2023 Annual Drinking Water Quality Report for the Village of Tivoli Water System
Tivoli NY 12583
Public Water Supply ID NY1302778

Introduction

We are pleased to present you this year's Annual Drinking Water Quality Report. This report provides details about your water source, what it contains, how we treat it, and how it compares to the standards set by State and Federal regulatory agencies. DCWWA works to provide the safest and most dependable drinking water possible. Our personnel conducted over 200 tests for over 50 different contaminants in 2023, and detected two of those at levels higher than the State allows.

Iron concentration at the McKnight Entry Point to the distribution system exceeded the Maximum Contaminant Level (MCL). DCWWA works with the Department of Health to monitor iron levels at the Potts Entry Point and in the distribution system to ensure that the water you receive contains iron levels that meet regulatory standards.

Water color at both active entry points to the distribution system, McKnight and Potts, was measured at levels exceeding the MCL. There are many possible sources of color in drinking water, and color has no health effects. We believe that the mostly likely source of color in Tivoli's water is iron, which develops a rusty hue when it reacts with the chlorine added for disinfection. Our operations team works hard to balance the addition of chlorine to minimize discoloration while maintaining a safe water supply.

If you have any questions about this report or your drinking water, please contact Dutchess County Water and Wastewater Authority at (845) 486-3601. We want you to be informed about your drinking water. If you want to learn more about Dutchess County Water and Wastewater Authority, please visit our website at www.DCWWA.org.

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 or substances resulting from the presence of animals or 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.

Our water system serves 1,118 people through 476 service connections. Our water source is groundwater drawn from a total of six drilled wells, which were brought into service in 1940, 1947, 1953, 1957, 1980, and 2002. Water is pumped from the wells to two different pump stations where water is chlorinated prior to distribution. Water is stored in the elevated tank on Broadway, which provides adequate pressure through the distribution system.

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this water source were evaluated. The State source water assessments include 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. 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 be contaminated. See section “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected, if any. The source water assessments provide resource managers with additional information for protecting source waters in the future. The source water assessment has rated our water source as having an elevated susceptibility to microbial and nitrate contamination. These ratings are due primarily to the proximity of the wells to a landfill and a permitted discharge facility (industrial/commercial facilities that discharge wastewater into the environment and are regulated by the state and/or federal government) and the residential and agricultural land use and related activities in the assessment area. In addition, the wells draw from fractured bedrock and overlying soils may not provide adequate protection from potential contamination. The county and state health departments will use this information to direct future source water protection activities. The source water assessment summary for your system is available by calling the Dutchess County Department of Behavioral and Community Health at 845-486-3404 and requesting a copy.

Are there contaminants in our drinking water?

As State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include total coliform, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, synthetic organic compounds, and radiological isotopes. 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 Dutchess County Department of Behavioral and Community Health at 845-486-3404.

Summary of the Regulated Contaminants Detected in our Water

Disinfectants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Chlorine Residual	McKnight Entry Point	No	0.766 0.58 - 1.18	1/1/2023 through 8/31/2023	mg/L	4	N/A	Water additive used to control microbes.
	Potts Entry Point	No	1.31 0.87 - 1.67	1/1/2023 through 12/31/2023	mg/L	4	N/A	Water additive used to control microbes.

Disinfection Byproducts

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Haloacetic Acids (HAA5)	System Wide	No	2.83 ND - 3.3	8/26/2022	ug/L	60	N/A	By-product of drinking water disinfection needed to kill harmful organisms.
Total Trihalomethanes (TTHM)	System Wide	No	7.9 4.1 - 12	8/26/2022	ug/L	80	N/A	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains organic matter.

