

A close-up photograph of clear water being poured from a glass pitcher into a clear glass. The water is captured mid-pour, creating a dynamic splash and bubbles. The background is a blurred wooden surface.

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



*Presented By*  
**Town of Newburgh  
Consolidated Water**

## 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.

### Facts and Figures

Our water system serves 22,800 customers through 6,600 service connections. The total amount of water produced in 2018 was 1.046 billion gallons. The daily average of water treated and pumped into the distribution system was 2.9 million gallons per day. The 2018 billing rate was \$16 for the first 7,500 gallons used, \$4.40/1,000 for the next 10,000 gallons, \$5.20/1,000 for the next 82,500 gallons used, and \$6.20/1,000 gallons thereafter. The minimum quarterly bill was \$16.

### 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, contact John P. Egitto, Operations Engineer, at (845) 564-2180 or the Orange County Health Department at (845) 291-2331. You may also contact the New York State Department of Health (DOH) at (800) 458-1158. The U.S. Environmental Protection Agency (U.S. EPA) drinking water website ([www.epa.gov/safewater](http://www.epa.gov/safewater)) also provides valuable information.

### 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 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.

### Water Source Restriction

During October 2018, the Chadwick Lake Filter Plant experienced a failure in its main control programming. This failure resulted in the filter plant being offline through November and December. The failed equipment was replaced with upgraded components in order to prevent this issue in the future. During this period, the town's water was supplied by the Delaware Aqueduct Tap facility only. Chadwick Lake Filter Plant is again in full operational order.

During 2018, the DEP performed routine operation of essential equipment at the Delaware Aqueduct Filter Plant's intake point. This required the source water to be off for a 1- to 3-hour window. It did not inhibit the required daily water production.

## 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.

## Lead in Home Plumbing

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 the 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 at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

We remain vigilant in delivering the best-quality drinking water

## Where Does My Water Come From?

The town utilizes two sources of water: Chadwick Lake Reservoir and New York City Department of Environmental Protection's Delaware Aqueduct. The Chadwick Lake Filter Plant has the capacity to treat 3.2 million gallons of water per day. The Delaware Aqueduct supply is taken from New York City's Delaware Watershed, which is comprised of four large reservoirs in the Catskill region. The Delaware Aqueduct Facility has the capacity to supply 6 million gallons of water per day. A new filtration plant for the Delaware source went online in November 2013.



## 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 a target of 0.7 ppm. To ensure that the fluoride supplement in your water provides optimal dental protection, the DOH 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 percent of the time. None of the monitoring results showed fluoride at levels that approach the 2.2-ppm maximum contaminant level.

## Testing For *Cryptosporidium*

*Cryptosporidium* is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100-percent removal. During 2018, as part of our routine sampling plan, 22 samples of Chadwick Lake source water were collected and analyzed for *Cryptosporidium* oocysts. Of these samples, one was confirmed positive at 0.1/ Liter. Therefore, our monitoring indicates the presence of *Cryptosporidium* in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease.

## 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 appears elsewhere in this report. Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects well below their respective maximum allowed levels.

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.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	02/02/18	2	2	0.0018	ND–0.0018	No	Erosion of natural deposits
Chloride (ppm)	03/26/18	250	NA	85	ND–85	No	Naturally occurring
Haloacetic Acids [mono-, di-, and trichloroacetic acid and mono- and dibromoacetic acid]–Stage 1 <sup>1</sup> (ppb)	Quarterly 2018	60	NA	28.1	16.7–74.0	No	By-product of drinking water disinfection needed to kill harmful organisms
Nitrate (ppm)	04/09/18	10	10	0.26	ND–0.26	No	Runoff from fertilizer use
Sodium (ppm)	03/26/18	NS <sup>2</sup>	NA	0.0093	ND–0.00093	No	Naturally occurring
Sulfate (ppm)	03/26/18	250	NA	9.2	ND–9.2	No	Naturally occurring
Total Trihalomethanes [TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform]–Stage 2 <sup>1</sup> (ppb)	Quarterly 2018	80	NA	44.5	14–98	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 <sup>3</sup> (NTU)	11/15/18	TT = ≤ 1.0 NTU	NA	0.19	NA	No	Soil runoff
Turbidity <sup>3</sup> (Lowest monthly percent of samples meeting the limit)	Every month	TT = 95% of samples ≤ 0.3 NTU	NA	100%	NA	No	Soil runoff
Turbidity [Distribution System] <sup>3</sup> (NTU)	02/17/18	5	NA	0.31	ND–0.31	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–September 2018	1.3	1.3	0.23	0.016–0.27	0/30	No	Corrosion of household plumbing systems
Lead (ppb)	June–September 2018	15	0	2.3	1.0–3.2	0/20	No	Corrosion of household plumbing systems

### UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Nickel (ppb)	02/02/18	0.75	ND–0.75	Naturally occurring element

<sup>1</sup> Due to a higher value in past subsequent quarterly averages, the current running annual average is outside the recent sample range.

