

## WATER CONSERVATION FAQs

Water is essential to all living things, but the lack of water is a growing concern across the globe. Water scarcity impacts at least 2.8 billion people around the world for at least one month a year, and the ability to access water is not always guaranteed<sup>1</sup>. As a result, many utilities have implemented water restrictions within the United States to reduce the occurrence of water shortages. These policies either voluntarily or mandatorily ask individuals to reduce water usage on a daily, weekly, or monthly basis.

In order to conserve, protect, and use water resources within the State, it is necessary to control the appropriation or use of surface and underground waters<sup>2</sup>. As such, the Maryland Department of the Environment issues Water Appropriations Permits for the withdraw of ground water. The Metropolitan Commission (*MetCom*) has Appropriations Permits for every public water system. The Appropriation Permits are effective for a ten (10) year period and have limits on the amount of water that is allowed to be withdrawn from each well. These allocations are limited in two ways; a daily average (*based on a yearly average*) and daily maximum average (*based on the month of maximum use*).

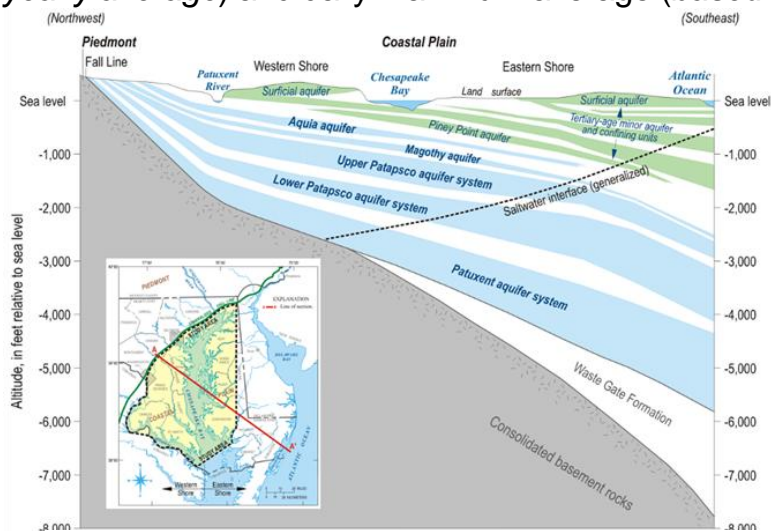


Photo. Cross sectional diagram showing fresh water aquifers within the Atlantic Coastal Plain of Maryland. (photo credit, Maryland Geological Survey)

**Where does my water come from?** All public water systems that the Commission operates draws water from wells of various size (6" to 18") and depths (350' to 1,020'). This fresh water is pulled from the Aquifer and Upper Patapsco aquifers throughout the County (see photo @ left). Ground water in St. Mary's County is derived from rain and snow that falls

<sup>1</sup> The Water Project, 2016

<sup>2</sup> Environment Article, Title 5, §5-203 and §5-501 through §5-516 and §5-5B-01 through §5-5B-05, Annotated Code of Maryland; COMAR 26.17.06 and COMAR 26.17.07.

within the outcrop area of the aquifers (*that is, the area where the aquifers reach the surface*). Infiltrating rain water and snowmelt percolates downward through the soil zone until it reaches the water table (*the level below which the ground is saturated with water*). The saturated zone below the water table forms the water-table (*or surficial*) aquifer. Water in the water-table aquifer flows slowly towards areas of discharge (*streams, rivers, and ponds*) and, to a lesser extent, to the deep confined aquifer systems. Ground water can reside in the aquifer system for as little as a few days to more than 1 million years.



For more information on aquifers, and how they work, please visit [Groundwater \(md.gov\)](http://Groundwater.md.gov)



**Why conserve water?** Groundwater is the sole source of fresh drinking water in St. Mary's County. Because it takes so long for the aquifers to recharge, clean fresh water from these sources are a limited resource. Think about it this way: the water that you use to water your lawn could have fallen as precipitation thousands (*or even millions*) of years ago.

Many believe that our water supply is infinite. However, our supply is quite the opposite. Conserving water means using our water supply wisely and being responsible. As every individual depends on water for livelihood, we must learn how to keep our limited supply of water pure and free from pollution and protected for the generations to come.

For more information and how you can help conserve, please visit [Water Conservation \(maryland.gov\)](http://WaterConservation.maryland.gov)

**What is MetCom doing to conserve water?** In many respects, water conservation begins on the supply side. We repair water leaks as soon as they are identified in most cases, we also have a number of capital improvement projects planned and underway to help improve the integrity of our water distribution system.

