

ANNUAL WATER  
QUALITY  
REPORT

WATER TESTING PERFORMED IN 2016



*Presented By*  
**Town of New Windsor**  
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**Supervisor**

PWS ID#: Riley Road: NY3503580

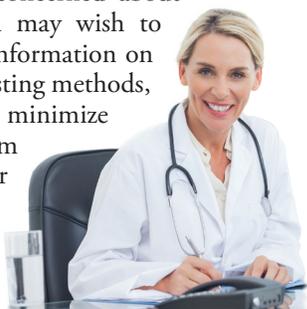
## We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

## Important Health Information

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-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 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](http://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 Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

## Facts and Figures

Our water system serves approximately 26,107 customers through approximately 7,344 service connections. The total amount of water produced in 2016 was approx. 1.1 billion gallons. The daily average of water treated and pumped into the distribution system was 3 million gallons per day. The 2016 billing rate was \$6.86 per 100 cubic feet (748 gallons). The minimum quarterly bill was \$41.16.

## Source Water Assessment

The New York State (NYS) Department of Health (DOH) has evaluated our water system's 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 in our water system. We provide treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

The assessment area for this drinking water source contains some medium-rated threats to water quality. First, the watershed contains a large amount of high-density residential land cover, which results in a medium susceptibility for protozoa. Also, there are a number of potential contaminant sources listed in the NYS SWAP database. Of these sources, the most significant threats to drinking water quality are related to a main roadway and its associated businesses.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting John P. Egitto, Operations Engineer, at (845) 561-2550.

## Where Does My Water Come From?

The Town of New Windsor residents receive their water from a pristine source located in the Catskill Region. The Ashokan Reservoir feeds the Catskill Aqueduct, which delivers water to the New York City water supply system. As the aqueduct passes through the town, two taps on the large pipeline deliver water to two individual filtration plants. Also, in 2012 the town added the St. Anne's Well, and in 2015, the Kroll Well, to the distribution system. The water from these wells is chlorinated at the well sites, then blends with water in the system and supplies water to a small section of the town when needed. When these supplies are not available, the Silver Stream Reservoir is used as an emergency source. The Town of New Windsor also has the capability to obtain water from the City and the Town of Newburgh in an emergency or drought condition. To learn more about our watershed on the Internet, go to the New York City Department of Environmental Protection website at [www.nyc.gov/html/dep/html/drinking\\_water/index.shtml](http://www.nyc.gov/html/dep/html/drinking_water/index.shtml).

## PFOS/PFOA

In 2014 and 2015, The Town of New Windsor participated in the EPA's Unregulated Contaminant Monitoring Rule (UCMR) sampling. During this testing we were required to sample our main water source (the Catskill Aqueduct), as well as our emergency water sources. There were NO PFOS/PFOA detected in the Town of New Windsor water supply (Catskill Aqueduct). However, these contaminants were detected in one of our emergency supplies (City of Newburgh/Washington Lake). During Sample Event 1 (9/16/14), Total PFCs from City of Newburgh Interconnect was 207 parts per trillion (ppt). During Sample Event 2 (12/5/14), Total PFCs from City of Newburgh Interconnect was 221 ppt. No PFCs were detected from this source during Sample Events 3 and 4 (3/30/15 and 6/1/15, respectively). **It is important to note that this emergency water supply was not used and at no time did it mix with the Town of New Windsor water. It was required to be sampled because it was an emergency supply.**

In 2016 independent testing by NYS Department of Health detected PFOS in the Kroll Well at levels well below the EPA's Health Advisory Level of 70 ppt (see Test Results table). When the Town was formally notified of these results, the Kroll Well was shutdown to evaluate treatment options.

## QUESTIONS?

For more information about this report or for questions relating to your drinking water, please call John P. Egitto, Operations Engineer, at (845) 561-2550 or the Orange County Health Department at (845) 291-2331. You may also contact the New York State Department of Health at (800) 458-1158. The U.S. EPA drinking water website ([www.epa.gov/your-drinking-water](http://www.epa.gov/your-drinking-water)) can also provide you with additional information regarding your drinking water.

## How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from the Ashokan Reservoir via the Catskill Aqueduct, or from the Silver Stream Reservoir, during times of aqueduct shutdown. The raw water can then enter one of two filtration plants located at either Riley Road or Stewart Field, where chemicals are then added for coagulation and pH adjustment. At the Riley Road Filter Plant, the addition of these substances cause small particles to adhere to one another (called floc), making them large enough to be captured in sand filters. At this point the water is filtered through layers of fine coal and silicate sand. At the Stewart Field Filter Plant, the large floc particles are captured in a different type of filter using diatomaceous earth (similar to the type of filters used in swimming pools). As smaller suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is then added at both facilities as a precaution against any bacteria that may still be present (we carefully monitor the amount of chlorine, adding the smallest quantity necessary to protect the safety of your water without compromising taste). Finally, caustic soda (used to adjust the final pH and alkalinity) is added at both facilities before the water is pumped to sanitized above-ground storage towers or surface reservoirs and into your home or business. The water from the St. Anne's and Kroll Well is disinfected with chlorine at the well site and blended with water in the system coming from the Riley Road filtration plant.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The time and place of regularly scheduled town board meetings may be obtained from the Town Clerk, Deborah Green, at New Windsor Town Hall, (845) 563-4611.



## Water Conservation Tips:

- Wash only full loads of dishes or clothes.
- Turn off the tap when brushing your teeth.
- Check every faucet for leaks.
- Check your toilets for leaks.
- 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.

