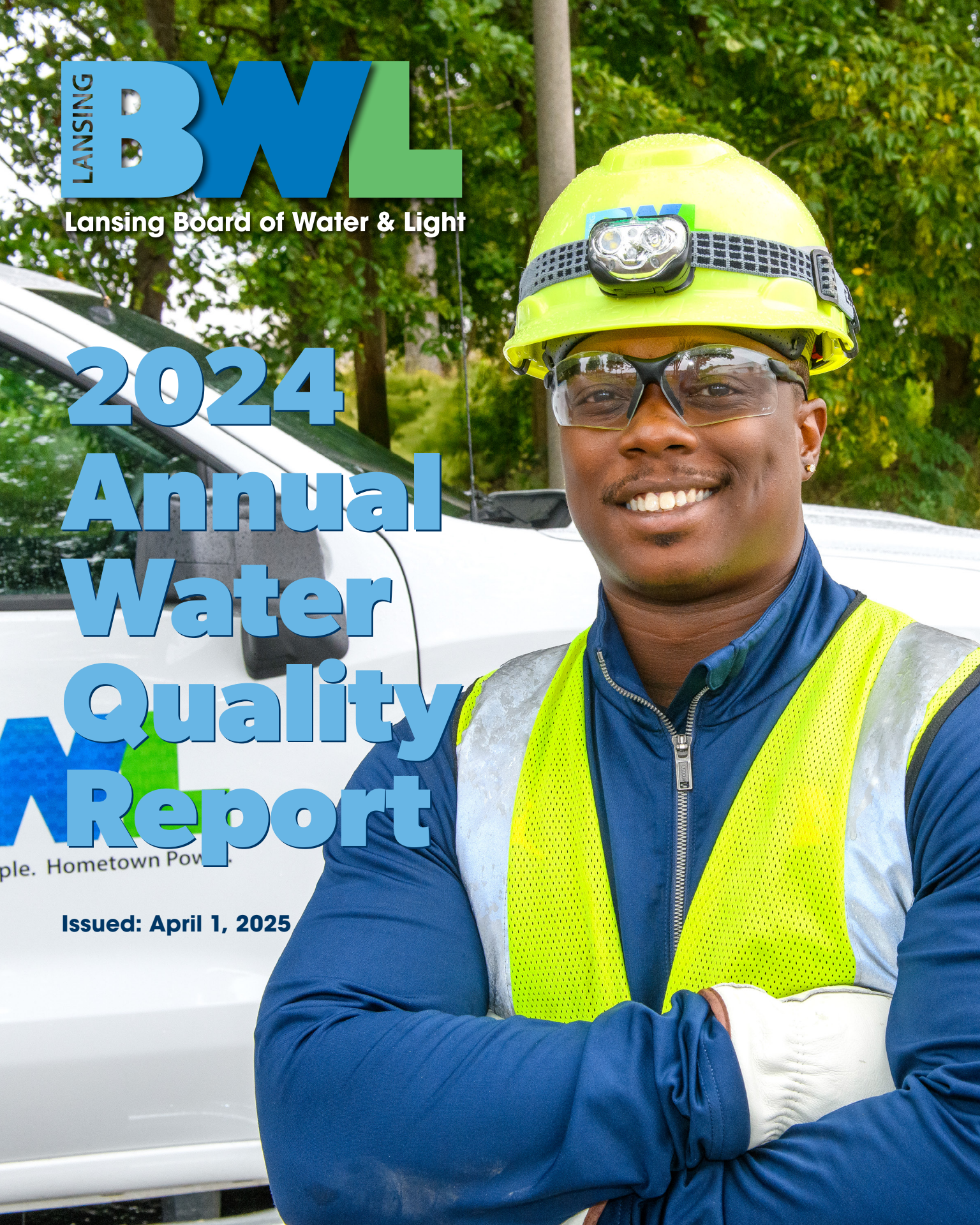
LANSING BWL

Lansing Board of Water & Light

2024 Annual Water Quality Report



Issued: April 1, 2025

Dear Customer

We're pleased to present the 27th annual report summarizing the quality of the drinking water provided to you by the Lansing Board of Water & Light (BWL) for the 2024 calendar year. This Consumer Confidence Report is required by the Federal and State Safe Drinking Water Acts (SDWA). The report outlines the source of your tap water, test results we regularly conduct to ensure high quality and additional information you may find helpful about your drinking water.

