

The more efficient use of our precious water resources through water conservation and reuse holds a real potential to both preserve and extend limited water supplies and to save Texans real money. Consider that even a 10 to 15 percent reduction in personal water use can save Texas water and sewer rate payers billions of dollars over the next 50 years. However, the effort to conserve water must begin now with each individual.

*"When the wells run dry,
we know the worth of water."
-Poor Richard's Almanac*

Water Conservation: *Making the most efficient use of precious water resources.*



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Information provided by the Texas Water
Development Board and WaterSmart.

WATER...

How to save it!

What You Should Know About Your Water Utility

Turning raw water into drinking water is a lengthy process.

What does a water utility do?

Water utilities take raw water from lakes, rivers or underground aquifers and treat it to human consumption standards set by the federal government. They then distribute the water throughout the communities they serve.

How does the treatment process work?

Turning raw water into drinking water can be a lengthy process. First, the utility pumps water from the source to the plant. There, it generally undergoes a series of treatments to kill harmful organisms, improve taste and odor and remove sediment. The water is then stored in tanks until it is needed.

The treated water is pumped through large pipes throughout the community. Smaller pipes direct water to individual households. There, residents use the water for a variety of purposes both inside and outside the house.

What are the major inside and outside uses?

Inside uses include drinking, cooking, bathing, flushing toilets and washing dishes and clothes. A family of four uses, on average, approximately 8,000 gallons of water indoors each month.

Outdoor use fluctuates. More water is consumed during the hotter months for watering lawns and gardens, washing cars and filling pools. In the summer, water utilities experience increases of as much as 250 percent in average daily water consumption.

Does this create any problems for the water utilities?

Yes, it does! Outside water use can cause significant strain on a utility's ability to produce enough treated water to keep up with demand. Stored reserves can be depleted quickly if everyone waters their lawns at the same time. Then the system has to work overtime to treat more raw water. Equipment used nonstop around the clock is prone to failure. This can mean a complete outage or low pressure.

In both cases, there is danger that bacteria can infiltrate and spread through pipelines, so that even when normal service is restored, the community must boil its water for several days. And low or no pressure in a water system also can mean real trouble if a fire breaks out in the community.

Doesn't the state require that treatment plants be built with excess capacity so they can keep up with growing demand?

Yes, but population growth and development have exceeded projections in many parts of Texas. Most of the almost 7,000 water utilities in Texas are small systems lacking financial resources to expand enough to allow for unlimited water consumption. Even if they could expand, finding additional raw water takes money to buy extra surface water rights from those that own the rights to the water or to drill new or deeper wells to pump more groundwater.

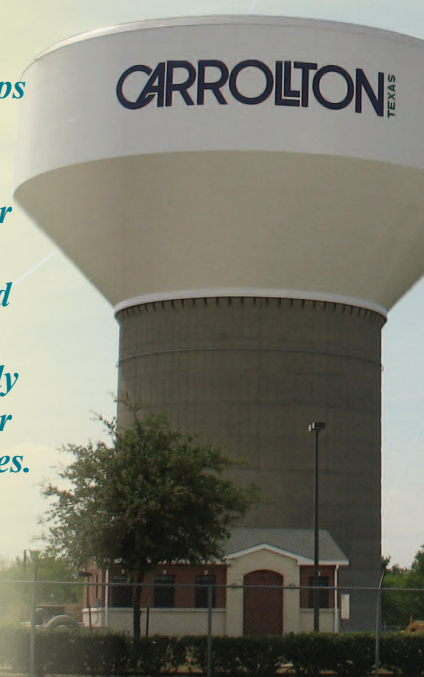
Is there any way we can help assure our communities of sufficient drinking water supplies, apart from costly expansions of our treatment facilities?

Yes, we can all be "Water Smart" by taking simple steps that conserve water and save money at home.

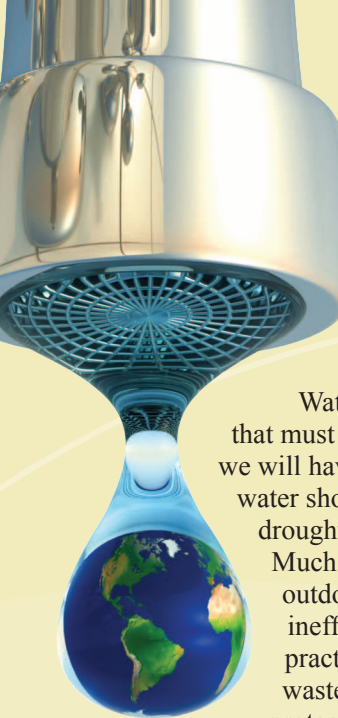
Will conservation solve all of the drinking water problems in Texas?