MetCom has implemented a water accounting system that helps track water throughout the network by utilizing water meters which help us identify areas that may need attention; in particular, usage of large or excessive volumes of water. The sources of excessive use includes, but is not limited to watermain leaks, internal plumbing problems (*ie. running toilets*), and lawn irrigation. Unmetered

water may be authorized for such utility purposes (*such as operation and maintenance*) and for certain public uses (*such as fire hydrant maintenance or fire suppression purposes*). Unmetered water also includes unauthorized uses, as well as losses from accounting errors, and small leaks in the water distribution system.

**Are there penalties for using excessive water?** MetCom has policies in place that establish notification and enforcement procedures to limit excessive water use during droughts, natural disasters, regulatory action(s), planned or unplanned potable water shortages, when deemed a waste of water; or when customers disregard the State or MetCom's mandate to conserve water in accordance with the respective State Water Appropriations Permits. These procedures are intended to help protect the public water supply and MetCom reserves the right to implement further mandatory rules and regulations to reduce the amount of water used in the County.

**What can I do to help protect our water supply?** Be aware of how much water you use! Awareness is the first step in conservation. The average Maryland citizen person uses almost 100 gallons of water per person per day on various activities. To gauge how much water your household is using conduct a household water audit using the Maryland Department of the Environment guidelines visit [CONDUCTING A HOUSEHOLD WATER AUDIT \(maryland.gov\)](https://www.maryland.gov/conducting-a-household-water-audit).

**What is MetCom doing to protect our water supply?** In 2021, MetCom completed a risk and resilience assessment and emergency response plan for all its public water supply systems to evaluate risks to and responses of the system from natural hazards and malevolent acts (*i.e., all hazards*); resilience of water facility infrastructure (*including pipes, physical barriers, water sources / collection, treatment, storage / distribution, and electronic, computer(cybersecurity) and other automated systems*); monitoring practices; financial infrastructure and systems (*ie. billing systems*); chemical storage and handling; operation and maintenance.

**How can I conserve water when irrigating my lawn?** Wise watering practices not only conserve water but help to build a stronger, healthier lawn. Constant over watering (*see photo @ left*) or frequent underwatering promotes shallow roots, a sure way to damage your lawn during times of stress.

Water your lawn at the first signs of moisture stress. The easiest way to tell if moisture stress is present is to look for



*Photo. Wise watering practices not only conserve water but help to build a stronger, healthier lawn.*

footprints on your lawn. When you can see footprints on your lawn (*meaning your lawn doesn't spring back up after you have walked across it*) water your lawn. Do not water again until you see footprints again. Water when the sun will cause the least evaporation. Watering in the early morning is best. If you start to see irrigation water ponding or washing off your lawn as runoff, either back off your water pressure until the runoff stops or shut off the water and resume the next morning. For more information on water conservation tips for irrigating lawns, please visit [Water Conservation Tips for Irrigating Lawns \(psu.edu\)](http://psu.edu)

**How can I conserve water when Washing vehicles?** Water conservation begins at home. Taking a few, simple steps when washing your boat or vehicle (including automobiles, trucks, motorcycles, and trailers) can help to conserve water and protect the quality of nearby water bodies.

Wash vehicles using a bucket with soapy water. Soap and water usually work well. If you need a special cleaning product for vehicles, read the label carefully and be sure to use a non-toxic, biodegradable detergent. Do not use a product that says Poison, Harmful, or Danger.

Be sure to turn the running water off while you are washing a vehicle. Rinse vehicles with a hose equipped with an automatic shutoff nozzle.

A standard garden hose uses about 10 gallons per minute. This means you use 100 gallons of water with only a 10-minute car wash. When you use an automatic shutoff nozzle on your hose, water does not flow continuously while you wash your vehicle, saving as much as 70 gallons per wash. Using a power washer can conserve even more water; power washers use, on average, about 2 to 5 gallons per minute, with a potential savings of up to 80 gallons over using a standard house without an automatic shutoff nozzle.

Consider going to a commercial car wash. If you cannot wash your vehicle in an area that drains to the lawn or a gravel area, take it to a commercial spray booth or car wash. A properly designed car wash is connected to a sanitary sewer that carries the dirty water to a wastewater treatment plant.

There are three types of commercial car washes: self-serve car washes, in-bay automatic car washes, and conveyor car washes.

