



Managing During Critical Shortages

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Periods of critical water shortages—or even water rationing—demand serious and resourceful water-use management. To reduce water consumption, you can change many practices and habits without posing a threat to health, comfort, or productivity.

Home plumbing system

- Check your water supply system pressure. If it's over 50 pounds per square inch (psi), install a pressure-reducing valve or regulator adjusted to 40 to 45 psi.
- Repair leaky faucets at the first indication of leakage.
- Install aerators with built-in flow limiters on kitchen, laundry, and bathroom faucets.
- Install a flow restrictor or controller in each shower head pipe, or change to low-flow or water-saver shower heads.
- Insulate hot water pipes to reduce the water you must run to get hot water from the faucet.
- Check for toilet leaks by putting food coloring in the tank and checking the bowl water 15 to 30 minutes later.
- Reduce the flush volume of your toilet tank by placing a 1-quart or larger plastic container filled with water in the tank. Position it so it doesn't interfere with the flushing mechanism. Don't use bricks (they can crack the tank if you drop them, or they may disintegrate and cause plumbing problems). Bending the float arm to lower the water level in the tank is not recommended; it may create improper or inadequate bowl flushing.
- Check frequency of home water-softener regeneration and backwashing. Once a week is usually enough for a family of four.
- If you use an outdoor swimming pool, clean the filter regularly to

extend the time you use the water before you need to replace it.

- Cover the swimming pool when you're not using it, to reduce evaporation.

Home use habits

- Never run water needlessly. Turn water on and off while brushing teeth, shaving, shampooing, rinsing hands, doing dishes.
- Remove ice cube trays a few minutes before you need them, to loosen them at room temperature instead of under the faucet.
- Thaw frozen foods in your refrigerator or microwave oven—not with running water.
- Use a pail to catch cold water until hot water flows from kitchen and bathroom faucets.
- Wash raw fruits and vegetables in a bowl or pan instead of under a running faucet.
- Use lids on boiling pots and pans.
- Keep a covered container of drinking water in the refrigerator instead of running the faucet for cool water. Shake the container before serving to incorporate air in water and eliminate "flat" taste.
- Serve drinking water only if people request it.
- Scrape dishes but don't rinse before loading in your washer, especially when you'll run the washer within a few hours. If rinsing is necessary, catch water in sink and rinse with it rather than under the running faucet.
- Run only full dishwasher loads.
- Use your garbage disposer unit as efficiently as possible.
- Compost food wastes as a source of humus for the garden.
- Rinse unsoiled but wrinkled laundry instead of complete washing.

- Use the minimum water level that permits laundry to move freely in your automatic washer.
- Launder full loads when possible.
- If your washer has a suds-saver feature, use it.
- Take a 4-minute-or-less shower instead of a tub bath. Run water only for wetting down and rinsing.
- Take shallow tub or sponge baths. Bathe young children together.
- Flush your toilet as seldom as possible—never flush just to dispose of tissue.
- Flush toilets with "gray" water from sinks, tubs, washers. Be sure to pour "gray" water into the toilet bowl, not the flush tank. Pour rapidly for a satisfactory flush.
- Control toilet odor by adding 2 tablespoons vinegar, ½ teaspoon liquid detergent, or 1 teaspoon chlorine bleach to bowl.
- Water indoor plants only as needed. Excess water may actually damage plants.
- Prevent children from playing with water.

Landscape and lawn

- Develop watering priorities and related plans for your most effective use of available water as insurance against drought-caused plant losses.
- Give mature trees top priority to receive a weekly deep-root watering during a water shortage.
- Shrubs and perennial plantings that are well-established, have substantial value, and contribute to the overall landscape picture should receive next priority.

