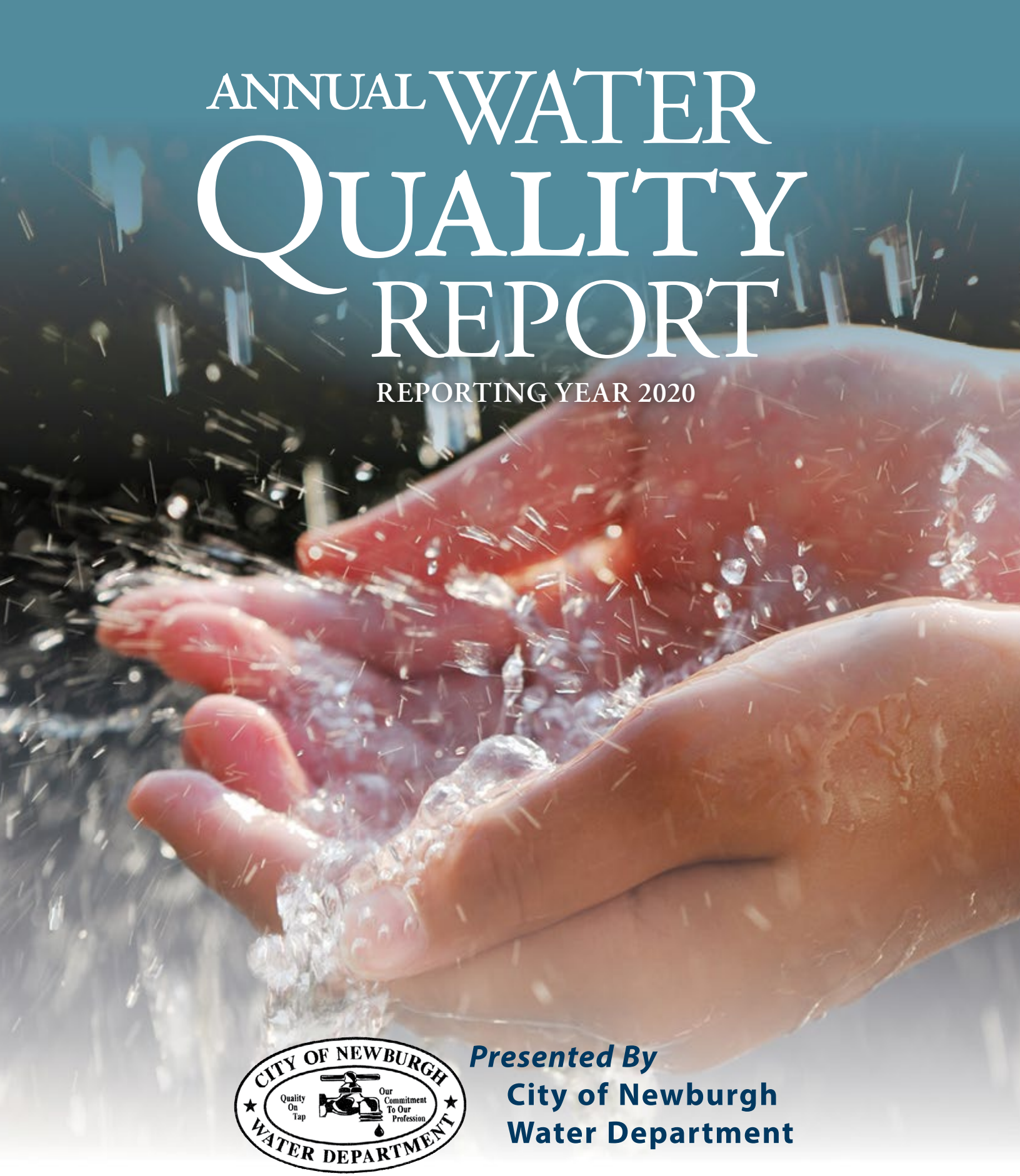


ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

CITY OF NEWBURGH
Quality On Tap
Our Commitment To Our Profession
WATER DEPARTMENT

Presented By

City of Newburgh
Water Department

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: 3503549

Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As you know, 2020 was a year like no other, but I want all of our customers to know that, as in years past, even with the challenges of a national pandemic, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users.

