



Annual Drinking Water Report

2021 Consumer Confidence Report

MARSHFIELD UTILITIES, PWS ID: 77201652

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Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Dlaim ntawv tshaabzu nuav muaj lug tseemceeb heev nyob rua huv kws has txug cov dlej mej haus. Kuas ib tug paab txhais rua koj, los nrug ib tug kws paub lug thaam.

Marshfield Utilities is pleased to present to you this year's Annual Drinking Water Consumer Confidence Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our water source is 100% groundwater, obtained from 15 active producing wells located in six well fields in and around the City of Marshfield. Additional facilities include four booster pumping stations, four storage reservoirs, a water treatment facility, and approximately 144 miles of transmission and distribution water mains.

Marshfield Utilities has a source water protection plan (Well Head Protection Plan) available at our office that provides more information such as potential sources of contamination.

We are pleased to report that our drinking water is safe and meets federal and state requirements. If you have any questions about this report or your water utility, please contact John Richmond, Water Superintendent at (715) 898.2170.

We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled City of Marshfield Utility Commission meetings, which are held on the first Monday, prior to the second Tuesday of each month at 4:00 pm at the Marshfield Utilities office.

Marshfield Utilities routinely monitors for constituents in your drinking water according to Federal and State laws. The table on the reverse side shows the results of our monitoring for the period of January 1st to December 31st, 2021. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the table on the reverse side you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

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.
HAL	Health Advisory Level: The concentration of a contaminant which, if exceeded, poses a health risk and may require a system 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.

Term	Definition
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
ppq	parts per quadrillion, or picograms per liter
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.

Following is a list of contaminants that our water is tested for:

Microbiological Contaminants

1. Total Coliform Bacteria, 2. Fecal coliform and E.coli, 3. Turbidity

Radioactive Contaminants

4. Beta/photon emitters, 5. Alpha emitters, 6. Combined radium

Inorganic Contaminants

7. Antimony, 8. Arsenic, 9. Asbestos, 10. Barium, 11. Beryllium, 12. Cadmium, 13. Chromium, 14. Copper, 15. Cyanide, 16. Fluoride, 17. Lead, 18. Mercury (inorganic), 19. Nitrate (as Nitrogen), 20. Nitrite (as Nitrogen), 21. Selenium, 22. Thallium

Synthetic Organic Contaminants including Pesticides and Herbicides

23. 2,4-D, 24. 2,4,5-TP (Silvex), 25. Acrylamide, 26. Alachlor, 27. Atrazine, 28. Benzo(a)pyrene (PAH), 29. Carbofuran, 30. Chlordane, 31. Dalapon, 32. Di(2-ethylhexyl) adipate, 33. Di(2-ethylhexyl) phthalate, 34. Dibromochloropropane, 35. Dinoseb, 36. Diquat, 37. Dioxin [2,3,7,8-TCDD], 38. Endothal, 39. Endrin, 40. Epichlorohydrin, 41. Ethylene dibromide, 42. Glyphosate, 43. Heptachlor, 44. Heptachlor epoxide, 45. Hexachlorobenzene, 46. Hexachlorocyclo-pentadiene, 47. Lindane, 48. Methoxychlor, 49. Oxamyl [Vydate], 50. PCBs [Polychlorinated biphenyls], 51. Pentachlorophenol, 52. Picloram, 53. Simazine, 54. Toxaphene

Volatile Organic Contaminants

55. Benzene, 56. Carbon tetrachloride, 57. Chlorobenzene, 58. o-Dichlorobenzene, 59. p-Dichlorobenzene, 60. 1,2 Dichloroethane, 61. 1,1 -Dichloroethylene, 62. cis-1,2-ichloroethylene, 63. trans - 1,2 -Dichloroethylene, 64. Dichloromethane, 65. 1,2-Dichloropropane, 66. Ethylbenzene, 67. Styrene, 68. Tetrachloroethylene, 69. 1,2,4 -Trichlorobenzene, 70. 1,1,1 - Trichloroethane, 71. 1,1,2 -Trichloroethane, 72. Trichloroethylene, 73. TTHM [Total trihalomethanes], 74. Toluene, 75. Vinyl Chloride, 76. Xylenes

In addition to monitoring for the contaminants listed on the reverse of this page, we also monitor for Total Coliform Bacteria and for E. Coli Bacteria on a daily basis. This is done in our own laboratory which is state certified for the microbiological analysis of drinking water and is regulated by the State of Wisconsin.

