

2023
RESULTS

DETROIT WATER QUALITY REPORT



**Water & Sewerage
Department**

TABLE OF CONTENTS

Message From the Director	3	Sources of Lead	10
How We Provide Water Services To You	4	Lead Service Line Replacement Program	11
Did You Know?	5	Steps You Can Take to Reduce Your Exposure to Lead in Your Water	12-13
Water Assistance Programs	6	Get to Know Your Source Water	14-15
DWSD Offers Convenient, Safe Ways to Access Accounts and Make Payments	7	State and Federal CCR Water Quality Report Mandatory Test Results	16-21
Michigan's Lead and Copper Rule and Detroit's Test Results	8	2023 City of Detroit Regulated Contaminants	17-18
The Michigan Lead and Copper Rule Testing Method	9	About Unregulated Contaminants Monitoring	19
Lead in Drinking Water	9	2023 City of Detroit Tap Water Mineral Analysis	20
Health Effects of Lead	9	DWSD 2023 Accomplishments	21

NOTICE: This 2023 Water Quality Report contains important information about your drinking water. Please have someone translate this document for you if you are unable to read the report.

AVISO: En este informe de la calidad del agua de 2023, hay información importante sobre el agua potable que consume. Haga que le traduzcan este documento si no puede leer el informe.

বিজ্ঞপ্তি: এই 2023 ওয়াটার কোয়ালিটি রিপোর্টে আপনার পানীয় জল সম্পর্কে গুরুত্বপূর্ণ তথ্য রয়েছে। আপনি এই রিপোর্টটি পড়তে না পারলে অনুগ্রহ করে কাউকে আপনার জন্য এই নথিটি অনুবাদ করে দিতে বলুন।

ملاحظة: يشتمل تقرير جودة الماء لعام 2023 على معلومات مهمة عن مياه الشرب في منطقتك. يرجى الاستعانة بشخص آخر كي يترجم لك هذه الوثيقة إذا لم تكن قادرًا على قراءة هذا التقرير.

The Detroit Water and Sewerage Department (DWSD) does not discriminate on the basis of race, color, national origin, sex, age or disability in any of our services, programs or activities.

CITY OF DETROIT

Mike Duggan, Mayor

DETROIT CITY COUNCIL (2023)

Mary Sheffield, President (District 5)
James Tate, President Pro-Tem (District 1)
Angela Whitfield-Calloway (District 2)
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DETROIT WATER AND SEWERAGE DEPARTMENT

Gary A Brown, Director



HOW TO REPORT AN EMERGENCY

To report emergencies, such as water main breaks, street flooding, missing manhole covers, broken fire hydrants, and water in your basement, call DWSD at **313-267-8000**. Mobile users may download the **Improve Detroit app** for Apple and Android devices to take a photo and report the issue or submit online at detroitmi.gov/DWSD.



PUBLIC PARTICIPATION

The Board of Water Commissioners meets the third Wednesday of each month at 2 p.m. at the Water Board Building, located at 735 Randolph Street, unless otherwise noticed. Committee meetings, which are typically on the first Wednesday of the month at 1 p.m. All meetings are open to the public and offer the virtual option. For more information, please contact the DWSD board secretary at **313-224-4704** or visit <https://dwsd.legistar.com>.



GARY A BROWN, DIRECTOR

Detroit Water and Sewerage Department

Dear Valued Customers,

I'm proud to say that Detroit continues to have some of the best and cleanest water in the country. The water leaving the treatment plants operated by the Great Lakes Water Authority (GLWA) that serve the city of Detroit does not contain lead, but lead can be released into drinking water from corrosion in lead service lines and household plumbing that contains lead.

Lead service line replacements continue to be a priority to maintain water safety, with efforts initiated by the Detroit Water and Sewerage Department (DWSD) in 2018, ahead of statewide regulatory mandates. With \$100 million in state, federal and local funding, we accelerated replacement of lead service lines beginning in May 2023 with a goal to replace 8,000 per year from about 700 per year. You can read more about the DWSD Lead Service Line Replacement Program on page 11 of this 2023 Detroit Water Quality Report.