Our dedication to the City of Newburgh community continues, and we want our customers to know we're here when you need us! Thank you for allowing us the opportunity to serve you and your family, and we truly look forward to seeing you all in person soon.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

> "We remain vigilant in delivering the best-quality drinking water"

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the second and fourth Mondays of each month, except in July and August, when there is only one meeting. Meetings take place at 7:00 p.m. in the Council Chambers at City Hall, 83 Broadway, Newburgh. For more information concerning City Council meetings, contact the Executive Office at (845) 569-7301. There is always an open forum to express your opinions and ideas. Visit us online at www.cityofnewburgh-ny.gov.

Important Health Information

Some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immunocompromised 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, Giardia, and other microbial pathogens are available from the Safe Drinking Water Hotline at (800) 426-4791.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Mr. Wayne Vradenburgh, Superintendent of Water, at (845) 565-3356. You may also contact the Orange County Department of Health at (845) 291-2331.

Where Does My Water Come From?

The City of Newburgh's drinking water filtration plant is able to utilize two surface water sources to produce clean drinking water. These surface water sources are Brown's Pond (Silver Stream Reservoir) and the New York City Catskill Aqueduct. Until May 2016, the city primarily obtained source water from Washington Lake. Due to the presence of perfluorinated chemicals (PFAS) found within Washington Lake, and in response to more stringent contaminant-level goals imposed by the U.S. EPA and New York State Department of Health (NYS DOH), the city discontinued the use of that source. The city is actively working with various local, state, and federal agencies and environmental organizations to identify the sources of contamination affecting Washington Lake and develop strategies for both remediation and future protections.

Until Washington Lake and its watershed are fully remediated and adequately protected, the City of Newburgh's Water Department utilizes the Catskill Aqueduct as its primary supply of source water and Brown's Pond (Silver Stream Reservoir) as a backup supply when the Catskill Aqueduct is unavailable. The Catskill Aqueduct was shut down several times in 2020 for planned maintenance. Below is a timeline that describes the sources of water that the City of Newburgh used during 2020.

PERIOD	WATER SOURCE
January 1–26, 2020	Brown's Pond (Silver Stream Reservoir)
January 27–November 29, 2020	Catskill Aqueduct
November 30–December 31, 2020	Brown's Pond (Silver Stream Reservoir)

Substances That Could Be in Water

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, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include Microbial Contaminants, Inorganic Contaminants, Pesticides and Herbicides, Organic Chemical Contaminants, and Radioactive Contaminants.

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. In order to ensure that tap water is safe to drink, the state and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. State health department and U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Fluoridation of Our Water

Our system is one of the many drinking water systems in New York state that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. The City of Newburgh Water Department monitors fluoride levels on a daily basis to maintain a target level of 1.0 milligram per liter (mg/L), or part per million (ppm). According to the Centers for Disease Control and Prevention (CDC), fluoride is very effective in preventing cavities when present in drinking water at an optimal range of 0.8 to 1.2 ppm. To ensure that the fluoride supplement in your water provides optimal dental protection, the state Department of Health requires that we monitor fluoride levels on a daily basis. During 2020, monitoring showed fluoride levels were within 0.2 mg/L of the target level 100 percent of the time. None of the monitoring results showed fluoride at levels approaching the 2.2 ppm MCL for fluoride.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Source Water Assessment

The NYS DOH has evaluated our susceptibility to contamination under the Source Water Assessment Program (SWAP), and its findings are summarized below. These assessments were created using available information; they estimate only the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has occurred or will occur. We provide treatment and regular monitoring to ensure that the water delivered to customers meets all applicable standards.

The analysis of available information for this source water assessment did not find any significant sources of contamination in the watershed. Statewide and local databases of permitted facilities were used to identify discrete potential sources of contamination. No discrete sources were identified within the assessment area. Land use within the watershed was evaluated by contaminant category to rate the likely prevalence of contamination associated with the land use.

The contaminant category rating was determined to be medium for microbial contamination due to agricultural practices in the watershed. The overall susceptibility of this watershed to potential sources of contamination was found to be medium for microbial contamination. A copy of the assessment, including a map of the area, can be obtained by contacting the City of Newburgh Water Department.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council (NRDC), bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The FDA is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out its website at https://goo.gl/Jxb6xG.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air-conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (back pressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back siphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Substances Below Detection Limits

The following is a list of regulated potential drinking water contaminants that the City of Newburgh tested for but did not detect.