It helps, but many communities will still need to expand their treatment facilities even if they adopt conservation measures. However, all communities can stretch both their financial resources and their water resources by implementing common-sense techniques to avoid wasting water.

Most of these steps cost absolutely nothing to implement. Better yet, they can reduce household water bills and the need for costly upgrades to water treatment facilities.



Conserve Water Outdoors and...



IN THE SUMMER, outdoor water use can account for 50 to 80 percent of home water use.

Water is a precious resource that must be used efficiently, or we will have longer, more frequent water shortages, especially during droughts and hot summers.

Much of the water used outdoors is wasted through inefficient landscape watering practices. Reduce water wasted, save money and protect the quality of life of future Texans.

Water-Wise Conservation Steps

Carrollton increases rates in increments based on use. Reducing your outdoor water use by following these steps can produce substantial savings in your water bill:

- Determine how much water your landscape needs to stay healthy.
- Use water-efficient landscape practices, such as proper mowing, mulching and moderate fertilizing.
- Design a water-efficient landscape by planting drought-tolerant grass and choosing plants that are native or well adapted to the climate conditions in your area.

Design a Water-Wise Landscape

Plant water-efficient, well-adapted, and/or native shrubs and trees. Choose plants that are drought tolerant (or at least have low water requirements), heat tolerant and can survive the minimum winter temperatures. Native plants are also more resistant to diseases and pests.

Put drought-tolerant groundcover instead of grass in areas that are narrow, small, sloping, odd-shaped or close to pavement.

Water-Wise Landscape Maintenance

How often should I water?

Only when needed. One inch of water once a week should be sufficient to keep most Texas lawns healthy. Take care to water only your plants, not the sidewalks or driveways.

Proper watering will help grass and shrubs develop deep roots (it is especially important to start this during the spring when root growth is at its peak). Over-watered turf will have a short root system and will not be drought tolerant. By slowly adjusting to successively longer periods between waterings, the turf can grow deeper roots and become drought tolerant.

What time of day should I water?

Early morning or late evening during hot summer months. Otherwise, the water will simply evaporate between the sprinkler and grass.

When should I mow?

Only when the grass is dry, and don't cut more than one-third of its length at one time. Taller grass holds moisture better, encourages deeper root growth, and is less susceptible to browning. Keep grass 3 inches tall during the summer (taller than 3 inches stresses the grass).

What should I do with my grass clippings?

Mulch or compost them. Grass clippings break down quickly and provide valuable nutrients.

How can I conserve soil moisture?

Using a lot of mulch will make your shrubs and young trees more tolerant to the scorching Texas heat. One to three inches of mulch retains moisture, reduces runoff, helps moderate soil temperatures, aids in root development, reduces erosion, slows weed growth, prevents soil compaction and makes your landscape beautiful.

Place mulch directly on the soil or weed barrier fabric that can "breathe" (avoid using sheet plastic). Apply a thin layer of compost to the lawn. It functions like mulch, increasing organic content and protecting grass roots.

What should I know about fertilizing?

Apply fertilizer in the spring and fall. It helps develop good root systems to keep your grass more drought tolerant.

Don't overfertilize because it can run off and pollute local waterways. Too much fertilizer will also increase the grass's need for water. Contact your County AgriLife Extension Service or local nursery professional for a soil kit and recommendations for fertilizer.

How else can I improve my landscape?

Improve the soil. If the soil is rocky, sandy, shallow, heavy clay, or has little organic matter, it can be improved by adding several inches of high quality loam soil and 2 to 3 inches of organic matter such as mulch or compost.

High quality soil helps reduce irrigation needs by retaining water better. Unless the soil is damaged or depleted, native and well-adapted plants may not require imported soil. Aerate the lawn once a year. Weed the lawn and garden as needed, as weeds rob plants of valuable water.

How else can I minimize water use?

Don't forget your pools, spas and fountains. Cover pools and spas when not in use to lessen evaporation, backwash your filter only as necessary and turn off decorative fountains on windy days and during drought.

