2021 Annual Water Quality Report

January 2021 through December 2021

Distributed: May 2022

Jannette Mariani
Austell Water System
5000 Austell-Powder Springs Road,
Suite 133
Austell, Georgia 30106

E-Mail: jannette@austellga.gov
Internet: www.austellga.gov

Office: (770) 944-4325
Fax: (770) 944-4335

Water System Identification Number
GA0670001

THIS IS AN ANNUAL REPORT ON THE QUALITY OF WATER DELIVERED TO YOU BY THE CITY OF AUSTELL WATER SYSTEM. THIS REPORT MEETS THE FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS FOR THE CONSUMER CONFIDENCE REPORT (CCR) AND CONTAINS INFORMATION ON THE SOURCE OF OUR WATER, ITS CONSTITUENTS, AND THE HEALTH RISKS ASSOCIATED WITH ANY CONTAMINANTS.

Safe water is vital to our community. Please read this report carefully, and if you have any questions, contact Austell Public Works at (770) 944-4325 or by e-mail to jannette@austellga.gov.

Overview

Water Source

The City of Austell is a wholesale customer of the Cobb County – Marietta Water Authority which has two (2) surface water sources supplying two treatment facilities. The Wyckoff Treatment Division is supplied from Allatoona Lake, a United States Corps of Engineers impoundment in north Cobb, south Cherokee, and south Bartow counties. The Quarles Treatment Division receives water from the Chattahoochee River.

Cobb County – Marietta Water Authority and the Atlanta Regional Commission completed a source water assessment itemizing potential sources of water pollution to our surface drinking water supplies. This information can help you understand the potential for contamination of your drinking water supplies and can be used to prioritize the need for protecting drinking water sources.

A Source Water Assessment is a study and report which provides the following information:

- Delineating the water supply watershed for each drinking water intake
- Developing an inventory of potential sources of contamination
- Determining the susceptibility of drinking water sources to identified potential sources of contamination, and
- Increasing public involvement in and awareness of drinking water watershed concerns.

For more information on this project visit the Source Water Assessment website below or you can request information by mail from the Atlanta Regional Commission:

Attention: Source Water Assessment
Environmental Planning Division
Atlanta Regional Commission
40 Courtland Street, NE
Atlanta, Georgia 30303

Website:
http://www.atlantaregional.org

An Explanation of the Water Quality Data Table

The table shows the results of our water quality analyses. Every contaminant regulated by United States Environmental Protection Agency that was detected in the water, even in the minutest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the usual sources of such contamination, footnotes explaining our finding, and a key to units of measurement. Definitions of MCL, MCLG, AL, and TT are important:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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

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

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 microbiological 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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

The data presented in this report are from the most recent testing done in accordance with regulations.

Key to Table	
AL: Action Level	PPM: parts per million or milligrams per liter (mg/L)
MCL: Maximum Contaminant Level	PPB: parts per billion or micrograms per liter (Φg/L)
MCLG: Maximum Contaminant Level Goal:	TT: Treatment Technique
NTU: Nephelometric Turbidity Unit	N/A: Not Applicable
MRDL: Maximum Residual Disinfectant Level	N/D: Not Detected
MRDLG: Maximum Residual Disinfectant Level Goal	BDL: Below Detection Limits

Tables of Contaminants

INORGANIC CONTAMINANTS

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Major Sources	Violation
Fluoride[1]	2021	PPM	4	4	0.89	0.59-0.89	Erosion of natural deposits; water additive which promotes strong teeth	No
Nitrate/Nitrite[2]	2021	PPM	10	10	0.74	0.30-0.74	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits	No

Notes:
[1]Fluoride is added to water to help in the prevention of dental cavities (caries) in children.
[2]Nitrate and Nitrite are measured together as N.

LEAD AND COPPER

Contaminant	Date Tested	Unit	MCL	MCLG	90% of tested sites were less than	# Sites Exceeding the AL	Major Sources	Violation
Lead[3]	2021	PPB	AL = 15	0	2.0	0	Corrosion of household plumbing systems.	No
Copper[4]	2021	PPM	AL = 1.3	0	0.040	0	Corrosion of household plumbing systems.	No

Notes:
[3]The next round of testing is due in 2023
[4]The next round of testing is due in 2023.

