



Water is the most important resource that we have today. Its availability can never be increased nor decreased; we cannot simply create more of it whenever we need it. In fact, the amount of water on earth today is the same amount that was on earth at its creation, no more will ever be added. Approximately 80% of this water is in frozen form as glaciers in the North and South Poles. Of what is left, 17% fills our oceans and only 3% is freshwater. Of the freshwater available, only one-third of this water is available for our use. Thankfully, we have the water (or hydraulic) cycle that is continually recycling our water supply through the processes of evaporation, transpiration, condensation, and precipitation. The water cycle constantly moves water from the earth to the clouds and back again. The sun draws the water to the clouds through evaporation, and water falls back to the earth by precipitation. Every day, the sun evaporates trillions of gallons of water. Every second, 16 million tons of water falls to the earth. Wow! However, each day nearly 700 billion gallons of drinking water is consumed in the United States alone. That's about 170 gallons per person each day.

Because drinking water is a natural resource, its taste, color and odor can sometimes vary slightly from day-to-day, from town-to-town and from faucet-to-faucet. Drinking water is treated in accordance with strict State and Federal standards to ensure that it is safe to drink, but problems often arise as a result of a variety of factors that can sometimes create confusion when customers notice a difference from their normal, everyday tap water. Below are some answers to many frequently asked questions about our drinking water.

FREQUENTLY ASKED QUESTIONS ABOUT DRINKING WATER

1. WHERE DOES DRINKING WATER COME FROM?

Drinking water can come from several different resources. The simplest of these is from ground wells. Water pulled from ground wells is naturally purified and typically is suitable to drink. However, most of our drinking water comes directly from surface water resources, such as rivers, lakes and streams, or from water that has been collected in large reservoirs such as the BT Brown reservoir located in the northern part of Coweta County.



2. WHAT IS IN OUR DRINKING WATER?

Surface waters, like every other substance, contain small amounts of bacteria. While most of these are not generally harmful, some of them can cause an illness if ingested. For this reason, treatment plants are required to add chlorine to drinking water to first kill any harmful bacteria that is in the water, and secondly, to prevent bacterial growth while the water streams through the pipelines. Thus, all drinking water will contain minimal amounts of chlorine.

In addition to making the water safe to drink, another goal of the water treatment process is to produce an aesthetically pleasing product; one without any taste, odor, or color. For instance, all surface water contains iron and manganese – two minerals that are naturally found in nearly all bodies of water. While not harmful, excessive amounts of these can create taste and/or color problems that the customer may not find pleasing. Thus, it is important that these minerals are removed and while all water treatment plants are designed to remove these minerals, no plant is able to remove them completely. The trace amounts that escape the plant process will, over time, build up on the walls of water mains and personal supply pipes. Sometimes, something above ground may cause a vibration in the supply system that can knock this accumulation loose and it will show up in the customer's tap as either a yellowish rusty color or a dark, reddish muddy color. More about discoloration is discussed in question five (5).

3. HOW IS DRINKING WATER TREATED?

Surface water stored in reservoirs begins the treatment process by allowing suspended matter a chance to settle out (or sink to the bottom of the reservoir). The water is then pumped from the reservoir to a treatment plant for proper treatment for meeting Government defined standards. Coagulants are added for encouraging additional settling in large sedimentation basins followed by a filtration system that removes nearly all particulates (a complex mixture of solid and liquid particles found in the air such as dust and pollen). Disinfection is accomplished through the addition of chlorine to kill all pathogenic material. While all of this seems relatively simple, proper treatment is only achieved by constant monitoring of chemical levels to ensure appropriate pH and dosing levels, which are critical for maintaining optimum performance.

4. HOW IS DRINKING WATER QUALITY PROTECTED?

The United States Environmental Protection Agency (EPA) has developed a list of drinking water standards that determine which substances can be in drinking water and the maximum amounts of these substances that are allowed. Also known as maximum contaminant levels, these standards are formulated for any contaminant that may have adverse effects on human health. All water treatment plants must adhere to them, requiring constant and continuous testing for a number of dangerous pollutants, in order to establish the proper concentrations.