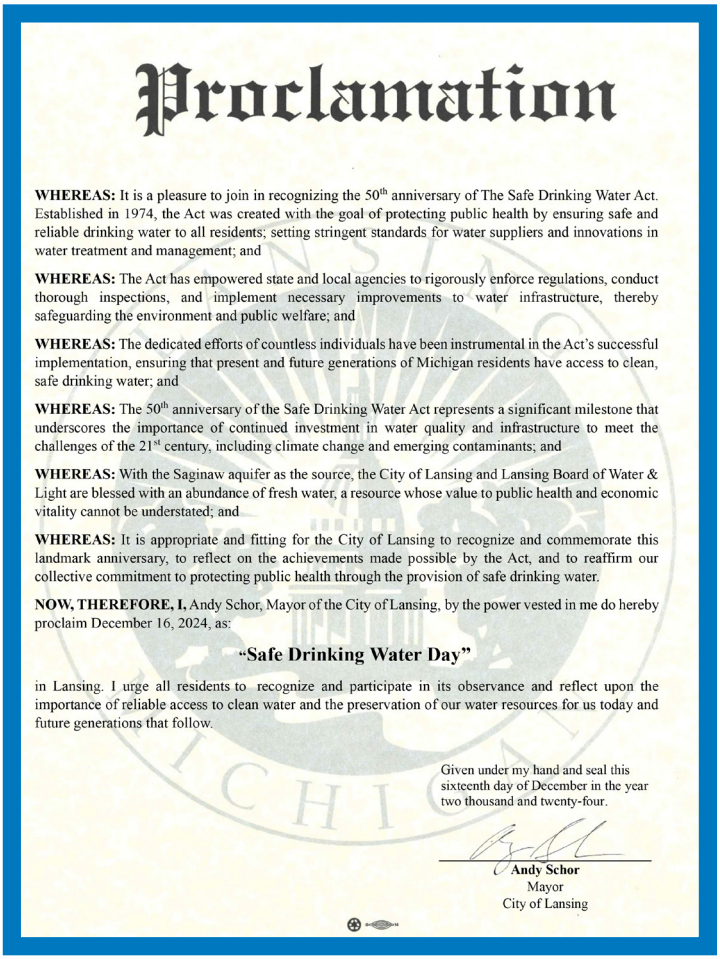
December 16, 2024 marked the 50th anniversary of the Federal Safe Drinking Water Act, a milestone in protecting drinking water created to set standards and regulations to ensure the safety and reliability of drinking water. The BWL celebrated this important day alongside the City of Lansing, where Mayor Andy Schor signed a proclamation declaring December 16, 2024 as "Safe Drinking Water Day." The mayor urged all residents to recognize and reflect on the significance of safe, clean drinking water and the importance of preserving these vital resources for current and future generations.

As a publicly owned utility, the BWL encourages public interest and participation in decisions affecting the community's drinking water. The BWL's Board of Commissioners meets on the fourth Tuesday of every other month at our REO Town Depot Facility, located at 1201 S. Washington Ave., Lansing. Meeting dates and times are published in advance and can be found on the BWL's website or by calling 517-702-6006. Our board meetings are open to the public.

If you have questions or need further information regarding BWL's water, please feel free to contact me at water@lbwl.com or 517-702-7059.

Sincerely,

Angie Goodman
Water Quality Administrator



Proclamation

WHEREAS: It is a pleasure to join in recognizing the 50th anniversary of The Safe Drinking Water Act. Established in 1974, the Act was created with the goal of protecting public health by ensuring safe and reliable drinking water to all residents; setting stringent standards for water suppliers and innovations in water treatment and management; and

WHEREAS: The Act has empowered state and local agencies to rigorously enforce regulations, conduct thorough inspections, and implement necessary improvements to water infrastructure, thereby safeguarding the environment and public welfare; and

WHEREAS: The dedicated efforts of countless individuals have been instrumental in the Act's successful implementation, ensuring that present and future generations of Michigan residents have access to clean, safe drinking water; and

WHEREAS: The 50th anniversary of the Safe Drinking Water Act represents a significant milestone that underscores the importance of continued investment in water quality and infrastructure to meet the challenges of the 21st century, including climate change and emerging contaminants; and

WHEREAS: With the Saginaw aquifer as the source, the City of Lansing and Lansing Board of Water & Light are blessed with an abundance of fresh water, a resource whose value to public health and economic vitality cannot be understated; and

WHEREAS: It is appropriate and fitting for the City of Lansing to recognize and commemorate this landmark anniversary, to reflect on the achievements made possible by the Act, and to reaffirm our collective commitment to protecting public health through the provision of safe drinking water.