DISINFECTION BY-PRODUCTS, BY-PRODUCT PRECURSORS, AND DISINFECTANT RESIDUALS

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Range	Major Sources	Violation
TTHM's (Total Trihalomethanes) Stage 2	2021	PPB	80	0	37.2 [5]	16.27-37.2	By-products of drinking water disinfection	No
HAA5's (Haloacetic Acids) Stage 2	2021	PPB	60	0	28.2 [5]	21.2-28.2	By-products of drinking water disinfection	No
TOC (Total Organic Carbon)	2021	PPM	TT	N/A	1.8	0.9-1.80	Decay of organic matter in the water withdrawn from sources such as lakes and streams	No
Chlorite	2021	PPM	1.0	0.8	0.42	0.041-0.42	Byproduct of drinking water disinfection	No
Chlorine (Free)	2021	PPM	MRDL = 4	MRDLG = 4	2.00	0.00-2.00	Drinking water disinfectant	No

Note: [5]The highest detected LRAA (Locational Running Annual Average) at site 501 & 502

TURBIDITY							
Contaminant	MCL	MCLG	Level Found	Range	Sample Date	Violation	Typical source
Turbidity[6]	TT = 1 NTU	0	0.14	N/A	2021	No	Soil runoff
	TT = percentage of samples <0.3 NTU		100%	N/A			
Note: [6]Turbidity is a measure of the cloudiness of the water. This is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.							

MICROBIOLOGICAL CONTAMINANTS (System Collecting more than 40 Total coliform samples per month)							
Contaminant	MCL	MCLG	TT level 1 Assessment Trigger	Level Detected	Samples Dates	Violation	Typical Source
Total coliform	TT	N/A	Exceeds 5.0% TC+ samples in a month	0	Jan thru Dec 2021	No	Naturally present in the environment
Escherichia coli (E. coli) bacteria	One Positive Sample*	0		0	Jan thru Dec 2021	No	Human or animal fecal waste

MICROBIOLOGICAL CONTAMINANTS (System Collecting fewer than 40 Total coliform samples per month)							
Contaminant	MCL	MCLG	TT level 1 Assessment Trigger	Level Detected	Sample Dates	Violation	Typical Source
Total coliform	None	None	2 or more TC+ samples in a month	0	Jan thru Dec 2021	No	Naturally present in the environment
Escherichia coli (E. coli) bacteria	One Positive Sample*	0	N/A	0	Jan thru Dec 2021	No	Human or animal fecal waste

*A PWS will receive an E. coli MCL violation when there is any combination of an EC+ sample result with a routine/repeat TC+ or EC+ sample result with a routine/repeat TC+ pr EC+ sample result

Cobb County- Marietta Water Authority

Microbiological Contaminants							
Contaminant	**MCL**	**MCLG**	**TT Level 1 Assessment Trigger**	**Level Detected**	**Sample Dates**	**Violation**	**Likely Source**
Total Coliform	TT	n/a	Exceeds 5.0% TC+ samples in a month	**1**	06/28/2021	NO	Naturally present in the environment
E. coli	One Positive Sample*	0	n/a	**1**	06/28/2021	NO	Human or animal fecal waste
Notes: Recheck samples were absent for Total Coliform and *E. coli*. Sample was collected by an inexperienced sampler during COVID reduced staffing.							

* A PWS will receive an E. coli MCL violation when there is any combination of an EC+ sample result with a routine/repeat TC+ or EC+ repeat sample result