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- Newly planted landscape materials, depending on their value, need high priority during first growing season.
- Most lawn grass varieties are relatively drought-resistant and will usually survive with minimal watering, even though they turn brown. Avoid traffic on drought-stressed lawns.
- Replace some lawn with gravel, stone, bark, or paving.
- If water supply is limited, apply it to the plant's root tip and root hair area—immediately below the outer edge or drip line of the plant canopy.
- Use subirrigation to apply water to root tip and root hair area. Punch holes in the bottoms of juice or coffee cans and insert these (or pipes) around the edge (drip line) of the plant. Push the cans down to the root zone and apply water through these open columns directly to the root zone.
- Use a “soaker” hose placed on soil surface above the root zone area, with holes turned downward to minimize evaporative losses.
- Try “trickle” or “drip” irrigation systems. These use 25 to 50 percent less water than hose or sprinkler methods. The trickle tube has many tiny holes to water closely spaced plants. The drip tube has openings at strategic locations for more widely spaced plants.
- If you use a garden hose and sprinkler head, water thoroughly every 3 to 4 days. Apply about ¾ inch each watering. Measure the water you apply with strategically placed tin cans.
- Water during the hours when your water system experiences the least demand. Avoid watering when it's windy or in the heat of day. Use a water timer to control your application—don't exceed 3 hours per setting.
- Less frequent but heavier watering encourages a deeper root system that will better withstand dry weather. Watering every 3 or 4 days is usually enough.
- Check soil moisture condition by probing with a rod or screwdriver. When you cannot easily push the probe into the soil, it's time to irrigate.
- Mulch shrubs and other plants to better retain moisture in the upper 6 to 8 inches of soil. Spread composted leaves, dried lawn clippings, chopped bark, or plastic around the plants. Mulches should maintain a porous soil structure to permit water to soak into the soil. Mulching also controls weeds that compete with garden plants for water.
- Use black plastic for mulching rather than clear (clear plastic may overheat the soil, and it allows weed growth). If you do use clear plastic, cover it with an organic mulch like bark to eliminate sunlight. Don't mulch dry soil.
- Fertilize lightly to avoid stimulating new, lush growth, which increases plants' demand for water.
- Prune trees and shrubs lightly. Heavy pruning stimulates new, lush growth and increases plants' susceptibility to drought damage.
- If soil moisture is extremely limited, consider removing leaves—but carefully and selectively—so that you don't expose inner, shaded leaves to sunburn.

Garden

- Plant in a smooth surface instead of raised mounds, beds, or ditches.
- Incorporate enough organic matter in your garden soil to promote water penetration and retention.
- Maintain stringent weed control.
- Use mulches to control weeds and minimize moisture loss through evaporation.
- Use shallow cultivation for weed control. A scraping action with a scuffle hoe is best.
- Apply black plastic mulch along the row edge of warm-season plants like tomatoes, peppers, and melons to conserve moisture and help speed maturing.
- Apply water to plant root zones rather than between the rows.
- Thoroughly soak soil to a depth of 6 to 8 inches when watering. Use a screwdriver or rod probe to check depth of soil moisture.
- Water in the evening or at night to reduce evaporation losses.
- Avoid container planting of vegetables—they require much more water than in-ground gardening.

Yard and farmstead

- For general cleaning with hoses, use a high-pressure, low-volume, pistol-grip nozzle. Run the water only as you need it.
- Wash your car and house windows with a bucket, not a hose.
- Wash your car less often. Keep it waxed for easy washing.
- Clean driveways and sidewalks with a broom, not a hose.
- Keep float valves on automatic livestock and poultry waterers properly adjusted to avoid overflow.
- Partially cover stock-watering tanks to reduce evaporation, contamination, and plant growth. Animal productivity declines with inadequate or unclean water.
- Use alternative water sources for livestock, gardens, lawns. Collect surface water from small watersheds; develop intermittent streams and seepages; use ponds.
- Use cisterns or other water storage. A water source of only 1 gallon per minute provides 1,440 gallons in • Collect runoff from roofs and paved areas for garden use.

Be water wise

Water conservation is as much attitude as it is technology. Common sense and an active concern to save water can reduce consumption markedly without sacrificing cleanliness or interfering with life style. If you're concerned—if you think about water conservation—you'll find yourself practicing water-saving habits.

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