CAPITAL REGION
WATER

2019 DRINKING WATER QUALITY REPORT

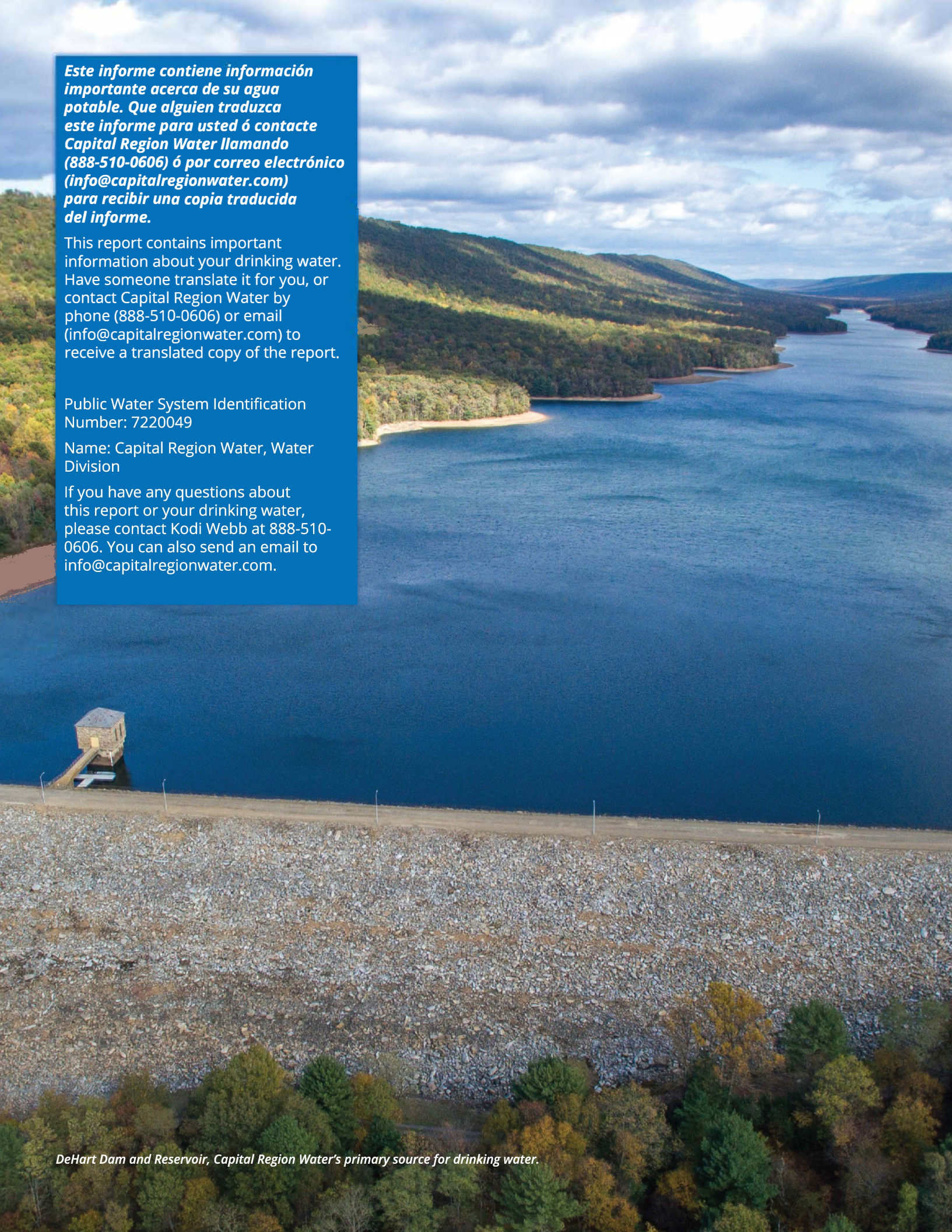
Este informe contiene información importante acerca de su agua potable. Que alguien traduzca este informe para usted ó contacte Capital Region Water llamando (888-510-0606) ó por correo electrónico (info@capitalregionwater.com) para recibir una copia traducida del informe.

