

# City of Monroe

## Water Conservation & Efficiency

Conservation versus Efficiency  
Tips to Conserve Water  
EPA Water Conservation Efforts  
City of Monroe Water  
Conserve for **FREE**



The U.S. population has doubled over the past 50 years while our thirst for water has tripled. With at least 40 states anticipating water shortages by 2024, conservation is more important than ever, and the world is looking any and all ways to save water. The great news is that with just a few simple changes, you can reduce your water footprint and help save for everyone.

If we fail to conserve water, eventually an adequate, healthy water supply may not be available. Lack of water can lead to dramatic consequences. Water conservation can help prevent local and global problems such as rising costs, reduced food supplies, health hazards, and conflict.

## WHAT IS WATER CONSERVATION AND EFFICIENCY?

Many factors affect how much water people use in a day, including where they live, whether they live in a house or an apartment, and how they function in their day-to-day lives. While water might seem plentiful to meet people's individual needs, there are many others who share in that water use, thus creating an overall water availability concern. The major concern is that droughts and water shortages can happen anywhere in the country.

Officials and water resource experts have predicted water shortages in 40 out of 50 states in the coming decade. This prediction is not based on drought predictions, but on a lack of water sources for our population. It's not only a good idea to save water, but in many places it's a necessary way of life!

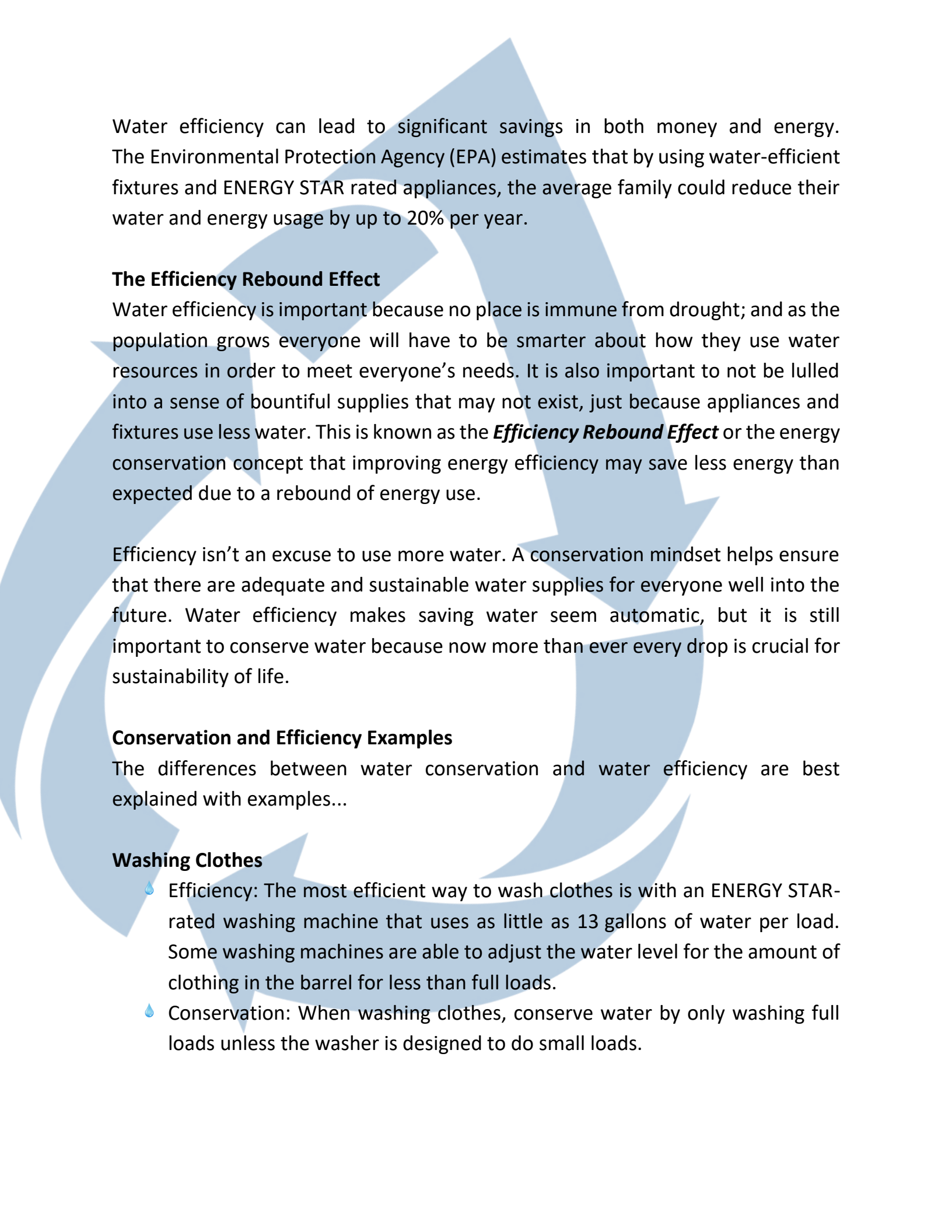
Water conservation and efficiency can help people curb their water use, and while the two terms might seem like the same thing since both achieve the same goal of using less water...they approach water savings differently.