Inorganic Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Arsenic	McKnight Entry Point	No	1.66	10/21/2020	ug/L	10	N/A	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
	McKnight Entry Point	No	1.86	4/26/2023	ug/L	10	N/A	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
	Potts Entry Point	No	1.43	4/26/2023	ug/L	10	N/A	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
	Well WM1	No	2.1	2/15/2023	ug/L	10	N/A	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
	Ball Lot Entry	No	4.31	12/7/2020	ug/L	10	N/A	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	McKnight Entry Point	No	0.0826	10/21/2020	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	McKnight Entry Point	No	0.0601	4/26/2023	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Barium	Potts Entry Point	No	0.193	10/21/2020	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Potts Entry Point	No	0.184	4/26/2023	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Well WM1	No	0.303	2/15/2023	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
	Ball Lot Entry	No	0.0629	12/7/2020	mg/L	2	2	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chloride	McKnight Entry Point	No	140	4/19/2022	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
	Potts Entry Point	No	28	4/19/2022	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
	Well WM1	No	2.05	2/15/2023	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.
	Ball Lot Entry	No	20	3/26/2019	mg/L	250	N/A	Naturally occurring or indicative of road salt contamination.

Copper (1)	System Wide	No	89.85 11.3 - 274	8/1/2023 through 8/8/2023	ug/L	1300	1300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.
Iron (2)	McKnight Entry Point	Yes	532 519 - 545	2/16/2023 through 5/18/2023	ug/L	300	N/A	Naturally occurring.
	Potts Entry Point	No	190	9/30/2023	ug/L	300	N/A	Naturally occurring.
	Well WM1	Yes	855	2/15/2023	ug/L	300	N/A	Naturally occurring.
	Ball Lot Entry	No	0.396	12/7/2020	ug/L	300	N/A	Naturally occurring.
Lead (3)	System Wide	No	1.39 ND - 8.62	8/1/2023 through 8/8/2023	ug/L	15	0	Corrosion of household plumbing systems; Erosion of natural deposits.
Manganese	McKnight Entry Point	No	61	7/8/2022	ug/L	300	N/A	Naturally occurring; Indicative of landfill contamination.
	Potts Entry Point	No	32	7/1/2022	ug/L	300	N/A	Naturally occurring; Indicative of landfill contamination.

Manganese	Well WM1	No	65.7	2/15/2023	ug/L	300	N/A	Naturally occurring; Indicative of landfill contamination.
	Ball Lot Entry	No	40.5	12/7/2020	ug/L	300	N/A	Naturally occurring; Indicative of landfill contamination.
Nitrate (as N)	McKnight Entry Point	No	0.143	4/26/2023	mg/L	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
	Potts Entry Point	No	0.998	4/26/2023	mg/L	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
	Well WM1	No	0.097	2/15/2023	mg/L	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	McKnight Entry Point	No	1.53	4/26/2023	ug/L	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Sodium (4)	McKnight Entry Point	No	57	12/16/2021	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
	Potts Entry Point	No	278	12/16/2021	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.

Sodium (4)	Well WM1	No	19.5	2/15/2023	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
	Ball Lot Entry	No	78.6	3/26/2019	mg/L	(See Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
Sulfate	McKnight Entry Point	No	48	12/16/2021	mg/L	250	N/A	Naturally occurring.
	Potts Entry Point	No	26	12/16/2021	mg/L	250	N/A	Naturally occurring.
	Well WM1	No	19	2/15/2023	mg/L	250	N/A	Naturally occurring.
	Ball Lot Entry	No	19	3/26/2019	mg/L	250	N/A	Naturally occurring.
Zinc	Ball Lot Entry	No	0.0151	3/26/2019	mg/L	5	N/A	Naturally occurring; Mining waste.

Microbiological Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water

Total Coliform	Well WM1	No	1	2/15/2023	N/A	TT = 2 or more positive	0	Naturally present in the environment.

Physical Characteristics

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Color (5)	McKnight Entry Point	Yes	20	4/19/2022	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.
	Potts Entry Point	Yes	25	4/19/2022	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.
	Well WM1	No	6	2/15/2023	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natura
	Ball Lot Entry	No	10	3/26/2019	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by products such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.
Odor	McKnight Entry Point	No	1	4/19/2022	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
	Potts Entry Point	No	1	4/19/2022	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.

Odor	Well WM1	Yes	10	2/15/2023	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
	Ball Lot Entry	No	1	3/26/2019	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.
pH	Well WM1	No	7.2	2/15/2023	SU	N/A	N/A	Naturally occurring.