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.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
HAA5 (ppb)	D-17	60	60	7	7	2/11/2020	No	By-product of drinking water chlorination
TTHM (ppb)	D-17	80	0	25.4	25.4	2/11/2020	No	By-product of drinking water chlorination
HAA5 (ppb)	D-19	60	60	8	8	8/31/2020	No	By-product of drinking water chlorination
TTHM (ppb)	D-19	80	0	41.9	41.9	8/31/2020	No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
ARSENIC (ppb)		10	n/a	0	0 - 0	4/6/2020	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
BARIUM (ppm)		2	2	0.088	0.077 - 0.088	4/6/2020	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.7	0.6 - 0.7	4/6/2020	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NICKEL (ppb)		100		3.4000	2.3000 - 3.4000	4/6/2020	No	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
NITRATE (NO ₃ -N) (ppm)		10	10	3.50	2.00 - 3.50		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SELENIUM (ppb)		50	50	1	0 - 1	4/6/2020	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
SODIUM (ppm)		n/a	n/a	37.00	29.0 - 37.0	4/6/2020	No	n/a

Contaminant (units)	Action Level	MCLG	90th Percentile Level Found	# of Results	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
COPPER (ppm)	AL=1.3	1.3	0.1800	0 of 30 results were above the action level.	7/21/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	27.00	8 of 30 results were above the action level.	7/16/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits

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	0.2	0.2		No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	0.6	0.6		No	Erosion of natural deposits
COMBINED URANIUM (ug/l)		30	0	0.9	0.9		No	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 - 0.0	4/6/2020	No	Runoff from herbicide used on row crops

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
CHLORIDE (ppm)		250		110.00	55.00 - 110.00	8/19/2020	Runoff/leaching from natural deposits, road salt, water softeners
IRON (ppm)		0.3		0.36	0.00 - 0.36	11/30/2020	Runoff/leaching from natural deposits, industrial wastes
MANGANESE (ppm)		0.05	0.3	0.07	0.01 - 0.07	8/19/2020	Leaching from natural deposits
SULFATE (ppm)		250		23.00	18.00 - 23.00	11/30/2020	Runoff/leaching from natural deposits, industrial wastes
ZINC (ppm)		5		0.01	0.00 - 0.01	4/17/2017	Runoff/leaching from natural deposits, industrial wastes

Volatile Organic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
TETRACHLOROETHYLENE (ppb)		5	0	0.6	0.0 - 0.6		No	Leaching from PVC pipes; Discharge from factories and dry cleaners

PFAS

Contaminant (units)	Site	Level Found	Units	Sample Date
PFBS (375-73-5)	EP 200	4.67	ng/L	4/25/22
PFHxA (307-24-4)	EP 200	10.6	ng/L	4/25/22
HFPO-DA (13252-13-6)	EP 200	No Detect	ng/L	4/25/22
PFHpA (375-85-9)	EP 200	3.61	ng/L	4/25/22
PFHxS (355-46-4)	EP 200	22.0	ng/L	4/25/22
DONA (919005-14-4)	EP 200	No Detect	ng/L	4/25/22
PFNA (375-95-1)	EP 200	No Detect	ng/L	4/25/22
PFOS (1763-23-1)	EP 200	24.0	ng/L	4/25/22
9CI-PF3ONS (756426-58-1)	EP 200	No Detect	ng/L	4/25/22
PFDA (335-76-2)	EP 200	No Detect	ng/L	4/25/22
N-MeFOSAA (2355-31-9)	EP 200	No Detect	ng/L	4/25/22

N-EtFOSAA (2991-50-6)	EP 200	No Detect	ng/L	4/25/22
PfUnA (2058-94-8)	EP 200	No Detect	ng/L	4/25/22
PFOA (335-67-1)	EP 200	4.78	ng/L	4/25/22
11CI-PF3OUds (763051-92-9)	EP 200	No Detect	ng/L	4/25/22
PfDoA (307-55-1)	EP 200	No Detect	ng/L	4/25/22
PfTrDA (72629-94-8)	EP 200	No Detect	ng/L	4/25/22
PfTeDA (376-06-7)	EP 200	No Detect	ng/L	4/25/22
Health Index for EP 200	1.99			Note: EP 200 was immediately shut off when sample results were received on 5/24.
PfBS (375-73-5)	EP 300	0.988	ng/L	4/25/22
PfHxA (307-24-4)	EP 300	No Detect	ng/L	4/25/22
HFPO-DA (13252-13-6)	EP 300	No Detect	ng/L	4/25/22
PfHpA (375-85-9)	EP 300	No Detect	ng/L	4/25/22
PfHxS (355-46-4)	EP 300	1.40	ng/L	4/25/22
DONA (919005-14-4)	EP 300	No Detect	ng/L	4/25/22
PfNA (375-95-1)	EP 300	No Detect	ng/L	4/25/22
PfOS (1763-23-1)	EP 300	2.10	ng/L	4/25/22
9CI-PF3ONS (756426-58-1)	EP 300	No Detect	ng/L	4/25/22
PfDA (335-76-2)	EP 300	No Detect	ng/L	4/25/22
N-MeFOSAA (2355-31-9)	EP 300	No Detect	ng/L	4/25/22
N-EtFOSAA (2991-50-6)	EP 300	No Detect	ng/L	4/25/22
PfUnA (2058-94-8)	EP 300	No Detect	ng/L	4/25/22
PFOA (335-67-1)	EP 300	No Detect	ng/L	4/25/22
11CI-PF3OUds (763051-92-9)	EP 300	No Detect	ng/L	4/25/22
PfDoA (307-55-1)	EP 300	No Detect	ng/L	4/25/22
PfTrDA (72629-94-8)	EP 300	No Detect	ng/L	4/25/22
PfTeDA (376-06-7)	EP 300	No Detect	ng/L	4/25/22
				While there are detects, EP 300 is below the action level and health index level and remains in service
PfBS (375-73-5)	EP 400	No Detect	ng/L	4/25/22
PfHxA (307-24-4)	EP 400	No Detect	ng/L	4/25/22
HFPO-DA (13252-13-6)	EP 400	No Detect	ng/L	4/25/22
PfHpA (375-85-9)	EP 400	No Detect	ng/L	4/25/22

