



CONSERVATION INFORMATION

Water Use in the Bathroom

Facts

- Toilets can account for almost 30% of all indoor water use, more than any other fixture or appliance.
- Older toilets (installed prior to 1994) use 3.5 to 7 gallons (13-27 liters) of water per flush and as much as 20 gallons (76 liters) per person per day.
- Replacing an old toilet with a new model can save the typical household 7,900 to 21,700 gallons (29,902 - 82,135 liters) of water per year, cutting both your water and wastewater bills.
- An average of 20% of toilets leak.

Tips

- Install an ultra low-flow toilet that requires only 1.6 gallons (6 liters) per flush.
- To ensure optimal performance, when installing a low-flow toilet in areas with a low drainage gradient (such as basements), consider a pressurized model.
- Check toilets periodically for leaks and repair them promptly.
- Reduce the amount of water used by an older toilet by placing a one gallon plastic jug of water, or two one quart bottles, in the tank to displace toilet flows. Or you can install a "dam" that partitions off a section of the tank so it can't fill with water. These methods can save over 1,000 gallons (3,785 liters) of water per person per year.
- Don't use the toilet as a trash can.

Showers and Faucets

Facts

The third highest use of indoor water is bathing, and because most of us like to use warm water when we bathe, it's also the second highest use of energy in the home.

Tips

1. Take a quick shower rather than a bath and save an average of 20 gallons (76 liters) of water.
2. Install a water-efficient showerhead with a flow rate of less than 2.5 gallons (9.5 liters) per minute. (Replace an existing shower head if a one gallon bucket placed under the flow takes less than 20 seconds to fill.)
3. Install aerators on your kitchen and bathroom faucets to reduce indoor water use by as much as 4%.
4. Turn off the water when brushing your teeth or shaving and save more than 5 gallons (19 liters) per day.
5. Clean vegetables in a sink or pan partially filled with water rather than running water from the tap.

6. Re-use the water that vegetables are washed in for watering houseplants or for cleaning.
7. If you wash dishes by hand, rinse them in a sink partially filled with clean water instead of under running water.
8. Instead of waiting for tap water to get cold enough for drinking, keep a bottle of water in the refrigerator.
9. Whenever possible, compost food scraps or dispose of them in the garbage rather than using the garbage disposal which requires a high level of water for operation.

Major Appliances

Facts

- Clothes washers can use as much as 30-35 gallons (114-133 liters) of water per cycle and dishwashers as much as 25 gallons (95 liters) per cycle.
- A full dishwasher is more water efficient than washing the same load by hand.
- Energy efficient appliances are usually water efficient too.

Tips

Dishwashers

- Only run your dishwasher when it is full to make the best use of water, energy and detergent.
- Cut down on the amount of rinsing you do before loading the dishwasher. Most modern dishwashers do an excellent job of cleaning dishes, pots and pans all by themselves.
- When purchasing a new appliance, look for one offering several different cycles. This will allow you to select more energy and water efficient cycles when heavy duty cleaning is not required.

Clothes Washers

- Wait until you have a full load of laundry before running the machine to save both water and energy. If you can't wait for a full load, use the right water level to match the size of the load.
- When in the market for a new machine, consider a high efficiency model that will use an average of 30% less water and 40-50% less energy.

Other

- Insulate your hot water pipes and your electric water heater. Insulation will reduce the amount of time it takes for hot water to reach the tap, saving water and energy.
- If in the market for a new water softener, consider one with a "hardness sensor" that will automatically trigger regeneration as needed. This type of softener will make the most efficient use of both water and salt.

Landscaping and Xeriscape

Facts

Landscaping accounts for 20-50% of all residential water use and provides the best opportunity for water conservation at home.

Tips

Landscaping

- Maintain a lawn height of 2 1/2 to 3 inches to help protect the roots from heat stress and reduce the loss of moisture to evaporation.
- Avoid planting turf in areas that are difficult to irrigate properly such as steep inclines and isolated strips along sidewalks and driveways.
- Aerate clay soils at least once a year to help the soil retain moisture.
- Promote deep root growth through a combination of proper watering, aerating, appropriate fertilization, thatch (grass clippings) control, and attention to lawn height. A lawn with deep roots requires less water and is more resistant to drought and disease.
- Mulch around plants, bushes and trees to help the soil retain moisture, discourage the growth of weeds, and provide essential nutrients.
- Plant in the spring or fall, when watering requirements are lower.
- When choosing plants, keep in mind that smaller ones require less water to become established.
- Collect rain water in a barrel and use it to water your garden (please note, this is not a legal practice in all areas).
- Use porous materials for walkways and patios to keep water in your yard and prevent wasteful runoff.