This report contains important information about your drinking water. Have someone translate it for you, or contact Capital Region Water by phone (888-510-0606) or email (info@capitalregionwater.com) to receive a translated copy of the report.

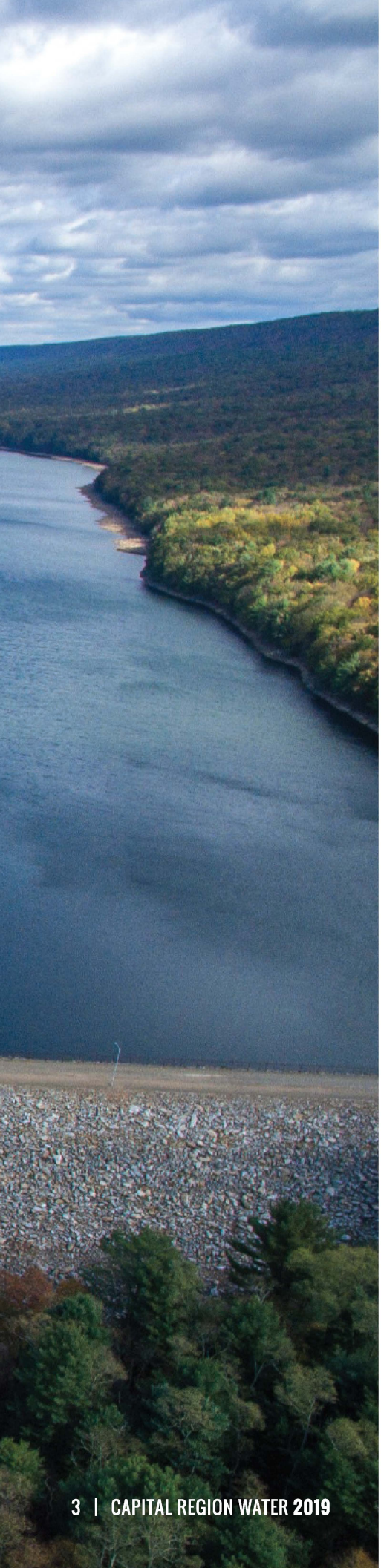
Public Water System Identification Number: 7220049

Name: Capital Region Water, Water Division

If you have any questions about this report or your drinking water, please contact Kodi Webb at 888-510-0606. You can also send an email to info@capitalregionwater.com.



DeHart Dam and Reservoir, Capital Region Water's primary source for drinking water.



Dear Customer,

Capital Region Water is proud to share this 2019 Drinking Water Quality Report with you summarizing water quality tests from 2018. The Environmental Protection Agency (EPA) requires all water utilities to produce and distribute water quality reports on an annual basis to help you understand what is in your water. Water is essential to life, economic development, and fire protection and that is why Capital Region Water's dedicated team of professionals work 24 hours a day to provide our community with some of the highest quality drinking water in the country.

This 2019 report includes water quality information for the 2018 calendar year. In 2018, Capital Region Water conducted over 200,000 tests to ensure that high quality water reached residents and businesses in our service area. **The water we supplied to your home or business in 2018 outperformed all Environmental Protection Agency and Pennsylvania Department of Environmental Protection drinking water standards.** This level of service is possible due to continuous investment in our community's water system with **your** money.

Investing in our community,

Charlotte Katzenmoyer
Chief Executive Officer
Capital Region Water

Capital Region Water's most recent lead results are *well below* the federal limits.

CRW 90th Percentile Level:
0 PARTS PER BILLION

EPA 90th Percentile Limit:
15 PARTS PER BILLION

INFORMATION ABOUT LEAD

As your drinking water provider, Capital Region Water is responsible for providing high quality drinking water, but cannot control the variety of material used in household plumbing components.

WHY IS LEAD IN DRINKING WATER A CONCERN?

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Capital Region Water is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components.

WHAT WERE THE MOST RECENT LEAD TESTING RESULTS?

