

A high-speed photograph of water splashing, creating a dynamic and refreshing background. The water is captured in mid-air, with numerous droplets and a large, turbulent splash at the bottom. The color is a deep, clear blue.

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019

Presented By
Croton-on-Hudson



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, 2019. 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.

Where Does My Water Come From?

The Village of Croton-on-Hudson's main water source is a three well system located in the Croton River Valley, downstream from the New Croton Dam. Treated water is pumped directly from the well field into the distribution system, which consists of a network of water mains, four storage tanks (reservoirs), control valves, booster pump stations, hydrants, and other water-related infrastructure. The village's total distribution system storage capacity is 2.3 million gallons. Most residents receive water from the municipal water system; the remainder use private wells, which are not covered by this report.

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. U.S. 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.



Source Water Assessment

The NYS DOH has completed a source water assessment for this system. Based on available information, potential and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water; it does not mean that the water delivered to consumers is, or will become, contaminated.

See the data tables for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

The source water assessment has rated our three wells as having a medium-to-high susceptibility to microbials. This rating is due primarily to the fact that these are high-yield wells drawing from an unconfined aquifer, and the hydraulic conductivity is unknown. In addition the wells draw from fractured bedrock and the overlying soils are not known to provide adequate protection from potential contamination. While the source water assessment rates our wells as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered to your home meets New York State's drinking water standards for microbial contamination.

A copy of the source water assessment can be obtained for a fee by contacting the Village Engineering Department at (914) 271-4783.

Facility Modification/System Improvements

Improvements were made to the water distribution system on Cleveland Drive between Benedict Boulevard and Park Avenue (Phase 1). The old four-inch cast iron main was cleaned and lined with cement, and new valves were installed, resulting in improved water quality. Design work was also completed on Phases 2 and 3, which include Cleveland Drive from Park Avenue to Alexander Lane and Old Post Road North from High Street to Albany Post Road. Work began in early 2020.

Design work on the North Highland pump station chlorine booster system was started, and these improvements are expected to be completed in 2020. One of the pumps at the North Highland pump station was replaced, along with some old valves and hydrants in the distribution system.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call John Spatta, Water Foreman, at (914) 271-3775 or visit Westchester County Department of Health at (914) 864-7332 or www.westchestergov.com/health.

Nondetected Substances

As required by state regulations, we routinely test our drinking water for numerous contaminants. In 2019 and previous years, the following substances were tested for and were not detected:

1,1-dichloroethane	Benzene	Dioxin	N-propylbenzene
1,1-dichloropropane	Benzo(a)pyrene	Diquat	Nitrate
1,1,1-trichloroethane	Beryllium	Endothall	Nitrite
1,1,1,2-tetrachloroethane	Bromobenzene	Endrin	O-xylene
1,1,2-trichloroethane	Bromochloro acid	Ethylbenzene	Odor
1,1,2,2-tetrachloroethane	Bromochloromethane	Ethylene dibromide	Organohalide
1,2-dibromo-3-chloropropane	Bromodichloro	Fluoride	Oxamyl (Vydate)
1,2-dichlorobenzene	Bromomethane	Gamma-chlordane	P-isopropyltoluene
1,2-dichloroethane	Butachlor	Glyphosate	PCB
1,2-dichloropropane	Cadmium	Gross Alpha	Pentachlorophenol
1,2,3-trichlorobenzene	Carbaryl	Gross Beta	Picloram
1,2,3-trichloropropane	Carbofuran	Heptachlor	Propachlor
1,2,4-trichlorobenzene	Carbon tetrachloride	Heptachlor epoxide	Radium 226
1,2,4-trimethylbenzene	Chlordane	Hexachlorobenzene	Radium 228
1,3-DIC	Chlorobenzene	Hexachlorobutadiene	Sec-butylbenzene
1,3-dichlorobenzene	Chlorodifluor	Hexachlorocyclopentadiene	Selenium
1,3-dichloropropane	Chloroethane	Iron (Fe)	Silver
1,3,5-trimethylbenzene	Chloromethane	Isopropylbenzene	Simazine
1,4-dichlorobenzene	Chromium	Lindane	Styrene
2-chlorotoluene	Cis-1,2-dichloropropene	Manganese	Sulfate (SO ₄)
2,2-dichloropropane	Cis-1,3-dichloroethane	MEK	Tert-butylbenzene
2,4-D	Color	Mercury	Tetrachloroethene
2,4,5-TP (Silvex)	Cumene	Methomyl	Thallium
3-hydroxycarbofuran	Cyanide (total)	Methoxychlor	Toluene (total)
4-chlorotoluene	Dalapon	Methylene chloride	Toxaphene
4-isopropyltoluene	Di(2-ethylhexyl)adipate	Metolachlor	Trans-1,2-dichloroethene
Alachlor	Di(2-ethylhexyl)phthalate	Metribuzin	Trans-1,3-dichloropropene
Aldicarb	Dibromoacetic acid	Microextractables	Trichlorethene
Aldicarb sulfone	Dibromochloropropane	Monobromoacetic acid	Trichlorofluoromethane
Aldicarb sulfoxide	Dibromomethane	Monochloroacetic acid	Vinyl chloride
Aldrin	Dicamba	MTBE (methy tert butyl ether)	Xylene (M&P)
Antimony	Dichlorodifluoromethane	Napthalene	Xylenes (total)
Arsenic	Dieldrin	N-butylbenzene	
Atrazine	Dinoseb		

How Is My Water Treated?

