

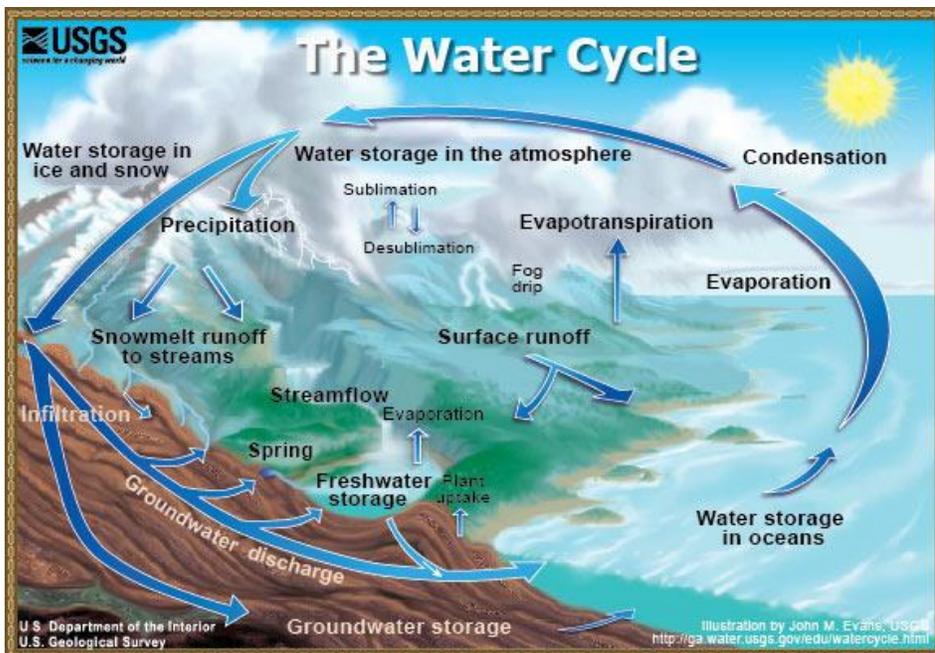
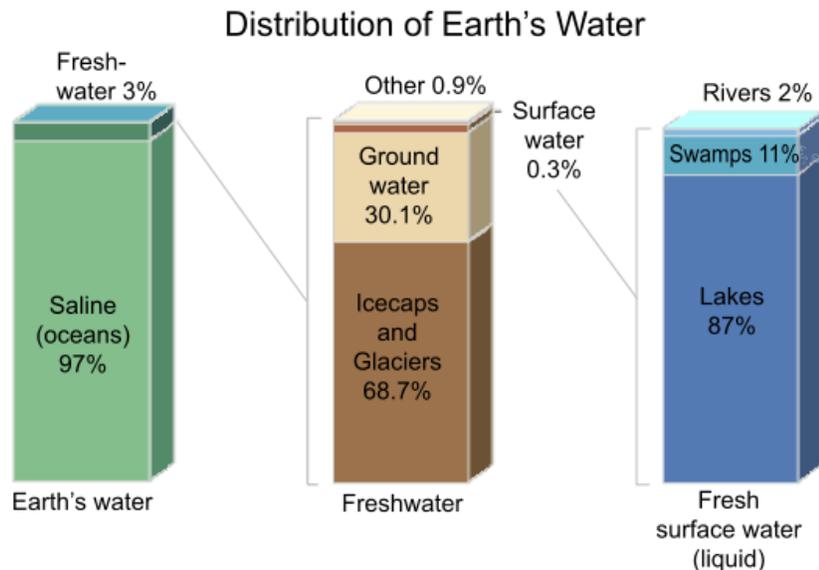
SPOTLIGHT ON... WATER CYCLE

Water Conservation

Summer is here, and this is the time of year that we Puget Sounders use the most water on our properties. Many of us know this simply by looking at our water bills. This newsletter provides information on Puget Sound water resources and many ways to save water on your property. Enjoy!

Fresh Water: The Hydrologic Cycle

Water: We drink it, swim in it, ski or skate on it and have figured out how to bring it into nearly all our homes and businesses. We appreciate the mood it sets as weather—rain or snowfall. The human body is composed of 60% water, with it comprising 60% of the brain and 70% of the lungs (USGS, 2010). About 97% of water is in the oceans; only 3% is fresh water. Of the fresh water, 70% is stored in glaciers, and 30% is available for human use in groundwater reserves, streams and lakes.



