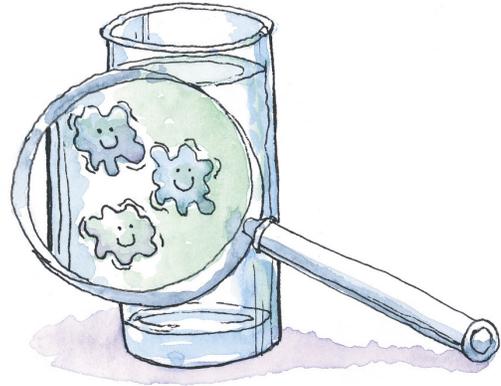


WATER EFFICIENCY FACTS & TIPS

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Water as a Valuable Resource

Earth is truly a water planet. Over 72% of the Earth's surface is covered with water, but 97% of the water on Earth is salty or otherwise unuseable. Another 2% is tied up in the ice caps, and 0.5% is more than half a mile below the surface. That leaves about 0.5% of all the water on Earth for our freshwater needs. Freshwater is truly a valuable resource that shouldn't be wasted.

The water that we use in our homes and yards is a carefully controlled and frequently tested product that travels through miles of pipeline before reaching your home. We treat the water to drinking water standards and then use the treated water for many different uses: 50% is used for lawns; 20% is used to flush toilets; 15% is used for showers, 7.5% is used for laundry and dishwashing; 2.5 % is lost to leaks; 4% is unaccounted for; and only 1% is actually used for human consumption.

As concerns for human health and the environment have increased, so have the federal and state standards for drinking water. Every year, more tests are required to ensure that the water meets drinking water standards. This has greatly increased the cost for providing drinking water to customers, who pay for the water whether it's used wisely or not. Using water efficiently and finding ways to conserve water not only saves this valuable resource, but it also saves you money!

Using water more efficiently has other benefits, too. For example, when you use less hot water, your natural gas or electric bill will be reduced. Efficient water use means less power needed to pump and treat the water. Less energy demand results in fewer harmful by-products from power plants. Water conservation also reduces the cost of developing new supplies and leaves more water in the rivers for fish and recreation.

Indoor Water Efficiency Tips

Conserve water because it is the right thing to do. Don't waste water just because someone else is footing the bill. Try to do one thing each day that will result in saving water, and remember, every drop counts, and every person can make a difference. Here are some water saving tips that can save water and money.

- *Check your toilet for leaks.* Put a few drops of food coloring in your toilet tank. If the coloring appears in the toilet bowl without flushing, you have a leak. Even a small leak can waste thousands of gallons of water a month. If the toilet flush handle frequently sticks in the flush position, letting water run constantly, replace or adjust it.
- *Consider changing to a low-flush toilet* which uses much less water *or put a displacement bag or plastic container in your older toilet tank.* These measures will save water on each flush.
- *Avoid flushing the toilet unnecessarily.* Dispose of tissues, insects and other such waste in the trash rather than the toilet.
- *Check faucets for leaks.* Repair dripping faucets by replacing washers. A leaky faucet can waste 100 gallons a day.
- *Check for hidden leaks in your water system.* Many homes have hidden water leaks. Read your 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.
- *Retrofit all wasteful household faucets by installing aerators with flow restrictors.*
- *Don't let water run while shaving or brushing your teeth.* You can save up to 3 gallons each time you shave or brush by turning the water off and then on again to rinse.
- *Take shorter showers.* You can save 5 - 10 gallons of water for every minute you cut back.
- *Replace your showerhead with a low-flow version.* These can save 20 or more gallons for every 5 minutes.
- *Use the minimum amount of water needed for a bath.* The initial burst of cold water can be warmed by adding hot water later, so don't waste it by allowing it to run down the drain.
- *Operate automatic dishwashers and clothes washers only when they are fully loaded* or properly set the water level for the size of load you are using.
- *If you wash dishes by hand, don't leave the water running for rinsing.*
- *Store drinking water in the refrigerator,* so you won't have to run the tap to cool it.
- *Do not use running water to thaw meat or other frozen foods.* Defrost food overnight in the refrigerator or by using the defrost setting on your microwave.
- *Kitchen sink disposals require lots of water to operate properly.* Start a compost pile as an alternate method of disposing food waste instead of using a garbage disposal.



- *Insulate your water pipes.* You'll get hot water faster and avoid wasting water while it heats up.
- *Use a bowl of water to clean fruits and vegetables* instead of letting water run over them.
- *Never put water down the drain when there may be another use for it,* such as watering a plant or garden. When waiting for water to heat or cool, save the water for other uses.