Following its mandated Lead and Copper Rule sampling plan, Capital Region Water tested 31 high risk residential homes throughout its service area in 2016. State and federal regulations require the 90th percentile lead level to be less than 15 parts per billion. Capital Region Water's results were 0 parts per billion. You can find these results online at: capitalregionwater.com/2016-lead-sampling-results-table. Capital Region Water will test for lead and copper again in 2019.

HOW DOES CAPITAL REGION WATER TEST FOR LEAD?

Under strict state and federal regulations, Capital Region Water is required to test for copper and lead in its drinking water every three years. Samples for this testing are taken directly from customer faucets in areas with buildings which are more likely to contain lead in their indoor plumbing. Based on Capital Region Water's service area size, a minimum of 31 samples are collected for each testing period every three years.

WHAT DOES CAPITAL REGION WATER DO TO KEEP LEAD OUT?

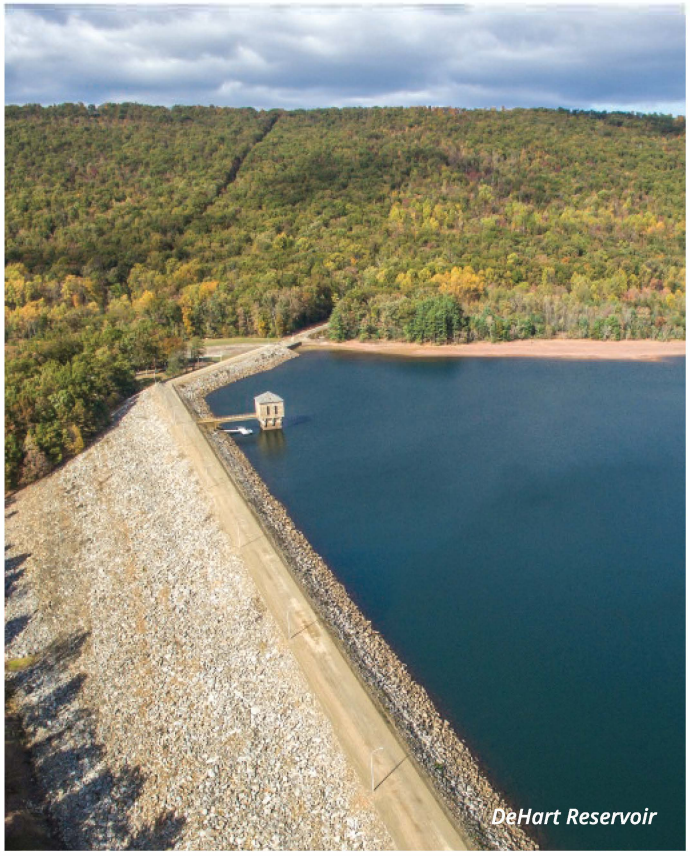
Lead is not present in the water Capital Region Water sends into the distribution system. Lead can enter the water when there is corrosion of building plumbing systems containing lead. To prevent the corrosion of pipes, Capital Region Water adjusts the pH of the water and also adds a corrosion inhibitor (orthophosphate).

HOW DO I KNOW IF I HAVE LEAD IN MY WATER?

Customers can contract with a local environmental testing lab or purchase in-home test kits at their local hardware store. Capital Region Water does not recommend or endorse any specific laboratory or in-home test kit.

HOW CAN I MINIMIZE MY POTENTIAL EXPOSURE TO LEAD IN WATER?

When your water has been sitting for several hours, such as overnight, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.


