



Yearly Water Quality Report 2022

The Wausau Water Department is pleased to present its yearly Water Quality Report. The Environmental Protection Agency (EPA) and the Department of Natural Resources (DNR) require that the water suppliers provide a yearly report indicating the quality and the source of water to the general public.

The quality of our water surpasses every state and federal regulation without exception. This consumer report contains interesting information such as: results of the quality tests of the water, definitions, origin of the water supply, how to reduce lead exposure in drinking water, and a note for people with compromised immune systems. For more information about this report, call Scott Boers, Wausau Water Operations Superintendent at 715-261-7286.

Source of Wausau's Drinking Water

Wausau's drinking water comes from six municipal wells, all of which are located near the Wisconsin River. These wells range in depth of 95 feet to 160 feet and pump anywhere from 900 to 3000 gallons per minute.

From the wells, the water travels to our Water Treatment Plant where it undergoes treatment to remove iron and manganese. It then enters the distribution system made up of approximately 250 miles of mains that deliver the water from the Treatment Plant to close to 16,000 homes and businesses served by Wausau Water Works.

Opportunity for input on decisions affecting your water quality

Wausau Water Works Commission Meeting is the 1st Tuesday of every month at 1:30pm in the Council Chambers at City Hall, 407 Grant St, Wausau, WI 54403

Health Information

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 safe drinking water hotline (800-426-4791).

Some people may be more vulnerable to contaminants 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 systems 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 (800-426-4791).

Source(s) of Water

Source ID	Source	Depth (in feet)	Status
3	Groundwater	95	Active
6	Groundwater	100	Active
7	Groundwater	100	Active
9	Groundwater	100	Active
10	Groundwater	160	Active
11	Groundwater	155	Active

To obtain a summary of the source water assessment please contact, Scott Boers/ Wausau Water Operations Superintendent at (715) 261-7286.

Educational Information

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 activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally- occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HA and HAL	HA: Health Advisory. An estimate of acceptable drinking water levels for a chemical substance based on health effects information. HAL: Health Advisory Level is a concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice. Health Advisories are determined by US EPA.
HI	HI: Hazard Index: A Hazard Index is used to assess the potential health impacts associated with mixtures of contaminants. Hazard Index guidance for a class of contaminants or mixture of contaminants may be determined by the US EPA or Wisconsin Department of Health Services. If a Health Index is exceeded a system may be required to post a public notice.
Level 1 Assessment	A Level 1 assessment is a study 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 a very detailed study of the water system to identify potential problems and determine, if possible, why an E. coli MCL violation has occurred or why total coliform bacteria have been found in our water system, or both, on multiple occasions.
MCL	Maximum Contaminant Level: 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 treatment technology.
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.
MFL	million fibers per liter
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.
mrem/year	millirems per year (a measure of radiation absorbed by the body)
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ppt	parts per trillion, or nanograms per liter (ng/l)
ppq	parts per quadrillion, or picograms per liter
PHGS	PHGS: Public Health Groundwater Standards are found in NR 140 Groundwater Quality. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.
RPHGS	RPHGS: Recommended Public Health Groundwater Standards: Groundwater standards proposed by the Wisconsin Department of Health Services. The concentration of a contaminant which, if exceeded, poses a health risk and may require a system to post a public notice.

Term	Definition
SMCL	Secondary drinking water standards or Secondary Maximum Contaminant Levels for contaminants that affect taste, odor, or appearance of the drinking water. The SMCLs do not represent health standards.
TCR	Total Coliform Rule
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Detected 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 date.

Microbiological Contaminants

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

During the past year, we were required to conduct 1 Level 1 assessment(s). All assessments were completed on time.