Unregulated Contaminants

Unregulated Contaminants PFAS	Date of Test 8/5/21 Quarles WTP ng/L	Date of Test 4/6/21 Wyckoff WTP ng/L	No Maximum Limit MCL By EPA	Aesthetic Standards SMCL pCi/L	EPA Limit Met by CCMWA?	Sources of Contaminant in Drinking Water	Frequency of Test
Perfluorooctanoic acid (PFOA)**1**	2.4	Not detected	n/a	No EPA Limit	n/a	PFOAs come from a wide range of consumer products, stain-resistant carpet, water-repellent clothes, paper and cardboard packaging, ski wax, and foams used to fight fires. PFOA is also created when other chemicals break down.	No requirement
Perfluorooctanesulfonic acid (PFOS)**1**	2.3	Not detected	n/a	No EPA Limit	n/a	PFOA can still be found in older consumer products in which it was used before phase-out. PFOA is used in household goods including non-stick coatings like Gore-Tex or cookware (think Teflon), or in carpet and furniture that have been treated to be stain resistant.	No requirement
Perfluorobutanesulfonic acid (PFBS)**2**	2.2	Not detected	n/a	No EPA Limit	n/a	PFBS is the replacement chemical for Scotch guard water repellant. It has been used as a surfactant in industrial processes and in water-resistant or stain-resistant coatings on consumer products such as fabrics, carpets, and paper.	No requirement
Perfluoroheptanoic acid (PFHpA)	Not detected	Not detected	n/a	No EPA Limit	n/a	Breakdown product of stain- and grease-proof coatings on food packaging, couches, carpets. A 7-carbon version of PFOA	No requirement
Perfluorohexanesulfonic acid (PFHxS)	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include firefighting foams, textile coating, metal plating and in polishing agents	No requirement
Perfluorononanoic acid (PFNA)	Not detected	Not detected	n/a	No EPA Limit	n/a	PFNA is used as surfactant for the production of the fluoropolymer polyvinylidene fluoride	No requirement
Perfluorodecanoic acid (PFDA)	Not detected	Not detected	n/a	No EPA Limit	n/a	PFDA is a fluorosurfactant and has been used in industry, with applications as wetting agent and flame retardant.	No requirement
Perfluorohexanoic acid (PFHxA)**3**	3.4	Not detected	n/a	No EPA Limit	n/a	PFHxA is breakdown product of stain- and grease-proof coatings on food packaging and household products.	No requirement
Perfluorododecanoic acid (PFDoA)	Not detected	Not detected	n/a	No EPA Limit	n/a	PFDoA is a product of stain- and grease-proof coatings on food packaging, soft furnishings, and carpets.	No requirement

Perfluorotridecanoic acid (PFTrDA)	Not detected	Not detected	n/a	No EPA Limit	n/a	PFTrDA is a product of stain- and grease-proof coatings on food packaging, soft furnishings and carpets.	No requirement
Perfluoroundecanoic acid (PFUnA)	Not detected	Not detected	n/a	No EPA Limit	n/a	PFUnA is a product of stain- and grease-proof coatings on food packaging, soft furnishings, and carpets.	No requirement
N-ethyl Perfluorooctanesulfonamidoacetic acid	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include stain- and grease-proof coatings on food packaging, soft furnishings, and carpets.	No requirement
N-methyl Perfluorooctanesulfonamidoacetic acid	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include stain- and grease-proof coatings on food packaging, soft furnishings, and carpets.	No requirement
HFPO-DA/GenX	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include food packaging, paints, cleaning products, non-stick coatings, outdoor fabrics, and firefighting foam.	No requirement
4,8-dioxia-3H-perflourononanoic acid (ADONA)	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include food packaging, paints, cleaning products, non-stick coatings, outdoor fabrics and firefighting foam.	No requirement
9Cl-PF3ONS/F-53B Major	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include food packaging, paints, cleaning products, non-stick coatings, outdoor fabrics and firefighting foam.	No requirement
11Cl-PF3OUdS/F-53B Minor	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include food packaging, paints, cleaning products, non-stick coatings, outdoor fabrics and firefighting foam.	No requirement
Perfluorotetradecanoic acid (PFTeDA)	Not detected	Not detected	n/a	No EPA Limit	n/a	Sources include food packaging, paints, cleaning products, non-stick coatings, outdoor fabrics and firefighting foam.	No requirement
1PFOA and PFOS- The EPA only has health advisories for PFOA and PFOS, which are 70 ppt (ng/L). This is combined or individual. The detects for these compounds for Quarles were 2.4 and 2.3 ng/L respectively. Well below the health advisory level.							
2PFHxA- The State of Illinois has a health advisory for PFHxA, while EPA does not. The Illinois health advisory is 560,000 ppt (ng/L). The detected amount for Quarles was 3.4 ng/L.							
3PFBS- The State of Illinois has a health advisory for PFBS, while EPA does not. The Illinois health advisory is 2,100 ppt (ng/L). The detected amount for Quarles was 2.2 ng/L.							

Cryptosporidium Information

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. 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. The monitoring of our source water performed in 2013 had <u>no detection</u> of cryptosporidium. Testing was only required for a period of nine months in 2013.

Additional Health Information

To ensure tap water is safe to drink, the United States Environmental Protection Agency prescribes limits on the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration regulations establish limits for contaminants in bottled water.

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 United States Environmental Protection Agency's **Safe Drinking Water Hotline at 1-800-426-4791.**

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. The City of Austell is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, 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 or at http://www.epa.gov/safewater/lead.

