

Annual Drinking Water Quality Report for 2021
Kings Highway Water District
PO Box 177, Glasco, NY 12432
Public Water Supply ID# 5530307

INTRODUCTION

To comply with State regulations, Kings Highway Water, will be annually issuing a 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, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This is 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.

If you have any questions about this report or concerning your drinking water, please contact Michele Haines, office manager, 845-246-8671. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Town board meetings. The meetings are held the first and third Wednesday of every month at 8:00 PM. The meetings are held at the senior citizen complex located at 207 Market St. in the Village of Saugerties.

WHERE DOES OUR WATER COME FROM?

In general, 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.

Our water source is surface water drawn from the Blue Mountain Reservoir, which is located along Reservoir Road, off County Route 36, in the Town of Saugerties. We have 18.5 miles of watershed. Blue Mountain Reservoir is stream fed and has a 6 million gallon storage capacity by damming the stream. There are approximately 250 acres surrounding the reservoir. During 2019, our system did not experience any restriction of our water source. The water is gravity fed from the reservoir to the Water Filtration Plant. The filtration plant can treat 1.8 million gallons per day. As the water enters the water filtration plant the pH is adjusted with soda ash to optimize floc production, we then add poly aluminum chloride to cause small particles to stick together when the water is mixed, making larger heavier particles. The water is then pumped through any of three upflow clarifiers to remove the larger heavier particles. In the next stage of treatment water flows to the three mixed media filter units at which point we add a filter aid which improves filtration and reduces filter effluent turbidity. This is the final polishing step in which the fine particulate mater that was not removed in the clarifier is filtered out. Each filter unit can process 850,000 gallons per day. The final treatment step is disinfection with chlorine to prevent bacterial contamination. Additionally, we add an orthophosphate inhibitor for corrosion control. The treated water flows to a 78,000 gallon clearwell and then gravity fed into the Village's water distribution system, which includes a three million

gallon water storage tank. Kings Highway water purchases its water from the village of Saugerties for distribution to our customers.

FACTS AND FIGURES

Our water system serves approximately 80 people served through 26 service connections. The amount of water distributed in the system in 2021 was 2,767,000 gallons. The amount of water delivered to customers was 1,723,019 gallons. This leaves an unaccounted for total of 43,981 gallons or 2 %. Water was used to flush mains, fight fires, municipal use, recreation fields and ballparks, theft of service and leakage. In 2021 the Kings Highway water customers were charged \$8.00 per 1,000 gallons of water used. .

The NYS DOH has completed a source water assessment for the Kings Highway Water 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 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 is, or will become contaminated. While Nitrates were detected in water, it should be noted that all drinking water including bottled drinking water may be reasonably expected to contain at least some small amounts of some contaminants from natural sources. The presence of contaminants does not necessarily indicate that the water possesses a health risk. See section, "Are there contaminants in our drinking water?" 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. As mentioned above, our water is derived from two drilled wells. The source water assessment has rated these wells as having no to low susceptibility to any contamination. No significant sources of contamination were identified. The wells draw from an unconfined aquifer and the hydraulic conductivity is unknown. Please note that our water is disinfected to ensure that the finished water delivered to your home meets the New York State drinking water standards for microbial contamination.

County and State Departments will use this information to direct future source water protection activities. These may include water quality monitoring, resource management, planning and educational programs. A copy of this assessment including a map of the assessment area can be obtained by contacting the Kings Highway Water District at 845-246-8671.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: [total coliform](#), [turbidity](#), [Disinfection Byproducts](#), [nitrate](#), [lead and copper](#) 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.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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 EPA's Safe Drinking Water Hotline (800-426-4791) or the [Ulster County](#) Health Department at (845)340-3150.

