



Routine Water Conservation Practices

Given that we live in a semi-arid desert, routine water conservation practices are best management principles that should be used all the time, regardless of the current drought stage.

Indoor Water Conservation Practices

Interesting fact: Toilets, showers, and clothes washers typically use the most water in a home. Leaks can consume almost as much as faucets.

Toilets	<p>Install a water-conserving toilets</p> <ul style="list-style-type: none"> - High Efficiency Toilets (HET). A high efficiency toilet uses about 1.28 gallons (or less) of water per flush. Traditional toilets use approximately 1.6 gallons water and converting to a high efficient model will save water and money. - Composting Toilets. A composting toilet works similar to the compost piles many gardeners utilize in their back yard. Fungi and microbes will attack and break down human waste into organic soil components (humus). The humus can then be used to fertilize plants or to grow food. It is imperative that human waste is broken down before using to grow food or plants since non-composted waste is hazardous. - Urine Diverting Toilets. A urine diverting toilet has two receptacles and can either be flushed with or without water. Urine will be directed away from the solid waste which will be composted. <p>Other Toilet Tips</p> <ul style="list-style-type: none"> - Regularly check for and repair toilet leaks. - Avoid using caustic toilet bowl cleaners such as toilet tank tablets as they can damage plastic and rubber toilet parts causing severe leaks. - Flush less frequently. During drought emergencies some families adopt variations of the adage, “if it’s yellow let it mellow and if it’s brown flush it down.” - Put plastic bottles (filled with sand or pebbles), bricks, or a float booster in your toilet tank to cut down on water waste. Ensure that 3 gallons of water remain in the tank so it will flush properly. - Buy an adjustable toilet flapper to allow for adjustment of each per flush use. - Install low or dual flush models, it could save an average family 15,000 gallons of water each year.
Showers	<ul style="list-style-type: none"> - Install a low-flow showerhead. A low-flow showerhead can reduce the amount of water used while showering by about 5 gallons a minute. This is one of the easiest ways to reduce water consumption in the shower. - Install an attachment that stops water flow. Older showerheads can be fitted with an attachment to stop water flow while you lather up. There will be no problem with losing water temperature; so you can get wet and then soap and lather up without a constant stream of water flowing down the drain. - Shorten your shower time. By taking a shorter shower (reducing shower time by 5 minutes) can save about 20 gallons of water. - Take showers rather than baths. If you must take a bath, don’t fill the tub when taking baths. Fill the tub with about 2 to 3 inches of water instead of filling up the bathtub. - Wash your pets outside on the grass rather than in the shower or tub to simultaneously water your lawn.
Faucets	<ul style="list-style-type: none"> - Add low-flow aerators to faucets. Installing low-flow aerators on your faucets are easy do-it-yourself projects and take very little time. You can reduce household water consumption by about 50%.