In the Pacific Northwest, we have a seeming abundance of water as snow falls on mountain tops, melts into freshets for salmon spawning streams, and flows to Puget Sound through rivers and streams. These actions are part of the Hydrologic Cycle, often called the Water Cycle. The Hydrologic Cycle circulates water through the Earth and Atmosphere. This cycle has five main steps that move the water from the atmosphere to the earth and back again.

Evaporation occurs when water changes from a liquid to a gas, such as water evaporating from a pond. **Transpiration** is the process in which water is “sweated out of” plant leaves and tree canopies. **Condensation** happens when water vapor turns into a liquid at a difference in air and dew point temperatures.

Precipitation takes the forms of rain, snow, sleet, and ice, and forms when condensation particles are too large to linger in the air.

Runoff occurs when precipitation saturates the ground and the remaining topical water flows towards another body of water—a sea, river, lake, or ocean (National Weather Service, 2010).

Check out the USGS website for more information on the hydrologic cycle: <http://ga.water.usgs.gov/edu/watercyclesummary.html>.

Why Conserve Water?

Most people are surprised to learn average annual rainfall in the Northwest is seven feet (EWA, 1996). Two thirds of this rainfall occurs from October through March, when storms pass through the area (University of Washington, 2010). This is the time when considerable runoff passes through people’s yard and streets to eventually inundate our surface waters and then Puget Sound. Shoreline residents are particularly aware of the wet season because this is when bluff soils become super-saturated and slides more commonly occur. During April – September, our region becomes relatively dry.

In a place where water is seemingly plentiful, why would one need to consider water conservation? Water conservation is important for several reasons:

- Fresh water is a finite resource. We are still using water that was on or around the earth during the age of dinosaurs.
- Demand for water increases as population grows. With overuse, we may reduce the availability of potable fresh water for our children and grandchildren.
- Reducing water use saves energy which saves money and prevents pollution.
- Our resident salmon return to spawn in streams in August – October, often when our streams are at their lowest. Even in Western Washington, some of our urban streams get too low (and too hot) for salmon to safely return and spawn.
- Water is a valuable commodity that may be in international demand in future decades as other nations undergo drought or other calamities (World Water Council, 2010).

Tips on Conserving Rainwater

There are many simple ways to save water on your property. The following is a short list. If you have done other things to conserve water, please share them with your Coordinator to make available to others.

Inside the House

Save water in the bathroom, kitchen, and laundry room.

1. Turn the faucet off when brushing your teeth.
2. Install a low flow shower head then cut your shower time by one minute to save about as much as 750 gallons per month.
3. Install low flow aerators on all water faucets to save 150 gallons per faucet per month.



4. Save up to 1,000 gallons a month by operating your clothes washer and dishwasher only when they are full.
5. Fill a basin or sink with water to clean your razor while shaving. One typical shaving (with the water running) can use approximately 3-5 gallons of water. This is one of those activities that doesn't use a lot of water each time, but in a year, it can add up to 200+ gallons!
6. Take advantage of a municipal rebate program and change out washing machines, dishwashers and toilets. Check with your water provider to see what rebates they have to offer. Snohomish Public Utility District and Puget Sound Energy both have rebates available.
7. Forego the garbage disposal. Collect food waste with sink sieves or strainers and save on the cost of running water to use the disposal.

Outside the House

Conserve water in the yard and garden!

1. Sweep rubbish from your drive instead of use a hose or power washer. An average hose discharges 10 gallons of water a minute.
 2. Applying mulch to your garden beds help to retain soil moisture, making the whatever rainwater or irrigation you provide and also acting as a sponge to water than soil alone would. To learn more about choosing mulch for water call your local WSU Master Gardener office or check out <http://gardening.wsu.edu/compost-and-mulch/>
3. Connect one or more Rain Barrels to your downspouts and use the collected rainwater for irrigating non-edible plants. Roof runoff from one summer storm will often fill one or more 50 gallon barrels. If you want to go further, consider installing a cistern or larger storage container.
4. Use soaker hoses or drip irrigation to water your garden. Water is more likely to get to plant roots rather than being evaporated away or being diverted by leaves. If your irrigation system is already established, water early morning or evening to reduce evaporation.



References and Resources

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