NOW, THEREFORE, I, Andy Schor, Mayor of the City of Lansing, by the power vested in me do hereby proclaim December 16, 2024, as:

"Safe Drinking Water Day"

in Lansing. I urge all residents to recognize and participate in its observance and reflect upon the importance of reliable access to clean water and the preservation of our water resources for us today and future generations that follow.

Given under my hand and seal this sixteenth day of December in the year two thousand and twenty-four.

Andy Schor
Mayor
City of Lansing

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About Us

The BWL was established in 1885 by a vote of the people of Lansing to fund a publicly owned utility to meet their need for adequate fire protection, proper sanitation and improved street lighting for the city. The Lansing community and the BWL service territory are fortunate to be located over the center of the Saginaw Aquifer, which has been called one of the finest natural sources of groundwater ever discovered.

BWL Water Comes From the Saginaw Aquifer

124 Wells
~400 ft Deep

2 Water Conditioning Plants

166,000 Population Served

40,450 Wholesale Population Served

834 Miles of Water Mains

19.2 Million Gallons per Day Avg. Use

Water Works

We want to acknowledge the BWL water staff's work to deliver clean, safe drinking water every day to our customers.

Operators at treatment plants work 24 hours a day to make sure water is safe for consumption. Field crews maintain and repair distribution systems, facing challenging conditions to ensure water flows smoothly to our taps.

Behind the scenes, administrative staff processes reports and data, while customer service representatives address inquiries and concerns. Field staff visits homes, field technicians collect compliance samples and chemists analyze water to ensure it meets quality standards.

Of course, the managerial staff and water quality experts help keep everything running efficiently, ensuring resources are allocated properly and regulations are followed. Without the BWL's dedicated water personnel, we wouldn't be able to rely on something as essential as clean drinking water. Their commitment, often behind the scenes, is truly invaluable.




The Bottom Line

Lansing Board of Water & Light continues to meet or exceed all water quality standards established by the U.S. Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

Water Source

BWL drinking water comes from 124 groundwater wells approximately 400 feet deep. The source of this plentiful supply is an underground aquifer, the Saginaw Aquifer, which underlies much of the mid-Michigan region. Water from BWL wells is transported through large transmission mains to one of two water conditioning plants.

The plants soften the water by removing about 80 percent of the hardness. The softened water is then disinfected, fluoridated, treated with corrosion control, filtered and stored in reservoirs for distribution to customers. Lansing is one of the largest communities in the country to rely exclusively on groundwater to meet its drinking water requirements.

