

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018

CITY OF NEWBURGH
WATER FILTRATION PLANT



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

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the 2nd and 4th Mondays of each month, except in July and August, when there is only one meeting. Meetings take place at 7 p.m. in the Council Chambers at City Hall, 83 Broadway, Newburgh, New York. 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. Look us up on the Web at www.cityofnewburgh-ny.gov.

Important Health Information

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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 providers 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.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The City of Newburgh Water Department is responsible for providing high-quality drinking water, but we 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Source Water Assessment

The NYS DOH has evaluated our susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph 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 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 for land use types 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 us during normal business hours.



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 and, 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. EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Health Department and U.S. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

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 tastes along with organic material, dirt, and particles. The water then passes through a series of sand filters and our new granular activated carbon system. Chlorine is then 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 then into your home or business.



Where Does My Water Come From?

Our water source originates from the Washington Lake and Silver Stream Reservoirs, which we are currently not using since 2016 due to the emergency declaration by the city manager.

The City of Newburgh Water Department is currently using one of our emergency sources of water, which is Brown's Pond. We expect to return to the Catskill Aqueduct within 30 days. The water quality of these supplies is excellent and meets all New York State Department of Health (NYS DOH) standards.

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 by looking for ways to use less whenever you can. It is not hard to conserve water. Here are 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.

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.

Fluoridation of Our Water

Our system is one of the many drinking water systems in New York State that provide drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0 to 1.4 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 the reporting year, monitoring showed fluoride levels in your water were in the optimal range 100% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 ppm MCL for fluoride.

Facility Modification and System Improvements

The employees of the City of Newburgh Water Department were extremely busy during 2018 performing a variety of tasks associated with the elements of a well-operated and properly maintained water system. These tasks include flushing the entire system twice a year, repairing and replacing fire hydrants and water main valves, repairing and replacing water meters and remote reading devices, and conducting a variety of water quality testing procedures to provide clean water to the residents of the City of Newburgh. All these preventive maintenance tasks help to keep your water safe and to keep down costs of a operating water system.

This year we continued to be aggressive with our leak detection efforts. The City of Newburgh Water Department staff located and repaired 57 water leaks. Beginning in October of 2019, we will begin our 2019 Leak Detection survey and work will be ongoing.

Lead and Copper Control Requirements Violation

The City of Newburgh went into violation for lead on 8/16/2018. The violation was a direct result of a source water change. The City of Newburgh is currently working with a corrosion control expert to make the necessary changes to our corrosion control plan and conducting our enhanced lead and copper sampling, as per NYS Department of Health. In addition, in 2018, the City of Newburgh created our Lead Service Line Replacement program with the help of grant funding from the NYS Department of Health. As of May 1, 2019, we have 45 Lines replaced throughout the city, with 94 approved applications total.

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 2018 was approximately 1.2 billion gallons. The daily average of water treated and distributed was 3.4 million gallons and the highest single day was 4.4 million gallons. The amount of water delivered to customers was approximately 678 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 nineteen (19) 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 from leaks and helps continue our efforts to keep costs down for our customers.

The City of Newburgh water rate for a 5/8 meter is \$6.13 per thousand gallons with a 6,000 gallon minimum quarterly. Water bills are mailed out quarterly, and unpaid balances are subject to a 10% penalty after 30 days.



Nondetected Substances

Following is a list of regulated potential drinking water contaminants that the City of Newburgh tested for but did not detect:

Alachlor, Atrazine, gamma-BHC (Lindane), Butachlor, Chlordane, Dieldrin, Endrin, Picloram, 2,4,5-TP (Silvex), Aidicarb, Aidicarb sulfone, Aidicarb sulfoxide, Carbofuran, 3-Hydroxycarbofuran, Methomyl, Oxamyl, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, Toluene, 1,2,3-Trichlorobenzene, Trichlorofluoromethane, 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Arsenic, Chromium, Zinc, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Methoxychlor, Metolachlor, PCB, Total, Propachlor, Carbaryl, Aldrin, Benzo(a)pyrene, bis(2-Ethylexyl)adipate, bis(2-Ethylexyl)phthalate, Metribuzin, Benzene, Bromobenzene, Bromochloromethane, cis-1,2-Dichloroethane, trans-1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropane, cis-1,3-Dichloropropane, trans-1,3-Dichloropropane, Tetrachloroethane, 1,2,4-Trichlorobenzene, Trichloroethane, m-Xylene & p-Xylene, o-Xylene, Methyl-tert-butyl ether, Beryllium, Antimony, Selenium, Simazine, Toxaphene, 2,4-D, Dalapon, Dicamba, Dinoseb, Pentachlorophenol, Bromomethane, n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-Chlorotoluene, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, p-Isopropyltoluene, Methylene Chloride, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Vinyl Chloride, Iron, Silver, Cadmium, Thallium, Gross Alpha, Radium 226, Radium 228, Total Uranium, Nickel, Nitrate.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only 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.

The State recommends monitoring for certain substances less often 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.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	6/22/18	2	2	0.008	NA	No	Erosion of natural deposits
Fluoride (ppm)	4/27/2018	2.2	NA	1.36	0–1.36	No	Water additive that promotes strong teeth
Haloacetic Acids [mono-, di-, and trichloroacetic acid, and mono- and dibromoacetic acid]–Stage 1 (ppb)	Quarterly	60	NA	41.7	1–41.7	No	By-product of drinking water disinfection needed to kill harmful organisms
Sodium (ppm)	9/11/2018	See footnote 1	NA	8.51	NA	No	Naturally occurring
Total Coliform Bacteria ² (Positive samples)	NA	TT=2 or more positive samples	0	0	NA	No	Naturally present in the environment
Total Trihalomethanes [TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform]–Stage 2 (ppb)	Quarterly	80	NA	28.9	2–28.9	No	By-product of drinking water chlorination needed to kill harmful organisms; Formed when source water contains large amounts of organic matter
Turbidity [Distribution System] ³ (NTU)	1/10/2018	TT	NA	1.78	0.05–1.78	No	Soil runoff
Turbidity ⁴ (NTU)	1/9/2018	TT	NA	0.40	0.02–0.40	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	1/9/2018	TT = 95% of samples meet the limit	NA	96%	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)	8/10/2018	1.3	1.3	0.47	<0.01–2.24	0/39	No	Corrosion of household plumbing systems
Lead (ppb)	8/16/2018	15	0	21.3	<1–140	6/39	Yes	Corrosion of household plumbing systems

OTHER REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Total Organic Carbon (removal ratio)	2018	1.00	NA	1.76	0.94–2.52	No	Naturally occurring

UNREGULATED SUBSTANCES

SUBSTANCES	MRL	RAW WATER	FINISHED WATER	DISTRIBUTION SYSTEM
Raw Source: Brown's Pond: Sample Dates: 10/24/2018, 10/26/18, 10/30/18, 11/8/18, 11/13/18, 11/20/18, 11/27/18, 12/4/18, 12/11/18, 12/18/18, 12/26/18				
Perfluorobutanesulfonic Acid (PFBS)	2 ppt	< 2 ppt	< 2 ppt	NA
Perfluorohexanesulfonic Acid (PFHxS)	2 ppt	< 2 ppt	< 2 ppt	NA
Perfluoroheptanoic Acid (PFHpA)	2 ppt	< 2 ppt	< 2 ppt	NA
Perfluorooctanoic Acid (PFOA)	2 ppt	< 2 ppt	< 2 ppt	NA
Perfluorooctanesulfonic Acid (PFOS)	2 ppt	< 2 ppt	< 2 ppt	NA
Perfluorononanoic Acid (PFNA)	2 ppt	< 2 ppt	< 2 ppt	NA

¹Water 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.

²All resamples taken at the site and in the area tested negative for coliform.

³Turbidity 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 occurred as indicated in the table.

⁴Our highest single turbidity measurement for the year occurred as indicated in the table. State regulations require that turbidity must be at or below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements at or below 0.3 NTU. (Note that TT is dependent upon filtration method: conventional, 0.3 NTU; slow sand, 1.0 NTU; or diatomaceous earth filtration, 1.0 NTU.) Although the month as indicated in the Date column was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

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 that, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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

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).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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