SHOREWOOD HILLS WATER UTILITY
2020 Water Quality Report

This annual report complies with federal and state drinking water regulations, which require us to provide water quality information to our customers each year. Unless otherwise noted, results are based on testing conducted in 2020. The Village of Shorewood Hills purchases treated water from the City of Madison Water Utility (PWS ID 11302247). The drinking water provided by Madison has met or surpassed all Federal and State standards for health and safety (see the Water Quality Table on a subsequent page). To obtain a summary of the source water assessment or if you would like to know more about the information contained in this report, please contact Shorewood Hills Public Works Crew Chief at (608) 267-2680. More information is also available on the City of Madison's website at: **MadisonWater.org**

WHERE DOES MY WATER COME FROM?

The Madison water system consists of 23 wells and over 900 miles of interconnected pipes. The source of the Village's water is groundwater is mainly wells #14 and #19 that serves the near west side of Madison, Shorewood Hills and portions of UW. We do get water from two other west side wells (#6 and #27) during higher demand times.

Quality & Reliability

WHAT IS THE SOURCE OF MY TAP WATER?

The drinking water Shorewood Hills purchases from Madison comes from a deep sandstone aquifer, an underground rock formation where water is stored in small spaces between and within rock. Groundwater in the Madison area originates as rain or snow that falls in Dane County, soaks into the ground, and is filtered through layers of soil and rock before replenishing the aquifer. Natural filtration produces high quality water for us to enjoy.

WHAT KEEPS OUR WATER SAFE?

The high quality aquifer supplying our drinking water requires little treatment. The Madison Water Utility disinfects the water with chlorine to reduce the risk of microbial contamination. A small amount of chlorine kills bacteria and viruses that can be present in groundwater. Chlorine also travels with the water and is ready to kill microbes that it might encounter in the system. Our goal is to maintain a chlorine residual above 0.1 milligrams per liter (mg/L) at all points in the distribution system. Typical concentrations range from 0.2 to 0.4 mg/L.

HOW ELSE IS THE WATER TREATED?

Fluoride is added to Madison drinking water to improve dental health and reduce tooth decay. The US Centers for Disease Control and Prevention (CDC) and Wisconsin Department of Health Services recommend maintaining an average fluoride level of 0.7 mg/L. Water from each well is tested daily to achieve this target level. In 2020, the system-wide average of 6,844 tests was 0.69 mg/L..

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791.

Cryptosporidium and *Giardia,* two organisms commonly linked to water-borne illness, are found primarily in surface waters such as lakes and rivers. Because Madison's drinking water comes from a deep groundwater aquifer, these organisms do not pose a significant health risk in Madison tap water.

Do Your Part To Protect Groundwater Quality

- Use no more than the recommended amount of road salt on sidewalks and driveways, **wisaltwise.com**
- Properly dispose of your household hazardous chemicals through Clean Sweep: **danecountycleansweep.com**
- Promote healthy lawns and gardens without the use of harmful chemicals, **clean-water.uwex.edu/pubs**
- Use non-toxic or biodegradable cleaning products

POTENTIAL CONTAMINANTS IN DRINKING WATER AND THEIR LIKELY SOURCES

Sources of drinking water, both tap water and bottled water, include rivers, lakes, springs, streams, ponds, reservoirs and wells. As water travels over the surface of the land and 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 activity. Types of potential contaminants and their likely sources include:

- **Microbial contaminants**, such as viruses and bacteria, may come from leaky sewer pipes, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, including metals, minerals, nutrients, and salts, can occur naturally or they may result from urban stormwater runoff, industrial wastewater discharges, mining, or farming activities.
- **Organic contaminants**, including synthetic and volatile organic compounds, are by-products of industrial processes that can come from chemical spills, gas stations, urban stormwater runoff, and septic systems.
- **Pesticides and herbicides** may come from a variety of sources such as agriculture, urban storm-water runoff and residential use.
- **Radioactive substances** may occur naturally in rock formations and groundwater

In order to ensure that tap water is safe, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Routine monitoring helps to ensure that drinking water concentrations of any substance remain at safe levels.