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Clothes washers	<ul style="list-style-type: none"> - Install High Efficiency, EnergyStar, and WaterSense machines. - Always wash a full load. Instead of washing small loads, save them up to run full-sized loads to save water and energy. - Don't wash in hot water. Use warm or cold water to wash clothes since heating the water for a hot wash cycle wastes a lot of water and energy. Washing in cold water saves energy and lowers your energy utility bills but does not save water - If your washer has a variable water volume setting, select the minimum amount required per load. - Use load sizes when washing clothes. If you must wash a small load, make sure you adjust the load size prior to starting the cycle to conserve water. Most new, energy efficient washers will automatically adjust the load size, so you don't have to worry about it. - Pretreat stains to avoid rewashing. - Use the shortest wash cycle for lightly soiled loads. - Check your clothes washer hoses regularly for cracks that could result in leaks. - Use less detergent or the appropriate "HE" clothes washing detergent, if directed by the manufacturer.
Dishwashers	<ul style="list-style-type: none"> - Use a dishwasher rather than handwashing to save water. - Install high-efficiency, EnergyStar, and Water Sense dishwasher models. These dishwashers use less water and more significantly, less energy than the standard models. - Only run your dishwasher when it is full. The best way to save water, energy and money is to make sure the dishwasher is completely full before running it. Washing partial loads wastes water and energy. - If handwashing, never let the water run while you wash dishes. Fill a basin or tub to fill up with soapy water or plug the sink to wash dishes. Instead of rinsing each dish individually, rinse when you have many dishes to save water.
Leaks	<ul style="list-style-type: none"> - Check and repair all leaks on faucets, showers, toilets, pipes, and other fixtures. A toilet leak can cause a loss of about 200 gallons of water daily. - Many silent leaks allow water and your money to go down the drain. - Studies show homes can waste more than 10% due leaking, which costs both you and the environment. - Check your water meter to find hidden water leaks. Read the house water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, there is a leak.
Don't let the water run.	<ul style="list-style-type: none"> - Never let the water run while you are brushing your teeth, cooking, shaving or washing dishes. Instead of having a constant stream of water flowing while cooking, you should put some water in the sink to rinse vegetables and you can also do the same when washing dishes and shaving. - Fill a glass of water to rinse your mouth while brushing teeth. Instead of letting the faucet run while you are brushing your teeth, fill a glass with water to rinse your mouth after you are finished brushing your teeth. - Fill a bowl of water to wash vegetables before cooking them. Fill a bowl of water to rinse your vegetables in to keep water from going down the drain from a constant flow of water.
Reuse water as much as possible.	<ul style="list-style-type: none"> - Don't pour unused pet water down the drain. Use it to water your house plants. - Use your aquarium water for non-edible plants to save water and fertilize your plants. - Use cooking water (water used to cook pasta or rice) to wash your dishes or water your plants.
Other Miscellaneous Indoor Water Conservation	<ul style="list-style-type: none"> - Keep a bottle of drinking water in the fridge. Running tap water to cool it off for drinking water is wasteful. Store drinking water in the fridge in a safe drinking bottle. If you are filling water bottles to bring along on outdoor hikes, consider buying a personal water filter, which enables users to drink water safely from rivers or lakes or any available body of water. - Track your water bill and meter to curtail water use - Insulate your water heater. Install an insulation blanket on water heaters, particularly older models, and insulate the first three feet of the "out" pipe on all water heaters. - Install "tankless" water heaters: In areas where water is used infrequently, tankless water heaters can reduce standby storage costs and waste.

