



WATER  
CONSERVATION

# Why Save Water?

**W**ater is our most precious natural resource. With drought-like conditions from California to Texas to the South to the Mountain West, how we manage it will have a major impact on future generations.

The west coast isn't the only part of the United States stepping up efforts in conservation.

Even in normal years of rainfall, some states are finding it difficult to meet all their demands for water.

Our nation's population is only expected to increase by 2050 and beyond, boosting the demand for water. That's why an educated citizenry and substantial government funding is so critical to conserving and optimizing this natural resource.

Fortunately, there are many ways you and other Americans can make an impact on the amount of water available for use. Some ideas are simple, while others are more elaborate. You'll find tips and tricks in this section that can help make your home more water efficient. And the more efficient our homes become, the better shape our water's infrastructure will be in for future generations to enjoy.

## BY THE NUMBERS

The U.S. Environmental Protection Agency reports some staggering statistics when it comes to water usage:

- Even though about 70 percent of the Earth's surface is covered by water, less than 1 percent is available for



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human use.

- Forty out of 50 state water managers expect water shortages under average conditions in some portion of their

states over the next decade.

- Each American uses an average of 100 gallons of water a day at home.
- Installing water-efficient

fixtures and appliances can reduce a household's use by 30 percent.

- The average household spends as much as \$500 per

year on its water and sewer bill and can save about \$170 per year by installing water-efficient fixtures and appliances.

# Water Your Lawn Smartly

**W**atering your lawn and garden can be one of the biggest wastes of water, especially in the middle of a hot summer day, when evaporation occurs most rapidly and can lead to increased water loss.

That's why some cities in California have enacted restrictions on watering yards and gardens during specific times of the day.

Refraining from watering your plants in the middle of the day is important because of the impact evaporation can have on how much you'll be using. And while the summertime is most critical, it is important that you don't over-water your plants and yards at any time of the year.

In most areas, turf grass needs less than one 1 of water per week. Using more than this can actually harm your plants by causing diseases and weed growth. If you live in a subdivision, the resulting runoff can pollute the surface water body to which your storm drain system discharges.

## IRRIGATION SYSTEMS

Irrigation systems provide highly efficient watering for your lawn or garden. While a relatively expensive investment on the front end, installing one can actually save you money and water in the long run.

If homeowners with irrigation systems use a certified irrigation professional to perform regular maintenance,



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they can reduce irrigation water use by 15 percent, or nearly 8,800 gallons of water, annually, according to the U.S. Environmental Protection Agency.

Other tips for properly using your irrigation system include making sure the con-

troller is set for the correct season. This can ensure the optimal use of your irrigation schedules and the fulfillment of your watering needs.

## RAIN BARRELS

If you're looking for extra

efficient ways of conserving water, what better way than to capture and re-use rainwater? If you have a roof with gutters, you should consider installing a barrel to catch the runoff.

Barrels don't have to be unsightly and can actually

appear like large planters on the outside of your home. They also are generally a one-time investment — and an inexpensive one at that. Make sure you have room to store them during the winter months if your area is susceptible to icing or heavy snow.

# High-Efficiency Appliances

**W**aterSense, a partnership with manufacturers and the U.S. Environmental Protection Agency, has launched numerous products designed to help your wallet and water conservation efforts.

WaterSense-labeled products are backed by independent, third-party testing and certification, and also meet the EPA's specifications for water efficiency and performance. Using these products in your home or business can catalyze outstanding performance and noticeable savings on your water bills.

The WaterSense label is now found on more than 1,600 models of shower heads, 1,900 models of tank-type toilets, 6,800 models of faucet or faucet accessory models, and 150 models of weather-based irrigation controllers, according to the EPA.

It's not only products that are certified by the WaterSense program. Professionals can become credentialed in the installation and repair of water appliances and systems.

The EPA has released an expansive list of statistics promoting the benefits of installing WaterSense products. Visit [www.epa.org/watersense](http://www.epa.org/watersense) for more detailed statistics and information.

Here are some highlights:

- WaterSense-labeled faucets are about 30 percent more efficient than standard faucets while still providing sufficient flow.
- Using WaterSense-labeled faucets or faucet



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accessories could reduce a household's faucet water use by more than 500 gallons annually.

- WaterSense-labeled faucets and faucet accessories can reduce excessive flow

volumes by more than 30 percent without sacrificing performance.

- WaterSense-labeled toilets use 20 percent less water per flush but perform as well as or better than today's stan-

dard toilets and older toilets that use much more water.

- If one in every 10 homes in the United States were to install WaterSense-labeled faucets or faucet accessories in their bathrooms, it could

save 6 billion gallons of water.

- If all inefficient toilets in U.S. homes were converted to WaterSense labeled models, we could save more than 640 billion gallons of water per year.

# Use a Pool Cover

**A**s you leisurely soak in the rays on your pool raft, environmental worries may be the furthest thought from your mind.

But that large pool of water you're enjoying can lose energy in a variety of ways, especially evaporation. According to the U.S. Department of Energy, there are major benefits to using a cover when your pool is not in use.

