

# The Water Source



SPRING 2018

PUBLIC WATER SUPPLY DISTRICT NO. 3 OF JOHNSON COUNTY

## Protect Your Drinking Water Supply!

### *What is a cross connection?*

A "cross-connection" is any physical connection or potential connection whereby the public water system is connected, directly or indirectly, with any other liquid of unknown or unsafe quality, which may be capable of imparting contamination to the public water system as a result of backflow. An example is a garden hose attached to a service sink with the end of the hose submerged in a tub full of detergent.

### *What is backflow?*

Backflow is the reversal of water flow from its normal direction. This reverse flow can send a customer's contaminated water back into the public system's safe drinking water supply.

### *What can you do to prevent backflow situations in your home or business?*

- Be aware of and eliminate and/or protect cross connections.
- Maintain air gaps on sinks and when using hoses.
- Do not submerge hoses or place them where they could become submerged.
- Use hose bib vacuum breakers on fixtures (hose connections in the basement, laundry room, and on outside faucets/spigots).
- Install approved backflow prevention devices on lawn irrigation systems and on fire sprinkler system services.
- Do not create a connection between an auxiliary water system (well, cistern, body of water) and the water supply plumbing.

### *Who is responsible?*

It is the water customer's responsibility to ensure that unprotected cross-connections are not created and that any required backflow prevention devices are tested in accordance with state requirements and maintained in operable condition.

### *Why should you be concerned?*

- Backflow may affect the quality of the drinking water. If contaminated water enters your public water supply distribution system, it has the potential to create health hazards.
- Unprotected cross-connections with water supply systems are prohibited by law.
- You are responsible for protecting your water supply from backflow that may contaminate your drinking water and the drinking water of others. This includes complying with the plumbing code and not creating unprotected cross connections.

### *Who is responsible for having the backflow device tested?*

It is the property owners responsibility to have the backflow device tested by a qualified tester.

### *Who tests the backflow devices?*

Backflow device testing can only be performed by qualified testers that have completed cross connection training courses and hold the appropriate state certification(s).

### *How often should I have my backflow device tested?*

Backflow devices are required to be tested annually.

### *Who pays for the testing and How much does it cost?*

It is the responsibility of the property owner to pay for any testing and/or required repairs to the backflow device. Cost will vary with existing device location conditions and type of device. Please review pricing requirements with the selected test company/tester before having the test performed.

# Safe Drinking Water Guidelines

Drinking plenty of water is important for a healthy body. However, we need to make sure that the water we are consuming is good, clean water. The following tips will help you learn how to stay hydrated while cutting down on your exposure to common drinking water pollutants.

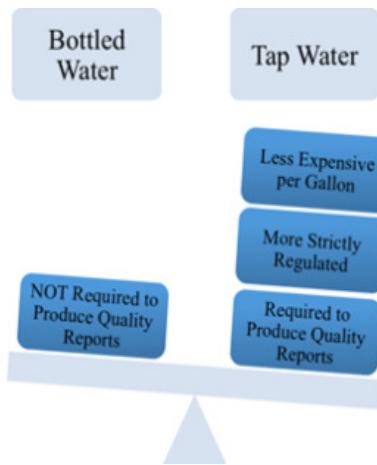
**BOTTLED WATER:** Many of us choose to drink bottled water over tap water because we believe bottled water is cleaner or less harmful to us. Studies have now shown that this is a misguided belief. You can always read the bottle label, but you still won't know if the water is pure and natural, or just processed, packaged tap water. Drink filtered tap water instead.

**TAP WATER:** Learn what's in your tap water. The annual water quality report known as the Consumers Confidence Report (CCR) is published by water suppliers. The federal government mandates that water suppliers disclose their test results each year. Bottled water companies are not required to publish this information. Make sure to read your annual water quality report. This information can be found on the water quality page at [pwsd3.com](http://pwsd3.com).

**FILTERED TAP WATER:** Carbon filters either as a water pitcher or tap mounted are an affordable way to reduce many common water contaminants.

**FILTERS:** Change your water filters regularly. Old filters harbor bacteria and allow contaminants through. They could actually be causing more harm.

**ON THE GO:** Carry your water in "BPA-free" safe water containers. Hard plastic bottles can leach a harmful chemical called bisphenol A into water. Do not reuse plastic water bottles. The plastic can harbor bacteria and break down to release more of this harmful chemical. Instead use stainless steel or other "BPA-free" bottles.



## Can other Beverages replace Water?

- Soda contains at least 9 teaspoons of sugar.
- Consuming that much sugar can compromise the immune system for up to 12 hours.
- Drinking diet soda? Studies have found artificial sweeteners to be linked to brain tumors.
- Caffeine consumption can cause dehydration.
- It takes approximately 32 glasses of water to neutralize the acid from one 12 oz. soda.
- Sports drinks are arguably said to be a good choice when needing to replenish minerals. However, people should caution themselves to not drink them recreationally.
- Coffee may be a great way to wake up in the morning, but after 8 hours of sleep, bodies need to be hydrated. Coffee will dehydrate your body.