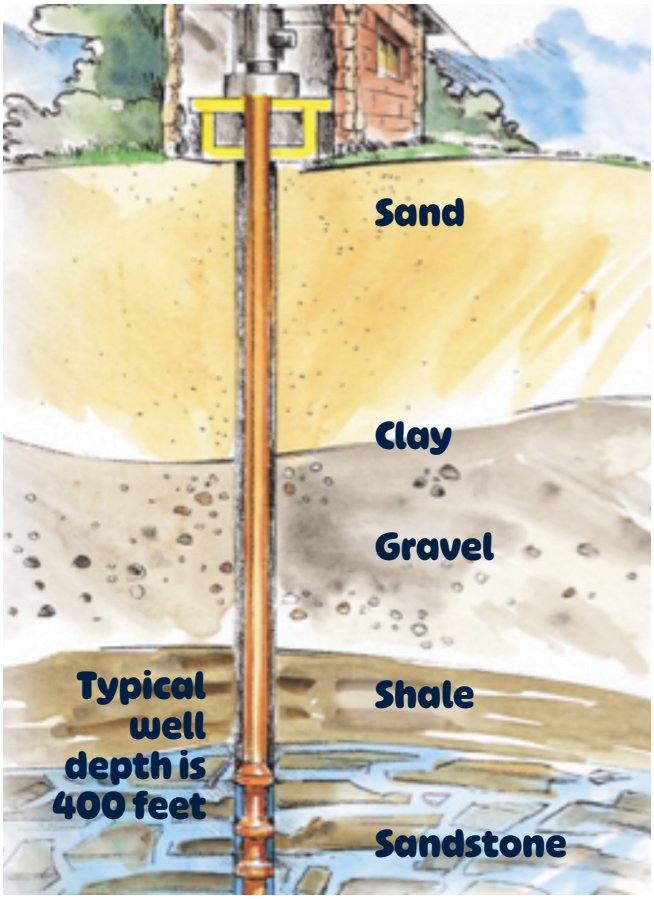
Protecting Your Water Supply

LANSING Wellhead Protection

The BWL actively supports regional wellhead protection activities and has an award-winning Wellhead Protection Program. The United States Geological Survey has developed a regional aquifer computer model of the mid-Michigan area that provides important information about groundwater supplies. Major support for the project was provided through a state-administered wellhead protection grant to the BWL.

Lansing's drinking water source is largely protected from contamination or direct contact with surface waters by layers of clay and shale. There are areas at the surface, however, that directly contribute to the aquifer without the protection of clay and shale layers.

In 2003, EGLE assessed the vulnerability of the aquifer to human activities. Because there are several known and potential sources of contamination in and near the BWL's wellhead protection areas, the aquifer in this region has been assessed as "highly susceptible" to contamination. If you desire more information on this local Source Water Assessment, contact BWL's Water Quality Administrator at 517-702-7059 or water@lbwl.com.



Help Us Protect this Essential Resource

- **Waste Disposal**
  Dispose of gasoline, oils, pesticides, paints and antifreeze properly. Spilling these on the ground or down drains can contaminate our drinking water supply.

- **Never Flush**
  Don't flush items with toxins—they clog pipes, harm bacteria and damage wastewater plants. For more info, visit epa.gov/septic.

- **Medications**
  Never flush prescription or over-the-counter drugs. They can't be fully removed in wastewater treatment and end up in our water supply. Find disposal locations at Michigan.gov/egledrugdisposal.

- **Conserve**
  Saving water helps reduce energy costs and keeps more water in our lakes, rivers and groundwater.

How to Read the Water Quality Data Tables

BWL conducts frequent tests of our water and the following tables list those parameters and associated results of this testing. Drinking water may reasonably be expected to contain at least small amounts of some parameters and this does not necessarily indicate a health risk. These tables contain the name, the highest level allowed if regulated, the ideal goals for public health if established, the amount detected and the usual sources of such parameters. The tables don't list the hundreds of parameters for which the BWL tested but didn't detect a presence.

Unless otherwise noted, the data presented in this table is from testing done from January 1 – December 31, 2024. The BWL may reduce the monitoring frequency of certain parameters less often than once per year because the concentrations are not expected to vary significantly from year to year. **While all the data are representative of the BWL's water quality, some results are more than one year old.**

Key to Tables

AL	**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
L1	**Level 1 Assessment:** A study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
L2	**Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system 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.
MRDL	**Maximum Residual Disinfectant Level:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	**Maximum Residual Disinfectant Level Goal:** The level of a disinfectant in drinking water 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 contaminats.
N/A	**Not Applicable**
ND	**Not detectable at testing limit**
pCi/L	**Picocuries per liter** (a measure of radioactivity)
PPB	**Parts Per Billion**, or micrograms per liter (ug/l) (equivalent to one penny in $10,000,000).
PPM	**Parts Per Million,** or milligrams per liter (mg/l) (equivalent to one penny in $10,000).
PPT	**PPT Parts per Trillion,** or nanogram per liter (ng/L) (equivalent to one penny in ten billion dollars).

2024 Regulated Detected Contaminants Tables

Substances Measured in the Distribution System

Total Coliform Bacteria

Total coliforms are a group of bacteria, mostly harmless to humans, that serve as indicators of potential pathogens like E. coli in drinking water. The EPA uses total coliforms to assess water treatment and distribution system integrity. For more details: epa.gov/dwreginfo/revised-total-coliform-rule-and-total-coliform-rule.

