

WATER CONSERVATION IDEAS THAT PROTECT OUR WATERSHEDS

Why is Water Conservation Important for our Watersheds?

Think about this, the average family of four uses approximately **400 gallons of water per day**. Europeans, on the other hand, use five times less water than Americans. Why is that? Europeans have realized that water is a precious resource that needs to be conserved.

The protection and preservation of our water resources and the reduction and wise use of water is termed **water conservation**. Growing populations and ongoing droughts are squeezing our water resources dry, causing destruction to natural habitats and impacting our everyday use of water. We have no choice but to pay more attention to how we use water, and how we may be wasting it. We must bridge the gap between our understanding of how important water is to our survival and what we can do to ensure that we have an adequate supply of clean water for generations to come.



Traditional water management device



Humans are not the only ones depending on enough water in the future

In 1900, each of the six million people living in Pennsylvania used about 5 gallons of water per day. Since then, our population has doubled to almost 12 million people and our water consumption has increased to an average of 62 gallons per day. Part of this 900% increase in water use is due to the many modern water-using conveniences in our homes.

Our water resources are not unlimited. They are affected every day by precipitation, population growth, economic development and pollution. Because water is a resource that must be shared, competition for its use is an ever-increasing management problem. A cost-effective way to protect our water resources is through sound water resources management and conservation.

There are a number of ways to save water but they all start with YOU!

How can I Reduce my water Usage in...?

The Bathroom

- Check for toilet leaks by adding food coloring to the tank. If the toilet is leaking, color will appear in the bowl within 30 minutes. Purchasing a low-flow toilet can reduce indoor water use by 20%.
- Avoid unnecessary flushing. Dispose of tissues, insects, and other similar waste in the trash rather than the toilet.
- You can save 2 gallons of water a day by turning off the tap while brushing your teeth, washing your face, or shaving.
- If your shower can fill a one-gallon bucket in less than 20 seconds, replace it with an ultra low-flow version water efficient showerhead, which could save you up to 205 gallons per minute.
- Time your shower to keep it under 5 minutes. You'll save up to 1,000 gallons a month.
- Use the minimum amount of water needed for a bath by closing the drain first and filling the tub only 1/3 full. The initial burst of cold water can be warmed by adding hot water later.

The Laundry

- The amount of water your washing machine uses is adjustable; adjust according to load size. You could save 1,000 gallons a month. Remember full loads are most beneficial.
- Look for water saving washing machines. Horizontal loading machines use less water than top-loading machines.

How can I Reduce my water Usage in...?

The Kitchen

- Minimize the use of kitchen sink disposals (garbage disposals); they require a lot of water to operate. Start a compost pile as an alternate method of disposing of food waste.
- Store drinking water in the refrigerator rather than letting the tap run to get a cool glass of water.
- Do not use running water to thaw meat or other frozen foods. Defrost them overnight in the refrigerator, or by using the defrost setting on your microwave.
- When washing dishes by hand, fill one sink or basin with soapy water. Quickly rinse under a slow stream of water from the faucet. Use the dirty water to run your sink disposal if necessary.
- Do not pre-rinse dishes prior to loading in a dishwasher. Pre-rinsing is unnecessary. Also, only run the dishwasher when you have a full load.
- Purchase dishwashers with water and energy star saving options.

Did You Know...

There is the same amount of water on earth as there was when the earth was formed. The water that came from your faucet could contain molecules that dinosaurs drank.

Other areas of the House

- Never put water down the drain when there may be another use for it such as watering a plant or garden, or cleaning.
- Reuse fish tank water on your household or garden plants—it makes nice fertilizer.
- Verify that your home is leak free, because 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.
- Repair dripping faucets by replacing washers. If your faucet is dripping at the rate of one drop per second, you can expect to waste 2,700 gallons per year.
- Check you pump. If you have a well at your home, listen to see if the pump turns on and off while the water is not in use. If it does, you have a leak.

