This report covers the drinking water quality for the Traverse City Water System for the calendar year 2022. Included are details about where your water comes from, what it contains and how it compares to Environmental Protection Agency (EPA) and state standards.

Your water is surface water and comes from the East arm of Grand Traverse Bay. The State performed an assessment of our source water in 2004. Our source water geology, intake location, water chemistry, and potential contaminant sources within the source water area were reviewed to determine sensitivity and susceptibility to contamination. The State has determined that our source water is under a moderate geologic sensitivity with a moderate susceptibility to contamination. A copy of this report, ***Source Water Assessment Report for the City of Traverse City Water Supply April 2004*** may be reviewed on the City of Traverse City website or by contacting the Traverse City Utility Accounting Office at the Governmental Center located at 400 Boardman Avenue, Traverse City, MI 49684 **(231) 922-4431**.

Contaminants and their presence in water: 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 **EPA's Safe Drinking Water Hotline (800) 426-4791**.

Vulnerability of sub-populations: 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 healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the **Safe Drinking Water Hotline (800) 426-4791**.

Sources of drinking water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. Our water comes from Lake Michigan. 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 and residential uses.
* **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
* **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes, petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

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. Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protections for public health.

Information about lead: 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. The Traverse City Water Treatment Plant 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 have a lead service line it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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 ***https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water.***

Infants and children who drink water containing lead 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.

There are no known lead service lines in the city of Traverse City and one remaining lead gooseneck is connected to a galvanized service line.

Water Quality Data

The table below lists all the drinking water contaminants that were detected during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing performed from January 1, 2022 to December 31, 2022. Monitoring for certain contaminants occurs less than once per year because the concentrations are not expected to vary significantly over time. All of the data is representative of our water quality, but some of the data is more than one year old.

Samples collected at the Water Plant

Regulated Contaminant	MCL	MCLG	Detected in Your Water	Range	Year Sampled	Vioation Yes/No	Typical Source of Contaminant
Fluoride (ppm)	4	4	0.9	NA	2022	No	Water additive that promotes strong teeth; erosion
Nitrate (ppm)	10	10	0.31	NA	2022	No	Erosion of natural deposits
Perfluorooctanoic acid (PFOA) (ppt)	8	NA	2	0 - 2	2022	No	Discharge and waste from industrial facilities; stain-resistant treatments
Combined Radium (pCi/L)	5	0	0.715 +- 0.363	NA	2020	No	Erosion of natural deposits
Ethylbenbene (ppt)	700	700	500	ND -500	2022	No	Discharge from petroleum refineries
Xylene (ppb)	10	10	4.2	ND - 4.2	2022	No	Discharge from petroleum factories; discharge from chemical factories

Samples collected at the Water Plant

Secondary and Unregulated Contaminants	SMCL	Detected in Your Water	Range	Year Sampled	Typical Source of Contaminant
Chloride (ppm)	250	15	NA	2022	Erosion of natural deposits
Sodium (ppm)	NOT REGULATED	8.7	NA	2022	Erosion of natural deposits
Sulfate (ppm)	250	25	NA	2022	Erosion of natural deposits

Regulated Substance	MCL/MCLG	Turbidity lowest monthly % of samples meeting limit of 0.3 NTU (minimum 95%)	Range	Sample Frequency	Vioation Yes/No	Typical Source of Contaminant
Turbidity (NTU)	TT	100%	0.03 - 0.21	Daily	No	Soil runoff

Regulated Substance	MCL/MCLG	Sample Frequency	Year Sampled	Vioation Yes/No	Typical Source of Contaminant
4-hour CFE Turbidity	TT	Daily - four hour intervals	2022	No	Soil runoff

Samples collected in the Distribution System

Regulated Contaminant	MCL	MCLG	Detected in Your Water	Range	Year Sampled	Vioation Yes/No	Typical Source of Contaminant
TTHM - Total Trihalomethanes (ppb)	80	NA	26.5	18.5 - 33.6	2022	No	By-products of drinking water disinfection
HAA5 - Haloacetic Acids (ppb)	60	NA	13.6	10.0 - 18.5	2022	No	By-products of drinking water disinfection