DeHart Reservoir

CONSIDER THE SOURCE: FROM RAINDROP TO TAP

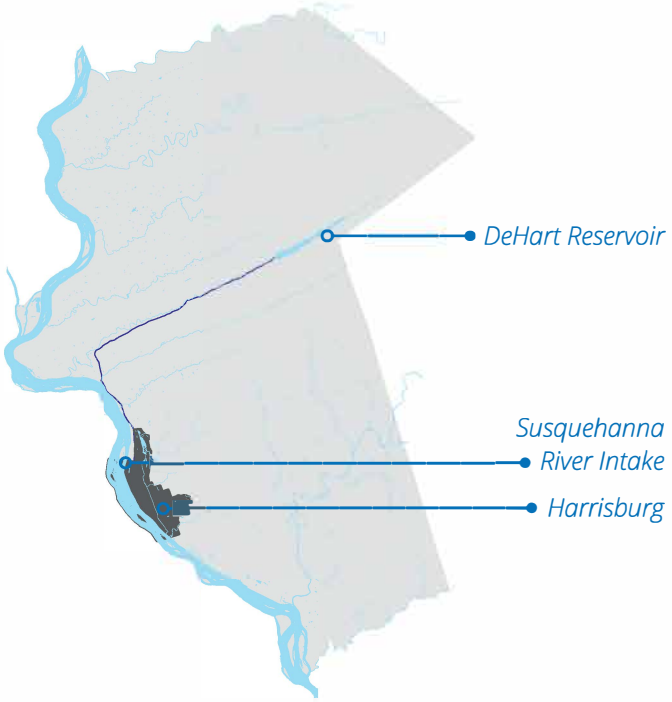
The place where your drinking water comes from is called the source. Your primary source of drinking water comes from the DeHart Dam and Reservoir, located 20 miles northeast of Harrisburg in the pristine Clarks Valley.

The area of land draining to the source is called a watershed.

The watershed draining to the DeHart Reservoir is almost entirely made up of forest, the best type of land use for drinking water.

The Susquehanna River is your secondary source and can be utilized in case of severe drought or emergency.

As part of Capital Region Water's ongoing efforts to be proactive and ensure reliable service, Capital Region Water temporarily pumped and treated water from the Susquehanna River for 11 days in October 2018 to ensure its reliability during a potential emergency.



PROTECTING THE SOURCE

A Source Water Assessment of Capital Region Water's sources was completed by the Pennsylvania Department of Environmental Protection (DEP) in 2003. The Assessment found that our primary source is most susceptible to on-lot septic systems and fuel oil storage facilities. A summary report of the Assessment is available at: capitalregionwater.com/sourcewaterprotection. It is also available by visiting the Source Water Assessment Summary Reports eLibrary at: www.elibrary.dep.state.pa.us/dsweb/View/Collection-10045. Copies of the complete report are available for review at the Pa. DEP South Central Regional Office, Records Management Unit at (717) 705-4700.

A voluntary Source Water Protection Plan was completed by Capital Region Water and approved by DEP in 2015. This plan includes the inventory of potential sources of contaminants in the assessment area and identifies management options for best protecting our water sources. You can find this Plan and more information about CRW's Source Water Protection efforts online at capitalregionwater.com/sourcewaterprotection. Capital Region Water has prioritized watershed protection and pollution prevention. Over the last few years, efforts have been made to permanently protect the DeHart Property and Capital Region Water's primary source of water supply.

DRINKING WATER TREATMENT

The Water Services Center was built in 1994 and is capable of producing 20 million gallons of drinking water a day.

As raw water enters the treatment facility, an electric turbine uses water pressure and flow to create renewable electricity.

Next, a combination of soda ash, caustic soda, and alum are added, based on the season, causing small particles to adhere together. This coagulation process creates heavier particles that will settle in the sedimentation basins.

After sedimentation, chlorine is added for disinfection of bacteria and pathogenic organisms, those that can produce diseases. The water is then filtered to remove any remaining particulate matter.

After filtration, caustic soda and soda ash are added to adjust pH and fluoride is added as a measure to prevent tooth decay.

Next, the water goes into the clearwell to allow contact time with chlorine. Zinc orthophosphate is then added to control corrosion in the distribution system and the treated water is pumped to four finished water storage reservoirs in Reservoir Park from which the potable water is gravity fed to your homes, businesses, and institutions.