Also in this report, you will find more information about DWSD, including our income-based water affordability program, in addition to important water quality results.

Our commitment to excellence and community service drives us forward, as we continue to work diligently for the well-being of Detroit residents now and in the future.

Together, let's be the difference.

A handwritten signature in black ink that reads "Gary A. Brown". The signature is fluid and cursive, with a long horizontal line extending to the right.



A MESSAGE TO OUR CUSTOMERS

Drinking water quality is important to our community and the region. The Detroit Water and Sewerage Department (DWSD) and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards, including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, GLWA consistently delivers safe drinking water to our community. DWSD operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and DWSD water professionals in delivering some of the nation's best drinking water.

Together, we are committed to protecting public health and maintaining open communication with the community about our drinking water.

To stay informed, register for alerts via email, text message and land line at www.detroitmi.gov/DWSD or text DetroitAlerts365 to 99411.

Our water quality standards are mandated by the Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

HOW WE PROVIDE WATER SERVICES TO YOU

The Great Lakes Water Authority (GLWA) treats drinking water and transports it to the City of Detroit's distribution system through transmission lines. The Detroit Water and Sewerage Department (DWSD) delivers the treated water to neighborhoods through more than 2,700 miles of water mains within the city to the service line of your home or business.

The system uses source water drawn from three intakes. Two source water intakes are located in the

Detroit River: one to the north, near the inlet of Lake St. Clair, and one to the south, near Lake Erie. The third intake is located in Lake Huron.

Four of the plants treat source water drawn from the Detroit River intakes. The fifth water treatment plant, located in St. Clair County, uses source water drawn from Lake Huron. Detroit customers are provided service from four plants that treat source water drawn from the Detroit River.

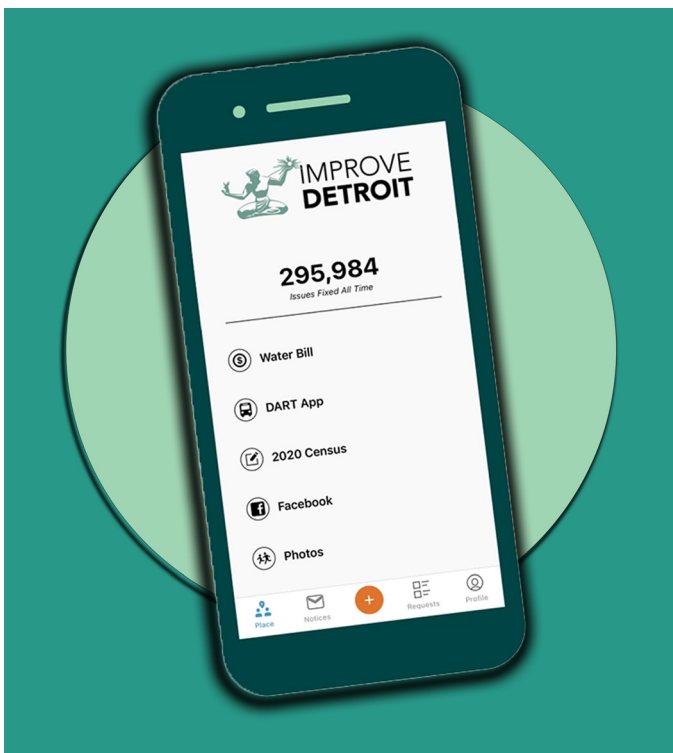


DID YOU KNOW?

Did you know about these tips?

You can save money, protect your pipes and reduce frustration with these helpful tips!

