

OUTDOOR WATER CONSERVATION

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Summer is an especially important time to save water. Outdoor water use increases residential consumption from 10% to 50% in June, July, August and September. While the MWRA water supply is sufficient to meet the normal demands of the communities we serve, in summer, we must work harder to deliver greater quantities of water to the cities and towns due to increased demand. If we each conserve just a few gallons each day, we will save millions of gallons of precious water each year and ease the strain upon the system. These tips will show you ways to use water more efficiently outdoors, save money -- and help lower garden maintenance, too!

YOUR LAWN - WATER ONLY AS NEEDED.

Frequent light watering can actually weaken your lawn by encouraging shallow roots that are less tolerant of dry periods and more susceptible to insect damage. Wet grass can also burn in the hot sun and is vulnerable to disease from mildew and fungus.

The Inch Rule Don't Over Water

Established lawns and shrubs and most vegetables and flowers need just one inch of water per week. If there has been an inch of rainfall during the week, you don't need to water at all.

How can you tell if your yard has received an inch of water? Collect rainfall or sprinkler water in a container such as a coffee can, then measure with a ruler. Inexpensive gauges are available at most garden centers.

Test your soil for dryness by digging your finger below the surface of the soil. Water only when the soil is dry to a depth of 1 1/2 inches. When watering, check to see that water soaks down 3-4 inches. This encourages deep root growth.

TIMING IS CRITICAL!

The best time to water your lawn is early morning. Watering mid-day will result in a high rate of evaporation and sunburned grass.

Roots can maintain plenty of moisture even after several days without rain. Before watering, look for signs that it's needed: patchy areas, a general change in color or footprints that remain in the grass long after being made.

GIVE IT A REST.

If your lawn "fades" in the summer, don't panic. Grass becomes naturally dormant during hot, dry periods. It will revive quickly after a good rainfall or when the weather turns cooler.

- One inch of water per week (rain plus supplemental watering) should be plenty. After heavy rains, you may not need to water for 10-14 days. Water in the early morning.
- Never water when it's windy, rainy or very hot.
- Raise the blade level of your mower to 2-3 inches or more. Longer grass retains more moisture because it shades the roots. It also encourages deeper rooting, requires less fertilizer and competes better against weeds.
- Never water faster than the soil can absorb it. Avoid puddling and runoff.
- Be sure your hose has a shut-off nozzle. Hoses without a nozzle can sprout 10 gallons or more per minute.
- If you have an automatic sprinkler system, make sure the timer or "controller" is set to water each landscape zone efficiently. Program the controller to operate according to the watering needs of your lawn or garden. Better yet, install a rain sensor or soil moisture sensor that turns the system off if it's raining or if moisture is present in the soil.
- Do not apply fertilizer in the summer - new growth requires more water. Apply in early spring and or fall.
- Aerate your soil in April, September or October to aid water absorption and retention.

CHOOSE THE RIGHT AUTOMATIC SPRINKLERS AND MANAGE THEM FOR EFFICIENCY.

Determine the best sprinkler system to fit your lawn size and configuration. Install good quality sprinkler heads that provide a low precipitation rate and keep them in good repair. Check the sprinkler heads frequently for proper direction and even spray pattern. Studies have shown that automatic sprinkler systems often use 20% - 30% more water than hand-held hose watering. Applying the right amount of water is possible with a well-designed in-ground sprinkler system but it requires careful management. Use the "controller" to manage efficient operation of the system. Here are a few important features to look for:

- At least three independent programs to allow watering different parts of the yard on different days
- Station run times from one to 200 minutes
- Three start times per program
- Odd, even, weekly and interval program capability up to 30 days
- Rain shut-off device capability

Effective watering will result in a healthy lawn that looks great and can withstand disease as well as seasonal and environmental stress.

Lawn Watering Tips on the Web

www.toro.com/home/sprinkler
www.irrigation.org
www.waterwiser.org
www.umass.edu/umext/programs/agro/turf_grass/home.html

PREPARE NEW LAWNS PROPERLY.

Many new lawns require more water than they should because they are seeded on improperly prepared soil beds. Grass needs at least 3-6 inches of very good topsoil. Rich loam mixed with plenty of peat moss or composted leaves will hold moisture and allow for good, deep root development. The kind of grass you grow is a factor to consider. Lawns planted with fescue grasses do better than bluegrasses during periods of low rainfall and are slower to go dormant.

LANDSCAPE, GARDEN AND FLOWER CARE

The amount of water you use outdoors (and can save) depends on your watering technique as well as the size, type and location of your lawn, shrubs and gardens.