PFHxS (355-46-4)	EP 400	No Detect	ng/L	4/25/22
DONA (919005-14-4)	EP 400	No Detect	ng/L	4/25/22
PFNA (375-95-1)	EP 400	No Detect	ng/L	4/25/22
PFOS (1763-23-1)	EP 400	No Detect	ng/L	4/25/22
9CI-PF3ONS (756426-58-1)	EP 400	No Detect	ng/L	4/25/22
PFDA (335-76-2)	EP 400	No Detect	ng/L	4/25/22
N-MeFOSAA (2355-31-9)	EP 400	No Detect	ng/L	4/25/22
N-EtFOSAA (2991-50-6)	EP 400	No Detect	ng/L	4/25/22
PFUnA (2058-94-8)	EP 400	No Detect	ng/L	4/25/22
PFOA (335-67-1)	EP 400	No Detect	ng/L	4/25/22
11CI-PF3OUdS (763051-92-9)	EP 400	No Detect	ng/L	4/25/22
PFDoA (307-55-1)	EP 400	No Detect	ng/L	4/25/22
PFTTrDA (72629-94-8)	EP 400	No Detect	ng/L	4/25/22
PFTeDA (376-06-7)	EP 400	No Detect	ng/L	4/25/22
Health Index for EP 200	0.00			
				Drinking water is one way that people can be exposed to PFAS. In Wisconsin, two-thirds of people use groundwater as their drinking water from places that make or uses PFAS and releases from certain types of waste in landfills.

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

Contaminant Health Effects

- IRON** Waters containing iron in quantities above the SMCL are not hazardous to health but may be objectionable for taste, odor, or color.
- LEAD** Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
- MANGANESE** Waters containing manganese in quantities above the SMCL are not hazardous to health but may be objectionable for taste, odor, or color.
- NITRATE** Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.
- PFAS** Scientists are still learning about the health effects that various PFAS can have on the body. To date, studies among people have that have high levels of certain PFAS can increase cholesterol levels, decrease antibody levels in response to vaccines, and decrease fertility in women. People can reduce their risk of health effects by reducing their exposure to PFAS.

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. Marshfield Utilities 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.

Other Compliance

Other Drinking Water Regulations Violations

Description of Violation	Date of Violation	Date Violation Resolved
Failure to complete a Corrosion Control Recommendation	5/1/2021	5/7/2021

Actions Taken

Immediately upon finding the results of the 2020 Lead and Copper Rule sampling, Marshfield Utilities took action to perform required water quality parameter sampling and to engage consulting engineers to evaluate lead release in the distribution system. A draft of the evaluation report was completed by 4/12/2021 and the DNR contacted to set a meeting date in anticipation of submitting the report by or before the 4/30/2021 deadline. In addition to preparing the report, actions were taken to begin the control of lead release, steps typically taken in a later stage of a lead control project. The submittal deadline was missed because the consulting engineer had a family medical emergency that pushed the submittal to 5/7/2021. The DNR was contacted on 5/5/2021 to explain the circumstances.

The problem was corrected as soon as the consultant could get back in the office and submit the report. The report was submitted on 5/7/2021.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilsons Disease should consult their personal doctor.

We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water is SAFE at these levels.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or are man made. Those substances can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 the 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 at 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system.

The cost of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office at (715) 387-1195 if you have questions. At Marshfield Utilities, we work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.