- Washing dark clothes in cold water saves water and energy and helps your clothes retain their color.
- Shorten your shower by a minute or two and you'll save up to 150 gallons of water per month.
- Check the weather forecast before watering your lawn – you may not have to water that day at all
- Wash your car using a bucket instead of a water hose.
- Use a broom instead of a hose to clean outdoor areas, such as driveways, sidewalks and exterior walls.
- Fix a running toilet immediately, otherwise several gallons of water will be wasted every hour.
- Teach children to turn off the faucet after every use, especially while brushing teeth.
- Soak fruits and vegetables in a body of water to clean them at the same time rather than running each item under your faucet.
- Know where your water shut-off valve is located. This action may save several hundred gallons of water and prevent damage should a pipe burst or break.
- Clean your gutters if you can safely do so – get help if needed from family or neighbors. This will help avoid water seepage into your home.
- Customers may call DWSD at 313-267-8000 to determine if there's hourly water usage in their home while they are sleeping or when they are away, which may indicate a leak.



Did you know the City of Detroit has an app to report water issues?

When you submit a water or sewer issue using the Improve Detroit app (available on the App Store and Google Play), you will receive an automated service request number to track the progress.

The Improve Detroit app allows Detroiters to report neighborhood problems directly to the City of Detroit. Multiple City departments utilize the Improve Detroit app, including DWSD. There are 12 DWSD service requests you may submit, including investigate water main break, water in basement, missing manhole/catch basin covers, clogged basin, and fire hydrant-related issues.

WATER ASSISTANCE PROGRAMS

DWSD Lifeline Plan

The DWSD Lifeline Plan is Detroit's new income based plan that was launched on August 1, 2022. If you are income-eligible, the plan provides the following benefits:

- ✓ **Shutoff protection** while on the plan.
- ✓ Entire **past due balance** erased when enrolled – you start fresh with a zero balance.
- ✓ Receive an **affordable fixed bill** based on household income and size, and get up to 1,125 gallons of indoor water usage per household member per month.
- ✓ If qualified, receive a **free water audit and minor plumbing repairs** to lower your water usage and save you money.

TIER 1 135% FPL*		TIER 2 136% - 150% FPL*		TIER 3 151% - 200% FPL*	
*Federal poverty level					
You Pay Monthly		You Pay Monthly		You Pay Monthly	
\$18		\$43		\$56	
For water, sewer & drainage if your income is:		For water, sewer & drainage if your income is:		For water, sewer & drainage if your income is:	
Number of People Living in the Household	Maximum Annual Household Income	Number of People Living in the Household	Maximum Annual Household Income	Number of People Living in the Household	Maximum Annual Household Income
1	\$20,331	1	\$22,590	1	\$30,120
2	\$27,594	2	\$30,660	2	\$40,880
3	\$34,857	3	\$38,730	3	\$51,640
4	\$42,120	4	\$46,800	4	\$62,400
5	\$49,383	5	\$54,870	5	\$73,160
6	\$56,646	6	\$62,940	6	\$83,920
7	\$63,909	7	\$71,010	7	\$94,680
8	\$71,172	8	\$79,080	8	\$105,440

The above Federal Poverty Level thresholds are based on the January 2024 Update. Monthly tier pricing is subject to change.

Take part and tap into the DWSD Lifeline Plan. Call 313-386-9727 or go to waynemetrolife.org/DWSDlifeline.

Payment Arrangement: The 10/30/50 Plan

The 10/30/50 Plan is developed for Detroit water customers who experience difficulty in paying their past due bills. There are no income restrictions to qualify. Customers make a down payment of either 10%, 30% or 50% of the past due balance, dependent on the account status. The balance of the past due amount is equally spread over a set timeframe, which the customer pays in addition to the normal monthly bill. All payments must be made in full and on time to stay enrolled. You can enter a payment arrangement on the DWSD Customer Self-Service Portal at detroitmi.gov/paymywaterbill or call 313-267-8000.

To learn more, go to www.detroitmi.gov/water or call 313-267-8000

DWSD Offers Convenient, Safe Ways to Access Accounts and Make Payments

We're working hard to deliver clean water to nearly 700,000 residents just like you. It's what we do in the community, every day! Here are easy ways to access your account, pay your water bill and even open or close an account, including using convenient, self-service options.