MICROBIOLOGICAL TESTING

Bacteria – To ensure drinking water safety, routine bacteriological tests are conducted. On average, the Madison Water Utility collects over 200 distribution samples each month from representative locations including two per week from Shorewood Hills. The Village collects two separate sample each month and delivers them for testing. The samples are tested for coliform bacteria, indicators of potential contamination. In 2020, the Water Utility collected 2,745 distribution samples. None tested positive for coliform bacteria. The absence of coliform positive samples reflects good source water quality and adequate disinfection maintained in the distribution system.

THE EPA ON 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline, 800-426-4791.

How to Read the Water Quality Data Table

The EPA and Wisconsin Department of Natural Resources (WDNR) establish the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to the regulatory limits. Substances not detected are not included in the table.

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 using the best available technology.

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.

Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a public water system shall follow.

Units in the Table

- One milligram per liter (mg/L) equals one part per million (ppm)
- One microgram per liter (µg/L) equals one part per billion (ppb)
- One milligram per liter equals 1,000 micrograms per liter
- One ppb is analogous to one second in 32 years
- Picocurie per liter (pCi/L) is a measure of radioactivity
- nd = non-detect

IMPORTANT NOTE ABOUT THE TABLE: The table reports the maximum and minimum concentrations for each substance found in at least one local water sample. Contaminant levels reported in the table may not be representative of the water quality at your home. Visit **madisonwater.org** for more information about quality of water purchased by the Village from the City of Madison.

Water Quality Table *(* information taken from the Madison Water Utility 2020 Water Quality Report)*

Substance Detected (units)	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Medium Level Found	Range of Results	Violation (Yes/No)	Wells with Detections	Typical Source of Substance
Regulated Substances							
Arsenic (ppb)	zero	10	0.2	nd - 0.5	No	Thirteen wells	Erosion of natural deposits. Glass & electrode production.
Atrazine (ppb)	3	3	0.03	0.03 - 0.04	No	Well 14 and 29	Runoff from herbicide use on row crops
Barium (ppb)	2000	2000	20	7.2 - 64	No	All wells	Erosion of natural deposits. Discharge from metal refineries.
Chromium, Total (ppb)	100	100	Non-detect	nd - 2.2	No	6, 9, 11, 13, 14, 16, 20, 25	Erosion of natural deposits. Discharge from steel and pulp mills.
1,2-Dichloroethylene, cis (ppb)	70	70	non-detect	nd - 0.4	No	Well 11	Discharge from industrial chemical factories. Biodegradation at PCE and TCE.
Ethylbenzene (ppb)	700	700	non-detect	nd - 0.6	No	Well 9	Discharge from petroleum refineries.
Fluoride (ppm)	4	4	0.8	0.6 - 1.2	No	All wells	Erosion of natural deposits. Added to promote strong teeth.
Nickel (ppb)	n/a	100	0.7	nd - 2.2	No	Fifteen wells	Erosion of natural deposits; Electroplating stainless steel and alloy products.
Nitrate (ppm)	10	10	0.7	nd - 3.8	No	Fifteen Wells	Fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium (ppb)	50	50	non-detect	nd - 1.0	No	6, 9, 11, 13, 14, 25, 29	Erosion of natural deposits. Petroleum and metal refineries.
Tetrachloroethylene [PCE] (ppb)	zero	5	non-detect	nd - 2.1	No	6, 9, 11, 13, 14, 18	Discharge from factories, dry cleaners and auto shops.
Thallium (ppb)	0.5	2	non-detect	nd - 0.3	No	11, 17 ,19, 27	Ore processing sites. Electronics, glass and drug factories.
Xylene, Total (ppb)	10000	10000	non-detect	nd - 3.6	No	Well 9	Discharge from petroleum and chemical factories.
Radionuclides							
Gross Alpha (pCi/L)	zero	15	2.4	0.7 - 11	No	All wells	Erosion of natural deposits.
Radium, 226+228 (pCi/L)	zero	5	1.8	0.8 –5.0	No		Erosion of natural deposits.
Gross Beta (pCi/L)	zero	50	4.2	0.2 - 10	No		Decay of natural and man-made deposits.
Uranium (ppb)	zero	30	0.7	0.3 - 1.4	No	19, 24, 29	Erosion of natural deposits.
Unregulated Substances							
Bromide (ppb)	n/a	n/a	39	nd - 60	No	7, 9, 11, 13, 15, 29	Erosion of natural deposits.
Chromium, Hexavalent (ppb)	n/a	n/a	1.3	0.03 - 2.0	No	5, 13, 14, 16, 31	Erosion of natural deposits. Chrome plating, leather tanning, wood preservation.
1,4-Dioxane (ppb) - 2018/19 data	n/a	n/a	0.3	0.3	No	Well 11	Discharge from chemical factories. Cosmetics and detergents.
Metolachlor (ppb) - 2017 data	n/a	n/a	0.01	nd - 0.01	No	Well 14	Runoff from herbicide used on row crops
PFOA & PFOS (ppb)	n/a	n/a	1.3	nd - 3.4	No	Sixteen wells	Firefighting foam. Landfills, food packaging, clothing, fabrics, upholstery
Strontium (ppb)	n/a	n/a	82	52 - 110	No	All wells	Erosion of natural deposits.
Trichlorofluoromethane (ppb)	n/a	n/a	non-detect	nd - 0.7	No	Well 11	Discharge from industrial chemical factories. Degreaser, propellant, refrigerant.
Other Substances	**Aesthetic Goal**						
Chloride (ppm)	250		20	1.5 - 160	No	Twenty wells	Erosion of natural deposits. Road salt application.
Iron (ppm)	0.3		0.02	0.01 - 0.46	No	All wells	Erosion of natural deposits.
Manganese (ppb)	50		2.4	nd - 48	No	All except well 14	Erosion of natural deposits.
Sodium (ppm)	n/a		8.0	2.0 - 60	No	All wells	Erosion of natural deposits. Road salt application.
Sulfate (ppm)	250		17	5.9 - 38	No	All wells	Erosion of natural deposits.