Xeriscape

The Basics

- Xeriscape™ is a method of landscaping that conserves water. It incorporates seven principles including planning and design, soil preparation, use of plants suited to the soil and climate, creating practical turf areas, use of mulches, efficient irrigation, and proper maintenance. You can incorporate the principles of Xeriscape™ and still have a lawn and a beautiful yard. The key is keeping the amount of water thirsty plants and grasses in your landscape to a minimum.

Planning and Design

- Plan your landscape such that plants with similar water requirements are clustered together. Designate zones for areas requiring frequent watering, occasional watering, and no watering at all such as decks and patios. Be sure to match plants to yard conditions such as sunny, shady, dry or damp. When creating a landscape plan, take into consideration how the yard will be used and how it can provide the greatest benefit with the least amount of maintenance.

Soil Preparation

- Proper soil preparation requires a combination of turning, aerating and enriching the soil with compost or fertilizer. A little extra work in the beginning will pay off with healthier plants that require less water to stay healthy.

Plant Selection

- There are many resources available that will help you choose plants appropriate for your region that match your needs and tastes. See the resources listed below, visit your local library or nursery, or contact your local utility for more information.

Creating Practical Turf Areas

- The type and location of turf areas should be incorporated into your overall landscape plan. Match turf areas to their intended use, as well as topographical and soil conditions. For example, avoid using turf as a "fill in" material and placing turf in areas that are difficult to irrigate properly such as steep inclines and isolated strips along sidewalks and driveways.

Use of Mulches

- Mulches applied around planting beds aid in moisture retention, discourage weed growth, and provide essential nutrients as they decay. Mulches can also be used in areas not appropriate for planting. Materials can include bark, wood chips, pine straw, nut shells, gravel, crushed stone, or landscape clippings.

Efficient Irrigation

- Efficient irrigation means applying water in the proper amount and only when necessary. Understand the different water requirements of the "zones" in your landscape, and check automatic sprinkler or drip irrigation systems periodically to ensure plants are receiving the water they need without being overwatered. Proper irrigation will not only conserve water but promote deeper root growth resulting in a healthier, more drought tolerant landscape.

Proper Maintenance

- Regular maintenance will not only preserve the beauty of your landscape but will keep it healthy. Maintenance needs of a carefully planned Xeriscape™ should decrease over time as plantings mature. By following the seven principles your landscape will require less watering, mowing, fertilizer and other chemicals to keep it looking great.

Irrigation

- As much as 30% of water can be lost to evaporation by watering the lawn during midday.

- Homes with in-ground sprinkler systems use 35% more water outdoors than those who do not have an in-ground system. One reason may be that system controllers are not adjusted according to seasonal irrigation needs.

Tips

General Watering

- Water before 8 A.M. or after 6 P.M. and avoid watering on windy days.
- Water in several short sessions rather than one long one. For example, three ten minute sessions spaced 30 minutes to an hour apart will allow your lawn to better absorb moisture than one straight 30 minute session.
- Only water when your lawn is thirsty. Overwatering promotes shallow root growth making your lawn less hardy. (To determine if your lawn needs to be watered, simply walk across the grass. If you leave footprints, it's time to water.)
- Install moisture sensors in each irrigation zone (sunny, shady, etc.) to better determine irrigation needs.

Sprinklers/Sprinkler Systems

- Check sprinkler system valves periodically for leaks and keep the heads in good repair.
- Adjust the timer on automatic sprinklers according to seasonal water demands and weather conditions.
- Install a rain shut-off device on automatic sprinklers to eliminate unneeded applications.
- Make sure your sprinkler is placed so it only waters the lawn, not the pavement.
- Avoid sprinklers that spray a fine mist, which increases evaporation.

Drip Irrigation

- Install a drip irrigation system for watering gardens, trees and shrubs. Drip irrigation provides a slow, steady trickle of water to plants at their roots through a network of hidden pipes and hoses. The systems are regulated by a controller that can be adjusted for different levels of watering according to the needs of the plants. Drip irrigation systems reduce overwatering, inefficient watering, weed growth, and the time and labor involved in hand watering.

Tips for Outdoor Water Use

- Wash your car with a bucket of soapy water and use a nozzle to stop the flow of water from the hose between rinsings.
- Clean driveways and sidewalks with a broom instead of the hose.
- Check for leaks in outdoor faucets, pipes and hoses.
- Prevent the creation of leaks by shutting off and draining water lines to outside spigots in the winter.
- Cover your spa or pool to reduce evaporation. An average size pool left uncovered can lose as much as 1,000 gallons (3,785 liters) of water per month.
- Also, check your spa/pool for leaks and have them repaired promptly.

Leak Detection and Repair

Facts

Studies show that dripping faucets and leaking toilets account for as much as 14% of all indoor water use, equivalent to 10 gallons (38 liters) per person of water lost per day.