Indoor Water Conservation Practices

Additional
Indoor Water
Conservation
for
Businesses,
Restaurants,
Lodging

- **Ask customers if they want water before serving it.** Serve filtered water only on demand.
- **Install low flow pre rinses in restaurants.** Wash full dish racks only.
- **Retrofit kitchen and bathroom sinks with aerators and automatic faucets.**
- **Fix leaky equipment.**
- **Install a three-compartment sink for washing dishes** because the scrape, wash, rinse technique is much more efficient than doing it all in one compartment under a constantly running stream of water.
- **Use a foot pedal for handwashing sinks.** Foot or knee pedals serve two purposes: they allow your staff to turn water on and off without contaminating their freshly washed hands, and they shut off automatically, which can save an astounding amount of water.
- **Sweep and mop instead of spraying.** It may seem easier to just spray down kitchen floors and outside areas to keep them clean. It might be a little more work for your staff, but those savings on the water bill will also help you pay their salary.
- **Retrofit old equipment and lighting with high-efficiency equipment/lighting.** Install ENERGY STAR® certified dishwashers, ice machines, steam cookers, or combination ovens where appropriate to reduce water and energy use by at least 10 percent. Look for efficient food disposal systems, steam kettles, and wash-down sprayers to use significantly less water. Consider replacing equipment that discharges water continuously, such as dipper wells or wok stoves, with more efficient models or turning this equipment off if not in use.
- **Compost food waste.** Instigating a compost program in your restaurant means staff must scrape food bits into your compost bin instead of washing it into the garbage disposal. That means significant water savings. A compost program has the added benefit of giving you additional green credentials for your customers as well.
- **Water recycling and water reuse.** There are many ways to recycle water, from modern gray water systems that take wastewater and recycle it for use in boilers and cooling units to recovery systems that capture and reuse boiler and steam condensate.
- Water reuse practices include using leftover drinking water to irrigate indoor plants and using wastewater to irrigate outdoor green areas.
- **Saving money on water conservation products and practices.** Look for local, state and federal agencies that may offer incentives and rebates to encourage water conservation. In a recent analysis, PG&E found that six of its most commonly incentivized water-efficient technologies saved more than 850 million gallons of water a year, or the equivalent of the annual water consumption of 5,000 homes.
- **Efficiently operate water-intensive machinery:** Businesses that use water-intensive products (e.g., dishwashers and washing machines) should only run them once they are fully loaded.
- **Reset water temperature:** Keeping water temperature settings between 110-120 degrees F.
- **Shut off cooling units:** Some air conditioning units consume a lot of water. Shutting them off when they are not needed may save water and energy.
- **Perform equipment maintenance and preventative maintenance.** Keeping your refrigerator coils clean provides a major boost to the efficiency of your unit. Replace water filters to ensure that scale buildup doesn't clog the internal components.
- **Decrease Heat Usage** by investing in a Smart Thermostat; lowering water temps on your dish machine but maintaining at least minimum mandatory dishwashing temperature; and using unheated hand dryers in bathrooms.
- **Reduce ambient temperatures in your kitchen** so your refrigeration units don't have to work as hard to keep food cold. To do this, use Induction Equipment, Kitchen Exhaust Hoods, and LED lightbulbs.
- **Shut down idle equipment to save energy** by using a Startup/Shutdown Schedule, Lighting Timers, and Smart Controls that allow you to start up your appliances remotely.
- Layout of your kitchen to allow space for your refrigeration equipment to expel hot air as part of the cooling process. Separate Heating and Cooling Equipment so equipment operates most efficiently.
- **Train employees** to take water conservation seriously. Make it an ongoing issue in staff meetings and during employee training.
- **For overnight stays in lodging, clean rooms and towels only on demand rather than daily.**
- **Check out this website from the EPA** on water saving in different types of commercial facilities: <https://www.epa.gov/watersense/types-facilities>

Outdoor Water Conservation Practices

Interesting fact: The average American family uses 320 gallons of water per day, about 30% of which is devoted to outdoor uses. More than half of that outdoor water is used for watering lawns and gardens.