The following table provides water use information by car wash type. The data represents the total water used, and does not take into account whether or not a car wash recycles its water:

Average Water Consumption (gallons per vehicle) by Car Wash Type			
Car Washing Type	International Car Wash Association <sup>1</sup>	Mid-Atlantic Carwash Association <sup>2</sup>	WaterWiser <sup>3</sup>
Home wash (with automatic shut-off nozzle)	--	--	30
Home wash <sup>4</sup> (without automatic shutoff nozzle)	--	--	100
Self Serve	15	15	--
In-Bay	50-60	35	65-100
Conveyor	66-85	60	30-50

<sup>1</sup> Brown, Chris. 2002. "Water Use in the Professional Car Wash Industry& Car Wash Association." p. 47.

<sup>2</sup> Mid-Atlantic Carwash Association, Inc. Information provided to the Maryland Water Conservation Advisory Committee. June 2000.

<sup>3</sup> WaterWiser [[http://www.waterwiser.org/watch/wiser\\_watch.cfm?ArticleID=96](http://www.waterwiser.org/watch/wiser_watch.cfm?ArticleID=96)]. February 2003.

<sup>4</sup> Assumes a 15 minute car wash with flow of 10 gpm.

Many newer conveyor car washes and some newer in-bay car washes clean and recycle water in their car wash bays. Car washes that recycle their water use much less water than standard car washes. The quantity of water recycled varies from 10 percent to 80 percent of the water used. Check to ensure that the car wash you choose recycles its water.

### How can I conserve water if I have a swimming pool?

- Limit the frequency of pool refilling
- Cover the pool
  - The average uncovered pool loses one inch of water per week
  - Covering the pool can save 95% of water lost to evaporation
  - Conserves heat (which can save money for heating costs)
  - Prevents accidents
  - Reduces cleaning
- Lower the pool's water to reduce losses from splashing
  - It's recommended to keep the water level one inch above the bottom of the tile
- Lower the pool temperature

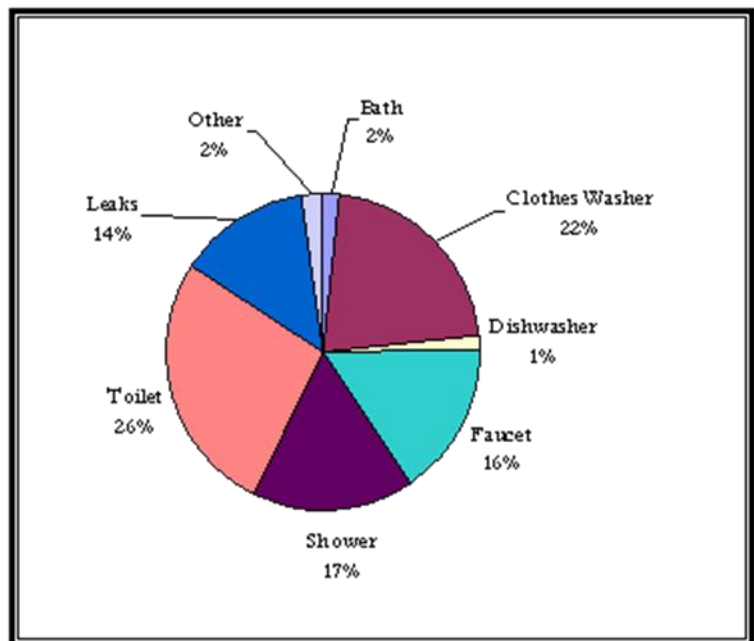
- Reducing the temperature reduces water loss to evaporation, and is particularly important when the pool is not being used
- Backwash only when necessary
- Check regularly for cracks and leaks
- Keep the pool and filters clean to reduce frequency of filter backwashing
- Run filter backwash onto lawns and shrubs or collect for reuse
- Ensure that water is absorbed before it leaves your property and avoid allowing runoff to enter adjacent properties
- If acid has been used to clean the pool, the water should be neutralized

**How can I conserve water inside my home?** Marylanders have access to an abundance of water much of the time, so the importance of clean water is often overlooked. For most of us, water use is a habit. We are accustomed to having water available at the twist of a faucet. We usually do not think about how much water we use. Average Daily Water Use

Be aware of how much water you use! Awareness is the first step in conservation. The average Maryland citizen person uses almost **100** gallons of water per person per day on the following activities:

- Toilet
- Bathing and hygiene
- Laundry
- Kitchen
- Housekeeping
- Outdoor Activities

Indoor water use by fixture is shown in the graph (*at right*):



Indoor Per Capita Use by Fixture Source: AWWA, 1999

You can determine your average daily water use by conducting a [Household Water Audit](#).

**Water Savings.** The amount of savings depends on current water consumption habits, water, sewer and energy costs, current flow rates of fixtures and flush volumes of toilets, system pressure, and the amount of water leakage through fittings and toilets. Water can be conserved by making improvements in the home or by modifying behavior.