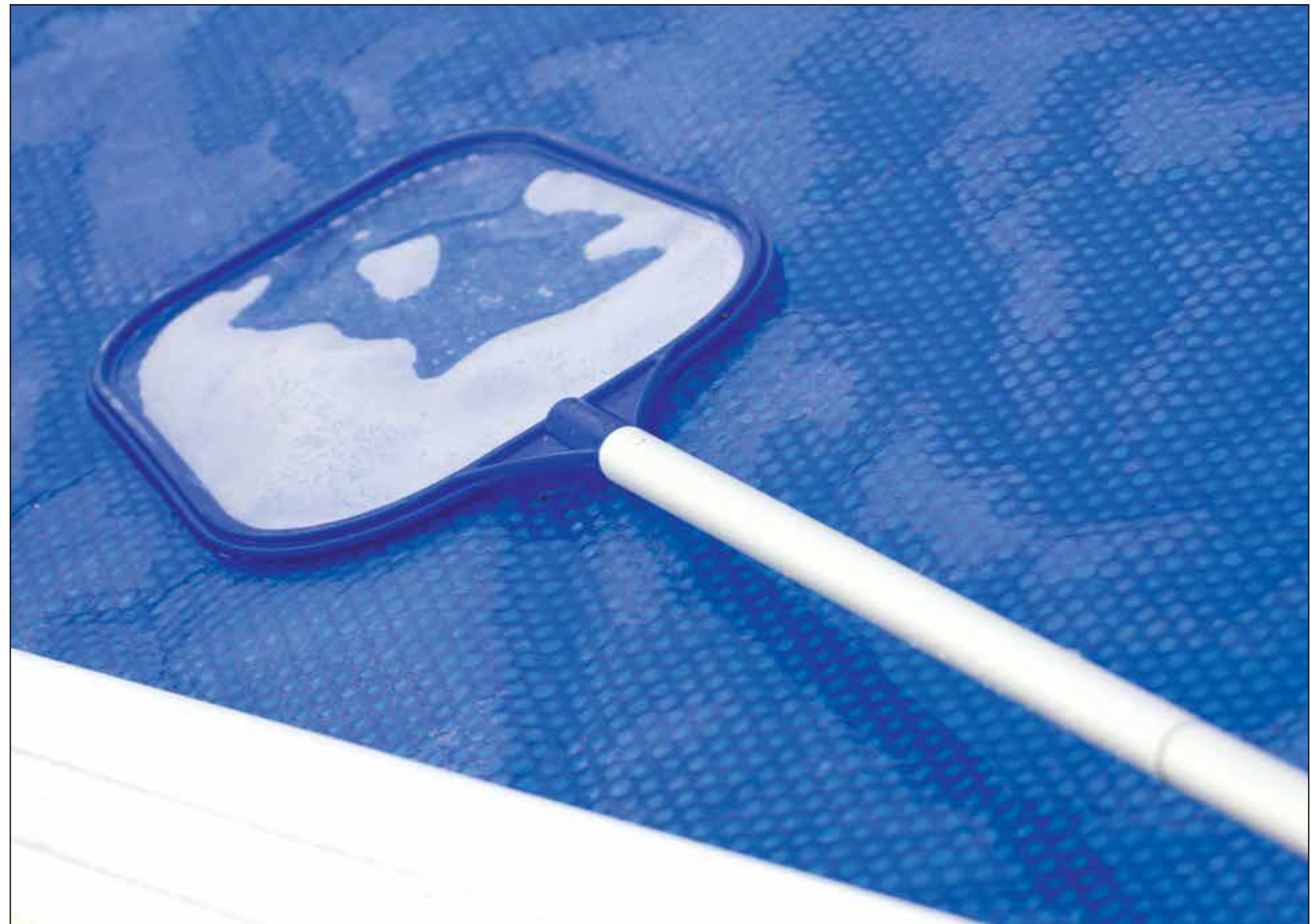
Pool covers minimize evaporation from both outdoor and indoor pools. Covering a pool when it is not in use is the single most effective means of reducing pool heating costs, saving up to 70 percent of these expenses, states the U.S. Department of Energy, along with these benefits:

- Conserves water by reducing the amount of make-up water needed by 30 to 50 percent
- Reduces the pool's chemical consumption by 35 to 60 percent
- Reduces cleaning time by keeping dirt and other debris out of the pool.

## EVAPORATION

How much your pool loses to evaporation depends on air temperature, humidity levels and the temperature of your pool. Wind levels also can increase the evaporation rate.

One way many pool owners reduce the effect of wind is by adding trees, shrubs or



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a fence. Make sure your windbreak is high enough and close enough to the pool that it doesn't create turbulence over the pool, which actually can increase evaporation.

## TYPES OF COVERS

To simply meet the requirement of a vapor barrier, a thick sheet of plastic could technically serve the purpose of a pool cover, although there are

more effective types on the market. A plastic sheet can be difficult to store and may tear more easily than one built specifically for covering your pool.

To minimize both tearing and deterioration from sun-

light, choose a cover made from vinyl. A good option for an effective UV inhibitor is an insulated vinyl cover that features a thin padding of flexible insulation between two layers of vinyl.