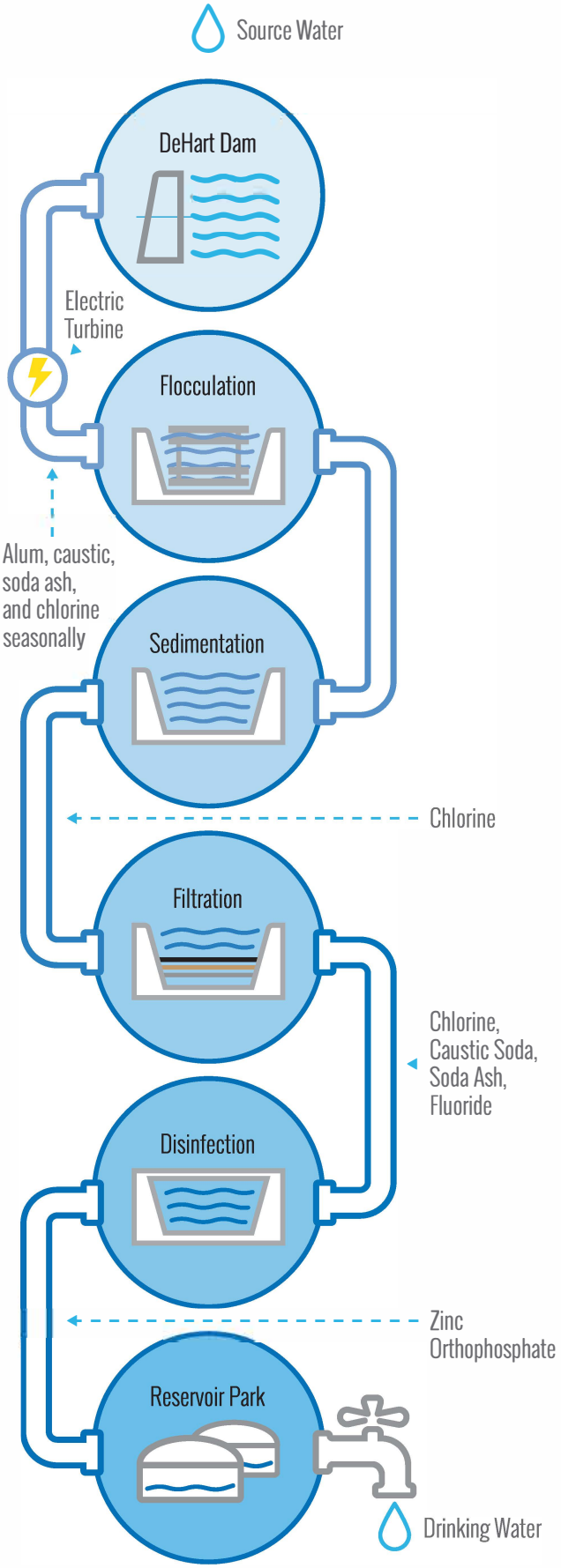
DISTRIBUTION SYSTEM: BRINGING WATER TO HOMES AND BUSINESSES

Capital Region Water operates almost 230 miles of water mains that range from 6 inches to 42 inches in diameter and 1,800 fire hydrants. Please report issues with water mains and fire hydrants by calling 888-510-0606. This phone number is monitored 24 hours a day.

In 2018, Capital Region Water replaced 1,000 feet of water mains, repaired 19 main breaks, and repaired or replaced 71 fire hydrants to maintain reliable service.

Homeowners are responsible for the service line that runs between the main and their home.

Water Services Center



WATER CONTAMINANTS

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and DEP prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. FDA (Federal Department of Agriculture) and DEP regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

SPECIAL HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

CRYPTOSPORIDIUM MONITORING

Capital Region Water collected a set of cryptosporidium samples from its primary and secondary source water, prior to treatment, every month between January and September 2017. No cryptosporidium was found on the primary source water (DeHart Reservoir) and the highest cryptosporidium count was 1.0 Oocyst per 10 liters on the secondary source water (Susquehanna River).

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal.

