HOW

To Save Water Outside The Home

TEXAS WATER DEVELOPMENT BOARD

WHY CONSERVE WATER?

An ample water supply is taken for granted by most people, and in the past, almost all areas of the state have had adequate supplies available at reasonable prices. But growing populations, couples with rising development costs for water and wastewater facilities, are straining the ability of some communities and utilities to meet demand, especially during the summer.

During the winter months, 90 percent or more of household water use occurs inside the home. However, in the summer, lawn watering and other outdoor uses can account for 50 to 80 percent of home water use. Yet, studies have shown that much of this outdoor use is wasted through poor lawn watering practices.

As a result of growing demand, water well levels in some areas are dropping as more and more water is pumped, and many of the state's lakes are being pushed to their capacity to supply water.

Texans already spend about $1 billion each year to build new water and wastewater facilities just to keep up with growth and to replace worn out facilities. However, no matter how much money is spent, some areas of the state can expect fresh water shortages in the future unless water is used more efficiently.

Therefore, the more efficient use of water in all daily activities, water conservation, is vital if Texans are to have adequate water supplies in the future.

This brochure contains water-saving tips for outdoor water use. If followed, these tips can save money by reducing water bills and can help conserve the state's precious water resources.

START WITH THESE OUTDOOR WATER SAVING TIPS

- Repair leaky faucets. Be sure the hose connection to the faucet has a rubber washer and is screwed on tightly.
- Run the filter backwash from pools and hot tubs onto the lawn rather than down the drain.
- Cover hot tubs and pools to reduce evaporation losses New pools should have a recirculating system.
- When washing a car or boat, use a bucket of soapy water for washing and a hose-end spray gun or nozzle with an automatic shot off for rinsing.
- Use a broom – not a hose – to clean the driveway, patio, sidewalk, or street.
- Consider collecting rainfall from the roof in a tank or cistern to be used when needed for lawn and landscape watering.
- Learn more about the possibility of "Grey-water" ruse for landscape irrigation.

ALWAYS WATER EFFICIENTLY

Lawn and landscape watering is the major outdoor water use for residences and commercial buildings in Texas. Outdoor watering can account for up to one half the water consumed in the home each year. By following several outdoor watering tips outdoor water use can be reduced significantly and the resulting savings in your water bill can be substantial, particularly if you live in an area that charges more to use water during the summer months. (Check your monthly bill to see if the water supplier imposes a summer surcharge or excess use fee).

The first step in watering efficiently is to recognize that different areas require different amounts of water. For example, grass areas should be watered separately from shrubs, flowerbeds, and other plantings, and landscape plants should be grouped according to similar water needs. For the best results, the type of watering system should be selected based on the landscape arrangement and types of plants.

The second step is to use proper watering equipment. Grass areas are best watered with sprinklers. Tress, shrubs, garden flowers, and groundcovers can be watered efficiently with low volume drip, spray, soaker, or bubbler emitters and devices.

The third step in efficient watering is practicing good equipment maintenance. Regular adjustment of the irrigation system can save both water and money.

Use These Lawn Watering Practices

Studies have shown that the typical lawn often receives twice as much water as required to maintain healthy grass.

- Know when to water by closely observing the grass. Either use a moisture probe or wait for signs of stress, such as a dull green color, footprints that remain visible after walking on the lawn, or curled blades of grass, before watering.
- In order to water efficiently, first determine how much water your sprinkler applies:

1. Set 3 to 5 empty cans at different distances from the sprinkler with the last can near the edge of sprinkler coverage.
2. Run the sprinkler for 30 minutes.
3. Add the inches of water in all cans and divide the total inches by the number of cans to obtain an average.
4. Multiply the average by 2 to determine how many inches of water are applied in 1 hour.

- To determine how many inches of water to apply to a Bermuda grass lawn in the summer, locate your area on the Texas map. Subtract any rainfall since the last watering from the amount show on the map. Run the sprinkler for the correct amount of time (based on the number of inches the sprinkler applied in an hour). St. Augustine needs about 15% more water than Bermuda grass.
- To find out how often to water in the summer, located your grass type in the table of Watering Frequency for Turf Grass below.

Watering Frequency for Turf Grass

*Grass Species (Adapted Region)**	*How Often To Water*
Buffalo grass (3,4,5)	Every 2-5 weeks**
Bermuda grass (6)	Every 7-10 days
Centipede (1)	Every 7-10 days
Zoysia (3,4,5)	Every 7-10 days
Carpet grass (1,2)	Every 5 days
St. Augustine (1,2,5)	Every 5 days
Tall Fescue (4)	Every 4 days
Bluegrass (1,4)	Every 4 days

* 1-East Texas; 2-South Texas; 3-West Texas; 4-North Texas;5-Central Texas; 6-Statewide.
** May not need watering at all in many areas of Texas.