5. YELLOW, RUSTY, REDDISH, or MUDDY COLORS?

What is the cause of this and what should I do when it happens?

Discoloration of tap water is often due to higher than normal levels of iron and/or manganese – two minerals that are filtered out by water treatment plants. However, it is impossible to remove 100% of these minerals and the residue that survives the treatment process will end up sticking to the walls of water mains building a thick covering known as tuberculation. Discoloration is an indication that either iron or manganese deposits have dislodged from inside the supply plumbing to your home or sometimes it may be from the main pipe lines that are feeding your neighborhood. Any disruption in the water flow such as a water main break, a fire hydrant activation, or even vibrations caused by large trucks or construction equipment may knock off small particles of these minerals and stir up sediments in the pipes. It is a temporary condition that usually clears up in a couple of hours. The water may not be aesthetically pleasing, but according to the EPA, increased levels of iron or manganese are not public health threats. In fact, both iron and manganese are found in many multi-vitamins due to certain health benefits that they offer.

Oftentimes the customer can correct this problem by simply flushing his lines (opening several faucets in the home) for about 15 minutes. If the unpleasant color remains, we ask that you contact the Water Authority so we can flush the main lines to expedite this process.

6. CLOUDY WATER

The hot and cold water from our kitchen sink sometimes comes out very cloudy but clears up very quickly. Should we be using this water even after it turns clear?

Cloudy water, also known as white water, is caused by tiny air bubbles in the water. It usually happens when it is very cold outside and air gets mixed in with the water supply. Periodically, repairs need to be performed on the distribution system and when this occurs, air can be introduced into the pipes. It is completely harmless and if left sitting, the bubbles will naturally disappear within a few seconds.

7. BOTTLED WATER

Is bottled water safer than tap water?

Many people worry about getting sick from tap water, because of what they may have seen in the news or have read regarding health risks, such as a Legionella outbreak. As a result, they may feel that bottled water offers a safer option. However, studies have indicated that bottled water, in some cases, may not meet the standards that are set for drinking water. To be safe, consumers of bottled water should ensure that the supplier belongs to the International Bottled Water Association (IBWA) to confirm that the water meets the general testing requirements of drinking water. The

IBWA sends inspectors to companies annually, to ensure that the plant is producing a safe drinking water.

8. HARD OR SOFT WATER

Is my drinking water hard or soft and what does that mean?



Hard water... is water that contains dissolved minerals (like calcium and magnesium).

Soft water... is treated water in which the only ion remaining is sodium.

Water's "hardness" and "softness" is due to its concentration of minerals – calcium and magnesium. The lower the mineral concentration, the softer the water will be. The water produced at Coweta County's BT Brown Water Treatment plant continuously tests in the soft range, meaning it contains very few minerals.

There are multiple benefits to having soft water such as detergents will work better, soap will lather more, items will be left cleaner, glasses will sparkle, hair will look healthier, the shower curtain will be scum-free, and clothes and skin are left softer. In addition to the above-mentioned benefits, soft water can also save money because less soap and detergents need to be used and since appliances do not work as hard, soft water can also prolong the life of washing machines, dishwaters and water heaters.

On the other hand, hard water is to blame for dingy looking clothes, dishes with spots and residue, and bathtubs with lots of film and soap scum. Even hair washed in hard water may feel sticky and look dull. The elements of hard water are to blame for many negative factors, as soap is less effective due to its reaction to the magnesium and calcium.

Soft water is not, however, suggested for those with heart or circulatory problems, or others who may be on a low sodium diet. In the softening process, as minerals are removed, sodium content increases.

9. ODORS

Why does my water smell like rotten eggs?

The rotten egg odor is caused by the presence of hydrogen sulfide (H₂S). At normal temperatures, H₂S is a gas that can dissolve in water. There are several situations that could cause the detection of H₂S but the primary cause is when water has been sitting in a pipe un-used for an extended period. Most of the time, a little investigative work can rapidly help diagnose the cause.