Groundwater pumped from the sand-and-gravel aquifer is treated with chlorine at the water treatment plant for disinfection purposes. We carefully monitor the amount of chlorine, adding the quantity necessary to protect the safety of our water without compromising taste or other water quality parameters. The groundwater is also treated with an additive to reduce corrosion in the distribution system and plumbing in buildings.

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. The New York State Department of Health (NYS DOH) and U.S. 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.

Facts and Figures

The water system supplies approximately 8,060 people, primarily in residences but also in businesses and industries, through approximately 2,500 service connections. During 2019 the total amount of water withdrawn from the aquifer was approximately 297 million gallons. The average volume of water treated and pumped into the distribution system was approximately 812,500 gallons per day. Approximately 93 percent of the total water produced was billed directly to consumers. The balance, or unaccounted-for water, went to firefighting, hydrants, distribution system leaks, and unauthorized use.

The 2019 billing charge has five tiers. Tier 1, which is base service with zero usage or no reads, is a base rate of \$15 per billing cycle (quarterly billing).

Tier 2 is 1 to 748,000 gallons per year at \$11.06 per 1,000 gallons.

Tier 3 is 748,001 to 3,740,000 gallons per year at \$12.17 per 1,000 gallons.

Tier 4 is 3,740,001 to 7,480,000 gallons per year at \$12.50 per 1,000 gallons.

Tier 5 is 7,480,001 gallons per year or more at \$13.41 per 1,000 gallons.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Village Board of Trustees meets on the first and third Monday of each month at 8:00 p.m. at the Stanley H. Kellerhouse Municipal Building, One Van Wyck Street, Croton-on-Hudson.

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.

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). The presence of contaminants does not necessarily indicate that the water poses a health risk.

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium ³ (ppm)	11/21/2019	2	2	0.035	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloride ³ (ppm)	11/21/2019	250	NA	71	NA	No	Naturally occurring; Road salt contamination
Chlorine (ppm)	2019	[4]	NA	1.87	0.85 – 1.87	No	Water additive used to control microbes
Haloacetic Acids [mono-, di-, and trichloroacetic acid and mono- and dibromoacetic acid]–Stage 2 ¹ (ppb)	08/01/2019	60	NA	9.9	1.9–9.9	No	By-product of drinking water disinfection needed to kill harmful organisms
Nickel ³ (ppm)	11/21/2019	NA	NA	0.0015	NA	No	Naturally occurring
Sodium ³ (ppm)	January–December 2019	NA ²	NA	40.2	NA	No	Naturally occurring; Road salt; Water softeners; Animal waste
Total Trihalomethanes [TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform]–Stage 1 (ppb)	08/01/2019	80	NA	32.31	6.2–32.31	No	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
Orthophosphate ³ (ppm)	2019	NA ⁴	NA	1.45	1.1 - 1.45	No	Water additive used to control corrosion
Zinc ³ (ppm)	11/21/2019	5	NA	0.006	NA	No	Naturally occurring; Mining waste

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 feasible.

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

Non Detected (ND): Laboratory analysis indicates that the constituent is not present.

pCi/L (picocuries per liter): A measure of radioactivity in water

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).

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)	January–June 2019	1.3	1.3	0.66	0.1–0.8	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	January–June 2019	15	0	3.2	<1.0–7.2	0/40 ⁵	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	July–December 2019	1.3	1.3	0.63	0.06–0.72	0/40	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	July–December 2019	15	0	3.3	<1.0–42.8	1/40 ⁵	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Fluridone (ppb)	July to October 2019	50	NA	1.0	ND–1.0	No	Aquatic herbicide used to control invasive plants

¹The haloacetic acids detected were dichloroacetic acid and trichloroacetic acid.

²Water 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 diets.

³Samples were obtained at entry point.

⁴In a U.S. EPA report, an orthophosphate range of 1.0 to 3.0 mg/L (as PO₄) is noted as a typical range for controlling lead and copper at the tap.

⁵The level presented represents the 90th percentile of the 40 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 values detected at your water system. In this case, 40 samples were collected at your water system Jan-Jun and Jul-Dec 2019 and the 90th percentile values were 3.2 ppb and 3.3 ppb for lead and 0.66 mg/l and 0.63 mg/l for copper, which were below the action level. The action level for lead was exceeded at zero locations Jan-Jun and at one location Jul-Dec.



What Does This Information Mean?

As you can see by the table, our system had no violations. We have learned through our test that some contaminants have been detected; however, these contaminants were detected below New York State requirements. The action level for lead was exceeded at zero locations Jan-June and at one location Jul-Dec. We are required to present the following information on lead in drinking water:

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 Village of Croton-on-Hudson 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 (800) 426-4791 or at www.epa.gov/safewater/lead.

Is our Water System Meeting Other Rules That Govern Operations?

A violation was issued on January 14, 2019 for failure to submit by the deadline of December 31, 2017 the Lead and Copper Material Evaluation to identify and justify a pool of targeted lead and copper sampling locations that meet regulatory requirements and an updated Comprehensive Monitoring Plan with targeted lead and copper sampling locations was not submitted by the December 31, 2017 deadline. The Lead and Copper Material Evaluation and updated comprehensive monitoring plans were submitted.