Water-Wise Irrigation Equipment

What is the most efficient irrigation system for nonturf areas?

Drip irrigation is the most efficient method of watering bedded plants, trees or shrubs. Soaker hoses are an easy and inexpensive alternative.

What type of sprinkler should I use?

One that produces large drops of water close to the ground. Don't use a sprinkler that produces a mist or fine spray. Use a timer.

How should I manage my automatic sprinkler system for water efficiency?

Adjust the settings as needed. Don't set it in the spring and leave it on all season. Automatic sprinkler systems provide an efficient method of watering lawns. Their controllers use timers to turn off the system when a measured amount of water is used, and rain shut-off devices prevent watering in the rain.

Not all plants have the same watering requirements. Reduce the run time of sprinklers on shrubs, which may not need as much water as grass. Shady areas may not need as much water either. Contact a professional landscape irrigation specialist for a maintenance check.

What maintenance is required for my automatic sprinkler system?

Check sprinkler heads regularly. Remove dirt or debris that may be clogging the nozzle and make sure the heads are working at the proper pressure and not leaking.

Repair or replace broken heads, valves, seals and pipes. Once a month, run the sprinklers for a short time on each cycle while you are at home to make sure they are working properly.

What features should I look for in an automatic sprinkler system?

The controller of new sprinkler systems should have these features:

- A multiple scheduling option
- A rain shut-off device
- A water budget feature (allowing percentage adjustments without having to reprogram)
- Test functions

Always keep water conservation in mind, and think of other ways to save indoors and outdoors.

...Indoors

In the Bathroom

- **Take shorter showers** with low-flow showerheads. A 5-minute shower uses only 10-25 gallons. A full bathtub, however, can require up to 70 gallons of water. Install a cutoff valve or turn the water off while soaping and back on again only to rinse. If a shower is unavailable, reduce the water level being used in a bathtub by one or two inches.
- **Shampoo hair in the shower.** Shampooing in the shower takes only a little more water than shampooing hair during a bath and much less than shampooing and bathing separately.
- **Do not use hot water when cold will do.** Water and energy can be saved by washing hands with soap and cold water. Use hot water only when hands are especially dirty.
- **Do not let the water run.**
 - When washing hands, water should be turned off while soaping and scrubbing and turned on again to rinse. A cutoff valve may also be installed on the faucet.
 - When brushing teeth, turn the water off until it is time to rinse.
 - When shaving, fill the lavatory basin with hot water instead of letting the water run.
- **Test toilets for leaks.** Add a few drops of food coloring or a dye tablet to the water in the tank, but do not flush the toilet. Watch to see if the coloring appears in the bowl within a few minutes. If it does, the toilet has a silent leak that needs to be repaired.
- **Never use the toilet to dispose of cleansing tissues, cigarette butts or other trash.** This wastes a great deal of water and also places an unnecessary load on the sewage treatment plant or septic tank.
- **Use a toilet tank displacement device such as a toilet dam or bag.** A plastic bottle can be filled with stones or water, recapped and placed in the toilet tank. These devices will reduce the volume of water in the tank but will still provide enough for flushing. (Bricks are not recommended since they will crumble and could damage the working mechanism.)

In the Laundry...

- **Wash only a full load** when using an automatic washing machine.
- Whenever possible, **use the lowest water-level setting** on the washing machine.
- **Use cold water** to save energy and to conserve hot water for uses which cold water cannot serve. (This is also better for clothing made of today's synthetic fabrics.)

In the Kitchen...

- **Use a pan of water** (or place a stopper in the sink) for rinsing pots, pans and cooking implements and for rinsing vegetables, rather than turning on the water faucet each time a rinse is needed.
- **Never run the dishwasher without a full load.** This practice will save water, energy, detergent and money. Use the dishwasher's short wash cycle if your dishes are only lightly soiled.
- **Use the sink garbage disposal sparingly** or start a compost pile.
- **Keep a container of drinking water in the refrigerator** instead of running water from the tap until it is cool. Better still; both water and energy can be saved by keeping cold water in a picnic jug on a kitchen counter to avoid opening the refrigerator door frequently.
- **Use only a little water** in the pot and put a lid on it for cooking most food. Not only does this method save water, but food is more nutritious since vitamins and minerals are not poured down the drain with the extra cooking water.
- **Dry scrape dishes** instead of rinsing them and do not pre-rinse dishes if you are using the dishwasher.