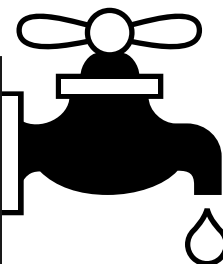


THE VILLAGE OF NYACK WATER DEPARTMENT

9 NORTH BROADWAY • NYACK, NEW YORK 10960
Public Water System Identification Number (PWS ID# 4303666)



“ANNUAL DRINKING WATER QUALITY REPORT FOR 2018”

INTRODUCTION

To comply with State and Federal regulations, the Village of Nyack Water Department, issues an annual report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year (2017), we conducted tests for over 80 contaminants. We detected a total of thirteen of those contaminants (see Detected Contaminants Table) We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your drinking water.

If you have any questions about this report or concerning your drinking water, please contact Water Superintendent Kelvin Smith, at (845) 358-3734. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Village water board meetings. The meetings are held on the first Thursday of each month, at 4:30 pm in the Nyack Village Hall.

ABOUT THE DEPARTMENT

The Village of Nyack Water Department is a self-supporting, public benefit department. It is without taxing powers. Five Water Commissioners are appointed by Nyack's Village Board for five-year staggered terms. The only revenue the Department receives is obtained from the sale of water. The Department is nonprofit. All revenue is used for operating expenses, outstanding debt and construction purposes. The Department was established to provide the Village of Nyack's service area, with a safe and abundant supply of water. The Water Treatment Plant is located in West Nyack, New York, 10994. Our business office is located at 9 North Broadway, Nyack, New York, 10960.

WATER SUPPLY SOURCE

The Village of Nyack Water Department draws water from the Hackensack River. This river begins at the Lake DeForest Reservoir, located approximately one mile north of our treatment plant. The reservoir has a capacity of five billion gallons of water and, in times of drought, is used to maintain minimum stream flow. The quality of the raw water is considered good and has the following average characteristics.

- Hardness: 131 parts per million
- pH: 7.7
- Turbidity: 4.4 NTU (Nephelometric Turbidity Units)
- Alkalinity: 85 parts per million

When required, due to emergencies, the Water Department may use interconnections with SUEZ Water New York. The interconnections were not needed in 2018.

The New York State Department of Health has completed a source water assessment for this system, based on available information. Possible 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 to the surface water source. 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 section; “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected. The source water assessments provide managers with additional information for protecting source waters into the future.

As mentioned before, our water is derived from the Hackensack River. The source water assessment found an elevated susceptibility to contamination for the Hackensack River. Due to the amount of residential land in the assessment area, there is an elevated potential for microbial, turbidity, Disinfection By-Products (DBP) precursors, and pesticides contamination. Non-sanitary wastewater discharges may also contribute to contamination. There is also noteworthy susceptibility to contamination from other sources including Chemical Bulk Storage (CBS) facilities, Inactive Hazardous Waste Sites (IHWS), Mines, Resources Conservation, CSX Railroad, New York State Thruway, Recovery Act (RCRA) facilities, and Toxic Release Inventory (TRI) sites. It should be noted that relatively high flow velocities make river drinking water supplies highly sensitive to existing and new sources of microbial contamination.

While the source water assessment rates the source water as being susceptible to microbial and other contaminants, please note that our water is disinfected and treated to ensure that the finished water delivered into your home meets New York State's drinking water standards. If you have any questions or need additional information regarding this source water assessment you may contact the Rockland County Department of Health at (845-364-2608).