Microbial Contaminants	Number Detected	L1 Assessment Triggered?	L2 Assessment Triggered?	Major Sources	Violation?
Total Coliform Bacteria	0	No	No	Naturally present in the environment	No
E. coli	0	No	No	Human or animal fecal waste	No

Disinfectants and Disinfection Byproducts

The BWL adds chloramine to its water at the conditioning plants to prevent bacterial growth. It's preferred over other disinfectants because it reduces chlorination byproducts, lasts longer in the system, and has little to no odor or taste. The table below shows chloramine levels and disinfection byproducts formed from chloramine's reaction with naturally occurring organic compounds.

Regulated Contaminant	Unit	MCL	MCLG	Highest Average Detected Level	Range of Detected Levels	Major Sources	Violation?
Haloacetic Acids (HAA5)	PPB	60	N/A	3.5	1.7 to 4.0	Byproduct of drinking water disinfection	No
Total Trihalomethanes (TTHMs)	PPB	80	N/A	4.5	2.3 to 5.6	Byproduct of drinking water disinfection	No
Chloramines	PPM	MRDL 4	MRDLG 4	2.2	0.40 to 2.8	Water additive to control microbes	No

Substances Measured at the Water Conditioning Plant

Regulated Contaminant	Unit	MCL	MCLG	Highest Detected Level	Range	Date Tested	Major Sources	Violation?
Fluoride	PPM	4	4	0.72	<0.64 to 0.72	7/01/24	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	No
Barium	PPM	2	2	0.030	0.025-0.030	7/27/21	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No

Radioactive Contaminant	Unit	MCL	MCLG	Highest Detected Level	Range	Date Tested	Major Sources	Violation?
Gross Alpha	pCi/L	15	0	2.37	0.230-2.37	7/11/23	Erosion of natural deposits	No
Radium 226 and 228	pCi/L	5	0	0.84±0.51	0.84±0.51 (Wise WCP)*	7/7/16	Erosion of natural deposits	No

*Dye Water Conditioning Plant (WCP) was analyzed in 07/2022 and no radium 226 & 228 were detected.

Special Monitoring - Not Regulated

Special Monitoring (Not Regulated)	Unit	MCL	Highest Detected Level	Range	Date Tested	Major Sources	Violation?
Sodium	PPM	Not Established	110	84 to 110	7/11/23	Natural constituent of groundwater	N/A

2023 Lead & Copper - Monitoring at Customers Tap

Contaminant Subject to AL	Unit	AL	MCLG	9 out of 10 Homes Were Below a Level of:	# of Samples Above the Action Level:	Range of Individual Sample Results:	Major Sources	Violation?
Copper	PPM	*1.3 at 90th Percentile	1.3	0.0	0	0.0 to 0.0	Corrosion of household plumbing systems; erosion of natural deposits	No
Lead	PPB	** 15 at 90th Percentile	0	0	0	0 to 3	Lead service lines, corrosion of household plumbing including fittings & fixtures; erosion of natural deposits	No

Water Quality Table Footnotes:
*9 out of 10 homes tested must show a concentration equal to or lower than 1.3 parts per million.
**9 out of 10 homes tested must show a concentration equal to or lower than 15 parts per billion.
BWL'S NEXT COMPLIANCE ROUND OF LEAD AND COPPER SAMPLING IS JUNE 1 THROUGH SEPTEMBER 30, 2026.

Unregulated Contaminants that were Detected

Unregulated contaminants are those the EPA has not established drinking water standards. Monitoring helps the EPA determine where certain contaminants occur and whether regulation of those contaminants is needed. As our customers, you may request the results of our tests by contacting the BWL's Water Quality Administrator at 517-702-7059 or water@lbwl.com.

Unregulated Contaminants	Unit	Average Detected Level	Range	Date Tested	Major Source
Manganese	PPB	0.54	0.44 – 0.67	March & Aug 2020	Natural constituent of groundwater
HAA5	PPB	2.25	1.74-3.13	March & Aug 2020	Byproduct of disinfection
HAABr	PPB	0.31	0-0.46	March & Aug 2020	Byproduct of disinfection
HAA9	PPB	2.56	2.20-3.46	March & Aug 2020	Byproduct of disinfection
Lithium	PPB	12.56	6.16-19.6	Feb & Aug 2024	Natural constituent of groundwater

Contaminants of Emerging Concern

BWL monitors Perfluorinated Compounds (PFAS), including PFOS and PFOA, at the entry point to the distribution system annually, with no PFAS detected down to 2 ppt.