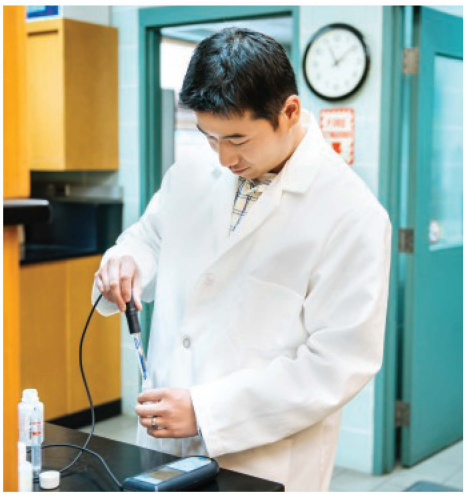
Capital Region Water's monitoring indicates the presence of these organisms in its secondary source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

MONITORING YOUR WATER

Capital Region Water routinely monitors for contaminants in your drinking water in compliance with all federal and state laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2018. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. The date has been noted on the sampling results table.

MICROBIOLOGICAL SAMPLING AND ANALYSES

Capital Region Water's water quality laboratory collects and analyzes over 70 drinking water samples each month from the distribution system to test for total coliform and E.coli bacteria, which are naturally present in the environment. Their presence is an indicator that other potentially harmful pathogens may be present. The maximum contaminant level for coliform bacteria is less than 5% positive samples; our maximum contaminant level goal is zero.



DEFINITIONS

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Minimum Residual Disinfectant Level (MinRDL) - The minimum level of residual disinfectant required at the entry point to the distribution system.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

Mrem/year = millirems per year (a measure of radiation absorbed by the body)

pCi/L = picocuries per liter (a measure of radioactivity)

ppb = parts per billion, or micrograms per liter (µg/L)

ppm = parts per million, or milligrams per liter (mg/L)

ppq = parts per quadrillion, or picograms per liter

ppt = parts per trillion, or nanograms per liter

Level 1 Assessment - A Level 1 Assessment is a study of the water system to identy potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on mulitple occasions.

2018 SAMPLING RESULTS TABLES

CHEMICAL CONTAMINANTS

Contaminant	MCL	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation	Sources of Contamination
Barium	2	2	0.012	0.012	ppm	2018	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride	2*	4	0.65	0.65	ppm	2018	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.

**EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.*

DISTRIBUTION DISINFECTANT RESIDUAL

Contaminant	MRDL	MRDLG	Highest Level Detected	Range of Detections	Units	Month of Highest Average Result	Violation	Sources of Contamination
Chlorine	4	4	1.31	0.92-1.31	ppm	December 2018	No	Water additive used to control microbes.

ENTRY POINT DISINFECTANT RESIDUAL

Contaminant	MinRDL	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation	Sources of Contamination
Chlorine	0.2	0.82	0.82-2.22	ppm	7/25/2018	No	Water additive used to control microbes.

DISINFECTION BYPRODUCTS

Contaminant	MCL	MCLG	Average Level Detected	Range of Detections	Units	Sample Date	Violation	Sources of Contamination
Haloacetic Acids	60	NA	38.72	23.80-79.00	ppb	2018	No	By-product of drinking water chlorination.
Total Trihalo-methanes	80	NA	41.64	21.80-138.00	ppb	2018	No	By-product of drinking water chlorination.

No MCL's or Treatment Techniques were exceeded in 2018.

LEAD AND COPPER

Contaminant	Action Level (AL)	MCLG	90% of Samples Were Less Than	Units	# of Sites Above AL	Violation	Sources of Contamination
*Lead	90% of samples must be below 15	0	0	ppb	0	No	Corrosion of household plumbing.
*Copper	90% of samples must be below 1.3	1.3	0.080	ppm	0	No	Corrosion of household plumbing.

**Lead and copper results are from 2016. The next testing cycle will take place in 2019.*

RADIOACTIVE CONTAMINANTS

Contaminant	MCL	MCLG	Level Detected	Units	Sample Date	Violation	Sources of Contamination
Radium-226	5	0	0.117	pCi/L	2014	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.