Studies have shown that the vast majority of H₂S reports by customers are caused by odors from drains as opposed to odors in the tap water. Water that sits in the trap under a sink typically contains bacteria which can produce H₂S. When a customer turns on their tap and water goes down the drain, this water is disturbed and the air in the drain containing this H₂S is displaced, resulting in H₂S moving up through the drain and into the air above the sink. Since H₂S is a gas, it can disperse throughout a bathroom in a few seconds, making the whole room smell like "rotten eggs". Because this occurs when the water is turned on, it is easy to think that the water is the source of the problem.

The longer water sits in a trap and is undisturbed, the more time the bacteria has to produce H₂S, and the more intense the odor can be. Often customers will report the odor is most intense when the water is first used in the morning. A quick way to determine if this is the cause of the odor is to capture the first water out of the tap in a cup, without letting any go down the drain, and then smelling the water in the cup. If there is not a H₂S odor, then the problem is likely with the drain. Allowing some water go down the drain and then checking for the odor can confirm the source of the odor.

If the odor is coming from the drain, there are a couple of things that can be done to correct the problem: 1) put 2 tablespoons of baking soda down the drain with 1-2 ounces of water (run faucet for 2-3 seconds); let it stand in drain for several hours, then flush the trap by letting the faucet run for about 10 seconds. This will often take a repeat application to completely eliminate the odor. Or 2) pour 1/4 cup of household bleach into the drain; let it stand for about 15 minutes, and then flush by letting the faucet run for about 15-30 seconds. The bleach treatment is usually more effective, but there may be residual bleach odor for a day or two.

Another potential source of a "rotten egg" smell could be the hot water heater. If not properly maintained, the H₂S gas may develop here. This can be confirmed by checking if the smell is coming from the cold or the hot water tap.

Why does my water have a fishy or earthy smell?

A fishy or earthy smell is likely the result of algae growth in one of the water system's reservoirs, partially caused by the change of season. Different types of algae can cause your water to smell fishy, moldy, grassy or even like cucumbers or violets. Refrigerating the water can help eliminate the odor and adding a slice of lemon will remove any bitter taste.

In the meantime, when a funny taste or smell is first detected in the water supply, water treatment plant operators can quickly correct the problem with a limited application of Powdered Activated Carbon, which removes taste/odor, or they may use copper sulfate application to control the natural algal growth in the affected reservoir.

Why does my water smell like chlorine and how can I reduce the odor?

Coweta Water Authority, like all water suppliers, disinfects its water with a chlorine application to protect against any harmful bacteria (from birds, animals, and even humans) that can enter into reservoirs. The chlorine dose also protects the water as it travels through the miles of pipe to get to your home. Those with a sensitive palette may find their water has the odor of chlorine and sometimes may even have a chemical taste. These odors are attributable to the residual disinfectant that is required in all distribution systems by the Safe Drinking Water Act regulations. The chlorine concentration in your water will vary depending on a variety of factors such as the distance you live from the water treatment plant and the time of the year (chlorine will dissipate faster in warmer weather). Generally, higher concentrations are found closer to the plant during the winter. This is due to the water having a shorter residence time in the pipe (shorter distance and higher flows) and lower water temperatures. Conversely, the lowest levels will occur at the ends of the system, in the summer when water temperature is high (can reach 92°F). Water with elevated free chlorine levels can also be described as having a “chemical taste”. Because of this variability, water at one home may not have the same degree of odor or taste as water from another part of the County. Two simple and inexpensive ways to reduce the chlorine odors include: fill a gallon milk jug $\frac{3}{4}$ full of water, put the cap on and shake vigorously for a couple of minutes, then remove the cap and allow the jug to sit in a sunny window throughout the day. The next way is to simply fill a pitcher and keep it in the refrigerator; the open pitcher should allow the chlorine to dissipate.

In either case, please contact the Water Authority and operators will make every effort to correct the problem.

10. HOT WATER HEATERS

Do I need to flush out my hot water heater?

Customers sometimes report white particles that clog plumbing fixtures. These may be bits of calcium carbonate scale coming from your water heater. The scaling may worsen if the water heater thermostat is set too high. If the particles are calcium carbonate, you probably need to flush your water heater. Many manufacturers recommend periodic flushing of water heaters to remove sediment that can build up. The sediment can cause discoloration of the water and can make the water heater less efficient. Be sure to follow the manufacturer's owners guide for your hot water heater.