Access your account and pay online at detroitmi.gov/DWSD, and set up auto-pay, enroll in a payment arrangement, if needed, turn-on/off service, and track your real-time water usage to manage your budget and help detect leaks.

You may also email DWSD Customer Service at mydwsd@detroitmi.gov or call 313-267-8000.

This is our fastest and preferred way of communication.



Visit one of the more than 60 no-fee kiosks in and around Detroit and use cash, check or debit/credit card to pay your bill. Find your nearby kiosk at: DWSDkiosk.com



Call our automated pay-by-phone system at 313-267-8000 and ask for current balance and due date. You may say, "Pay My Bill" then you will get instructions on entering your account and payment information by phone.



Send your payment by mail with check or money order payable to the "Board of Water Commissioners."

Mail to:
Board of Water Commissioners
Detroit Water and Sewerage Department
PO Box 554899
Detroit, MI 48255-4899



COMMUNICATIONS TO DETROIT RESIDENTS



Detroit Alerts 365 is a notification system which sends Detroit-specific emergency messages via cell phone, landline, text, and/or email. This new, free system can reach people in seconds to notify them of critical situations such as severe weather warnings,

flooding/natural disasters and boil water advisories. Alerts come in one of four languages: English, Spanish, Arabic and Bengali. To register, visit detroitalerts365.org or text **DetroitAlerts365** to **99411**.

MICHIGAN'S LEAD & COPPER RULE AND DETROIT'S TEST RESULTS

DWSD's efforts to get the lead out continue

Under Michigan's revised Lead and Copper Rule, DWSD lead and drinking water testing results have been 10 parts per billion (ppb) in 2019, 9 ppb in 2020, 12 ppb in 2021, 12 ppb in 2022, and 9 ppb in 2023, which are all under the state action level for lead remediation.

Detroit has an estimated 77,197 lead service lines based on a total of 311,000 water service lines. There are 28,922 service lines with unknown pipe material. Since 2018, DWSD has replaced 5,884 lead service lines while on the same street replacing the water main and individual, neighborhood-by-neighborhood lead service line only replacement.



All communities with lead service lines must sample tap water in homes with lead service lines as required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the United States Environmental Protection Agency (EPA). In summer 2023, DWSD collected water samples from 50 homes with lead service lines. The 90th percentile of samples was 9 ppb, which is under the action level of 15 ppb. DWSD's last report of 12 ppb in 2022 was with the same sampling methodology that was required by EGLE beginning in 2019. A water supply exceeds the action level if more than 10 percent of all samples is over the action level.

"The water supplied by DWSD is clean and safe for drinking, and some of the best in the world," said Gary Brown, DWSD director. "The water leaving Detroit's water treatment plants, operated by the Great Lakes Water Authority, does not contain lead. The primary sources of lead in water are lead service lines, lead solder, and/or fixtures containing lead in the home. Since 2018, we have been replacing lead service lines while on the same street replacing the water main and providing pitcher filters to those residents and businesses as a precautionary measure. In May 2023, with federal and state funding, we began accelerating our lead service line replacement program."

The Chief Public Health Officer for the City of Detroit Denise Fair Razo said, "This is welcome news for Detroiters, especially children, who are deserving of our very best efforts to ensure that everyone regardless of zip code, has access to clean water that is safe to drink. We know that the number one source of lead poisoning in children is decaying paint and dust in homes that were constructed prior to 1978. The Detroit Health Department can help, with education on how to reduce lead exposure in homes, and referrals to get children tested. If anyone has any concerns regarding lead exposure inside their home, I encourage you to request a lead test from your child's primary healthcare provider or contact the Detroit Health Department."