### **Water Conservation**

Water conservation is often defined as the *beneficial reduction in water loss, waste, or usage*. Water conservation includes all of the policies, programs, and practices designed to help people change their behaviors and use less water. The goal is to use only the water needed; for example, turning off the water when shaving, brushing teeth, or only running the dishwasher when it's full.

### **Water Efficiency**

Water efficiency is defined as the *minimization of the amount of water used to accomplish a function, task, or result*. Water efficiency essentially means doing more with less water; for example, washing dishes or flushing the toilet with the least amount of water necessary to complete the task. Water efficiency normally relies on well-engineered products and fixtures like water efficient washing machines, low-flow toilets, and low-flow showerheads.



Water efficiency can lead to significant savings in both money and energy. The Environmental Protection Agency (EPA) estimates that by using water-efficient fixtures and ENERGY STAR rated appliances, the average family could reduce their water and energy usage by up to 20% per year.

### **The Efficiency Rebound Effect**

Water efficiency is important because no place is immune from drought; and as the population grows everyone will have to be smarter about how they use water resources in order to meet everyone's needs. It is also important to not be lulled into a sense of bountiful supplies that may not exist, just because appliances and fixtures use less water. This is known as the ***Efficiency Rebound Effect*** or the energy conservation concept that improving energy efficiency may save less energy than expected due to a rebound of energy use.

Efficiency isn't an excuse to use more water. A conservation mindset helps ensure that there are adequate and sustainable water supplies for everyone well into the future. Water efficiency makes saving water seem automatic, but it is still important to conserve water because now more than ever every drop is crucial for sustainability of life.

### **Conservation and Efficiency Examples**

The differences between water conservation and water efficiency are best explained with examples...

#### **Washing Clothes**

- 💧 **Efficiency:** The most efficient way to wash clothes is with an ENERGY STAR-rated washing machine that uses as little as 13 gallons of water per load. Some washing machines are able to adjust the water level for the amount of clothing in the barrel for less than full loads.
- 💧 **Conservation:** When washing clothes, conserve water by only washing full loads unless the washer is designed to do small loads.



## **Taking Showers**

- 💧 **Efficiency:** Changing out showerheads for low-flow models is a simple and easy way to practice water efficiency because they automatically save water.
- 💧 **Conservation:** Even with a low-flow showerhead, it's important to practice conservation and minimize those minutes by showering only as long as necessary.