In 2015, BWL also tested for 1,4-Dioxane at the Dye Water Conditioning Plant, detecting trace levels (less than 0.2 ppb). Although 1,4-Dioxane remains unregulated, the EPA's Health Advisory Level (HAL) is 0.35 ppb, which is not expected to cause health effects over a lifetime of exposure. BWL continues to monitor 1,4-Dioxane quarterly at the Dye Plant and annually at the Wise Plant, with results remaining well below the HAL.

For more information on Contaminants of Emerging Concern, visit lbwl.com/emerging-contaminants.

Fluoride

The raw water coming into the BWL's two water conditioning plants has a naturally occurring level of fluoride of approximately 0.35 ppm. The BWL adds fluoride to the water to bring it to the optimal level of 0.7 ppm recommended by the Centers for Disease Control and Prevention (CDC) and the U.S. Public Health Service and approved by the EPA.

Because of fluoride's contribution to the large decline in cavities in the United States since the 1960s, CDC named community water fluoridation "one of ten great public health achievements of the 20th century."

Further information about fluoride in drinking water, including specific information about infants, can be obtained from the CDC website at cdc.gov/fluoridation.

Typical Analysis of Conditioned Water

BWL performs over 240,000 water quality tests per year at the Water Conditioning Plants and over 16,000 at the BWL drinking water certified laboratory. This table represents the results of typical concentrations and ranges of other parameters present in your water supply. These results are within acceptable ranges. The results can vary depending on the wells that are in use, the time of the year and the different areas of the water distribution system. For a PDF version of this list, please visit lbwl.com/drinkingwater.

Parameter	Units	Your Water Results	
		Typical Concentration	Range
Calcium (as CaCO3)	PPM	59	48-72
Magnesium (as CaCO3)	PPM	42	33-53
Hardness* (as CaCO3)	PPM	100	89-120
Carbonate (as CaCO3)	PPM	19	10-31
Bicarbonate (as CaCO3)	PPM	16	6-34
Total Alkalinity (as CaCO3)	PPM	33	27-49
Iron at WCP*	PPM	0	0
Iron on Distribution*	PPM	0.1	0.1-0.28
Sulfate*	PPM	104	86-135
Chloride*	PPM	83	68-118
Phosphate, Ortho (as P)	PPM	0.34	0.20-0.50
pH	pH units	9.5	9.1-9.8
TDS	PPM	332	278-410
Conductivity*	uS/cm	595	510-770

*These parameters will typically be at the high end of the range during high demand periods in the summer months of June, July and August.

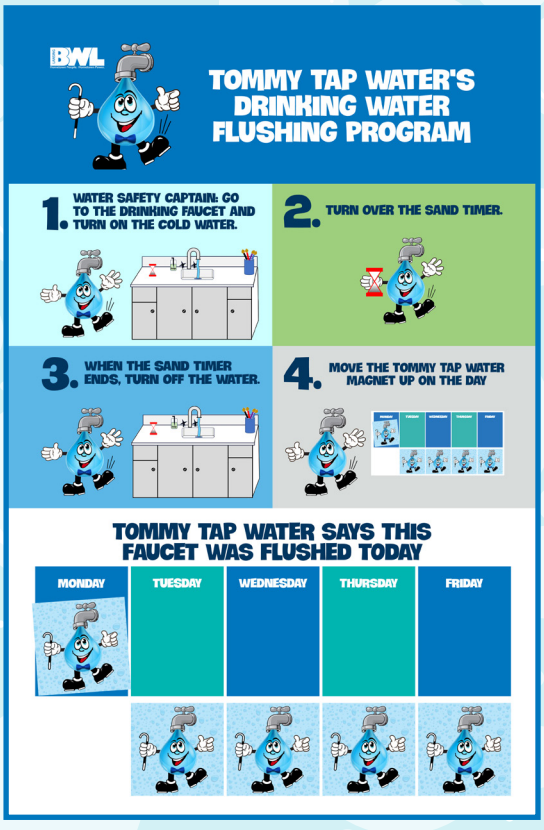
Drinking Water School Flushing Program

In December 2024, the BWL proudly marked eight years since the last known active lead service line was removed from our service territory. This was a monumental undertaking, a significant financial investment and something we take great pride in. The BWL led Michigan in this effort and was only second in the nation, following Madison, Wisconsin to complete all removals. Since then, we have continued to provide corrosion control to help prevent metals from leaching into the water due to older plumbing in homes.