1,1-Dichloroethane
1,1-Dichloropropane
1,1,1-Trichloroethane
1,1,1,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,3-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Chlorotoluene
2,2-Dichloropropane
2,4-D
2,4,5-TP (Silvex)
3-Hydroxycarbofuran
4-Chlorotoluene
Aidicarb
Aidicarb sulfone
Aidicarb sulfoxide
Alachlor
Aldrin
Antimony
Arsenic
Atrazine
Chromium
Benzene
Benzo(a)pyrene
Beryllium
Bis(2-ethylexyl)adipate
Bis(2-ethylexyl)phthalate
Bromobenzene
Bromochloromethane
Bromomethane
Butachlor
Cadmium
Carbaryl
Carbofuran
Carbon tetrachloride
Chlordane
Chlorobenzene
Chloroethane
Chloromethane
Cis-1,2-dichloroethane
Cis-1,3-dichloropropane
Dalapon
Dibromomethane
Dicamba
Dichlorodifluoromethane
Dieldrin
Dinoseb
Endrin
Ethylbenzene
Gamma-BHC (Lindane)
Gross alpha
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorobutadiene
Iron
Isopropylbenzene
M-xylene and p-xylene
Methomyl
Methoxychlor
Methyl-tert-butyl ether
Methylene chloride
Metolachlor
Metribuzin
N-butylbenzene
N-propylbenzene
Nickel
Nitrate
O-xylene
Oxamyl
P-isopropyltoluene
PCB, Total
Pentachlorophenol
Picloram
Propachlor
Radium 226
Radium 228
Sec-butylbenzene
Selenium
Silver
Simazine
Styrene
Tert-butylbenzene
Tetrachloroethane
Thallium
Toluene
Total uranium
Toxaphene
Trans-1,2-dichloroethane
Trans-1,3-dichloropropane
Trichloroethane
Trichlorofluoromethane
Vinyl chloride
Zinc

Facts and Figures

Our water system serves approximately 29,000 people through 5,675 service connections. We have more than 73 miles of water mains ranging from 4 inches in diameter all the way up to 30 inches in diameter. More than 800 fire hydrants and approximately 3,500 gate valves are used to turn off water mains in cases of water main breaks or other emergency situations. The total water produced in 2020 was approximately 1.1 billion gallons. The daily average of water treated and distributed was 2.9 million gallons, and the highest single day was 4.3 million gallons. The amount of water delivered to customers was approximately 686 million gallons. The difference between the water produced and the water delivered can be attributed to several factors, including, but not limited to, main flushing, firefighting, leaks, unauthorized use, and other non-metered uses. For the last 21 years, the city's Water Department has conducted a citywide leak detection survey. The leak survey is conducted on a yearly basis, and by repairing the leaks found, it prevents wasted water and helps continue our efforts to keep costs down for our customers.

A comprehensive drinking water rate study was completed in 2020. The City of Newburgh water rate for a 5/8 meter is $7.43 per thousand gallons, with a 6,000-gallon quarterly minimum. Water bills are mailed out quarterly, and unpaid balances are subject to a 10-percent penalty after 30 days.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