Outdoor Watering / Landscaping

<p>Lawn grass (residential, HOA, commercial, industrial, institutional)</p>	<ul style="list-style-type: none"> - Consider replacing turf grass with water-wise plants or drought tolerant grasses. - Water no more than 3 days a week. - To reduce evaporative loss, water lawn from 6:00 pm to 10:00 am. - Adjust sprinklers to avoid spraying on concrete or asphalt and pooling in gutters/streets. - Inspect and repair leaky sprinkler systems immediately. - Avoid cutting lawn grass shorter than 3” in height. Letting the grass grow taller (>3”) and leaving leaf clippings on the ground will promote water retention in the soil and recycle nutrients. - Do not water when raining or during high winds. - Install smart irrigation systems and/or sensors that measure rain and/or soil moisture. - Water your lawn only when it needs it. A good way to see if your lawn needs watering is to step on the grass. If it springs back up when you move, it doesn’t need water. If it stays flat, the lawn is ready for watering. - Deep-Soak Your Lawn. When watering the lawn, do it long enough for the moisture to soak down to the roots. A light sprinkling can evaporate quickly and tends to encourage shallow root systems. Put an empty tuna can on your lawn - when it’s full, you’ve watered about the right amount. Most lawns want about an inch of water per week, so note how much rain fell and add water accordingly. - Use water timers or flow meters for hose-end watering to ensure proper amounts are applied. - Frequently remove dead or dying plants and all weeds that compete for available water. - Apply fertilizers or pesticides at minimal levels, timed to specific needs of the plants. - Maintain sharp blades on lawn mowers.
<p>Trees, Shrubs, and Other Landscaping</p>	<ul style="list-style-type: none"> - Plant drought-resistant lawns, shrubs and plants. - Practice Xeriscaping and Zeriscaping in dry environments. - Native and adapted plants use less water and be more resistant to local plant diseases. - Plant slopes with plants that will retain water and help reduce runoff. - Mulch around trees and plants to slow evaporation and discourage weed growth. - Water only when your plants need it. Adjust controllers for in-ground or drip watering systems according to seasonal needs of plants. - Water at night or in the morning to reduce loss to evaporation and prevent moisture from staying on plants overnight. - Avoid Watering When It Is Windy - Use water timers or flow meters for hose-end watering to ensure proper amounts are applied. - Check your irrigation system regularly for leaks and clogs. Repair as needed. - Use Efficient Watering Systems like soaker hoses, rain barrel water catchment systems, drip-irrigation system, and tree-ring soaker hose. Be sure to avoid over-watering plants and shrubs since this can diminish plant health and cause yellowing of the leaves. - When hand watering, use a variable spray nozzle for targeted watering. - Plant in ‘Hydro-Zones’ to maximize water use. Grouping plants with similar water needs means you won’t be wasting water on plants that don’t need it. Water only certain zones regularly, while watering drought-tolerant plantings less frequently. - Plant Trees in the Yard for Shade. In addition to making your house cooler and storing carbon, adding shade trees can lessen the need for watering. By protecting plants and soil from the afternoon sun, shade trees help conserve water. - Properly prune or trim trees, shrubs and other woody plants to maximize the plants’ health and minimize invasion by pests. - Frequently remove dead or dying plants and all weeds that compete for available water. - Apply fertilizers or pesticides at minimal levels, timed to specific needs of the plants. - Maintain sharp blades on pruning shears. - Add organic matter to your garden beds to help increase its absorption and water retention.