Outdoor Water Efficiency Tips

Create an awareness of the need for water conservation at home and at work. Share water conservation ideas with your friends and neighbors. A general rule of thumb is, "Please use what you need, but don't waste it."

- *Don't overwater your lawn.* Water your lawn and garden only when needed.
- *Water your grass and trees more heavily, but less often,* which will save water and build stronger root systems.
- *Water lawns during the early morning or late evening hours.* This reduces losses from evaporation.
- *Keep weeds down.* They rob your lawn and plants of nutrients and water.
- *Don't water your street, driveway or sidewalk.* Position your sprinklers carefully so the water lands on the plants and not the pavement.
- *Install sprinklers that are the most water-efficient for each use.* Regularly check sprinkler systems and timing devices to be sure they are operating properly. Turn off the automatic sprinkler system when it's raining.
- *Raise the lawn mower blade to at least three inches.* A lawn cut higher encourages grass roots to grow deeper, shades the root system, and holds soil moisture better.
- *Leave the clippings on the lawn as mulch* after you mow, unless they are thick and matted.
- *Thatch and aerate lawns regularly.* This will allow water to penetrate the soil more effectively.
- *Avoid overfertilizing your lawn.* Fertilizer increases your lawn's need for water, so follow instructions carefully during application.
- *Mulch to retain moisture in the soil.* Mulching also helps to control weeds.
- *Cultivate soil regularly in planted beds* so water can penetrate and allow root systems to develop.
- *Plant native and/or drought-tolerant plants.* See the section on *Xeriscape* for more ideas.



- *Don't hose down your driveway or sidewalk.* Use a broom to clean leaves and other debris from these areas.
- *Outfit your hose with a shut-off nozzle* which can be adjusted down to a fine spray so that water flows only as needed.
- *Use hose washers on outdoor spigots and hoses to eliminate leaks.* Check all hoses, connectors and spigots regularly.
- *Consider using a commercial car wash that recycles water.* If you wash your car at home, park it on the grass. Use soap and water from a bucket and a hose with a shut-off nozzle for rinsing.
- *Avoid the installation of ornamental water features* (such as fountains) unless the water is recycled. Locate them where there are minimal losses due to evaporation or wind.
- *If you have a swimming pool,* consider installing a cover that will help prevent evaporation losses. Install a water-saving pool filter that will save water during backflushing.

Water Reuse Opportunities

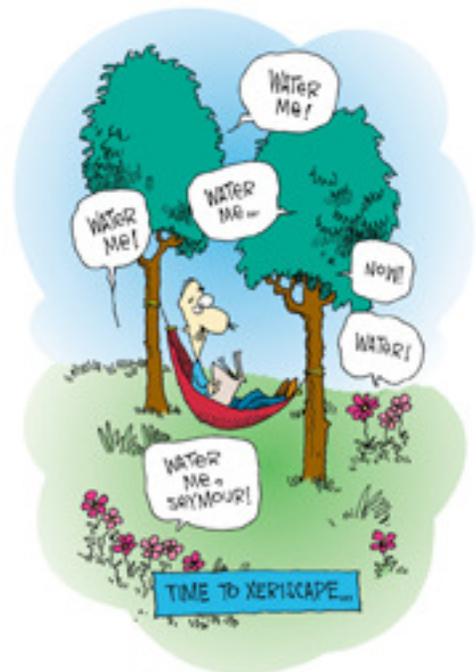
Make the most of water rather than letting it go down the drain or into the street. There are a number of opportunities every day to reuse water. Below are a few examples.

- *Wash your car on the lawn.*
- *Outdoors, direct water runoff from steeper areas* to lawn, flower beds, or other planted areas.
- *Indoors, use a bowl of water to clean fruits and vegetables* rather than running water over them. *Then reuse the water for house plants.*
- *Unused or slightly used indoor water is often suitable for outdoor plants or lawns.* When waiting for water to heat or cool, save the running water for other uses, such as watering a plant or garden, or cleaning.
- *If you are draining your swimming pool or ornamental fountain, use the water to water your lawn, garden, or flower beds.* Do not run the water into the street. Likewise, if you are backflushing your pool, you can reuse the wastewater.

Xeriscape

Xeriscape is water-wise gardening. It means choosing plants that conserve water and designing landscapes that protect the environment. The following pointers may prove helpful when designing an outdoor landscape that is both attractive and water-wise.