Regulated Contaminant	MRDL	MRDLG	Detected in Your Water	Range	Year Sampled	Vioation Yes/No	Typical Source of Contaminant
Chlorine (ppm)	4	4	0.75	0.46 - 0.97	2022	No	Water additive used to control microbes

Unregulated Contaminants	Detected in Your Water	Range	Year Sampled	Typical Source of Contaminant
HAA5 Group (ppb)	10.7	9.4 - 10.7	2020	By-products of drinking water disinfection
HAA6Br Group (ppb)	10.1	7.9 - 10.1	2020	By-products of drinking water disinfection
HAA9 Group (ppb)	19.9	16.3 - 19.9	2020	By-products of drinking water disinfection

Samples collected at Customer Tap

Regulated Contaminant	Action Level	MCLG	90th Percentile Value	Range of Individual Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	6	0 - 13	2022	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.1	0.0 - 0.2	2022	0	Corrosion of household plumbing systems; Erosion of natural deposits

Service Line Material Present in Distribution System

Lead	Galvanized with Previous Lead	Unknown Likely Lead	Unknown Likely Not Lead	Unknown	No Lead or Galvanized Previous Lead	Total
1	760	249	1530	0	4923	7463

Terms and abbreviations used in tables:

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
Combined Filter Effluent (CFE): Treated water after filtration.
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 treatment 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.
Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the 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.
NA: Not Applicable
ppb: parts per billion or micrograms per liter
ppm: parts per million or milligrams per liter
ppt: parts per trillion or nanograms per liter
Nephelometric Turbidity Units (NTU): The measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Secondary Maximum Contaminant Level (SMCL): EPA does not enforce secondary maximum contaminant
levels. They are established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the SMCL.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
Unregulated Contaminants: Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA determine where certain contaminants occur and whether it needs to regulate those contaminants.

Water Treatment Plant Capital Improvements

In 2022, the City completed the following improvements to the Water Treatment Plant and Water Distribution System. These improvements help to protect public health, safety and welfare and serve to enhance water reliability. 2022 projects included:

Crib Intake Inspection and Cleaning: The Traverse City Water Treatment Plant had the crib intake structure cleaned and inspected as the intake pipe is prone to Zebra mussel infestation.

Asset Management and Electronic Work Order Implementation: The Water Treatment Plant implemented an electronic asset management and work order system which allows for digital management of maintenance operations and helps to simplify workflows and has report capabilities to better manage equipment repairs and replacements.

Barlow II Tank (2MG) Inspection: A warranty inspection was performed on the Barlow II tank to determine compliance with specified requirements.

Completed Phase 2 of the Filters 1, 2 & 3 and Floc Tank Repairs Project at the Water Treatment Plant: Replaced the filter media, valves, and piping on Filters #2 and #3 and recoating the East Floc Tank and Filters #2 and #3.

Security Updates: Performed an extended cyber security audit of the WTP SCADA (operator control) system.

Continued implementation of the Project Plan (5 years plan) for the Drinking Water State Revolving Fund (DWSRF): aligns water infrastructure improvement projects with EGLE's low-interest loan program for an estimated total of $14,927,000.

Awarded construction contract for $4.5M (DWSRF loan): Will replace 300 private galvanized water services over the next 3 years to move toward compliance with EGLEs Lead and Copper Rule (LCR).

We will update the Water Quality Report annually and will keep you informed if there are any issues that occur during the year, as required. Copies of this report are available at the Governmental Center at 400 Boardman Avenue, the Traverse City Water Plant at 2010 Eastern Avenue and the Department of Public Services Building at 625 Woodmere Avenue in Traverse City.

We invite public participation in decisions that affect drinking water quality. City Commission meetings are conducted on the first and third Mondays of each month in the Commission Chambers of the Governmental Center at 400 Boardman Avenue, where public comment is welcome.

For more information about your water, or the contents of this report, contact Jacqueline Johnson, Water Plant Superintendent at **(231) 922-4920** or email at ***jjohnson@traversecitymi.gov***. For more information about safe drinking water, visit the US Environmental Protection Agency at ***https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water.***