WATER USAGE

The Water Department serves approximately 14,700 people with 3,300 service connections in the Villages of Nyack, South Nyack and portions of the unincorporated Clarkstown communities of Central Nyack, and West Nyack. Water usage for 2018 was as follows:

	Gallons
Total amount of raw water withdraw.....	625,901,000
Total amount of water delivered.....	592,918,000
Total amount of water used for flushing program.....	20,000,000
Metered (not billed) Treatment Plant water use	28,610,000
Total amount of water billed or accounted for.....	409,256,625
Unaccounted-for water.....	135,051,375
Average Day (Production)	1,710,000
Maximum Day (Production) in Million Gallons per Day (M.G.D.).....	2,160,000

Unaccounted for water includes water taken for:

- Hydrant flow tests • Fire Department training • Fires
- Emergency flushing of sewer mains during fuel spills • Main breaks
- Illegal taking of water from hydrants and services • Undetected leaks in the distribution system



HOW THE WATER IS TREATED

Water is pumped from the Hackensack River into the treatment plant and Potassium Permanganate is added to oxidize organic compounds, both naturally occurring and man-made. The permanganate also reacts with iron, and manganese and sulfide compounds to aid in their oxidation in the aeration process. A powdered activated carbon is also added to the raw water to help with taste and odor removal. Water is then pumped to the aerator, which sprays the water into the air. Aeration acts to oxidize ferrous iron, reduce carbon dioxide and hydrogen sulfide, and helps remove tastes and odors. The water then flows into the raw water chamber where a coagulant is added.

The coagulant is a chemical that helps suspended and colloidal particles to stick together. The water then enters the flocculation basin where the water and coagulant are mixed together. From there, it enters the sedimentation basins where the larger coagulated particles settle out. The water then continues to the filters, which consist of layers of fine filter sand and anthracite coal, which remove any remaining particles in the water. Filtered water is discharged to a 110,000 gallon "clear well" Sodium hypochlorite (liquid chlorine) is then added at two separate points during the process to provide disinfection. In winter months the free chlorine residual is increased to meet the CT (contact time) necessary to inactivate certain viruses and organisms, based on the temperature and pH of the water. This is a mandated regulation by New York State Department of Health, Rockland County Department of Health and the U.S.E.P.A. Soda ash (if needed) is added to the finished water just before leaving the plant to raise the pH of the water to 7.8. A 250-horsepower pump lifts the finished water to the distribution system for delivery to homes and businesses in our service area and to fill our 2.5 million gallon reservoir.

WHAT WE TESTED FOR IN 2018

Safe Drinking Water Standards are usually expressed as milligrams per liter (mg/L) or micrograms per liter (ug/L). These units are more commonly referred to as parts per million (ppm) or parts per billion (ppb). For the non-scientific person, the following may be helpful in understanding these units:

- Part per million: one foot in 189 miles
one ounce in 62,500 pounds
- Part per billion: one cent in \$10,000,000
one second in 32 years

The United States Environmental Protection Agency and The New York State Department of Health have established limits on the contaminants that may be present in drinking water. These are called MCL's: Maximum Contaminant Levels.

The following table contains terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG as possible.

Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) 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.

Maximum Residual Disinfectant Level Goal (MRDLG) - 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 contamination.

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$ 10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$ 10,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

Milligrams per liter (mg/l) - corresponds to one part of liquid in one million parts of liquid (parts per million-ppm)

Micrograms per liter (ug/l) - corresponds to one part of liquid in one billion parts of liquid (parts per billion-ppb)

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nanograms per liter (ng/l)- corresponds to one part of liquid to one trillion parts of liquid (parts per trillion-ppt)

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

90th Percentile Value - The values reported for lead and copper represent the 90th percentile. 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

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

In compliance with State regulations, the Village of Nyack Water Department routinely monitors your drinking water for various contaminants. Your water is tested for inorganic contaminants, nitrate, nitrite, lead and copper, volatile organic contaminants, synthetic organic contaminants, total trihalomethanes, haloacetic acids and TOC (Total Organic Carbon). Additionally, your water is tested for coliform bacteria fifteen times a month. The contaminants detected in your drinking water are included in the Table of Detected Contaminants.

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. More information about contaminants and potential health effects can be obtained by calling the NY. States EPA's Safe Drinking Water Hotline (1-800-426-4791) or the Rockland County Department of Health at (845-364-2608).