• Water during the early morning or evening hours since evaporation losses will be up to 60 percent higher during the day. Do not water on windy ways. Set sprinklers so that the lawn, not sidewalks and driveways, is wasted.
• Use an overlapping sprinkler pattern in order to evenly cover the lawn.
• Lawns on sandy soil require somewhat more frequent watering than lawns on loam or clay soil. Water can be applied less often to clay and loam soils, but it should be applied more slowly to prevent runoff.
• To avoid runoff on sloping areas, place sprinkler near the top of the slope. Apply water slowly for 5-15 minutes, off 15 minutes, on for 5-15 minutes, etc., until the correct amount of water has been applied.

Use These Lawn Maintenance Practices

• Do not cut the grass too short. Longer blades of grass will reduce evaporation and root stress since shaded soil will not dry out as quickly.
• Mow regularly with a sharp blade so that only _ to _ of an inch of grass is cut off each time. This practice will prevent the grass from turning yellow.
• Control any insects that attack the lawn.
• A reasonable amount of fertilizing is necessary to develop the root system and keep the lawn healthy. But too much fertilizing will lead to excessive growth, which will in turn require more irrigation. If the grass clippings are left on the lawn, little if any additional fertilizer will be needed. Fertilizers contain different amounts of three major ingredients – nitrogen, phosphorus, and potassium. The proportion of each element is indicated on every fertilizer container. For example, 16-8-8 indicates 16 percent nitrogen, 8 percent phosphorus, and 8 percent potassium. Using a slow release nitrogen fertilizer is best for a lawn since it allows the nitrogen to be released gradually over a period of time after the fertilizer is applied. To determine the rate of application and the type of fertilizer best suited for the soil in your area, call you County Extension Agent.

Select a Suitable Irrigation System

Sprinkler Irrigation

Automatic sprinkler systems can provide an efficient method of irrigating lawns because timers and flow controls turn the system off after a predetermined amount of water has been applied. Use low-angle sprinkler heads that produce droplets of water instead of mist or fine spray.
If a sprinkler system is installed for shrubs, and upright pipe extension may be necessary to avoid obstructions and allow even watering for all the plants.

The most common type of irrigation system is the sprinkler on the end of a garden hose. Use low-angle sprinklers that produce droplets of water. The most efficient types of hose-end sprinklers are impact and traveling sprinklers. Avoid sprinklers that spray the water high into the air or produce a mist or fine spray since much of the water is lost through evaporation.

The preferable irrigations system for shrub beds, gardens, and tress is a drip system. There are several types of drip irrigation systems. The most common are (a) double-walled tubing, which is usually installed above ground, (b) single-walled tubing, which can be installed above or below ground, (c) membrane soaker pipe, which is usually installed underground, and (d) bubblers, which can be attached to the end of a hose.

Even the common soaker or sprinkler hose can be used as a drip system if the hose is turned with the holes facing down and the water flow rate is kept very low.
For more information and advice on using drip irrigation, contact a licensed landscape irrigator, a reputable dealer, your County Extension Agent, or the Texas Water Development Board.

USE MULCHES

Use mulches in flower and shrub beds. Mulches cover and shade soil, minimize evaporation, reduce week growth, and slow erosion. Mulches can also add a decorative appearance to the landscape.

Organic mulches are typically bark hips, wood chips, or pole peelings. Inorganic mulches include rock and various gravel products. Man-made mulches include plastic film, old newspapers, and fiberglass net. Place mulch directly on the soil or on fabric that can “breathe”. Avoid using sheet plastic in planting areas.

IMPROVE THE SOIL

Shape the soil to protect against erosion and use conditioners to promote water penetration and retention.
• Shape the soil into earthen basins around all shrubs.
• If the original soil is rocky, shallow, or a heavy clay, the soil can be improved by adding 2 to 4 inches of organic material or topsoil, which is compatible with the soil type.
• If your original soil is a heavy clay or fine sand, the soil can be improved by tilling organic material such as peat, compost, decomposed rice hulls, and rotted manure into the soil.

USE NATIVE AND DROUGHT TOLERANT PLANTS

When adding plants, groundcovers, shrubs, and trees, choose native or adapted low-water demand species. Native and adapted plants are beautiful, require much less water and fertilizer than most imported species, and generally have fewer problems with pests, disease, and weather extremes. Proper selection of plants can provide year-round color.

Low-water demand plants are suited to both formal and natural landscapes. Once established, they often require minimal watering, maintenance, or pruning. However, they do require regular deep watering during the first two years after planting while they develop healthy root systems that can survive hot, dry weather. After young plants show new growth, gradually increase the period between watering.

Contact your County Extension Agent, the Texas Department of Agriculture, or the Texas Water Development Board for a list of low water demand plants that are adapted to your area of the state.