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 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:

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

b) Inorganic contaminants such as salts and metals which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

c) Pesticides and herbicides which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.

d) Organic chemical contaminants, including synthetic (man-made) and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gasoline stations, urban storm water runoff, and septic systems.

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

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-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 people, and infants can be particularly at risk. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the United States Environmental Protection Agency's **Safe Drinking Water Hotline at 1-800-426-4791**.

Basic Information on PFAS

What are PFAS compounds?

PFAS is a catch-all term for per- and polyfluoroalkyl substances, which is a group of more than 5,000 synthetic chemicals.

Where did PFAS Come From?

Processes to commercially produce PFAS were first developed in the 1940s. In the 1950s, 3M was able to use these processes to begin manufacturing various PFAS, including PFOA and PFOS—two types of PFAS—for product applications. In the 1950s, 3M launched several products based on PFAS, including Scotchgard™.

They seemed to be great products that provided properties that were very desirable, such as stain resistance and water proofing. Then life-saving firefighting foam was also developed using these compounds in the 1960's. The development of new and helpful products from manufacturers continued from there.

These chemicals are now used to make the variety of consumer and manufacturer products that we see and use today. Who does not love the fact that you can microwave popcorn and the outside of the bag is not wet and greasy or that your couch is resistant to stains? But the convenience can be at the cost of health and environmental issues.

A partial list of products that can contain PFAS chemicals:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes, candy wrappers, bakery bags, sandwich wrappers, and french-fry boxes.
- Nonstick cookware.
- Stain resistant coatings used on carpets, upholstery, and other fabrics.
- Water resistant clothing.
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup) body lotion, body oil, foundation, concealer, blush, cuticle treatment, eye cream, eye pencil, eye shadow, brow products, hair creams, conditioners, anti-frizz cream, lip liner, makeup remover, anti-aging cream, mascara, moisturizer, bars of soap, shampoo, nail polish, nail strengthener, powder, hair spray and mousse, lip balm, lipstick, skin scrub, shaving cream, and sunscreen and hand sanitizer
- Cleaning products.
- Paints, varnishes, and sealants
- high-density polyethylene plastic containers
- Sharpie®-type markers, Post-It Notes®, Teflon®, Gore-Tex™, and Tyvek®
- lubricants for bicycles, coatings for tennis rackets, ski wax, fishing lines, some and sail covers
- aerially sprayed pesticides

How do PFAS get into the Environment?

Consumer use of products with PFAS results in waste that must go somewhere. Consumers inadvertently rinse these products down the drain which sends the PFAS contaminants to the wastewater treatment plants. The papers and other solid wastes which consumers place in trash are sent to landfills.

Manufacturers use PFAS to make products and then send their wastewater to the sanitary sewer or solid waste products may be sent to landfills.

The contaminated water flowing from the landfill could be sent to a wastewater treatment plant or just end up in the groundwater.

Wastewater treatment plants are not a source of PFAS, but they are also not designed to process the chemicals into safer compounds. As a result, any PFAS that come into a treatment plant typically end up in the discharge water or biosolids produced by the plant. In many states, the discharged treated wastewater is typically sent to surface waters, and the treated biosolids are often used as fertilizer on farms.

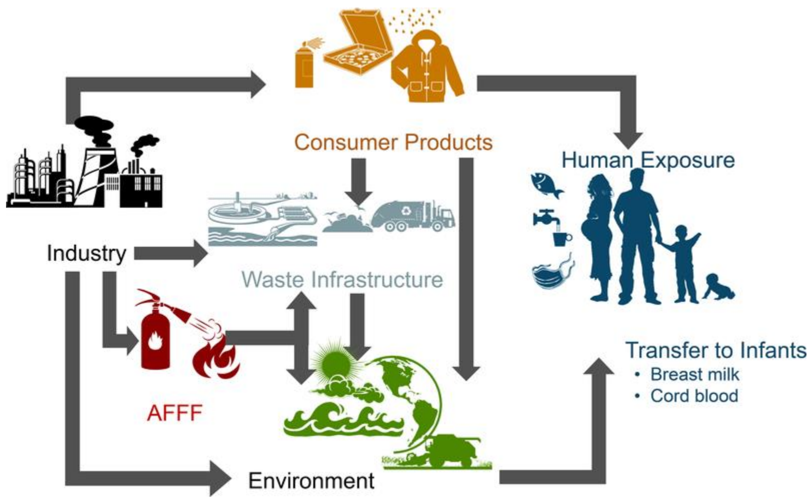
Firefighting foams are another important source of PFAS in the environment. These foams are often used at airports and military operations, as well as for putting out major fires. The foams have been used for training at these locations for years.