My Outdoor Activities

- Don't overwater your lawn. As a general rule, lawns only need watering every 5-7 days in the summer. A hearty rain eliminates the need for watering for as long as two weeks.
- Buy a rain gauge to determine how much rain or irrigation your yard has received.
- Water lawns during the early morning hours when temperatures and wind speed are the lowest. This reduces losses from evaporation. Don't water your street, driveway, or sidewalk. Position your sprinklers so that your water lands on the lawn and shrubs and not the paved areas.
- Do not leave sprinklers or hoses unattended. Your garden hose can pour out 600 gallons or more in only a few hours. Use a kitchen timer to remind yourself to turn the water off. Remember, the amount of water used by a sprinkler in one hour is equal to the daily water needs of a family of four.
- Keep your lawn mower blade at least three inches high. A lawn cut higher encourages grass roots to grow deeper, shades the root system, and holds soil moisture better than closely-clipped lawns.
- Avoid over fertilizing your lawn. The application of fertilizers increases the need for water and is a source of water pollution.
- Mulch to retain moisture in the soil. Mulching helps control weeds that compete with plants for water.
- Avoid hosing down your driveway or sidewalk; use a broom instead and save hundreds of gallons of drinkable water.
- Consider using a commercial car wash that recycles water. If you wash your own car, park it on the grass, use a bucket with soapy water, turn off the water while soaping, and use a hose with a pressure nozzle to decrease rinsing time.

Development with installed water conservation practices

Did You Know...

In a 100-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.



What are some Water Conservation Practices I can Install?

Green Roofs

A green roof is a roof that is partially or completely covered with vegetation and soil and planted over a waterproofing membrane. Benefits of a green roof include; reduced stormwater runoff (studies show green roofs retain up to a 75% of rainwater), reduced heating and cooling loads on a building (shown to reduce heating/cooling cost by 26%), filtering pollutants and carbon dioxide out of the air, increased wildlife habitat in built-up areas, and increased roof life spans. Obviously green roofs are not for every building but where appropriate they are worth checking out.



Above: Green roof installed on a flat roof



Left: Up close view of a colorful green roof plant species



Rain Barrels

A rain barrel is used to catch water flowing from your roof gutters. They reduce the amount of stormwater runoff by collecting roof runoff and storing the water for future use. Consider this fact; for every inch of rain that falls on a square foot of your roof, you can receive just over a half gallon of water.

If you have a 10' x 10' roof and you collect rainwater off it during a one inch storm event you could collect **60 gallons of water!** The benefits of even a small rain barrel setup are extraordinary; they are a cost-effective alternate to using tap water for lawn and garden watering, they reduce stormwater runoff to streams and storm sewers, they are applicable to all types of sites, they take advantage of an existing source of fresh rainwater, and they are inexpensive to install and maintain.

Direct downspouts to rain barrels for a constant water source

Permeable Pavements

Permeable or Porous Pavement is a fairly new and innovated way to reduce the amount of runoff from paved areas. Permeable pavement is specially designed to allow rainwater to soak into the pavement through small pores in the pavement material. This allows for groundwater recharge and thus reduces the amount of runoff. These types of porous materials do not work everywhere but when appropriate are a great alternative to normal concrete or asphalt. You can also use porous materials for walkways and patios to keep water in your yard and prevent wasteful runoff around your property.



Pavement blocks allow precipitation to infiltrate into groundwater supplies rather than runoff



Example of Permeable Concrete

Did You Know...

Groundwater can take a human lifetime just to traverse a mile.

What are some Water Conservation Practices I can Install?

Rain Gardens

Rain Gardens are small depressions created and planted with native plant life to tolerate stormwater runoff and drought conditions. Parking lots, downspouts, and other sources of runoff can be directed into these areas to enhance groundwater recharge and pollutant removal. Other benefits of rain gardens include; protects rivers and streams, improves water quality, valuable wildlife habitat (birds & butterflies), enhances the beauty of your yard and neighborhood, protects communities from flooding and drainage problems, and reduces the need for costly municipal stormwater treatment structures. Try directing downspouts and other runoff towards shrubs and trees in a rain garden type setting.



Rain Garden example in parking lot

Rain Garden Example where downspouts are directed to recharge areas with native species



For more information check out; www.lancasterwatersheds.org

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