The Michigan Lead and Copper Rule Testing Method

The Michigan Lead and Copper Rule, revised in 2019, is the most stringent in the nation. It changed the way lead samples are collected at Detroit homes and all Michigan communities. In the past, DWSD collected only the first liter of water out of the tap. Under the revised rule – used in testing in the past four years – both the first and fifth liter are collected. The first liter represents water from household plumbing and fixtures, and the fifth liter is more likely to represent water from the lead service line. The service line is the pipe which brings water from the water main in the street to inside the home or business. In Detroit, most service lines are either lead, copper or galvanized steel. Lead service lines are under two inches in diameter and are mostly at single family or duplex homes. The new sampling technique more accurately represents the range of lead in the drinking water in Detroit homes.

Lead in Drinking Water

The water leaving Detroit water treatment plants, operated by the Great Lakes Water Authority (GLWA), does not contain lead, but lead can be released into drinking water from lead service lines and home plumbing as the water moves from the water mains to your tap. Beginning in 1945, Detroit stopped allowing the installation of lead piping for water service lines. Homes before 1945 are most likely to have a lead pipe that connects the home to the water main, known as a lead service line. The lead in



lead service lines, household plumbing and fixtures can dissolve or break off into water and end up in tap water. The water provided to DWSD customers contains a corrosion inhibitor to reduce leaching from lead service lines and other lead components, but lead can still be present in water at the tap.

Health Effects of Lead

Lead can cause serious health and development problems. The greatest risk of lead exposure is to infants, young children, and pregnant women. Older homes can have many sources of lead exposure including paint, dust and soil. If you have questions about other sources of lead exposure, please contact the Detroit Health Department at [313-876-0133](tel:313-876-0133).



Example of the lead pipe being held up against the copper that has been installed.

Sources of Lead

Drinking water is only one source of lead exposure. Some of the most significant sources, especially for children six years old and under, include lead-based paint and lead contaminated dust and soil. Because lead can be carried on hands, clothing, and shoes, sources of exposure to lead can include the workplace and certain hobbies. Wash your children's hands and toys often as they can come in contact with dirt and dust containing lead. In addition, lead can be found in certain types of pottery, pewter, food and cosmetics. If you have questions about other sources of lead exposure, please contact the health department.

Most plumbing products such as service lines, pipes and fixtures contain lead. The infographic below demonstrates where sources of lead in drinking water could be in your home. Older homes may have more

lead unless the service line and/or plumbing has been replaced. Lead-based solder and lead-based fittings and fixtures are still available in stores to use for non-drinking water applications. Be careful to select the appropriate products for repairing or replacing drinking water plumbing in your home. Even materials currently marked "lead free" have up to 0.25% lead by weight.

Galvanized plumbing can be a potential source of lead. Galvanized plumbing can absorb lead from upstream sources like a lead service line. Even after the lead service line has been removed, galvanized plumbing can continue to release lead into drinking water over time. Homes that are served by a lead service line should consider replacing galvanized plumbing inside the home.

How does lead get into your home tap water?

Lead can be found in a wide variety of products in your home, including older paint, faucets and plumbing materials. You cannot see, taste or smell lead in your water. Lead in tap water can cause health problems in people of all ages. Young children and pregnant people are most at risk.

Faucets, fixtures, pipes, fittings and valves sold before 2014 may be a source of lead.

Tip! Boiling water does NOT reduce lead. Water will evaporate during boiling, leaving the same amount of lead in less water.

Tip! Use a water filter certified to reduce lead, such as a faucet-mounted filter or a water filter pitcher.

Lead can get into our bodies when swallowed from drinking water, paint chips, or dust or inhaling dust from the air.

Service lines made of lead – the pipes that bring water into your home – could be a source of lead.

In-home pipes made of galvanized iron, lead or copper with lead solder can corrode and decay, which may result in lead entering your water, causing increased lead levels.

Learn more at
[Michigan.gov/KnowYourWater](https://www.michigan.gov/KnowYourWater)
Know your water.