# Water Crisis

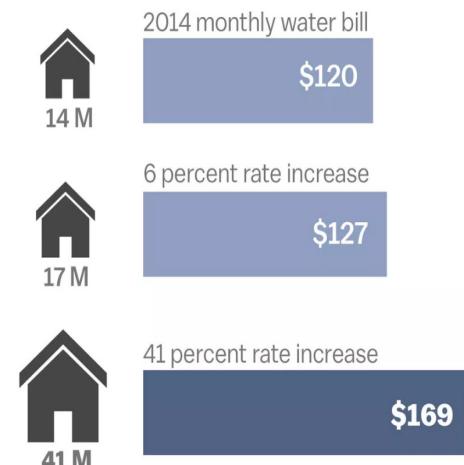
<https://www.vox.com/science-and-health/2017/5/9/15183330/america-water-crisis-affordability-millions>

By: Sarah Frostenson

Outdated infrastructure is making water too expensive for millions of families. According to a paper from researchers at Michigan State University, water prices will have to increase by 41% in the next five years to cover the costs of replacing aging water infrastructure and adapting to climate change.

The huge costs of repairing water infrastructure is forcing water rates up. After World War II, America began building water pipes in cities across the country. Now these pipes are more than 60 years old and are in desperate need of repair. Federal funding for water infrastructure has fallen from more than 60% in the late 1970s to just 9% now. Civil engineers estimate the price tag for overhauling America's drinking water system and bringing it up to code will be at least \$1 trillion over the next 25 years. Add to that the estimated \$14 to \$26 billion needed to adapt water systems to climate change by 2050.

**By 2022, 41 million American households may struggle to pay for water**



Source: Elizabeth Mack, Michigan State University  
Credit: Sarah Frostenson

Vox

The 6 percent increase reflects the actual change in water costs between 2014 and 2015. The 41 percent increase is how much water prices rose from 2010 to 2015. Assuming water rates will increase at the same rate as they did from 2010 to 2015 and that median household income will remain flat.

# DD Hwy Wastewater Treatment Plant

As of August 2017 our new wastewater treatment plant became operational. We had a few minor issues at the beginning, especially during the times of heavy rain fall. However, this has brought our attention to another concern in regards to Inflow and Infiltration (I & I).

Inflow could be defined as the introduction of rainwater into the collection system thru above ground sources such as roof drains, broken clean-outs, sump pumps, and storm-water drains. We estimate about 70% of the homes in the Hickory Hills Subdivision are putting unnecessary water into the wastewater system.

Infiltration could be defined as the introduction of groundwater into the sewer collection system thru cracks in the underground piping. PWSD No. 3 has identified 11 manholes that are allowing rain water into the wastewater system. We are working to make these necessary repairs.

I & I is water that our system is pumping through lift stations, and being treated at our wastewater treatment facility for no reason. This adds operational costs and adds storm water which may cause our wastewater treatment facility to be overloaded. This may also cause non-compliance issues with the National Pollutant Discharge Elimination System (NPDES) Permit that we were granted by the Department of Natural Resources (DNR).

Our goal in 2018 will be to determine the source and eliminate the I & I. We will be conducting smoke testing to locate the source locations where I & I is being introduced into the sewer system so these locations can be repaired. More information will be sent to each resident once we schedule a date and time for this smoke testing.

## Lagoon closure

PWSD No. 3 has been authorized to begin the lagoon closure process. Due to the low volume of sludge remaining after dredging each lagoon cell in 2011, The Department of Natural Resources (DNR) did not required us to dredge the lagoons before closing them. The closure process mostly consists of waiting for the lagoons to dry. We began pushing in the berms at the north lagoon site in October. Depending on weather, we anticipate having the south lagoon closed by May.

**Before**



**After**



# Detecting Leaks

We want to help our customers keep their bills as accurate as possible. Small leaks in your home can quickly add up to many gallons lost. A dripping faucet can waste 15 gallons a day. A 1/8" sized leak consumes more than 3,500 gallons per day. Most leaks are easy to find, but some can go undetected. If your bill is unusually high, a little investigation can save both water and money.

Common places to check for a leak:

- Toilets. It is not uncommon to lose more than 100 gallons a week to a toilet leak. You can check for leaks by putting a few drops of food coloring in the tank, then watch for a few minutes. If the color shows up in the bowl, you have a leak that needs to be repaired.
  - Dishwashers and clothes washer. Look for drips or stains underneath or behind these appliances.
  - Indoor and outdoor faucets. Replace worn gaskets and washers.
  - Sprinkler systems. Check for damaged sprinkler system heads and system leaks.

With today's technology, electronic water meters are typically more accurate than the old manually read water meters. We understand that electronics can get damaged. However, a water meter will not malfunction one month and return to normal the next month. If the water meter gets damaged please notify PWSD #3 as soon as possible.



## **Water Wasted per Month at 60 psi Water Pressure**

Diameter of Leak	Gallons	Cubic Feet	Cubic Meters
1/4"	393,833	52,667	1,492
3/16"	222,000	29,667	840
1/8"	98,667	13,133	372
1/16"	24,667	3,283	93

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Public Water Supply District No. 3

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# The Water Source

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