11. WHAT IS THE PINK STUFF GROWING IN MY BATHROOM?

A red or pink pigmented bacterium, known as *Serratia Marcescens*, is the general cause of the pink film that some customers may see in their bathrooms. These bacteria are common inhabitants of our environment and can be found in many places, including human and animal feces, dust, soil, and in surface waters. The bacteria will grow in any moist location including soap residues in bathing areas, feces in toilets, and soap and food residues in pet water dishes. Many times, the pinkish film appears during and after new construction or remodeling activities, or during a time

of year that their windows are open for most of the day. These airborne bacteria can come from several naturally occurring sources and the condition can be further aggravated if customers remove the chlorine from their water by way of a home filtration system. Serratia will not survive in chlorinated drinking water but it may be found in locations such as toilets in guest bathrooms where the water is left standing long enough for the chlorine residual to dissipate.

Serratia Marcescens has generally been thought to be harmless. However, recent studies have found it to be pathogenic to some people, having been identified as a cause of urinary tract infections, wound infections, and pneumonia in hospital environments. Once established, the organism usually cannot be eliminated entirely. However, periodic and thorough cleaning of the surfaces where it accumulates, followed by disinfection with chlorine bleach appears to be the best way to control it.

To control pink film in toilets, clean the bowl thoroughly and spray chlorine bleach into the bowl and under the bowl rim.

To clean pet water dishes, bathroom and kitchen surfaces, first scrub the surfaces where phosphorous and fatty substances or the bacteria accumulate with a brush and a household cleanser. Then disinfect the surfaces where the slime has formed with a strong chlorine bleach solution, leaving it on the surface for 10-20 minutes before thoroughly rinsing away with clean water. Be careful with abrasives to avoid scratching the fixtures, which will make them even more susceptible to the bacteria.

12. WHAT IS THE BLACK STUFF GROWING IN MY BATHROOM?

Many people see black stuff growing around faucets, shower heads, or in toilets and assume that since it is at the tap, or water source, then there must be a problem with their tap water. However, it is caused by a black mold that is often found inside the home and is attracted to damp or wet areas. Don't worry, there are dozens of different types of molds known as "black mold." The types of black mold that cause health issues are mold that can only occur on repeatedly wetted and usually porous materials that contain cellulose. Since your toilet is neither porous nor made of sheetrock, you probably don't have the more serious types of black mold that can cause health issues.

Also, as you have probably discovered, common bleach will clean the bowl and kill the mold there. One reason it keeps coming back is that one of the 'black molds', Cladosporium, is one of the most common molds in the world, and in fact, it is the most common mold found in air samples collected indoors and outdoors. While exposure to high levels of Cladosporium can cause allergy or even asthma problems in highly sensitive individuals, it is not generally considered 'dangerous.'

Cladosporium is the most common bathroom mold because it likes warm, damp or even wet places. Also, it adapts to smooth, nonporous surfaces better than many other types of mold. Even though it can grow on the smooth surface it might help to give the bowl a treatment with a strong mineral and rust remover to get rid of any irregularities that might give it a place to lodge.

Another reason it keeps coming back is that the mold, or at least some spores, are not just in the bowl, they are in the tank, between the tank and bowl, in the hinges of the seat, and in all the nooks and crannies of the various parts in the tank. You can try squirting some bleach solution up between the tank and bowl by using a bottle of bleach. First, flush the toilet and before the tank is half full reach down and close the flapper. As the tank fills carefully pour in the bleach and let it sit in there for a while. Be sure to open a window for proper ventilation of the bleach. While the tank is soaking, take some more bleach and pour it down the overflow tube - the vertical pipe that sticks up above the water surface. That tube leads to the jets or holes all along under the rim. Repeat this every minute or two while the tank is soaking.

After about 15 minutes flush the toilet and then push the flap back down at the halfway point again and let the tank refill again. By preventing a complete flush, the solution is kept in contact with the internal connections for as long as possible. After another 10 minutes or so go ahead and flush the toilet.

The chlorine smell will eventually go away after a few flushes. Another idea is to drop in a product made for the toilet's tank such as Tidy Bowl. Just be sure to choose a brand that contains chlorine bleach; the most effective weapon for fighting mold.