Radioactive Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Combined Radium-226 and Radium-228	McKnight Entry Point	No	0.3	4/19/2022	pCu/L	5	0	Erosion of natural deposits.
	Potts Entry Point	No	0.85	4/19/2022	pCu/L	5	0	Erosion of natural deposits.
Gross Alpha Activity (inclulding radium-226 but excluding radon and uranium)	McKnight Entry Point	No	1.55	4/19/2022	pCu/L	15	0	Erosion of natural deposits.
	Potts Entry Point	No	1.3	4/19/2022	pCu/L	15	0	Erosion of natural deposits.

Uranium	McKnight Entry Point	No	0.205	4/19/2022	ug/L	30	0	Erosion of natural deposits.
	Potts Entry Point	No	0.281	4/19/2022	ug/L	30	0	Erosion of natural deposits.

Synthetic Organic Contaminants

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Perfluoro-octanoic Acid (PFOA)	Well 2PW	No	0.821	2/16/2023	ng/L	10	N/A	Released into the environment from widespread use in commercial and industrial applications.

Unregulated Perfluoroalkyl Substances

Contaminant Name	Sample Location	Violation (Yes/No)	Level Detected (Range)	Sample Date(s)	Unit	Regulatory Limit (MCL/MRDL)	MCLG	Sources in drinking water
Perfluoro-butanesulfonic Acid (PFBS)	Well 2PW	No	1.46	2/16/2023	ng/L	N/A	2000	Released into the environment from widespread use in commercial and industrial applications.
Perfluoro-hexanoic Acid (PFHXA)	Well 2PW	No	1.04	2/16/2023	ng/L	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.

Footnotes

(1) The copper level presented represents the 90th percentile of 10 samples taken. 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. The action level for copper was not exceeded at any of the sites tested.

(2) Iron is essential for maintaining good health. However, too much iron can cause adverse health effects. Drinking water with very large amounts of iron can cause nausea, vomiting, diarrhea, constipation and stomach pain. These effects usually diminish once the elevated iron exposure is stopped. A small number of people have a condition called hemochromatosis, in which the body absorbs and stores too much iron. People with hemochromatosis may be at greater risk for health effects resulting from too much iron in the body (sometimes called “iron overload”) and should be aware of their overall iron intake. The New York State standard for iron in drinking water is 0.3 milligrams per liter, and is based on iron’s effects on the taste, odor and color of the water.

(3) The level presented represents the 90th percentile of the 10 sites tested. The action level for lead was exceeded at two of the 10 sites tested.

(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 for drinking by people on moderately restricted sodium diets.

(5) Color has no health effects. In some instances, color may be objectionable to some people at as low as 5 units. Its presence is aesthetically objectionable and suggests that the water may need additional treatment.

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.
Non-Detects (ND)	Laboratory analysis indicates that the constituent is not present.
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).
Nanograms per liter (ng/L)	Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).
Picograms per liter (pg/L)	Corresponds to one part 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)	Millirems per year (mrem/yr): A measure of radiation absorbed by the body.

What does this information mean?

As the table shows, our system had no violations in 2023. Although we have learned through testing that some contaminants are present in our water, all of the regulated contaminants are present at concentrations lower than the levels allowed by the State.

Although testing did not reveal hazardous levels of lead in our system, 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 higher than at other homes in the community because of materials used in your home's plumbing. DCWWA 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 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 (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

Is our water system meeting other rules that govern operations?

During 2023, our system was compliant with all applicable State drinking water operating, monitoring, and reporting requirements.

Do I need to take special precautions?

Although our drinking water met or exceeded state and federal safety standards, 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 several reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both 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.
- 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 fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using looking for ways to use less whenever you can. Tivoli Water customers used an average of 39 gallons of water per person per day, which is about three cups less than our average customer's daily use. You're doing great, but there's always room to improve. 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. We understand that rising utility bills are a major concern for our customers and our dedicated staff is working hard to provide you with safe and dependable water at the lowest cost possible.