PLAN & DESIGN YOUR GARDEN FOR EFFICIENT OUTDOOR WATERING.

Be aware of the various zones in your yard (hot/sunny, cool/shady, moist, dry, etc.) and plan your gardens and plantings accordingly (see diagram on facing page). For example, if you have a hot, dry zone, carefully select plants that can endure hot, dry conditions.

Xeriscape

'zir-i-skapl n. [Greek, xeros, dry]

A concept that originated in the arid Southwest, is water conservation through creative landscaping. Xeriscape principles, similar to those described here, emphasize proper siting, planning and design, soil improvements, mulching, plant selection, and maintenance for efficient water use.

CLUSTER PLANTS THAT REQUIRE EXTRA CARE.

If you choose shrubs, flowers or vegetables that need lots of sun and moisture, place them near each other. You'll save time and water by watering just one area of your yard.

USE LOW WATER-USE PLANTS.

There are many varieties of low water use plants that can withstand dry summers, and that actually thrive in drier soil (see back page for a listing of them).

Remember: All newly planted trees, shrubs, and flowers initially need water to get established. But once established, drought tolerant plantings can survive without supplemental watering. An excellent source for gardeners is the Massachusetts Horticultural Society at www.masshort.org.

MULCH TO KEEP ROOTS COOL & MOIST.

Mulch can serve as a ground cover that reduces water evaporation from the soil and reduces the number of weeds that would otherwise compete with the plant for available soil moisture.

Mulch flowers, shrub beds and trees with pine bark mulch. In your vegetable beds, use salt marsh hay, newspaper (no color pages), black plastic, or better yet, landscape fabric - that allows water to penetrate the fabric but keeps down weed growth. On a sweltering 100° day, a 3-inch mulch can keep the soil underneath up to 25° cooler! Avoid white marble chips that can damage acid-loving plants like rhododendrons. Stones or pebbles are good on shady areas. They shouldn't be used near the house because they give off too much heat. Ground covers, such as ivy or pachysandra, also prevent evaporation around established shrubs and ornamental trees.

ORGANIC MATTER WILL HELP YOUR SOIL RETAIN MORE MOISTURE.

Peat moss, composted leaves (leaf mold), composted manure, composted kitchen vegetable scraps and grass clippings will all improve soil structure and enhance moisture-retaining capabilities.

Incorporate organic matter into your flower and vegetable beds, preferably 12"-18" deep.

DRIP IRRIGATION AND SOAKER HOSES - THE BEST WAYS TO WATER YOUR GARDEN.

Unfortunately, much of the water dispersed through sprinklers and hoses by enthusiastic gardeners evaporates before it ever reaches its intended destination – thirsty roots. Use a drip irrigation system or soaker hose in gardens that need the most water ("moisture-zoned" gardens) – vegetables, fruits, newly planted trees and shrubs, and some flower gardens.

Once a secret of professional gardeners, drip irrigation is excellent for home use. This highly efficient watering method consists of a system of nozzles that deliver small quantities of water at low pressure directly to where it does the most good - the root zones of plants.

A Soaker Hose is a canvas or rubber hose with perforations. It is most effective when it lies on top or slightly below soil level and mulch is placed over the soil and hose. You can install the hose in the spring and leave it in place all season.

Drip (or trickle) irrigation can save 30%-70% of the water used by overhead sprinkler systems.

In general, use the drip irrigation or soaker hose methods (or a slow trickle) until the soil is moist 3-4 inches below the surface.

If your garden is small, use a hose to apply water very slowly at the base of each plant - not on leaves and foliage.

Saucer-like basins around each plant help to concentrate water where it is most needed - at the plant's roots. Watering by hand is easy when there are saucers to fill up.

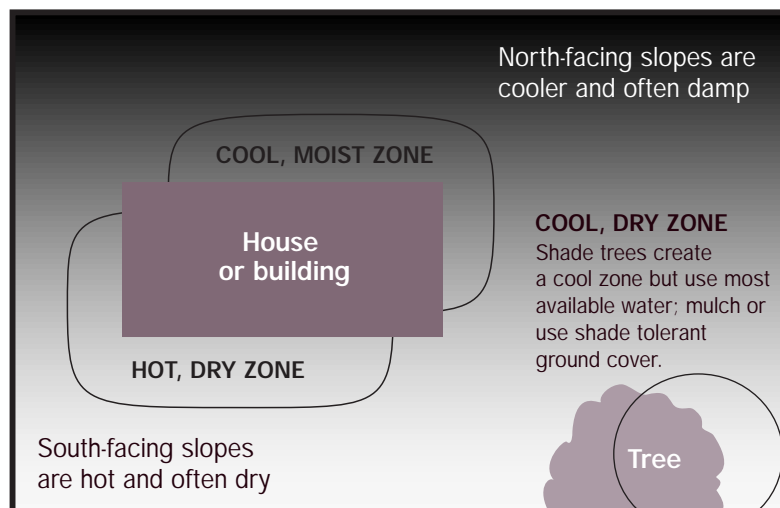
RAIN BARRELS.