## Non-detected Contaminants

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

Inorganics: Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, and Thallium. Volatile Organics: Benzene; Bromobenzene; Bromochloromethane; n-Butylbenzene; sec-Butylbenzene; tert-Butylbenzene; Carbon Tetrachloride; Chlorobenzene; Chloroethane; 2-Chlorotoluene; 4-Chlorotoluene; Dibromomethane; 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; Ethylbenzene; Hexachlorobutadiene; Isopropylbenzene; 4-Isopropyltoluene; Methylene Chloride; Methyl Bromide; Methyl Chloride; n-Propylbenzene; Styrene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethene; Toluene; 1,2,3-Trichlorobenzene; 1,2,4-Trichlorobenzene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethene; Trichlorofluoromethane; 1,2,3-Trichloropropane; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene; Vinyl Chloride; m-Xylene; p-Xylene; o-Xylene; Xylenes, total; MTBE. Organic Chemicals: Group 1: Chlordane; Endrin, 2,4,5-TP (Silvex); 2,4-D; Pentachlorophenol. Group 2: Dieldrin; Dalapon; Dicamba; Dinoseb; Picloram. SOCs: 1,2-Dibromo-3-Chloropropane; 1,2-Dibromomethane; Toxaphene; PCBs.



## Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State allows 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.

In September 2016, the Town was issued a violation for failure to take 15-minute turbidity readings for a period of 2 weeks. This was due to equipment failure that has now been replaced and is working properly. Manual sampling was performed during this period to ensure water met all public health and safety requirements. Also, we failed to take 2 out of the 4 quarterly samples to TTHMs and HAA5s. This was operator error. Steps have been taken to ensure this will not happen in the future.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	Riley Road System					Stewart System			St. Annes Well			Kroll Well			VIOLATION	TYPICAL SOURCE
	MCL [MRDL]	MCLG [MRDLG]	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW- HIGH	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW- HIGH	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH		
<b>Barium</b> (ppm)	2	2	1/20/2016	0.0067	NA	1/20/2016	0.0072	NA	3/02/2016	0.074	0.02– 0.074	1/27/2016	0.021	NA	No	Erosion of natural deposits
<b>Chloride</b> (ppm)	250	NA	05/14/2014	40.5	NA	NA	NA	NA	4/21/2016	60.2	NA	NA	NA	NA	No	Naturally occurring
<b>Fluoride</b> (ppm)	2.2	NA	NA	NA	NA	NA	NA	NA	4/21/2016	0.26	NA	NA	NA	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids</b> (ppb)	60	NA	2016	25.8 <sup>1</sup>	6.9– 34.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection needed to kill harmful organisms
<b>Nitrate</b> (ppm)	10	10	NA	NA	NA	4/23/2015	0.211	NA	2016	1.09	0.63– 1.09	2016	4.18	3.4–4.18	No	Runoff from fertilizer use
<b>Sodium</b> (ppm)	see footnote #2	NA	NA	NA	NA	NA	NA	NA	3/02/2016	35	18–35	1/27/2016	61	NA	No	Naturally occurring
<b>Sulfate</b> (ppm)	250	NA	NA	NA	NA	NA	NA	NA	4/21/2016	18.5	NA	NA	NA	NA	No	Naturally occurring
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	80	NA	2016	36.5	13.0– 48.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter
<b>Total Coliform Bacteria</b> (Positive samples)	TT	NA	9/19/2016	1 <sup>3</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Naturally present in the environment
<b>Turbidity</b> <sup>4</sup> (NTU)	TT	NA	01/25/2016	0.15	0.04– 0.15	6/02/2016	0.48	0.20– 0.48	NA	NA	NA	NA	NA	NA	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	TT = 95% of samples meet the limit	NA	01/25/2016	99.9%	NA	6/02/2016	99.9%	NA	NA	NA	NA	NA	NA	NA	No	Soil runoff

**Tap water samples were collected for lead and copper analyses from sample sites throughout the community**

SUBSTANCE (UNIT OF MEASURE)	MCLG		DATE SAMPLED	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
	AL	MCLG						
Copper (ppm)	1.3	1.3	2014	0.311	0.0044–0.473	0/31	No	Corrosion of household plumbing systems
Lead (ppb)	15	0	2014	12.3	ND–220	1/31	No	Corrosion of household plumbing systems

**UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3) - KROLL WELL**

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Perfluorobutanesulfonic Acid [PFBS] (ppt)	10/14/2016	4.24	NA	Runoff of chemicals used in firefighting at airfields and in industrial process
Perfluoroheptanoic Acid [PFHpA] (ppt)	10/14/2016	5.34	NA	Runoff of chemicals used in firefighting at airfields and in industrial process
Perfluorohexanesulfonic Acid [PFHxS] (ppt)	10/14/2016	2.17	NA	Runoff of chemicals used in firefighting at airfields and in industrial process
Perfluorononanoic Acid [PFNA] (ppt)	10/14/2016	3.63	NA	Runoff of chemicals used in firefighting at airfields and in industrial process
Perfluorooctanesulfonate Acid [PFOS] (ppt)	10/14/2016	13.4	NA	Runoff of chemicals used in firefighting at airfields and in industrial process
Perfluorooctanoic Acid [PFOA] (ppt)	10/14/2016	13.5	NA	Runoff of chemicals used in firefighting at airfields and in industrial process

<sup>1</sup>The Town only took 2 out of 4 required quarterly samples for TTHMs and HAA5s. The values as indicated represent the highest Locational Running Average for those 2 quarters.

<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>We are required to have less than 2 positive samples for Total Coliform Bacteria per month. We had 1 positive sample. Retesting at the same site was negative.

<sup>4</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. 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.) Although the month as indicated in the Date column above 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 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).

**ppt (parts per trillion):** One part substance per trillion parts water (or nanograms per liter).

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