Detecting Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample

Disinfection Byproducts

Substance Detected (units)	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Medium Level Found	Range of Results	Violation (Yes/No)	Wells with Detections	Typical Source of Substance
Haloacetic Acids [HAA5] (ppb)	60	60	1.6	0.7 - 2.9	No	n/a	By-product of drinking water chlorination
Total Trihalomethanes [TTHM) (ppb)	zero	80	4.6	nd - 9.5	No	n/a	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Ideal Goal (MCLG)	Action Level (AL)	90th Percentile Level Found	Range	Samples Above AL	Violation (Yes/No)	Typical Source of Substance
Copper (ppb)	1300	1300	168	68-207	0 of 51	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	0	15	3.2	0.2-8.8	0 of 51	No	Corrosion of household plumbing systems; Erosion of natural deposits

Unregulated Contaminants

Once every five years, the EPA prepares a list of unregulated contaminants for required testing by large utilities. In 2018 and 2019, twenty-two Madison wells were tested for 20 of these chemicals. Results for manganese, bromide, and the haloacetic acid group are reported on the Water Quality Table on the previous page. Madison regularly tests for other unregulated substances including 1,4-dioxane, hexavalent chromium, PFAS, and strontium. Results of these tests are included in the Water Quality Report on the previous page.

Additional Health Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily comes from lead service pipes and household plumbing components. The Shorewood Hills Water Utility is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Some faucets, fixtures, and pipes in your house could still contain lead. The longer water has been standing in the plumbing system, the more lead it may contain. You can minimize the potential for lead exposure by running water from a faucet for 2 to 3 minutes before using it for drinking or cooking. For more information go to: **www.epa.gov/safewater/lead**.

Per and polyfluoroalkyl substances(PFAS)

In 2020, Madison Water Utility continued to voluntarily test its drinking water wells for up to 36 PFAS chemicals. At lease one PFAS was found in every Madison well. The sum of PFAS ranged from an estimated 2.5 to 47 ppt. While there is no federal drinking water standard for PFAS, the EPA recommends that the combined sum of two PFAS (PFOA & PFOS) stay below 70 ppt. Recently, WI DHS staff recommended a health-based groundwater standard of 20 ppt for PFOA & PFOS. Except Well 19, where neither PFOA nor PFOS was detected, low levels (<3 ppt) of the two PFAS were found at the other three wells that supply water to the Village. The sum of 36 PFAS at these wells ranged from 3 to 20 ppt.

Info You Can Use

Shorewood Hills Water Utility
810 Shorewood Boulevard
Madison, WI 53705-2115

Water Specialist: Mark Moyer
Water Specialist: Tary Handschke

Village Hall: 267-2680

Monthly Board of Trustees meeting (third Monday of each month)

Pay your bill on-line: www.shorewood-hills.org