# Use the Dishwasher

**M**any Americans feel that by hand-washing their dishes, they can save water and money as compared to using the dishwasher.

Not so, says the American Council for an Energy-Efficient Economy. Hand-washing an average load of dishes can burn up to 27 gallons of water, while a new Energy-Star rated dishwasher can consume as little as three.

You also may be financially rewarded for purchasing such a model. In many states, electric and water utilities offer rebates for the purchase of models that are exceptionally efficient.

## BUYING DECISIONS

If you've done some window shopping for a new dishwasher, you know there is great variety across brands, styles and models.

The council recommends that you consider dishwashers with an estimated energy use of less than 295 kWh/year. Check the energy label on any dishwasher you're considering buying to find out if the product meets this requirement.

## RINSING OR SCRAPING?

Dishwashers are built to remove food residues. So by spending large amounts of time pre-rinsing, you can actually be wasting up to five gallons per load, according to the council.

The alternative? Simply scrape the food into your trash can or garbage disposal and let your dishwasher do the rest. If you do choose to pre-rinse, get in the habit of using cold water. This can help save you the energy needed to heat your water.

## WASH ONLY FULL LOADS

Since your dishwasher uses the same amount of water whether it's half-full or completely full, the best strategy is to wait until the machine is full to run it. This practice will save both energy and water.

Many newer models have a rinse-and-hold feature that can prevent build-up of dried-on food while you wait for more dishes to fill your load. Typically, the feature uses about a gallon of water — still much more efficient than hand-rinsing.



# Test for Leaks

**T**alk about an educational tour. Homeowners are encouraged to devote time once a year to perform a thorough walk-through of their water systems, both inside and outside.

Such a tour can be an eye-opening experience as you check for leaking or dripping faucets, toilets, shower heads, hoses and sprinklers.

Approximately 5 to 10 percent of American homes have water leaks that drip away 90 gallons a day or more, according to the U.S. Environmental Protection Agency. Many of these leaks are attributed to old fixtures, such as leaky toilets and faucets.

The EPA estimates that water lost by these leaks could be reduced by more than 30,000 gallons if new, efficient fixtures were installed.

## TOILETS & FAUCETS

The worst thing about a leaking toilet is how easily it can go undetected. Toilets can leak internally from the tank to the bowl, going unseen for extended periods of time. By the time you notice, your toilet might have wasted about 100 gallons of water per day.

Older or inefficient faucets also are to blame for many leaks within households. Fortunately, finding and correcting a leak in your toilet or faucet can be a simple process.

Experts recommend you test your toilet at least once a year with a simple toilet dye tablet test. The tablets



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identify if your toilet tank is leaking. If it is, replacing the rubber flapper or fill mechanism is a relatively simple project to complete on your own. With faucets, most drips can be corrected by replacing a worn-out washer.

## SUPPLY LINES

More complex issues can come between the supply line feeding water to your home. There are sometimes leaks between the meter and the home, which can be hard to pinpoint since the pipe is

generally buried at least 3 feet below ground.

One way to remain vigilant of what may be occurring underground is to keep an eye on your yard. If the soil is constantly damp at certain locations and not due to rain or irrigation, you may have a leak.

This may require the help of a licensed plumber, as careful digging and pipe replacement will be involved in repairing this issue. You also could call your water company if the problem seems to be starting at the meter or near city-dug water lines.

# Educate Yourself on Drought

If you've kept up on weather trends over the past few years, you know that many areas of the United States are in the midst of an unprecedented drought.

Based on the Palmer Drought Index, which is used by the National Weather Service, severe or extreme drought affected about 8 percent of the contiguous United States near the end of 2014.

About 12 percent of the contiguous U.S. fell in the severely to extremely wet categories. What these numbers mean to average Americans depends on where they live and how much the drought impacts things such as crop production and watering restrictions.

## PLANNING FOR DROUGHT

Drought planning should be a major facet of policy strategy for water agencies, suppliers, municipalities and even the typical homeowner.

Furthermore, farmers, ranchers and others whose livelihoods depend on regular rain also should put a plan in place to deal with extended droughts. In rural U.S. settings, drought may cause wells to run dry, crops to fail and forage for livestock to be scarce.

Drought is one of the stressors on farm families, who may be forced to pass on the costs of drought to taxpayers and consumers. Educating yourself on how to be more self-sufficient in your own food production can help your family save money in times of drought.

## DROUGHT IS EXPENSIVE

Slow-moving and without direct property damage, drought may be deceptive, causing us to underestimate its true negative impact. The Federal Emergency Management Agency has estimated that drought costs the United States an average of \$6 to 8 billion a year.

The National Climatic Data Center's list of Billion Dollar Weather Disasters since 1980 includes 90 events from 1980 to 2008, including hurricanes, floods, tornadoes and wildfire. Fourteen were drought related.

Another interesting round of eye-opening FEMA statistics includes data from 2008, when widespread drought cost at least \$2 billion and threatened metropolitan Atlanta. Another drought in 1980 led to estimated losses of \$55.4 billion and about 10,000 heat-related deaths.