Assessments

Assessment Description	Status	Due Date	Completed	Violation
Perform Level 1 Assessment: Multiple Total Coliform-positive samples	COMPLETE	11/7/2022	11/7/2022	No

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
HAA5 (ppb)	D-16	60	60	12	12		No	By-product of drinking water chlorination
TTHM (ppb)	D-16	80	0	7.8	7.8		No	By-product of drinking water chlorination

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
HAA5 (ppb)	D-7	60	60	10	10		No	By-product of drinking water chlorination
TTHM (ppb)	D-7	80	0	11.4	11.4		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
NITRATE (N03-N) (ppm)		10	10	0.66	0.35 - 0.66		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
ARSENIC (ppb)		10	n/a	1	1	8/20/2020	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
BARIUM (ppm)		2	2	0.007	0.006 - 0.007	8/19/2020	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.5	0.4 - 0.5	8/20/2020	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE (N03-N) (ppm)		10	10	0.94	0.54 - 0.94		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
NITRITE (NO ₂ -N) (ppm)		1	1	0.055	0.047 - 0.055	8/19/2020	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SELENIUM (ppb)		50	50	1	0 - 1	8/20/2020	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
SODIUM (ppm)		n/a	n/a	18.00	17.00 - 18.00	8/20/2020	No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2022)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.0110	0 of 30 results were above the action level.	7/13/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	5.80	0 of 30 results were above the action level.	7/2/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
ATRAZINE (ppb)		3	3	0.0	0.0	8/20/2020	No	Runoff from herbicide used on row crops
HEXACHLOROCYCLOPENTADIENE (ppb)		50	50	0.0	0.0		No	Discharge from chemical factories

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	1.0	0.1 - 1.0	8/19/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	1.1	0.0 - 1.1	8/20/2020	No	Erosion of natural deposits

Contaminants with a Health Advisory Level or a Secondary Maximum Contaminant Level

The following tables list contaminants which were detected in your water and that have either a Health Advisory Level (HAL) or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	HAL (ppm)	Level Found	Range	Sample Date (if prior to 2021)	Typical Source of Contaminant
ALUMINUM (ppm)		0.05	0.2	0.08	0.06 - 0.08	9/5/2017	Runoff/leaching from natural deposits

CHLORIDE (ppm)		250		28.00	23.00 - 28.00	9/6/2017	Runoff/leaching from natural deposits, road salt, water softeners
MANGANESE (ppm)		0.05	0.3	0.02	0.01 - 0.02	9/5/2017	Leaching from natural deposits
SULFATE (ppm)		250		9.00	8.60 - 9.00	8/20/2020	Runoff/leaching from natural deposits, industrial wastes

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. EPA required us to participate in this monitoring.

Contaminant (units)	Level Found	Range	Sample Date (if prior to 2021)
BROMIDE (ppb)	29.7615	29.344 - 30.179	1/8/2018 & 7/23/2018
HAA5 (ppb)	12.92975	9.049 – 18.562	1/8/2018 & 7/23/2018
HAA6Br (ppb)	.44375	0 - .697	1/8/2018 & 7/23/2018
HAA9 (ppb)	13.3735	9.049 – 19.191	1/8/2018 & 7/23/2018
MANGANESE (ppb)	17.00525	1.616 – 35.742	1/8/2018, 1/9/2018 & 7/23/2018
TOTAL ORGANIC CARBON (ppb)	5086.05	3956.1-6191.7	1/8/2018 & 7/23/2018

Health effects for any contaminants with MCL violations/Action Level Exceedances/SMCL exceedances/HAL exceedances

Contaminant Health Effects

ALUMINUM Waters containing aluminum in quantities above the SMCL are not hazardous to health but may be objectionable for taste, odor, or color.

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 is primarily from materials and components associated with service lines and home plumbing. Wausau Waterworks 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 or at www.epa.gov/safewater/lead.

Presence of Other Contaminants

Contaminant (units)	Level Found/Range	Sample Date
Perfluoropentanoic Acid -PFBA (ng/l)	5.03	1/14/2022
Perfluorohexanoic Acid -PFHxA (ng/l)	4.12-6.03	1/10/2022 & 1/14/2022
Perfluoroheptanoic Acid -PFHpA (ng/l)	4.24	1/14/2022
Perfluorooctanoic Acid -PFOA (ng/l)	16.8-21.7	1/10/2022 & 1/14/2022
Perfluorooctanesulfonic Acid - PFOS (ng/l)	9.24-12	1/10/2022 & 1/14/2022
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid - NEtFOSAA (ng/l)	7.02-8.6	1/10/2022 & 1/14/2022