

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2015



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

Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. 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 your homes and businesses. 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 of our water users.

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

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.

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. We are 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 (800) 426-4791 or at www.epa.gov/safewater/lead.



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 which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the U.S. FDA's 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 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, this water 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 9 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; 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 underground and above-ground storage tanks and into your home or business.

Source Water Assessment

The NYS DOH has evaluated our susceptibility to contamination under the Source Water Assessment Program (SWAP), and their 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 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 were 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, as noted in the report.



Where Does My Water Come From?

Our water source originates from the Washington Lake and the Silver Stream Reservoirs. When these two sources are not available, the tap on the NYC Catskill Aqueduct can be used as an emergency supply. The water quality of these supplies is excellent and meets all New York State Department of Health (NYS DOH) standards.

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 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.

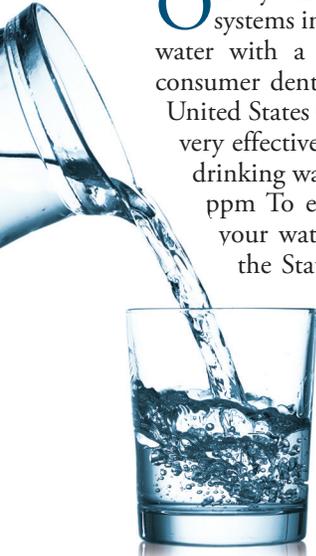
Facts and Figures

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 2015 was approximately 1.8 billion gallons. The daily average of water treated and distributed was 4.9 million gallons and the highest single day was 6.8 million gallons. The amount of water delivered to customers was approximately 693 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 past seventeen (17) 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.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Mr. Wayne Vradenburgh, Deputy 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 provides 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 0.7 to 1.0 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.

About Our Violations

The City of Newburgh Water Department exceeded the TTHM Locational Running Annual Average (LRAA) Maximum Contaminant Level (MCL) in each of the four quarters of 2015 at one of four locations tested, Brady Avenue Tank. The test dates and LRAAs were: January 14: 83.3 ppb; April 15: 86.3 ppb; July 22: 94.5 ppb; and October 22: 97.5 ppb. Compare the values to the TTHM LRAA MCL of 80 ppb. We completed the installation of equipment to remedy the problem at that location in October 2015 and we expect to return to compliance at the end of 2016.

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

We also exceeded the running annual average for Total Organic Carbon. To correct the problem, we made chemical adjustments at the Plant and adjusted our mixing speeds.

Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Facility Modification/System Improvements

The Water Department employees performed a variety of maintenance tasks associated with the elements of a well-operated and properly maintained water system. We flushed the entire water system twice during the year, repairing and replacing fire hydrants. We installed hydrant flags on every hydrant in the City of Newburgh and we have commenced with our hydrant painting program and will be painting hydrants throughout the City, all performed by Water Department Personnel. Through our leak detection survey, we detected 123 leaks and we repaired the majority of those leaks with 14 leaks left to repair. We continue with repairing and replacing water meters and radio reading devices as well as conducting a variety of water quality testing procedures to provide the safest quality and adequate supply of water for the residents of the City of Newburgh.

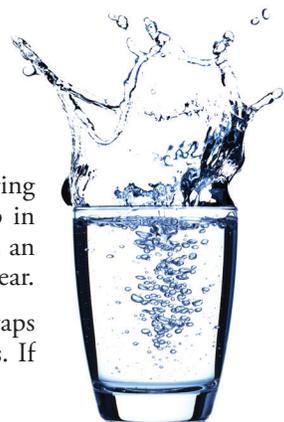
The Water Department continues to undertake ambitious capital improvement programs. In late spring 2015, the Ellis Avenue and Brady Avenue storage tank project was completed with the installation of portable water tank mixers which will aid in the decreasing TTHM formation. At the plant, flocculator #1 was removed and rebuilt and will be reinstalled by Water Department personnel. The flocculators help with mixing and reducing the presence of organics in the raw water.



Water Conservation Tips

You can play a role in conserving water and saving 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.



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.

Sampling Results

During the past year, we have taken hundreds of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor 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 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. You may contact Wayne Vradenburgh, Acting Water Superintendent at the City of Newburgh Water Department at (845) 565-3356 with any additional questions.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	04/23/2015	2	2	0.016	NA	No	Erosion of natural deposits
Chloride (ppm)	06/18/2013	250	NA	109	NA	No	Indicative of road salt contamination
Fluoride (ppm)	05/25/2015	2.2	NA	1.33	0.6–1.33	No	Water additive that promotes strong teeth
Haloacetic Acids (ppb)	2015 Quarterly	60	NA	34	16.13–58.82	No	By-product of drinking water disinfection needed to kill harmful organisms
Sodium (ppm)	04/15/2015	(See footnote #1)	NA	110	NA	No	Road salt
Sulfate (ppm)	4/23/2015	250	NA	16.8	NA	No	Naturally occurring
Total Organic Carbon (removal ratio)	2015	1.00	NA	0.99	0.81–1.11	Yes	Naturally occurring
TTHMs [Total Trihalomethanes] (ppb)	2015 Quarterly	80	NA	98	40.7–142	Yes	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
Turbidity ² (NTU)	Every month	TT	NA	0.28	0.03–0.28	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	Every month	TT = 95% of samples < 0.3 NTU	NA	100%	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% TILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	7/21/2014	1.3	1.3	0.275	0.036–0.327	0/30	No	Corrosion of household plumbing systems
Lead (ppb)	6/27/2014	15	0	5.82	<1.0–10.7	0/30	No	Corrosion of household plumbing systems

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Nickel (ppm)	04/23/2015	NA	NA	0.002	NA	No	Naturally occurring

UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	DATES SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Chlorate (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	0.217	0.083–0.217
Chromium Hexavalent (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	0.081	0.046–0.081
Perfluorooctanesulfonic Acid (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	0.15	0.14–0.17
Perfluoroheptanoic Acid (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	0.017	0.017–0.021
Perfluorohexanesulfonic Acid (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	0.065	0.057–0.07
Perfluorooctanoic Acid (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	0.027	ND–0.027
Strontium (ppb)	12/30/2013, 4/15/2014, 6/02/2014, 9/17/2014, 10/21/2014	175	139–175

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 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. Our highest single turbidity measurement for the year occurred as indicated in the table above. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements 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.) All results were within the acceptable range allowed and did not constitute a treatment technique violation.

Definitions

90th percentile: 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.

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 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

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).

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.