We understand the highest risk for leaching occurs when water sits in pipes or older fixtures for extended periods. However, through rigorous testing, we have confirmed this is not a concern in the highest-risk homes within our service area.

Testing conducted by the Michigan Department of Environment, Great Lakes, and Energy discovered elevated lead levels in some school drinking water fixtures across the state. Specifically, levels were found to be above five ppb, which is the threshold set for schools. Fortunately, a simple 30-second flush of the faucet reduced lead levels to non-detect or below five ppb.

To address this concern, the BWL's Community Water Advisory Council proposed a Drinking Water School Flushing Program. The goal is to ensure water faucets used by children for drinking are healthy. A brief, 30-second flush every morning can significantly reduce the risk of exposure for this vulnerable population.



The program is designed to be simple and low-impact, minimizing the burden on teachers and students in Lansing Schools. Each week, one student is designated as the "Water Safety Captain." This student arrives to class, collects their Water Safety Captain badge and lanyard, and receives a 30-second sand timer. The student then goes to the classroom's drinking water faucet, turns on the cold water for a full flush, and starts the sand timer. Once the timer finishes, the student turns off the water and moves the Tommy Tap Water magnet to indicate that the faucet has been flushed and the water is good for the day.

Under Michigan's Filter First Law, all drinking water fixtures will eventually be replaced with filling stations. This Drinking Water School Flushing Program is a simple yet impactful step to ensure water safety until older fixtures are replaced with filling stations. It also helps instill the habit of briefly flushing faucets before drinking or using water—a healthy practice students can carry with them into adulthood.

Through this program, the BWL and Lansing Schools are not only taking proactive steps to protect the health of our students but also building a culture of responsibility and awareness in the next generation. By empowering students to actively participate in this simple, yet effective action, we're ensuring every sip of water they take is clean and safe. This effort—alongside the school's continued work of replacing outdated fixtures—demonstrates our commitment to both the present and the future of Lansing's water safety. Together, we're building a healthier, more informed community, one flush at a time.

BWL "Got the Lead Out"

- In 2016, the last known active lead service line was removed from homes and businesses.
- We use a corrosion control additive to reduce potential exposure from plumbing materials in your home. To check success, we conduct testing every three years at homes in our service territory.
- While the BWL has taken measures to reduce exposure to lead, here are simple tips on how you can reduce your exposure as well.

You Can Get the Lead Out Too!

- Flush your pipes before drinking. If your water hasn't been used for more than six hours, run the tap water until it feels cold.
- Only use cold tap water for drinking, cooking and making baby formula. Hot water is more likely to contain lead.
- Remove the aerators (screens) and clean them at least every six months.
- Older faucets, fittings and valves sold before 2014 may contain up to 8 percent lead, even if marked "lead-free."

Visit michigan.gov/mileadsafe for more tips on how to reduce lead exposure.

Important Information About Lead

Required Language by the EPA

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. BWL is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula.

Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes 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 and wish to have your water tested, contact BWL and water@lbwl.com for available resources. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available atepa.gov/safewater/lead.

Arrangements can be made for water testing through your county health department. Each test costs about $20.

Identify Other Lead Sources In Your Home

Lead in homes can also come from sources other than water. If you live in a home built before 1978, you may want to have your paint tested for lead. Consider contacting your doctor to have your children tested if you are concerned about lead exposure.

For more information, visit epa.gov/safewater.

For more information about lead, please visit lbwl.com/lead.

General Health Information Provided by the EPA

To ensure tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which provides the same protection for public health.

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).

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 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.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk of 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).

For more information about our water quality, please contact the BWL's Water Quality Administrator at 517-702-7059 or water@lbwl.com. Learn more about the BWL water system at lbwl.com/water. For more information about safe drinking water, visit epa.gov/safewater/.

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Water Quality

TOMMY TAP WATER SAYS, 'FILL, AT THE TAP DRINK. REPEAT'