Information provided by the Michigan Statewide Drinking Water Advisory Council.

Source: Michigan Department of Environment, Great Lakes & Energy

Additional information regarding lead, including "Frequently Asked Questions about Lead in Drinking Water," can be found on the City of Detroit's website at www.detroitmi.gov/leadsafe, or visit EGLE's website at www.michigan.gov/MILeadSafe.

Lead Service Line Replacement Program

DWSD initiated the replacement of lead service lines in 2018, prior to the revised Michigan Lead & Copper Rule (LCR) which mandates all lead service lines to be replaced by 2038. DWSD began by replacing existing lead service lines – the pipe providing water to a home from the water main – while on the same block as water main replacement projects.

In May 2023, with the addition of \$100 million in federal, state and local funding, DWSD accelerated lead service line replacement. This more robust program started a neighborhood-by-neighborhood approach that prioritizes areas with homes built in 1945 or earlier, density of children and/or seniors, and high number of low-income households based on U.S. Census tracts. DWSD conducts extensive community outreach prior to crews coming onto the street, including door-to-door notifications up to 40 days in advance, in-person neighborhood meetings, and informational packets that are distributed to each household. Since 2018, DWSD has replaced 5,884 lead service lines, 2,000 of which

were complete in 2023. To get ahead of the statewide deadline, DWSD is actively seeking more funding and prioritizing contractor outreach.

In 2023, the EPA proposed new federal LCR guidelines that align with Michigan's LCR, one of the most stringent in the country. A public comment period is available, and information is at www.epa.gov. DWSD is ahead of the curve and setting a national example. A white paper on DWSD's Lead Service Line Replacement Program was in the October 2020 issue of the Journal of the American Water Works Association, titled "Detroit's Robust Full Lead Service Line Replacement Program," as a best practice for other water utilities in America.

DWSD Director Brown said, "Thanks to \$100 million in funding, and more on the way, we have accelerated lead service line replacement from about 700 pipes per year to about 8,000 per year by building contractor capacity and hiring Detroiters for new employee crews."



A DWSD contractor replaces a lead service line with copper.

STEPS YOU CAN TAKE TO REDUCE YOUR EXPOSURE TO LEAD IN YOUR WATER



Run your water to flush out lead.

The more time water has been sitting in your home's pipes, the more lead it may contain. Therefore, if your water has not been used for several hours, run the water before using it for drinking or cooking. This flushes lead-containing water from the pipes. If you **do not** have a lead service line, run the water for 30 seconds to two minutes, or until it becomes cold or reaches a steady temperature. If you **do** have a lead service line, run the water for at least five minutes to flush water from both the interior building plumbing and the lead service line.



Use only cold water for drinking and cooking.

Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water.



Use only filtered water or bottled water for preparing baby formula.



Do not boil water to remove lead.

Boiling water will not reduce lead levels. In the event DWSD issues a boil water advisory due to low water pressure (such as caused by a large water main break), water users in the designated advisory area will be advised to boil water before using it for cooking, drinking and brushing their teeth. Residents with lead service lines should **only boil filtered water** — not water directly from the tap.



Consider using a filter to reduce lead in drinking water.

The Detroit Health Department recommends that any household with a child or pregnant woman use a certified lead filter to reduce lead from their drinking water. Look for filters that are tested and certified to **NSF/ANSI Standard 53 for lead reduction**. Some filter options include a pour-through pitcher or faucet-mount systems. If the label does not specifically mention lead reduction, check the Performance Data Sheet included with the device. Be sure to maintain and replace the filter device in accordance with the manufacturer's instructions to protect water quality.



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.



Get your child tested. Contact the Detroit Health Department at 313-876-0133 or your healthcare provider to find out how you can get your child tested for lead if you are concerned about exposure.



Test your water for lead. To request for your water to be tested, please visit www.detroitmi.gov/leadsafe and search “lead and copper sample request form.” If you do not have Internet access, please call the DWSD at 313-267-8000.