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immune-compromised 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 (800-426-4791).

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. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Departments and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

For additional information, the NY State Department of Health's web site is;

(www.health.state.ny.us)

And the EPA's drinking water website is:

(www.epa.gov/safewater/)



DETECTED CONTAMINANTS

Contaminant	Violation Yes/No	Date of Sample	Level Detected (results) (Maximum) (Range)	Unit Measurement	MCLG	Regulatory MCL Limit	Likely Source of Contamination
MICROBIOLOGICAL CONTAMINANTS							
Turbidity ¹ (Highest recorded reading for 2018)	No	4/19/18	0.48	NTU	N/A	TT = LESS THAN 1.0 NTU	Soil runoff
Turbidity ¹	No	4/2018	99% ≤ 0.3	NTU	N/A	TT = 95% of samples less than 0.3 NTU	Soil runoff
INORGANIC CONTAMINANTS							
Barium	No	6/11/18	0.110	ug/L	2.0	2.0	Discharge of drilling wastes, Discharge from metal refineries, Erosion of natural deposits.
Chloride	No	6/11/18	150.0	mg/L	N/A	250	Naturally occurring or indicative of Road salt contamination.
Copper 30 samples	No	6/29/18 to 9/14/18	420 ² Range: 0.067 – 0.770	ug/L	1.3	AL-1.3	Corrosion of household plumbing systems, Erosion of natural deposits, leaching from wood preservatives.
Lead 30 samples	No	6/29/18 to 9/14/18	11.0 ³ Range: > 1.0 – 18.0	ug/L	15.0	AL- 15.0	Corrosion of household plumbing systems; Erosion of natural deposits
Nickel	No	6/11/18	1.0	ug/L	100	100	Metal alloys batteries
Nitrate	No	2/12/18	0.67	mg/L	10 mg/L	10 mg/L	Runoff from fertilizer use; leaching from septic tanks. Sewage; erosion of natural deposits
Sodium	No	6/11/18	76.0	ug/L	N/A	N/A	Naturally occurring, road salt, water softeners, animal waste.
Sulfate	No	6/11/18	13.0	mg/L	N/A	250	Naturally occurring
RADIOACTIVE CONTAMINANTS							
Gross alpha activity (Including radium – 226 but excluding radon and uranium)	No	2/17/15	3.8	pCi/L	0	15.0	Erosion of natural deposits.
DISINFECTION BYPRODUCTS							
Total trihalomethanes thms-chloroform, Bromodichloromethane, Dibromochloromethane And bromo form	Yes	2/13/18 5/1/18 8/22/18 11/19/18	76.4 ⁵ (38.9 to 135.7)	ug/L	N/A	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHM's are formed when source water contains large amounts of organic matter.
Halo acetic acids (monodi-, and trichloroacetic acid, and mono-and dibromoacetic acid)	No	2/13/18 5/1/18 8/22/18 11/19/18	32.3 (12.4 to 43.8)	ug/L	N/A	60	By-product of drinking water chlorination.

¹ Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year (0.32 NTU) occurred on (10/7/17). 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. There were no recordings that exceeded the treatment technique for turbidity, all levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

² The Copper level presented represents the 90th percentile of the 30 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 copper values detected at your water system. In this case, 30 samples were collected at your water system and the 90th percentile value was the fourth highest value (0.44 mg/L) that was on 9/14/18. The action level for copper was not exceeded at any of the sites tested.

³ The lead level presented represents the 90th percentile of the 30 sites tested. In this case, 30 samples were collected in our water system and the 90th percentile value was the fourth highest value (8.1ug/l) that was on 7/16/18/. The action level for lead was not exceeded.

⁴ Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used by people on moderately restricted sodium diets.

⁵ This level represents the highest locational running annual average calculated from data collected.

FOURTH UNREGULATED MONITORING RULE- UCMR4

The 1996 Safe Drinking Water Act (SDWA) amendments require that once every five years EPA issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs).