## **Food and Cooking**

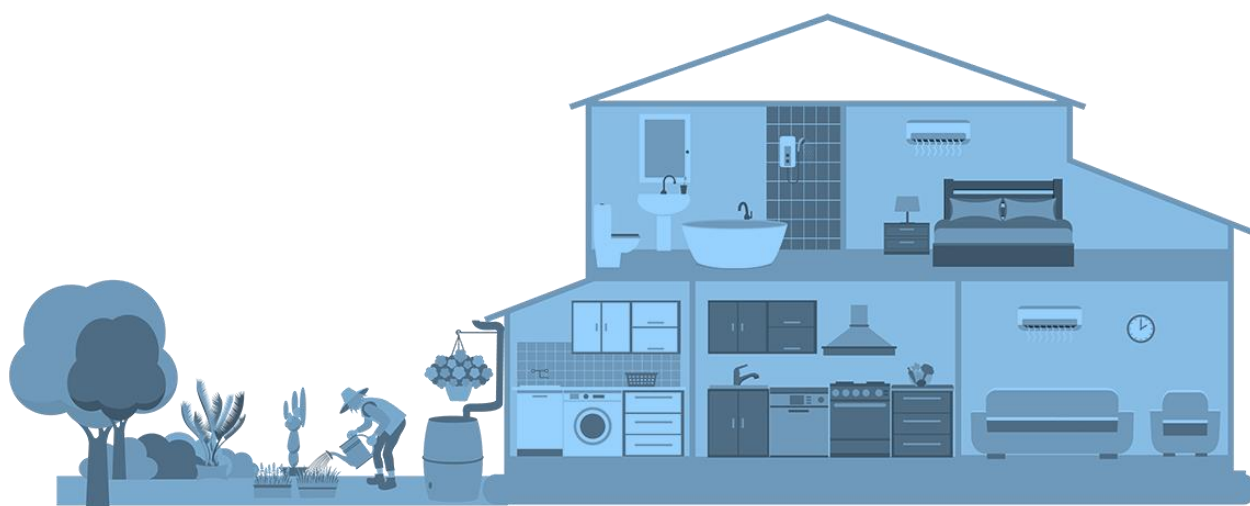
- 💧 **Efficiency:** Diets that incorporate more fruits, vegetables, and grains in place of meat and dairy, have a reduced water use, because it takes a lot of water to produce meat and dairy products.
- 💧 **Conservation:** Not wasting food means conserving all the water it took to produce it. The United States Department of Agriculture (USDA) estimates that over 30% of the available US food supply in 2010 was lost at the retail and consumer levels. This is like throwing out all the water it took to grow and produce that food. A great way to conserve water is to only purchase food that will be eaten.

## **Watering the Lawn**

- 💧 **Efficiency:** There are numerous technologies to help water lawns more efficiently; like moisture sensors, drip irrigation systems, and irrigation control systems.
- 💧 **Conservation:** Watering efficiently doesn't make sense if the lawn being watered is in an environment more suitable to a drier landscape. Extensive watering of turf grass during times of drought wastes a lot of water. Landscaping with native plants and grasses that use little to no irrigation water is a much more conservative approach to outdoor water conservation. Other great ways to conserve water include watering during the cooler parts of the day when evaporation rates are lower, and not watering on windy or rainy days.

## TIPS FOR CONSERVING WATER

Today's modern household uses water for a myriad of purposes. Everything from cleaning dishes and taking showers to doing loads of laundry and washing the car can add up to hundreds of gallons of water used every month. Conserving the amount of water used at home will not only help keep your water bill lower, but it's also better for the environment. When you save water, you can help reduce pollutant and contaminant runoff into natural lakes, rivers, and streams as well as extend the life of your sewer or septic system. If you're considering a water conservation plan for your house, there are several tips and tricks you can use to reduce your water consumption. Once you make these practices a habit, you'll be surprised at just how much water you can save.



### Outdoor Water Usage

In the United States, about 30% of household water usage goes to lawn or garden care. There are several ways you maintain your lawn or garden and save water.

- 💧 If you have automatic sprinklers, turn them on in the early morning before the sun comes up. This will give your grass time to absorb the water it needs and reduce excessive evaporation.
- 💧 Install a rain barrel. Rain barrels are designed to capture and store rainwater for later use. Use this water for your garden and indoor plants. Mosquitos

are attracted to standing water, so install a mosquito-proof screen over the top of the barrel to keep them away and keep your water clean.