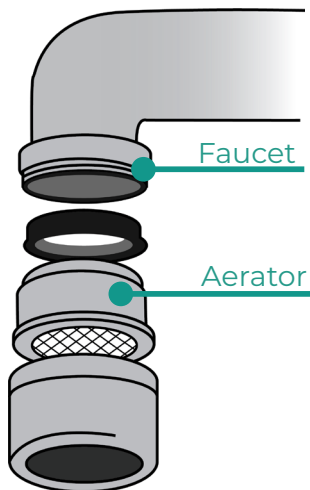
Identify older plumbing fixtures that likely contain lead. Older faucets, fittings, and valves sold before 2014 may contain higher levels of lead, even if marked “lead-free.” Faucets, fittings, and valves sold after January 2014 are required to meet a more restrictive “lead-free” definition but may still contain up to 0.25 percent lead. When purchasing new plumbing materials, it is important to look for materials that are certified to meet NSF standard 61.



Add your home to the DWSD replacement wait list. When you confirm the existence of a lead service line at your house, take a photo near the water meter in your basement or crawl space and add your home to the DWSD Lead Service Line Replacement Program wait list. Go to www.detroitmi.gov/LSLR.



Clean your aerators. The aerator is the screen at the end of your faucet. It catches debris. This debris could include particulate lead. The aerator should be removed monthly to rinse out any debris (see images below).



Additional information regarding lead, including “Frequently Asked Questions about Lead in Drinking Water,” can be found on the City of Detroit’s website at www.detroitmi.gov/leadsafe or visit EGLE’s website at www.michigan.gov/MILeasafe.

GET TO KNOW YOUR SOURCE WATER

Substances Found in Source Water

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 materials and substances resulting from the presence of animal 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, urban stormwater runoff and residential uses;
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, which also can come from gas stations, urban stormwater runoff and septic systems; and
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for human 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 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 800-426-4791.



Health Concerns

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, and 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 Safe Drinking Water Hotline at 800-426-4791.

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. DWSD 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 service line that is lead, galvanized previously connected to lead, or unknown but likely to be lead, 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 at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Source Water Protection

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, and Ecorse River watersheds in the U.S. and parts of the Thames River, Little River, Turkey Creek, and Sydenham watersheds in Canada. The Michigan Department of Environment, Great Lakes and Energy (EGLE) in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of GLWA's Detroit River source water for potential contamination. The susceptibility rating is based on a seven-tiered scale and ranges from very low to very high determined primarily using geologic sensitivity, water chemistry, and potential contaminant sources. The report described GLWA's Detroit River intakes as highly susceptible to potential contamination. GLWA's water treatment plants that service the city of Detroit and draw water from the Detroit River have historically provided satisfactory treatment and meet drinking water standards.



GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA and DWSD participate in the National Pollutant Discharge Elimination System (NPDES) permit discharge program and has an emergency response management plan. GLWA has updated Surface Water Intake protection plans for the Belle Isle and Fighting Island intakes. The plans have seven elements that include: roles and duties of government units and water supply agencies, delineation of a source water protection areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new water sources, public participation, and public education activities. If you would like to know more information about the Source Water Assessment report, please, contact GLWA at 313-926-8102.

Since 2018, DWSD has been investing about \$100 Million annually on water and sewer upgrades and stormwater management. Below is a snapshot of the progress through 2023.