Place barrels or other large containers under downspouts to collect rain water to use for watering your garden. Use a lid, mesh fabric or several drops of baby oil on the surface of the water to prevent mosquitoes from breeding.

Rain barrels are particularly useful if you can locate plants or beds that require moist soil nearby.

Know Your Zones

Be aware of the various zones in your yard (hot/sunny, cool/shady, moist, dry, etc.) and plan your gardens and plantings accordingly. For example, if you have a hot, dry zone, carefully select plants that can endure hot, dry conditions.



LOW WATER-USE PLANTS.

It is helpful to know the botanical name since a plant can have several common names. Latin is the universal language of horticulture and botany.

There are many varieties of low water use plants that can withstand dry summers, and that actually thrive in drier soil.

Remember: All newly planted trees, shrubs, and flowers initially need water to get established. But once established, drought tolerant plantings can survive without supplemental watering. An excellent source for gardeners is the Massachusetts Horticultural Society at www.masshort.org.

3 Big Ways to Save Water Indoors

Fix leaky faucets, pipes & toilets.

- Save 75-1000 gallons a week

Be aware of your own water use habits.

- Take shorter showers
- Don't leave the water running while you brush your teeth or shave
- Don't flush the toilet needlessly

Install inexpensive water-saving fixtures such as:

- Water-saving showerheads
- Faucet aerators
- Toilet retrofit devices, i.e., toilet dams, early closure flappers, or better yet a 1.6 gallon toilet

Water-Less Plants

<i>Common name</i>	<i>Botanical Name</i>	<i>Height</i>
Trees		
Amur Maple	Acer ginnala	20 - 25'
Austrian Pine	Pinus nigra	50'
Japanese Black Pine	Pinus thunbergii	6 - 10'
Cornelian Cherry	Cornus Mas	-
London Plane	Platanus x acerifolia	50'
White Oak	Quercus alba	50'
Shrubs		
Broom	Cytisus scoparius	5 - 6'
Flowering Quince	Chaenomeles speciosa	6 - 10'
Junipers	Juniperus sp.	2 - 9'
Cinquefoil	Potentilla	3 - 4'
Butterfly Bush	Buddleia davidii	6 - 10'
Rose-of-Sharon	Hibiscus syriacus 'Diana'	6 - 8'
Winterberry	Ilex verticillata	8 - 10'
Mugo Pine (dwarf)	Pinus mugo	3 - 4'
Ground Covers		
Bearberry	Arctostaphylos uva-ursi	6 - 8"
Creeping Lilly-turf	Liriope spicata	6 - 8"
Violets	Viola sp.	6 - 8"
Snow-in-Summer	Cerastium tomentosum	6 - 8"
Perennials		
New England Aster	Aster Novae-angliae	15 - 30"
Common Blanketflower	Gaillardia aristata	24 - 36"
Moonbeam	Coreopsis verticillata	24 - 36"
Purple Coneflower	Echinacea purpurea	24 - 36"
Lavender	Lavendula 'Hidcote Blue'	12 - 36"
Sedum (Acre, Red Carpet, Ruby Glow, Stoliferum, Spectabile)	Sedum sp.	18 - 24"
Daylily	Hemerocallis	18 - 48"
Yarrow, 'The Pearl', 'Summer Pastels'	Achillea sp.	18 - 36"
Annuals/Biennials		
Cosmos	Cosmos sp.	3'
Gazania	Gazania	6 - 18"
Marigold	Dimorpotheca sp.	4 - 6"
Portulaca	Portulaca gradiflora	8"
Strawflower	Heliochrysum bracteatum	3'
Sweet William	Dianthus Barbatus	2'



www.mwra.com

Massachusetts Water Resources Authority

The Massachusetts Legislature created MWRA in 1985 to manage and modernize water and sewer services for 2.5 million people and 5,500 businesses in 61 communities. While the Boston Harbor Project and the Integrated Water Supply Improvement Program are the best known of its projects, MWRA also maintains over 400 miles of water pipes, aqueducts and tunnels and over 240 miles of sewers.