructions for the safe use of fertilizers and pesticides in your community, contact your local or area Cooperative Extension office. The Cooperative Extension is a service of the land-grant university systems in the District of Columbia, Maryland, Pennsylvania and Virginia.

BayScapes is an environmental education initiative developed by the Alliance for the Chesapeake Bay and the U.S. Fish and Wildlife Service, Chesapeake Bay Field Office

For more information on BayScapes, contact:

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