Outdoor Water Conservation Practices

Outdoor Watering / Landscaping

Vegetable Gardens	<ul style="list-style-type: none"> - Adjust irrigation settings according to the needs of your plants and the time of year. Plants will need less water in cooler weather and more in hotter weather, and correct settings will not only save water but ensure that plants are getting the right amounts. - Do not water when raining or during high winds. - Consider an automated watering system with a built-in moisture sensor can help ensure you're only watering when necessary and at the most efficient time of day. If you're using a timer, consider adding a rain or moisture sensor to avoid watering unnecessarily. - Use a soil moisture meter to gauge when you should water your garden. Avoid over- or under-watering your garden with a simple-to-use soil moisture meter. - Control weeds to reduce competition for water in the garden. If you don't weed, the garden invaders will take up water meant for your plants. A good layer of mulch around your plants not only conserves soil moisture but helps keep weeds under control. - Harvest rainwater for watering vegetable beds. Use rain barrels or a catchment system to capture valuable rainwater from your roof. Per Colorado law, homeowners are allowed a maximum of two rain barrels with a combined storage of 110 gallons per household. Collected rainwater may be used to irrigate outdoor lawns, plants or gardens. - Apply fertilizers or pesticides at minimal levels, timed to specific needs of the plants. - Cultivate planting beds periodically to decrease compaction and improve infiltration of water, air and nutrients into root zones.
Flowers gardens	<ul style="list-style-type: none"> - Do not water when raining or during high winds. - Water only when flowers need it. - Consider planting native and adapted flowers that are more drought tolerant. - Cultivate planting beds periodically to decrease compaction and improve infiltration of water, air and nutrients into root zones. - Apply fertilizers or pesticides at minimal levels, timed to specific needs of the plants. - Mulch flowerbeds to retain water.
Golf courses, sport fields and parks	<ul style="list-style-type: none"> - Water no more than 3 days a week. - To reduce evaporative loss, water lawn from 6:00 pm to 10:00 am. - Adjust sprinklers to avoid spraying on concrete. - Inspect and repair leaky sprinkler systems immediately. - Avoid cutting grass shorter than 4" in height. Letting the grass grow taller (to 3") will also promote water retention in the soil. - Do not water when raining or during high winds. - Install smart irrigation systems and/or sensors that measure rain and/or soil moisture. - Water grass only when it needs it. - Consider alternatives to water-thirty turf grass.
Agriculture	<p><u>Sprinkler irrigation systems</u></p> <ul style="list-style-type: none"> - Inspect and repair leaky sprinkler systems immediately. - Do not water when raining or during high winds. - Install smart irrigation systems and/or sensors that measure rain and/or soil moisture. - Avoid cutting grass shorter than 4" in height. - Avoid having sprinklers on during the hottest part of the day to minimize evaporation. <p><u>Flood irrigation systems</u></p> <ul style="list-style-type: none"> - Only divert what you need. - Install check and turnout structures throughout your field to better regulate water. - Replace orange temporary dams with culvert pipes/gates in ditches or consider using gated pipe. - Practices intermittent irrigation whereby you move your water around by rotating water through lateral ditches. This allows different areas of the field to rest and 'breathe' throughout the irrigation season. - If it is super rainy, turn your irrigation water down or off. - To know if your soil has the proper amount of moisture, check it by taking a sample from approximately 6" in depth. Squeeze a handful of soil. If it forms a slightly crumbly, slightly moist ball that does not leave a stain or water on your hand, it is time to irrigate. If it is drenching wet, do NOT irrigate. On the other hand, DON'T wait until it is powdery fine to irrigate either because it will take much longer to fill the water table again.

Outdoor Water Conservation Practices

Water Features, Pools, and Hot Tubs

Swimming pools, hot tubs & other water features	<ul style="list-style-type: none"> - Cover pools, spas and other water features when not in use to minimize evaporation. - Do not waste water. - Repair faulty pipes and water lines. - Minimize outdoor water features like water fountains, splash pads, and ponds when drought conditions exist. - Restrict or eliminate use of hose-end water toys. If possible, combine use of water for play with landscape needs.
Water Misters	<ul style="list-style-type: none"> - For large mister areas, divide the misters into groups that can be independently controlled. - Turn off the misters when nobody is present. You may want to consider a timer or sensor device. - Use trees and other shade structures to keep outdoor areas naturally cooler. - Turn off the misters when winds are whisking the mist and cooled air away before it can reach you. - Don't use misters when outdoor temperatures are moderate. - Don't use mist systems for aesthetic purposes, such as creating fog-like special effects in outdoor landscapes.

Washing and Cleaning

Driveway and Street Cleaning	<ul style="list-style-type: none"> - Don't use the hose to clean your driveway or street. - Sweep or use other dry clean method to clean sidewalks, driveways, patios, and streets. - If washing with water is required, use only what you needed and minimize frequency of cleaning.
Vehicle Washing (including charity car washes)	<ul style="list-style-type: none"> - Wash car(s) with a bucket of water rather than a running hose. If using a hose, install a water shutoff on the end of the hose. - Drive your vehicle onto the lawn, if possible, so that all water can be absorbed into the landscape. - Use only what you need.

Businesses, Restaurants & Lodging

All commercial enterprises	<ul style="list-style-type: none"> - See recommendations above for outdoor watering/landscaping, outdoor water features, and washing/cleaning - Check out this website from the EPA on water saving in different types of commercial facilities: https://www.epa.gov/watersense/types-facilities
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References

The water conservation tips provided above were compiled from various sources. Some of these sources include the following websites.

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