- *Plan before you plant.* Group plants with similar water, soil, and light needs together.
- *Choose plants that are drought-tolerant.* Local plant nurseries will gladly assist.



- *Limit traditional lawn areas.* Instead, select native grasses.
- *Prior to planting, mulch and improve soil* with compost and other organic matter to help hold moisture.
- *Water Wisely.* Use drip irrigation or soaker hoses wherever practical. Water deeply, but don't overwater.
- *Keep up the maintenance.* Control pests to keep plants healthy. Control weeds which compete with your plants for water, light and nutrients. Cultivate to prevent soil from packing around the roots of your plants.

Xeriscape utilizes plants that are both water-wise and attractive. All plants require regular water to get established, but once established, drought-tolerant plants thrive with little or no irrigation, even in full sunlight. Below is a list of drought-tolerant plants that was developed by local plant nurseries for eastern Oregon. Consider these plants the next time you plant.

Perennials & Ground Cover

Bearded Iris	Bergenia	Coreopsis
Creeping Broom	Cushion Spurge	Daylily
Evening Primrose	Gaillardia (blanketflower)	Kinnickinnick
Lamb's Ears	Lavender	Liatris(gayfeather)
Native Grasses	Oriental Poppies	Penstemon
Ornamental Grasses	Re-hot Poker	Rockcress
Russian Sage	Virginia Creeper	Yarrow
Wildflowers (some varieties)	Wintergreen (checkerberry)	

Annuals

Amaranth	California Poppy	Cosmos
Hybrid Petunias	Marigold	Nasturtium
Portulaca (moss rose)		

Shrubs & Trees

Austrian Black Pine	Big Sagebrush	Butterfly Brush
Chokecherry	Cotoneaster	Goldenchain Tree
Hackberry	Japanese Maple	Juniper
Lingonberry	Mugo Pine	Nootka Rose
Oak	Oregon Grape	Rabbitbrush
Smoke Tree	Smooth Sumac	Staghorn Sumac
Sweet Bay (Grecian Laurel)	Weeping White Pine	Western Redbud
Woodsii Rose		

For additional information on Xeriscape, visit the American Water Works Association sponsored website, www.waterwiser.org.

Protecting Surface Water and Groundwater Supplies

With so little drinkable freshwater, it is important that all citizens work to protect surface water and groundwater supplies so that they do not become contaminated. The actions we take each day in and around our homes have a profound effect on water quality. Small amounts of pollution from many different sources can significantly affect both surface water and groundwater. Yard maintenance, waste storage, car washing and maintenance, and pool cleaning are some of the activities that can contaminate water supplies. The following suggestions will help keep contaminants out of our surface water and groundwater supplies.



- Never dump new or used automotive fluids or solvents on the ground, on the street, in a storm drain or street gutter, or in a water body. Eventually, it can make its way to local surface waters or groundwater, including the water we drink.
- Recycle all oils, antifreeze, solvents and batteries. Many local car parts dealers and gas stations accept used oil, as does Pendleton Sanitary Service. Pendleton Sanitary Service will also accept used batteries.
- Use care in draining and collecting antifreeze to prevent accidental spills. Spilled antifreeze can contaminate surface water or groundwater and can be deadly to cats and dogs that ingest it.
- Perform your service activities on concrete or asphalt or over a plastic tarp to make spill clean-up easier. Keep a bag of kitty litter on hand to absorb spills.
- If you are doing body work outside, be sure to use a tarp to catch material resulting from grinding, sanding and painting. Dispose of this waste by double bagging in plastic and placing in your garbage.
- Avoid putting hazardous or non-decomposable waste in your compost pile. These materials can migrate and contaminate surface waters or groundwater.
- Follow the manufacturer's directions exactly for mixing and applying herbicides, fungicides, and insecticides, and use them sparingly.

- Follow the manufacturer's directions when applying fertilizers. More is not better, either for your lawn or for local water bodies.
- Make sure all fertilizers, pesticides, herbicides, and fungicides are stored in a covered location.
- Practice organic gardening and virtually eliminate the need to use pesticides and fertilizers.
- When choosing household products, choose less toxic products whenever possible.
- Dispose of hazardous materials and their containers properly. Never dump products labeled as poisonous, corrosive, caustic, flammable, inflammable, volatile, explosive danger, warning, caution or dangerous outdoors, into a storm drain, a sink, toilet or drain, or onto the ground. These products can migrate and contaminate surface water or groundwater.