The fourth Unregulated Contaminant Monitoring Rule (UCMR 4) was published in the Federal Register on December 20, 2016. UCMR 4 requires monitoring for 30 chemical contaminants between 2018 and 2020 using analytical methods developed by EPA and consensus organizations. This monitoring provides a basis for future regulatory actions to protect public health.

In December of 2018 we began UCMR4 monitoring. Testing was done on 30 unregulated contaminants and none of the constituents were detected.

WHAT DOES THIS INFORMATION MEAN?

Lead and Copper:

The table reveals that the water level for lead did not exceed the action level of 15 ug/L in more than 10 percent of the homes tested. 31 homes were tested. 3.3% of the 30 homes tested exceeded the state action level of 15ug/L. 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 Nyack Water Department 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

The MCL was not exceeded in the testing for Copper.

BACTERIOLOGICAL TESTING:

Bacteriological samples are taken from several different locations in our system each week and sent to a certified independent lab (Envirotest Laboratories Inc.) for analysis. The Water Department also takes one sample each day from a different location and tests for free chlorine residual and turbidity.

While the treatment plant is in operation, New York State D.O.H. licensed plant operators continuously monitor the turbidity and free chlorine levels. The number of Bacteriological tests that we are required to conduct based on the size of our water system is: 15 tests per month; 180 tests per year.

We had a total of 3 coliform hits on the dates 9/10/18, 10/1/18, 12/17/18. The required number of repeat samples were collected for testing. These test results indicated there was no total coliform present in the water system.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful may be present. The repeat samples proved we had no violations.

TURBIDITY SAMPLING:

Turbidity is a measure of the cloudiness of the water. We continuously monitor it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on April 19, 2018 (0.48 NTU). NY. State regulations require that turbidity must always be below 1.0 NTU. The regulations also require that 95% of the turbidity samples collected have a measurement below 0.3 NTU. Samples in all months in 2018 met the turbidity standard.



OTHER TESTS CONDUCTED EVERY DAY

The following tests are conducted on the raw, settled, and finished waters every day for process control and monitoring purposes:

· Free and total chlorine residual · Turbidity · pH · Zeta potential · Specific conductance
Alkalinity · Hardness · Color · Time of filtration · Manganese

All tests results are monitored by and reported to the Rockland County Department of Health

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2018, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

CRYPTOSPORIDIUM AND GIARDIA INFORMATION

While there is no evidence of illness related to the Village of Nyack water supply, New York State Law requires all water suppliers to notify their customers about the potential risks. Cryptosporidium and Giardia are intestinal illnesses caused by microscopic pathogens which can be waterborne. They can be very serious for people with weak immune systems, such as chemotherapy, dialysis, or transplant patients, and people with Crohn's Disease and HIV infection. People with weakened immune systems should discuss with their health care provider the need to take extra precautions, such as boiling water, using certified bottled water, or a specially approved home filter.

What Is Being Done to Control Cryptosporidium and Giardia

A Federal, State, and local effort are underway in your community. Your local water utility is taking steps such as:

- Testing of Raw Water for Cryptosporidium (Tested from April 2008-March 2010).
- Improving quality control
- Working with Rockland County Department of Health
- Educating the public
- Systematic flushing of the water mains
- Making timely repairs
- Most importantly, improving water treatment methods, including:
 - Pretreatment
 - Sedimentation
 - Filtration
 - Disinfection / increasing the free chlorine residual, based on temperature and pH of the water to meet CT (contact time requirement)

necessary to inactivate certain viruses and organisms. This will more than likely be a seasonal adjustment. (Winter months)

These steps greatly reduce any risks of water contamination.

Working Together, We Can Keep Our Water Safe

1. Take basic steps to stay safe from these intestinal diseases.
2. Support National, State, and local efforts to keep our water supplies safe.
3. Learn as much as you can about Cryptosporidium and Giardia.