We are pleased to report that in 2020, the City of Newburgh Water Department met or exceeded all federal and state drinking water requirements.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	May 12, 2020	2	2	0.0102	NA	No	Erosion of natural deposits
Fluoride (ppm)	December 2020	2.2	NA	1.10	0.80–1.10	No	Erosion of natural deposits; Water additive that promotes strong teeth
Haloacetic Acids [mono-, di-, and trichloroacetic acid and mono- and dibromoacetic acid]–Stage 1 (ppb)	quarterly in 2020	60	NA	0.8	ND–3.09	No	By-product of drinking water disinfection needed to kill harmful organisms
Nitrate (ppm)	December 1, 2020	10	10	0.185	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (ppm)	May 28, 2020	NA[1]	NA	13.8	NA	No	Naturally occurring
Total Coliform Bacteria (positive samples)	January and December 2020	TT = 2 or more positive samples	0	0	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	January–December 2020	TT[2]	NA	1.01	1.01–1.34	No	Naturally present in the environment
Total Trihalomethanes [TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform]–Stage 2 (ppb)	quarterly in 2020	80	NA	3.1	0.8–5.1	No	By-product of drinking water chlorination needed to kill harmful organisms; TTHMs are formed when source water contains large amounts of organic matter
Turbidity [Distribution system][3] (NTU)	January–December 2020	TT	NA	0.61	0.06–0.61	No	Soil runoff
Turbidity (NTU)	January–December 2020	TT	NA	0.18	0.05–0.18	No	Soil runoff
Turbidity[4] (lowest monthly percent of samples meeting limit)	January–December 2020	TT = 95% of samples meet the limit	NA	99.5	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	June 2020	1.3	1.3	0.164	ND–0.754	0/54	No	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives
	December 2020			0.187	ND–0.413	0/62		
Lead (ppb)	June 2020	15	0	4.54	ND–101	2/54	No	Corrosion of household plumbing systems; Erosion of natural deposits
	December 2020			1.34	ND–349	4/62		

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,4-Dioxane (ppm)	October 21, 2020	0.07	NA	Catskill Aqueduct
Dichloroacetic Acid (ppm)	February 25, 2020	0.34	NA	Catskill Aqueduct
Perfluorobutanesulfonic Acid [PFBS] (ppt)	October 20, 2020	ND	NA	Catskill Aqueduct
Perfluoroheptanoic Acid [PFHpA] (ppt)	October 20, 2020	ND	NA	Catskill Aqueduct
Perfluorohexanesulfonic Acid [PFHxS] (ppt)	October 20, 2020	ND	NA	Catskill Aqueduct
Perfluorononanoic Acid [PFNA] (ppt)	October 20, 2020	ND	NA	Catskill Aqueduct
Perfluorooctanesulfonate Acid [PFOS] (ppt)	October 20, 2020	ND	NA	Catskill Aqueduct
Perfluorooctanoic Acid [PFOA] (ppt)	October 20, 2020	ND	NA	Catskill Aqueduct
Total Organic Carbon [TOC] (ppm)	January–December 2020	1.01	1.01–1.34	Naturally present in the environment

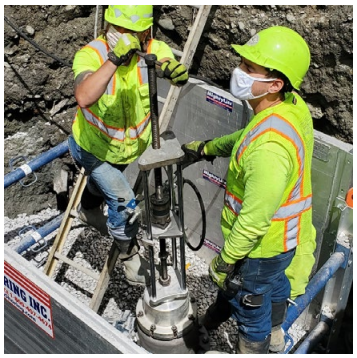
[1] Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 ppm of sodium should not be used for drinking by people on moderately restricted sodium diets.

[2] The value reported under Amount Detected for TOC is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements.

[3] Turbidity is a measure of the cloudiness of the water. It is tested because it is a good indicator of the effectiveness of the filtration system. The highest measurement of the monthly average distribution results for the year is presented here.

[4] The highest single turbidity measurement for the year is presented here. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95 percent of the turbidity samples collected have measurements below 0.3 NTU. Treatment technique is dependent on filtration method: conventional, 0.3 NTU; slow sand, 1.0 NTU; diatomaceous earth, 1.0 NTU. Although we had the fewest measurements meeting the treatment technique for turbidity in the month in the Date column, the levels recorded were within the acceptable range and did not constitute a treatment technique violation. With two exceptions January (0.39 NTU) and August (0.40 NTU), 99.5 percent of the samples in 2020 were below 0.3 NTU.

How Is My Water Treated and Purified?



After the water is withdrawn from the reservoir or aqueduct, it undergoes several chemical and physical processes to ensure that potential contaminants are removed and the water is clean and safe for your needs prior to distribution. The city's water filtration plant has the ability to treat approximately 8.85 million gallons of water per day, more than two times our average daily consumption. The plant also employs a series of mechanical and chemical treatments to remove color, odor, and taste, along with organic material, dirt, and particles. The water then passes through a series of sand filters and is polished in our granular activated carbon system. Chlorine is added for disinfection, fluoride is added to help promote sound dental health, and corrosion inhibitors are added to reduce the corrosive effects of water on pipes and plumbing. The water is then pumped to our new baffled above-ground contact tank and our above-ground storage tanks and into your home or business.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

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

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

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