13. BOIL WATER ADVISORIES

Why are boil water advisories issued?

Boil water advisories are issued when a water source pressure level drops below 20 psi. This typically occurs as a result of a water main break somewhere in the distribution system. With a significant loss of pressure, there is a possibility for water to become contaminated with harmful bacteria.

What determines the length of a boil water advisory?

Samples are taken from the area effected by the pressure drop and are taken to our lab for analysis. Bacterial testing will require a 24-hour incubation time and once we have confirmation that the water was not contaminated, the boil water notice will be lifted.

Why should I boil water prior to consumption?

Boiling the water will kill any harmful bacteria.

Does the issuance of a boil water alert mean that the water is definitely contaminated?

No, an advisory means that due to loss of water pressure, there is a possibility that water could be contaminated. Therefore, we operate under the precaution that contamination is present until the results of the water sample tests are received.

Other than for consumption, what other activities require that water must be boiled prior to use?

- Brushing teeth
- Cooking
- Preparing drinks
- Washing raw foods or foods in general
- Making ice
- Water for pets
- In whatever form, if you can consume the water, it must be boiled.

Is water safe for washing dishes, laundry or bathing?

Dishes: Dishes should be washed with hot soapy water, adding one with one tablespoon of bleach per gallon as a precaution. Boiled water should be used for rinsing.

Laundry: There are no restrictions on doing laundry.

Baths: Water is safe for bathing.

How long must water be boiled prior to consumption?

Bringing water to a FULL ROLLING BOIL for 1 MINUTE is sufficient. Remember to allow the water to COOL BEFORE USE. Because water may take **30 minutes** to cool, plan ahead. Make up a batch of boiled water in advance so you will not be tempted to use it hot and risk scalds or burns.

What precautions should be taken after a boil water advisory is lifted, if test results reveal that the water was contaminated?

- Flush water lines by running all cold-water faucets in the home for approximately one (1) minute.
- Flush automatic ice makers by discarding three (3) batches of ice made.
- Run water softeners through a regeneration cycle.
- Run drinking water fountains for one (1) minute.
- Run water through direct water connections for five (5) minutes.

Do I still need to boil water if I have a filter system on my faucet or refrigerator?

Yes. Water filters are not designed to remove harmful bacteria.

If I consumed water before I knew of the advisory, what will happen?

If you drank the water before hearing of the advisory, your risk of becoming ill is low. However, if you begin to have fever, diarrhea or vomiting you should seek medical attention. Advise your health care practitioner that you have consumed tap water during the Boil Water Advisory

Do I need to clean out my faucets?

Yes. You should flush your faucets after the drinking water advisory by turning on the cold water tap at all faucets and running the water until you feel a change in temperature (i.e. the water gets noticeably colder). This may take several minutes. Begin with the faucet that is highest up in your home or building and then open the other faucets one at a time moving from the highest floor to the lowest.

When I turn on the faucet, the water sputters. Why?

You have air in your lines. Turn on your tap slowly and run the water until the sputtering stops.

What should I do if my water pressure is low?

Check the faucet screens for trapped particles. Remove the screens and clean out any particles. Put the screens back on the faucet.

Why does my water have a strong smell?

The smell is probably chlorine. Often, water systems will increase chlorine levels to disinfect the pipes. This is not harmful and should clear up after a short time.

The water is discolored. What should I do?

Flush water pipes by running the water until it is clear.

Do not wash clothes if the water is discolored. Wait until the water runs clear at the tap. Wash a load of dark clothes first.

I have a water treatment unit for the house. Does it need special care?

Yes. Change the filter cartridges. Some units need disinfecting. Follow the directions in the unit's owner's manual.

My refrigerator has a water dispenser/ice maker. Do I need to clean them?

Yes. Water dispensers and ice makers are connected to your water line. You need to flush and clean them. Follow the directions in the owner's manual or:

1. Change the filter cartridges.
2. Throw out ice.

3. Flush the water dispenser for 3 to 5 minutes.
4. Run three cycles of ice.
5. Throw out all the ice.
6. Wash and sanitize bin areas.