Where Can I Get More Information?

- NY State Department of Health
- NY State Department of Environmental Conservation
- Personal Health Care Provider
- U.S. Environmental Protection Agency Drinking Water Hotline (800-426-4791)
- Rockland County Department of Health (845-364-2608).





2018 SYSTEM IMPROVEMENTS

- Continued with the installation of our security systems, implemented department security policies for all facilities.
- Replaced 3 old fire hydrants.
- Painted all fire hydrants in the system to make them more visible.
- Emptied our sludge discharge lagoon.
- Replaced pump at sixth Ave Pump House.
- Repaired various leaks system wide.

PROPOSED IMPROVEMENTS FOR 2019

- Planning to make major improvements to our infrastructure (replace old Water valves and Water Mains).
- Continue pursuit of funding for a new raw water transmission main, from the treatment plant, to a point north of the New York State Thruway. This will minimize any potential contamination (accidents, spills, salt spreading during winter months) from the N.Y.S. Thruway and the CSX railroad system, which both cross the Hackensack River. The State Health Department, Comprehensive Performance Evaluation at the Treatment Plant strongly recommended this project for implementation. Application for this project was made under the 1996 Clean Water/Clean Air Bond Act.
- Install a new turbidity analyzing system.

YEAR ROUND WATER RATES (effective...6/1/17)

USAGE/QUARTER	INSIDE NYACK	OUTSIDE NYACK
Minimum Bill (<400CF)	\$23.35/Quarter	\$28.00/Quarter
0-50,000 CF	\$58.25/1,000 CF	\$69.79/1,000 CF
Over 50,000 CF	\$46.56/1,000 CF	\$55.83/1,000 CF

cf = Cubic Feet
One cf = 7.48 Gallons.

CONSERVE AND SAVE MONEY

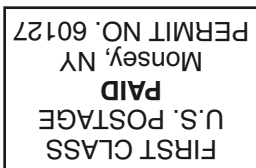
Repair Leaks

A leak of one drop per second wastes 2,400 gallons per year. Most leaks are easy to repair with some basic know-how and a few simple tools.

PIPE LEAK SIZE	GALLONS LOST	
	PER DAY	PER MONTH
	360	11,160
	3,096	95,976
	8,424	261,144
	14,952	463,512

continued on next page





WATER COMMISSIONERS
9 North Broadway
Nyack, N.Y. 10960-2695
Address Service Requested



CONSERVE AND SAVE MONEY continued

Install Watersaving Devices

There are many inexpensive devices you can buy, such as aerators, flow regulators (to reduce flow of water), or displacement devices (to reduce the amount of water stored in older toilets).

Economize

Flush only when necessary. Don't use the toilet for cigarette butts, disposable diapers, etc. Use your sink wisely. Fill up the sink instead of letting the water run when you wash or brush your teeth. Check overflow pipes to be sure water isn't draining. Add food color to the toilet tank and check the water in the bowl in 15 minutes. If there's color in the bowl, it means there probably is a leak. Repair all drips as soon as possible. Take short showers and half tubs of water when you bathe.

Dishwashers and Washing Machines

The same rules apply to both of these water-hungry appliances. Only use them with full loads. Use the watersaving devices that come with both of these machines.

Outside

Repair all leaking hoses. Use a broom to sweep the driveway and walks, not the hose. Use a bucket to wash your car. Don't allow the hose to run while you wash.

If you have any questions about this report or concerning you water utility, please contact Superintendent Kelvin Smith or, Asst. Superintendent Dan Massillio at (845-358-3734). We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled Water Board meetings. They are held on the second Thursday of the month, 4:30 p.m., at Village Hall, 9 North Broadway, Nyack, New York. Please call Barbara Kunar , office manager at (845-358-0641) for exact dates of meetings.

24 Hour Emergency Phone Number: (845-358-3734) or (358-0444)

We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life.