Tips

Read Your Water Meter

- Use your water meter to check for leaks in your home. Start by turning off all faucets and water-using appliances and make sure no one uses water during the testing period.
- Take a reading on your water meter, wait for about 30 minutes, then take a second reading. If the dial has moved, you have a leak.

Check for Leaky Toilets

- The most common source of leaks is the toilet. Check toilets for leaks by placing a few drops of food coloring in the tank. If after 15 minutes the dye shows up in the bowl, the toilet has a leak.
- Leaky toilets can usually be repaired inexpensively by replacing the flapper.

Check for Leaky Faucets

- The next place to check for leaks is your sink and bathtub faucets. Dripping faucets can usually be repaired by replacing the rubber O-ring or washer inside the valve. Use WaterWiser's Drip Calculator to measure and estimate water wasted due to leaks.

Conservation Info and Tips

Tips for Saving Water

AWWA recommends the following steps to help conserve water:

- Don't over water your lawn. Only water every three to five days in the summer and 10 to 14 days in the winter.
- To prevent water loss from evaporation, don't water your lawn during the hottest part of the day or when it is windy.
- Only run the dishwasher and clothes washer when they are fully loaded.
- Defrost frozen food in the refrigerator or in the microwave instead of running water over it.
- When washing dishes by hand, use two basins - one for washing and one for rinsing rather than let the water run.
- Use a broom, rather than a hose, to clean sidewalks and driveways.
- If you have a swimming pool, get a cover. You'll cut the loss of water by evaporation by 90 percent.
- Repair dripping faucets and leaky toilets. Dripping faucets can waste about 2,000 gallons of water each year. Leaky toilets can waste as much as 200 gallons each day.

Information taken from the American Water Works Association

Water Use Statistics

Consumption and Conservation

- Americans drink more than 1 billion glasses of tap water per day.
- On average, 50 to 70 percent of home water is used outdoors for watering lawns and gardens.
- Daily indoor per capita water use in the typical single family home with no water-conserving fixtures is 74 gallons. Here is how it breaks down:

Use	Gallons per Capita	Percentage of Total Daily Use
Showers	12.6	16.8%
Clothes Washers	15.1	21.7%
Dishwashers	1.0	1.4%
Toilets	20.1	26.7%
Baths	1.2	1.7%
Leaks	10.0	13.7%
Faucets	11.1	15.7%
Other Domestic Uses	1.5	2.2%

By installing more efficient water fixtures and regularly checking for leaks, households can reduce daily per capita water use by about 30% to about 51.9 gallons per day Here's how it breaks down for households using conservation measures:

Use	Gallons per Capita	Percentage of Total Daily Use
Showers	10.0	20.1%
Clothes Washers	10.6	21.4%
Toilets	9.6	19.3%
Dishwashers	1.0	2.0%
Baths	1.2	2.4%
Leaks	5.0	10.1%
Faucets	10.8	21.9%
Other Domestic Uses	1.5	3.1%

(1999 Residential Water Use Summary, American Water Works Association)

If all U.S. households installed water-saving features, water use would decrease by 30 percent, saving an estimated 5.4 billion gallons per day. This would result in dollar-volume savings of \$11.3 million per day or more than \$4 billion per year.

- Water-conserving fixtures installed in U.S. households in 1998 alone save 44 million gallons of water every day, resulting in total dollar-value savings of more than \$33.6 million per year.
- Average household water use annually: 127,400 gallons
- Average daily household water use: 350 gallons
- Approximately 339,000 million gallons per day (mgd) of freshwater (about one quarter of the national renewable supply) was withdrawn during 1990 for use by the nation's homes, farms, and industries, and about 220 billion gallons per day was returned to streams after use. The withdrawals during 1990 were about 7 percent less than during 1980, the maximum year reported, and about the same as during 1985. Some reasons for the decline are because of active conservation programs, new technologies requiring less water, higher costs to obtain water, and the enhanced awareness by the general public to water resources. (USGS)
- In 1990, the State of California received 3,740 mgd; Texas 2,310; Florida 1,250; New York 1,890. In comparison, The Virgin Islands received 1.0 mgd; Vermont 27; Alaska 30. (USGS)

Xeriscape™: Conservation Landscaping

Xeriscape™ is an increasing trend in landscape design. By combining water conservation practices with creative landscape design, you can create an attractive haven that's relatively hassle-free. 85% of all landscape problems are directly related to over watering. A properly designed and operated irrigation system can reduce water use by 20 percent or more each year.

Grouping plants according to their watering needs saves a substantial amount of water. By using shade, rethinking traditional grass lawns, taking advantage of natural runoff, planting in low irrigation areas, and using mulch, your landscape can be transformed into a beautiful design that conserves water.

For more information on Xeriscape™ contact your local water provider, landscape architect, or garden shops. The [AWWA bookstore](#) also has products that can help you in your conservation landscape planning.