MICROBIAL CONTAMINANTS

Contaminant	TT	MCLG	Assessments/ Corrective Actions	Violation	Sources of Contamination
Total Coliform Bacteria	Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement.	N/A	N/A	No	Naturally present in the environment.
E. coli	Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement	0	Positive Samples: 0	No	Human and animal fecal waste.

TURBIDITY

Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation	Sources of Contamination
Turbidity	1 NTU for a single measurement	0	0.100 NTU highest level detected	6/16/2018	No	Soil runoff.
	At least 95% of monthly samples <0.3 NTU		100% of samples <.3 NTU	12 months	No	

TOTAL ORGANIC CARBON

Contaminant	Range of % Removal Required	Range of % Removal Achieved	Number of Quarters Out of Compliance	Violation	Sources of Contamination
Total Organic Carbon	35	46.9 - 59.2	0	No	Naturally present in the environment.

LEARN MORE AND PARTICIPATE

Capital Region Water wants you to be informed about your water supply and strongly encourages your participation in decisions that impact your water.

If you want to learn more, please attend any of our regularly scheduled meetings. Capital Region Water's Board of Directors meetings are held at 6:00PM on the 4th Wednesday of every month at 212 Locust Street except for November and December which are held on the third Wednesday of the month.

VIOLATIONS

Capital Region Water received a reporting violation in 2018. A second quarter disinfection byproduct (DBP) test result was reported late to the Pennsylvania Department of Environmental Protection (DEP) by our contracted laboratory. The original sample was taken within the required timeframe, but the lab was unable to test it and report the results. An additional sample was taken later in the quarter, tested, and reported to DEP, which was within acceptable limits.

DRINKING WATER FREQUENTLY ASKED QUESTIONS

Why is my water discolored?

If your water is rusty, yellowish, or brownish, the color is likely a result of iron, rust, or mineral build up. This may occur when there is an upset in the distribution system (such as a water main break) or when the direction of water flow changes (such as during hydrant use to extinguish a fire or during routine hydrant flushing). Discolored water may also result from internal plumbing issues. A rust problem is usually short-lived and we recommend that you do not wash clothes if you notice discolored water because the clothes may stain.

Why does my water appear milky?

When water is cold, such as during the winter, there is more air in it. When the cold water enters your home, the water warms up and air is released from the water. The air in the water will give it a milky or cloudy appearance. When you open the faucet to fill a glass, the air is released as bubbles similar to what you see when shaking a soda. As the water sits in the glass, it will clear from the bottom of the glass to the top. The air is not harmful. The more air in the water, the longer it will take for the water to clear and more cloudy or milky it looks.

Why is there pink slimy material in my toilet bowl, my pet's dish, my sink drain, bathtub, or shower head?

Bacteria grow well in these areas because they are moist and provide a food source for the bacteria to thrive on. The bacteria can be found in the air, in soil, in water, or on household surfaces. Orange and pink are common colors for many bacteria which can be a challenge to remove from these areas. Periodic and routine cleaning of these areas followed by disinfection with a chlorine-based cleaner is the best way to control it.

What are these black particles in my water?

Black particles most often come from a water filter, a degraded faucet washer or gasket, or from a deteriorated flexible supply hose. If the particles look similar to coffee grounds, they are probably granular activated carbon from inside a water filter. This is easily fixed by replacing the filter cartridge. If the problem persists, consult with the manufacturer of the unit or a water systems professional to make sure a bigger problem is not to blame. If the particles are small black specks that look oily or sooty, they are probably from a black rubber flexible hose. Over time, the chlorine in the water breaks down the rubber. To fix this problem, simply replace the hose with one that has a protective lining.

Why does my water smell like rotten eggs or sewage?

If you notice a smell similar to rotten eggs (sulfur) or sewage when running water, it might be caused by gases residing in the sink drain. In the drain, bacteria live on food, soap, hair, etc. When water goes down a drain, these gases are released into the air. These odors are often mistakenly associated with the water because they are observed only when the water is running. In this case, the odor is not in the water, it is merely the water pushing the gas out of the drain. To resolve the drain odor, we recommend that you clean the drain.

CAPITAL REGION WATER

2019 DRINKING WATER QUALITY REPORT