**Retrofit or Replace Water Fixtures.** Water-saving devices are economical and permanent. Low-flow showerheads and faucet aerators save valuable water and energy used to heat water without requiring changes in personal water use habits. The following chart highlights how much water can be conserved by installing water-saving equipment in place of conventional plumbing fixtures, fittings and appliances.

Conventional Fixture/Appliance	Water Use (gallons)	Water Saving Fixture/Appliance	Water Use (gallons)	Water Savings (gallons)
Vintage Toilet*	4 - 6 per flush	Low Consumption Toilet***	1.6 per flush	2.4 - 4.4 per flush
Conventional Toilet**	3.5 per flush	Low Consumption Toilet***	1.6 per flush	1.9 gal/flush
Conventional Showerhead*	3-10 per min	Low-Flow Showerhead	2-2.5 per min	0.5 - 8 per min
Faucet Aerator*	3-6 per min	Flow Regulating Aerator	0.5-2.5 per min.	0.5- 5.5 per min
Top-Loading Washer	40-55 per load	Front-Loading Washer	22-25 per load	15 - 33 per load

\* Manufactured before 1978

\*\* Manufactured from 1978 to 1993

\*\*\* Manufactured since January 1, 1994

**Repair All Leaks.** A dripping faucet is more than annoying...it is expensive. Even small leaks can waste significant amounts of water. Hot water leaks are a waste of water and of the energy used to heat the water.

Leaks inside the toilet can waste up to 200 gallons of water a day. Toilet leaks can be detected by adding a few drops of food coloring to water in the toilet tank. If the colored water appears in the bowl, the toilet is leaking.

### Save Water In The Bathroom

- When constructing a new home or remodeling your bathroom, install low consumption (1.6 gal/flush) toilets. [Save up to 5 gallons per minute](#)
- Fix leaky faucets. [Save up to 2,700 gallons per year.](#)
- Place a weighted plastic one-half gallon jug or a toilet dam in the tanks of conventional toilets to displace and save water with each flush.
- Install low-flow aerators and showerheads. They are inexpensive, easy to install, and save water and energy.
- Do not let the faucet flow while brushing your teeth or shaving. Use a glass of water for rinsing teeth. [Save 1-5 gallons per minute](#)
- Take showers instead of tub baths. Consider bathing small children together.
- Take shorter showers. [Save 2-5 gallons for every minute you cut back](#)
- If your shower has a single-handle control or shut off valve, turn off the flow while soaping or shampooing.
- Fix leaking and running toilets. [Save 30-500 gallons per day](#)
- Leaking diverter valves (valves which divert water from the tub spout to the showerhead) should be replaced.

### Save Water In The Kitchen And Laundry Room

- Refrigerate a pitcher of drinking water instead of letting a faucet flow until the water is cold enough to drink.
- Use a dishpan or plug the sink for washing and rinsing dishes. Install a low-flow aerator on all faucets.
- Do not pre-rinse dishes prior to loading in a dishwasher. Pre-rinsing is an unnecessary and wasteful use of water.
- Run only full loads of dishes in the dishwasher. [Save up to 15 gallons per load](#)
- Operate the washing machine and dishwasher only when they are fully loaded.
- Run only full loads of laundry in the washing machine. [Save up to 40 gallons for every load you do not run](#)
- Use the proper water level or load size selection on the washing machine.
- When purchasing a washing machine or dishwasher, consider water consumption as well as energy efficiency. Most manufacturers now provide this information to consumers.

**Save Water Outside The Home.** Watering of lawns and gardens can double normal household water use during the hot, dry summer months. At standard household water pressures, a garden hose will discharge up to 10 gallons of water per minute. To apply an inch of water to 1,000 square feet of lawn or garden requires close to 1,000 gallons of water.

Watering should be limited to gardens, and newly planted lawns and landscaped areas. Established lawns and landscape plantings will usually survive without

watering. Inadequate watering encourages shallow root growth and increases the risk of mortality. When water is scarce, your community or individual water supply should be reserved for your most essential needs.

- Equip your hose with an automatic shut-off nozzle.
- Use a broom, not a hose, to clean driveways, steps and sidewalks.
- Water your garden during the coolest part of the day. Do not water on windy days.
- Sweep, don't hose your driveway
- Use mulch around shrubs and garden plants to reduce evaporation from the soil surface and cut down on weed growth.

**There are so many ways to save water!**

### **Questions?**

If you have any questions or concerns regarding water usage or conservation efforts, please call the Metropolitan Commissions Operations Department at 301.737.7400 or email us at [water@metcom.org](mailto:water@metcom.org)