Kings Highway Water TABLE OF DETECTED CONTAMINANTS
Public Water Supply Identification Number NY5530307

	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<i>Microbiological Contaminants</i>						
Turbidity ¹ (Highest turbidity sample from 3/20/2021)	N	0.020	NTU	N/A	TT=1 NTU	Soil runoff
		100%			TT= 95% samples < 0.3	
<i>Inorganic Contaminants</i>						
Chloride (sample from 5/22/2019)	N	12.6	pp ^m	N/A	250	Naturally occurring or indicative of road salt contamination
Copper (samples from 7/25/2017)	N	0.14 ²	pp ^m	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of na deposits; leaching from wood preservatives
Range of copper concentrations		0.0654 0.300				
Lead (samples from 7/25/2017)	N	<0.001	pp ^m	0	AL=0.015	Corrosion of household plumbing systems, erosion of na deposits
Range of lead concentrations		<0.001 0.0033				
Manganese (sample from 5/22/2019)	N	0.0167	pp ^m	N/A	300	Geology; Naturally occurring
Nitrate (as Nitrogen) (sample from 5/22/2019)	N	<0.23	pp ^m	10	10	Runoff from fertilizer use; leaching from septic tanks, se erosion of natural deposits
Zinc (sample from 5/22/2019)	N	<0.0051	pp ^m	5.0	N/A	
Sodium ⁴ (sample from 5/22/2019)	10	10.5	pp ^m	N/A	N/A	Naturally occurring; Road salt; Water softeners; Animal
Sulfate (sample from (5/22/2019)	N	<5.00	ppm	N/A	250	Geology;
<i>Disinfection Byproducts (Annual samples from 8/10/2021)</i>						
HAA5 [Haloacetic Acids] range of values	N	21.2	pp ^b	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
TTHM[Total Trihalomethanes] range of values	N	56.9	pp ^b	0	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
Chlorine Residual, Free (average) Range (sampled daily)	N	1.2 0.8 - 1.2	pp ^m	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water

Notes:

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Level detected represents the highest level detected. State regulations require that entry point turbidity must always be below 1.0NTU. The regulations also require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Although August 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.

2. The level presented represents the 90th percentile of 10 test sites. 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, 10 samples were collected at your water system and the 90th percentile value was the 9th sample with the second highest value (level detected 0.32 mg/l). The action level for copper was not exceeded at any of the sites tested.

3. The level presented represents the 90th percentile of 10 test sites. 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, 10 samples were collected at your water system and the 90th percentile value was the 9th sample with the second highest value (level detected 0.2 µg/l). The action level for lead was not exceeded at any of the sites tested.

4. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.

5. The Interim Enhanced Surface Water Treatment Rule (IESWTR) requires monitoring of raw and finished water Total Organic Carbon (TOC). Depending on the raw water alkalinity value, proper water treatment should remove between 15% to 35% of the raw water TOC thus reducing the amount of disinfection byproducts produced.

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.

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

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the available treatment technology.

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. MCLGs 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 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 use of disinfectants to control microbial contamination

N/A-Not applicable

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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 occurred on (give date) (0.9 NTU). 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. Although (give date) 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.

2 - The level presented represents the 90th percentile of the 10 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, (include number of samples, e.g. ten samples) samples were collected at your water system and the 90th percentile value was the (include what sample had the highest value, e.g. second highest) value (include level detected, e.g. 1.1 mg/l). The action level for copper was not exceeded at any of the sites tested.

3 - The level presented represents the 90th percentile of the (include number of samples, e.g. ten samples) samples collected. The action level for lead was exceeded at two of the 10 sites tested.

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

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): 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.

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.

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

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

Level 1 Assessment: A Level 1 assessment is an evaluation of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system. Level 2

Assessment: A Level 2 assessment is an evaluation of the water system to identify potential problems and determine, if possible, why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

Nanosrams per liter (ns/l): Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

Picosrams per liter (ps/l): Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion - ppq).

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

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

Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements. 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. Kings Highway Water 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>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During 2021.

INFORMATION ON RADON

Radon is a naturally-occurring radioactive gas found in soil and outdoor air that may also be found in drinking water and indoor air. Some people exposed to elevated radon levels over many years in drinking water may have an increased risk of getting cancer. The main risk is lung cancer from radon entering indoor air from soil under homes.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, 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 (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water 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.

Conservation tips include:

- ◆ 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 one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.