<sup>2</sup> 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.

<sup>3</sup> 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 recorded.

## 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.

**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.

**NA:** Not applicable

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

**NS:** No standard.

**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).

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

## Nondetected Contaminants

The following is a list of contaminants that we tested for but did not detect in our water supply.

**Inorganics:** Antimony, Arsenic, Asbestos, Beryllium, Bromate, Cadmium, Chlorite, Cyanide, Iron, Mercury, Selenium, Silver, Thallium, Uranium, Zinc.

**Volatile Organics:** Alachlor, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Atrazine, Benzene, Benzo(a) pyrene, bis(2-ethylhexyl)adipate, bis(2-ethylhexyl) phthalate, Bromobenzene, Bromomethene, Butachlor, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, Bromochloromethane, Carbon tetrachloride, Carbaryl, n-carbofuran, 3-hydrocarbofuran, Chlordane, Chloroethane, Chloromethane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 2-chlorotoluene, 4-chlorotoluene, Dalapon, Dibromomethane, Dicamba, Dinoseb, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, Dichlorodifluoromethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2 dichloroethene, trans-1,2-dichloroethene, 1,2-dichloropropane, 1,3-dichloropropane, 2,2-dichloropropane, 1,1-dichloropropene, cis-1,3-dichloropropene, trans-1,3-dichloropropene, Dieldrin, Endrin, Ethylbenzene, gamma-BHC (Lindane), Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Hexachlorobutadiene, Isopropylbenzene, p-isopropyltoluene, Methoxychlor, Methomyl, Metalochlor, Methylene chloride, Metribuzin, Oxamyl, PCB, total, Pentachlorophenol, Picloram, Propachlor, n-propylbenzene, Styrene, Simazine, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 2,4,5-TP (Silvex), Tetrachloroethene, Toluene, Toxaphene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, Trichloroethane, Trichlorofluoromethane, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, o-xylene, m-xylene, p-xylene, Xylene, total, MTBE, Vinyl chloride.

## Source Water Assessment

The New York DOH has evaluated the Town of Newburgh Consolidated Water District's (TONCWD) susceptibility to contamination under the Source Water Assessment Program (SWAP), and its findings are summarized below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has occurred or will occur in this water district. The TONCWD provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards. A copy of the assessment, including a map of the assessment area, can be obtained by contacting us at the number noted in this report.

### Chadwick Lake Reservoir Assessment Summary

This assessment found an elevated susceptibility to contamination for this source of drinking water. Land cover and its associated activities within the assessment area do not increase the potential for contamination. Nonsanitary wastewater discharges may contribute to contamination. There are no noteworthy contamination threats associated with other discrete contaminant sources. Additional sources of potential contamination include a roadway.

### Delaware Aqueduct Source Water Assessment Summary

The TONCWD also obtains water from the New York City water supply system. Water comes from the Delaware watershed west of the Hudson River. The SWAP methodologies applied to the rest of the state were not applied to the Delaware Aqueduct Source. Additional information on the water quality and protection efforts in these New York City watersheds can be found at the DEP website at [www.nyc.gov/dep/watershed](http://www.nyc.gov/dep/watershed).



## Water Treatment Process

At the Chadwick Lake Filtration Plant, water is drawn from the reservoir, and a chemical is added for coagulation. This process causes small particles to adhere to one another, forming what is called "floc." As the floc grows larger, it becomes heavier and settles into a basin, from which sediment is removed. The water is then processed through sand filters, producing a crystal-clear effluent. Chemicals for pH adjustment and corrosion control are added at this point. Finished water can then pass through an additional filtration process for the removal of iron and manganese, as necessary.

The water from our Delaware Aqueduct facility is purchased from New York City DEP. At our new state-of-the-art filtration plant for the Delaware source, water is filtered through a membrane barrier and then chemically treated for pH and corrosion control.

Sodium hypochlorite is added to both drinking water sources as a disinfectant. The water is fluoridated at both facilities for consumer dental health protection.

Typically, both the town's filter plants are online and supply water to the distribution system simultaneously. Most parts of the town will see a combination of both sources at the tap.