Once PFAS are in the environment, the chemical structure of individual chemicals determines where they end up and how long they last. The structure determines how much of each PFAS chemical will wind up in soil and organisms compared to how much will dissolve in water. For example, PFAS with long carbon chains, like PFOS, are more likely to be found in organisms than PFAS with short carbon chains.

As a group of chemicals, PFAS have many carbon-fluorine bonds. These bonds are very strong and hard to break, meaning that there are not many ways of breaking down the compounds. This is why PFAS are sometimes described as "forever chemicals."

How am I exposed to PFAS?

Exposure can occur when someone uses certain products that contain PFAS, eats PFAS-contaminated food, or drinks PFAS-contaminated water. We all love our non-stick pans; but cooking food in them with PFAS coatings can result in the PFAS leaching into our food. When ingested, some PFAS can build up in the body and, over time, these PFAS may increase to a level where health effects could occur.



Drinking water is not considered a substantial source of PFAS unless there is a direct point source of contamination such as a manufacturer of PFAS chemicals or an airport where firefighting AFFF chemicals have been used.

Why the sudden concern about PFAS?

There is evidence that exposure to PFAS can lead to adverse health outcomes in humans. If humans, or animals, ingest PFAS (by eating or drinking food or water than contain PFAS), the PFAS are absorbed, and can accumulate in the body. PFAS stay in the human body for long periods of time. As a result, as people are exposed to PFAS from different sources over time, the level of PFAS in their bodies may increase to the point where they suffer from adverse health effects.

Studies indicate that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animal studies. The most consistent findings from human epidemiology studies are increased cholesterol levels among exposed populations, with more limited findings related to: infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS).

Oral exposure studies of PFBS in animals have shown effects on thyroid hormone disruption, reproductive organs and tissues, developing fetus, and kidney. Based on dose-response information across different sexes, life stages, and durations of exposure, the thyroid appears to be particularly sensitive to oral PFBS exposure.

Has my water been tested for PFAS?

In 2013 several of Cobb County- Marietta Water Authority wholesale customers participated in the EPA Unregulated Contaminant Monitoring Rule 3 (UCMR 3). Six PFAS compounds, which were of the most concern in drinking water were included in this testing. The testing was done from multiple sites on different days. There were no detections of any of these six compounds from any of these samples.

In 2020 the results were a water system in Virginia downstream of a manufacturer had average levels of 3,550 ng/L

What are the options for Drinking Water Systems to address PFAS Contamination?

There is no simple and inexpensive technology for removing PFAS from drinking water effectively. Selecting drinking water treatment options to remove PFAS typically requires a case-by-case evaluation to identify the best option and to design and install a treatment facility.

Current options for drinking water treatment technologies to remove PFAS include granular activated carbon, ion exchange and reverse osmosis. Of these, granular activated carbon, or GAC, is the most common, with many water treatment facilities already using it to remove other contaminants. The design of the GAC filter and how often the carbon is exchanged can affect performance significantly.

The type of PFAS present, such as long- or short-chain, their concentrations and the potential presence of other contaminants all are factors that determine which treatment technology will be most effective or appropriate. Studies have shown that perfluorinated sulfonates, such as PFOS, are more effectively removed than perfluoroalkyl acids, such as PFOA, and that longer-chain PFAS are more effectively removed by GAC than shorter-chain.

Studies have demonstrated that reverse osmosis treatment is effective for removal of all types of long and shorter-chain PFAS we tested for, including PFOS, PFOA, PFBS, PFHxS, PFHxA and PFNA. This technology can also be combined with GAC to achieve higher removal rates or maintain the efficacy of the sensitive reverse osmosis membranes. However, water-treatment-plant-size reverse osmosis systems are expensive, require significant expenditures of energy and waste a lot of water, a problem in water-scarce areas.

Operating and maintenance costs are also important components to consider as part of the design of a long-term treatment plant, as are options for the disposal of PFAS removed from drinking water. Identifying safe ways to dispose of “forever chemicals” creates a new set of challenges. Once loaded with PFAS, GAC and ion exchange resins require disposal and could end up in incinerators or landfills and create contamination issues for local communities. PFAS-loaded wastewater produced from reverse osmosis must be treated before disposal.