- 💧 Landscape using native grass and plant species. These species are adapted to the Georgia climate, and in the drier summer months, they are more likely to survive natural fluctuations in heat and rainfall.
- 💧 Cover exposed soil with mulch. Mulch retains moisture and will keep water from evaporating, thus eliminating the need to water plants as often.

### **Bathroom Water Usage**

Everyone loves a long shower or a bubble bath. Did you know that every minute of a shower uses up to seven gallons of water? Here's how you can save water in the bathroom.

- 💧 Use high-efficiency toilets, low-flow showerheads, and faucet aerators. These inexpensive bathroom additions can cut your water usage in half for every flush and every minute that you run water from your sink or showerhead.
- 💧 Turn off the water when you aren't using it. Turn off the water when you shave, brush your teeth, or wash your face. This will ensure that you are only using the water that you need and reduce water waste.
- 💧 Check pipes, faucets, toilets, and hoses for leaks regularly. Leaks can waste up to 15 gallons of water per day. **Get leaks serviced as soon as you notice them.**

### **Around the House**

Most homes have appliances like dishwashers and washing machines that use water. These appliances can actually save water and save you money on your utility bill.

- 💧 ENERGYSTAR rated appliances can reduce your energy and water usage by 20% every year. Hand-washing dishes uses nearly 3 times the amount of water as a dishwasher.
- 💧 Only run your dishwasher or washing machine when they are full. This will reduce the number of times you need to run them and will lead to big savings over the course of a year.

- 💧 Install a faucet aerator to your kitchen sink. Aerators push air and water through the faucet to reduce the amount of water used.
- 💧 Change your diet! It requires huge amounts of water and energy to produce meat and dairy products. Replace some of the meat and dairy products in your diet with fruits, vegetables, and grains to eliminate several hundred gallons of water waste each year.