Water Shortage Emergencies

If there are factors and circumstances that result in water demands exceeding the capacity of the City of Pendleton's water sources, the City has made provisions to provide for curtailment of water consumption through Ordinance No. 3514. The Ordinance allows that the **first step** prior to any mandatory curtailment is to advise customers of the water situation and ask for **voluntary reduction** in water consumption.

If the voluntary reduction program is unsuccessful, the City Manager will implement mandatory curtailment, as necessary. Ordinance No. 3514 includes penalties for violations of the Ordinance.

During the **first level of curtailment**, nonessential residential, commercial, institutional, and industrial water uses will be prohibited. Prohibited residential activities include: washing of motorized vehicles except at commercial facilities; washing down of permanent exterior hard surfaces, such as parking lots, driveways, and buildings; using water to fill or refill any indoor or outdoor private swimming pool or jacuzzi pool; and addition of water in a fountain or pond for aesthetic or scenic purposes. Prohibited commercial, institutional, or industrial uses include: using water to serve a customer in a restaurant unless requested by the customer; using water for scenic and recreational ponds and lakes; using water from hydrants for any purpose other than fire fighting; using water to irrigate schools, parks, cemeteries, and other recreation facilities; using water for dust control; and using water for other nonessential purposes.

During the **second level of curtailment**, additional restrictions are added to the first level. The second level sets strict daily usage allotments for residents and reduces other nonessential uses to 75% of normal historical use.

For additional information concerning the City's response to a water shortage emergency, refer to City Ordinance No. 3514.

Water Trivia

The following interesting tidbits of water wisdom are from a number of different sources. Hopefully, you will find them entertaining.



- **For the price of a 12-ounce can of soda—about 75 cents—City of Pendleton delivers 750 gallons of fresh, clean drinking water to your home, and it’s available 24 hours a day.**
- The human body is about 75% water.
- Human blood is 83% water. Human bones are 25% water.
- You can survive about a month without food but only 5–7 days without water.
- The average American uses 140–170 gallons of water per day.
- An average family of four uses 881 gallons of water per week just by flushing the toilet.
- If everyone in the U.S. flushed the toilet just one less time per day, we could save a lake-ful of water about a mile long, a mile wide, and 4 feet deep every day.
- Running the water during your shave or while brushing your teeth wastes more than what one person needs for drinking water for a week.
- The people in the United States use as much as 700,000,000,000 (700 billion) gallons of water each day.
- The population and age of a household contribute significantly to its water use patterns. The presence of teenagers tends to increase a household’s water usage. The presence of adults working full-time decreases water usage.
- People need to drink 2–3 quarts of water per day, which is 8–10 glasses.
- 75% of Americans are chronically dehydrated. Pop is not a substitute.
- Even mild dehydration will slow down one’s metabolism.
- Lack of water is the #1 trigger of daytime fatigue.
- A horse needs 10-12 gallons of water per day.
- Beef cattle need 8-15 gallons of water per day.
- Dairy cattle need 20 gallons of water per day.
- Every glass of water brought to your table in a restaurant requires another two glasses of water to wash and rinse the glass.
- It takes 120 gallons of water to produce one egg.
- It takes 1500 gallons of water to make one barrel of beer.
- Growing a day’s food for an adult takes 1700 gallons of water.
- Over 42,000 gallons of water are needed to grow and prepare the food for a typical Thanksgiving dinner for eight in the United States.
- It requires more than 39,000 gallons of water to manufacture a new car.
- The only water we will ever have is what we have right now.
- In a one hundred year period, a water molecule spends 98 years in the ocean, 20 months as ice, about 2 weeks in lakes and rivers, and less than a week in the atmosphere.
- Spitting in the ocean makes very little difference to world hydrologic balance. However, spitting in someone’s 16-oz mug may cause you to lose your balance!

Where to Obtain More Information

If you would like more information about the City of Pendleton's water or would like to receive a free Water Conservation packet, contact Karen King at Karen.King@ci.pendleton.or.us or at 541-966-0249.

For water conservation information and up-to-the-minute drought information for Oregon, contact the Oregon Water Resources Department website at www.wrd.state.or.us.

American Water Works Association (AWWA) has water conservation information at www.waterwiser.org.

The U.S. Environmental Protection Agency (EPA) has water conservation information at www.epa.gov/watersense.

One water conservation site that is fun to visit is www.wateruseitwisely.com.

From the state of Washington, the following sites offer water conservation information:

www.ci.kennewick.wa.us/Municipal_Services/Water_Conservation.asp

www.doh.wa.gov/ehp/dw/Programs/wue.htm