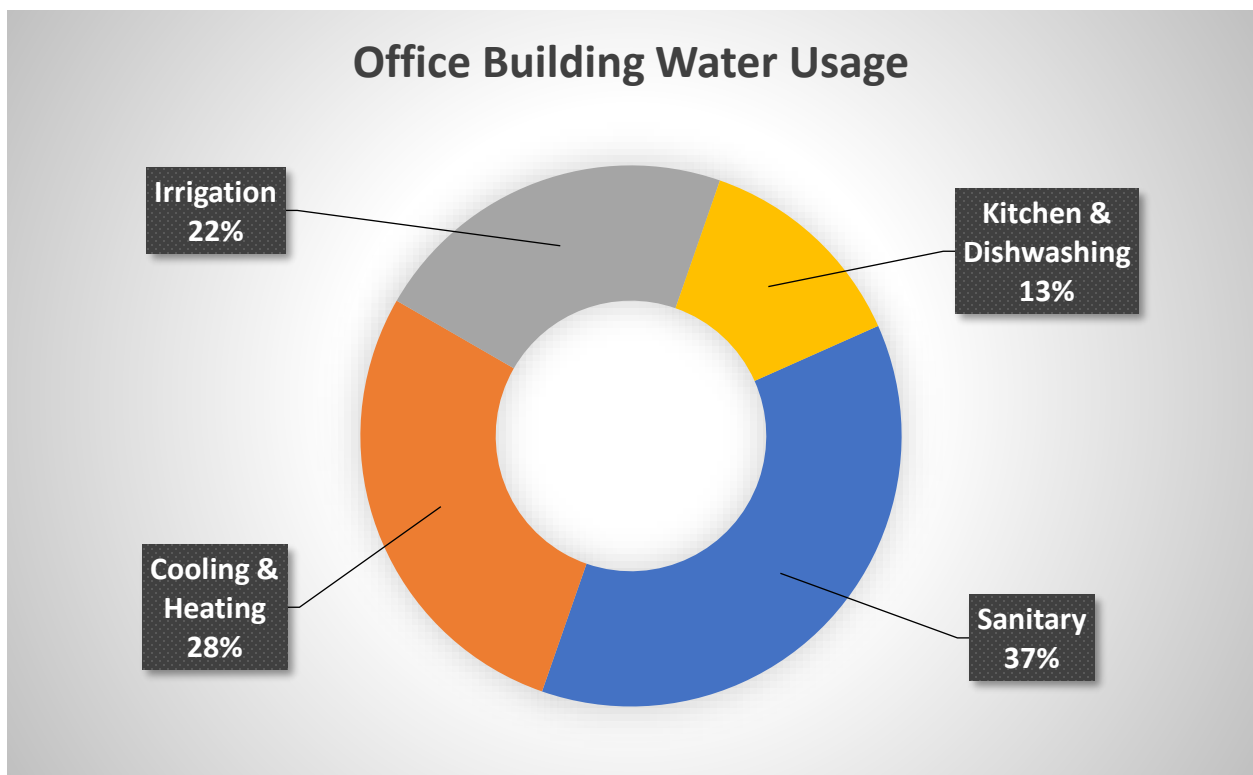
### **Just for Kids**

- 💧 Stay away from toys that require constant running water. Instead, use a small pool to enjoy water outside, or use sports-related toys and remote-controlled devices instead.
- 💧 If your children have pets, re-use aquarium water from tanks to provide nourishment to your houseplants instead of pouring it down the drain. If you bathe your dog outside, use a plant-friendly soap and wash them on an area of the lawn that needs watering so you can accomplish two tasks at once.
- 💧 Teach children to always turn the faucets off tightly to avoid drips and unnecessary water waste.

## WATER CONSERVATION AT THE ENVIRONMENTAL PROTECTION AGENCY (EPA)

The EPA strives to integrate water management best practices at all of its facilities. The EPA occupies two main types of facilities: offices and laboratories.

Office building water usage is as follows by function...

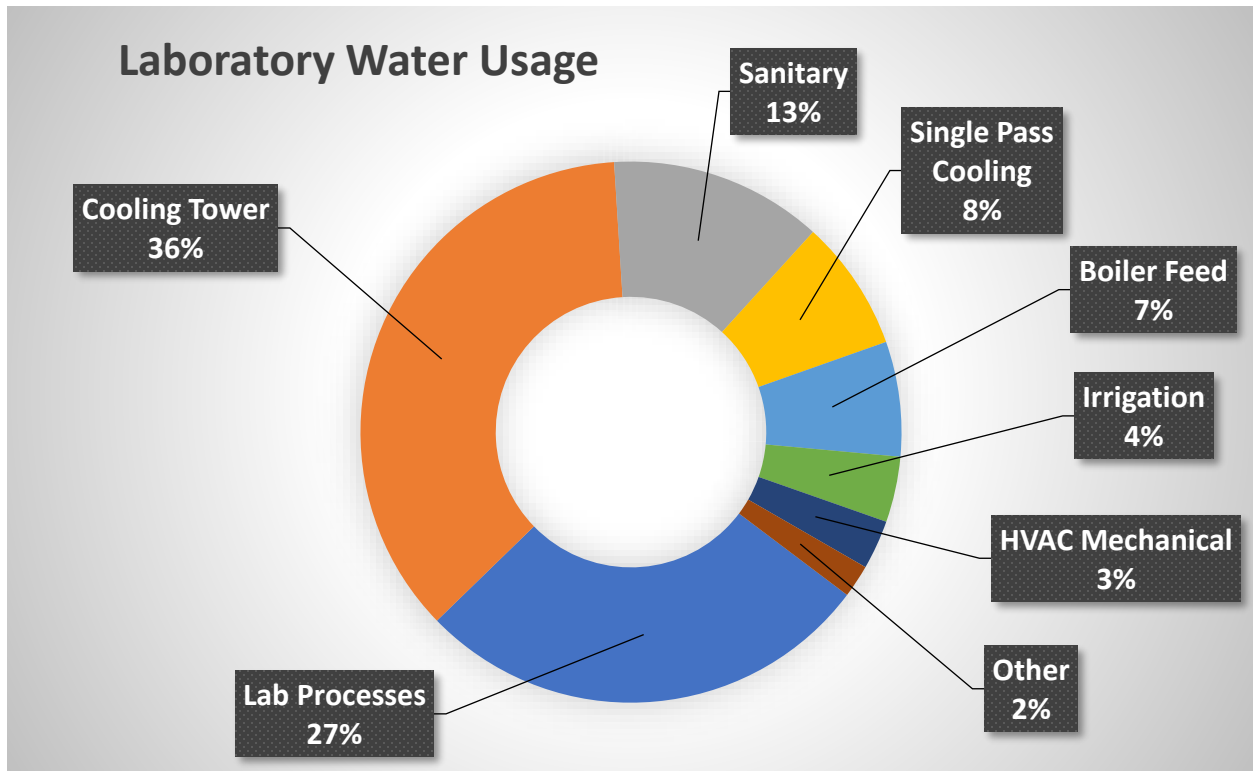


Plumbing, heating/cooling and irrigation needs comprise a large percentage of typical office water use. The Agency has minimized those uses by installing high-efficiency plumbing fixtures and eliminating irrigation.

These numbers would be similarly comparable to most office type buildings based on the overall function of water usage.



Laboratory water usage is as follows by function...



Laboratories use water for laboratory processes, water purification, and steam sterilization. Laboratories also have significant heat loads, so a significant amount of water is used as a cooling tower process. EPA has focused much of its water-saving efforts on laboratory facilities.

What does your major operational capacities for water usage look like within your business or type of function provided use? This observation by the EPA led to a decision based on leading by example.

In 2002, the EPA began reducing its water footprint, prior to any federal requirements mandating water conservation. The EPA's water management planning and water use reduction efforts have produced significant results.

**EPA water reduction strategies include:**

- 💧 Monitoring water meters and tracking use
- 💧 Installing WaterSense labeled and other high efficiency restroom fixtures
- 💧 Eliminating single-pass cooling
- 💧 Optimizing cooling tower efficiency
- 💧 Minimizing or eliminating landscape irrigation.

**EPA Water Conservation Results**

EPA reduced its water intensity by 34.6% from 2017 to 2017. The EPA continues to manage water to maintain progress and implements water projects to reduce water consumption even further.



## CITY OF MONROE WATER

For many purposes, the City keeps track of all types of reports that track water throughout the City. Those reasons are for billing, treatment, sourcing, usage, and for measurement in ways to conserve and avoid water loss.

The City of Monroe is a part of the Ocmulgee and Oconee River Basins, with water being sourced from Ocmulgee and discharged to Oconee. The City of Monroe water sources are primarily the Alcovy River and John T. Briscoe Reservoir. In cases of emergency caused by drought or equipment failures, Jack's Creek is used as a source of water. The treatment plant that treats water prior to being distributed to customers as drinking water is a microfiltration plant. This plant was the first of its kind in Georgia, and is unique in that it can remove impurities that are 0.2 microns or greater. For perspective on microns, the eye of a needle is about 1,230 microns in size. For more details, visit the City of Monroe website at [www.monroega.com](http://www.monroega.com) and find the [Water Quality Report](#) section that details the entire treatment and distribution processes. This report is reproduced and updated on an annual basis.

Listed below in millions of gallons are the numbers based on the type of customers over the past three (3) years...

<b>City of Monroe Customer Usage in Millions of Gallons</b>			
<b>Type of Customer</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
<b>Residential</b>	416	427	419
<b>Small Commercial</b>	144	143	119
<b>Large Commercial / Industrial</b>	33	38	41
<b>Wholesale</b>	51	65	52
<b>Total</b>	<b>644</b>	<b>673</b>	<b>631</b>

## COMMITTED TO CONSERVATION?

Come to City Hall at 215 North Broad Street and fill out a simple form to receive your **FREE** water conservation kit. This kit (gpm = gallons per minute) includes...

- 💧 Chrome 1.5 gpm showerhead
- 💧 1.0 gpm faucet aerators
- 💧 1.5 gpm swivel kitchen faucet aerator
- 💧 Packet of toilet leak detection tablets



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