371 Miles

Water system assessed

104 Miles

Water mains replaced or lined

5,884 Lines

Lead service lines replaced

314 Miles

Sewer system miles assessed

67.76 Miles

Sewer pipes lined or replaced

19 Projects Installed

Stormwater management

83.8 Million Gallons

Stormwater managed annually

Key to the Detected Contaminants

AL	Action Level The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	n/a not applicable
		ND Not Detected
°C	Celsius A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.	NTU Nephelometric Turbidity Units Measure of cloudiness of water.
>	Greater Than	PCi/L Picocuries Per Liter Measure of radioactivity.
HAAS	Haloacetic Acids HAAS is the total of bromoacetic, chloroacetic, di-bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.	ppb Parts Per Billion (one in a billion) The ppb is equivalent to micrograms per liter. A microgram = 1/1000 gram.
Level 1	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 system.	ppm Parts Per Million (one in a million) The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
LRAA	Locational Running Annual Average The average of analytical results for samples at a particular monitoring location during the previous four quarters.	RAA Running Annual Average The average of all analytical results for all samples during the previous four quarters.
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.	SMCL Secondary Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.	TT Treatment Technique A required process intended to reduce the level of a contaminant in drinking water.
MRDL	Maximum Residual Disinfectant Level The highest level of disinfectant allowed in drinking water. There is convincing evidence that additional of a disinfectant is necessary for control of microbial contaminants.	TTHM Total Trihalomethanes Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
MRDLG	Maximum Residual Disinfectant Level Goal The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.	µmhos Micromhos Measure of electrical conductance of water.



2023 CITY OF DETROIT

REGULATED CONTAMINANTS TABLE

2023 Inorganic Chemicals - Monitoring at Plant Finished Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Fluoride	4/11/2023	ppm	4	4	0.86	n/a	no	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	4/11/2023	ppm	10	10	0.66	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

2023 Disinfection Residual - Monitoring in the Detroit Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Total Chlorine Residual	2023	ppm	4	4	0.74	0.55-0.81	no	Water additive used to control microbes

2023 Disinfection By-Products - Stage 2 Disinfection By-Products Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
(TTHM) Total Trihalomethanes	2023	ppb	n/a	80	35.3	9.0-49.0	no	By-product of drinking water chlorination
(HAA5) Haloacetic Acids	2023	ppb	n/a	60	18.6	3.3-27.0	no	By-product of drinking water chlorination

2023 Disinfectant By-Product - Monitoring at the Waterworks Park Plant Finished Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Bromate	April - Dec. 2023	ppb	0	10	ND	ND-ND	no	By-product of drinking water ozonation

2023 Turbidity - Monitored Every 4 Hours at the Plant Finished Water Tap

Highest Single Measurement Cannot Exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation	Major Sources in Drinking Water
0.12 NTU	100%	no	Soil runoff

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Lead and Copper Monitoring at the Customer's Tap in 2023

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Sites Over AL	Range of Individual Samples	Violation	Major Sources in Drinking Water
Lead	2023	ppb	0	15	9	3	ND-25	no	Lead services lines, corrosion of household plumbing including fittings and fixtures; erosion of natural deposits
Copper	2022	ppm	1.3	1.3	0.11	0	ND-0.41	no	Corrosion of household plumbing system; erosion of natural deposits

* The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

Contaminant	Test Date	Unit	MCLG	MCL	Level Detected	Range	Violation	Major Sources in Drinking Water
Total Organic Carbon	Samples Taken Quarterly	ppm	n/a	Treatment Technique	2.04	1.78-2.04	Yes	Erosion of natural deposits

* Health Effects: Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THM) and haloacetic acids (HAA). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Steps Taken: GLWA has improved its removal of the total organic carbon (TOC) through optimized coagulation and has incorporated alternative compliance monitoring of specific ultraviolet absorption as a measure of continued compliance with the TOC rule. The 2023 violation duration was the third and fourth quarters.

2023 Special Monitoring

Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of Contaminant
Sodium	4/11/2023	ppm	n/a	n/a	7.3	Erosion of natural deposits

These tables are based on tests conducted by GLWA in the year 2023 or the most recent testing done within the last five calendar years. GLWA conducts tests throughout the year only tests that show the presence of a substance or require special monitoring are presented in these tables. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The data is representative of the water quality, but some are more than one year old.



ABOUT UNREGULATED CONTAMINANTS MONITORING

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

2019 Unregulated Contaminants Monitored at the Plant Finished Taps

Unregulated Contaminant	Test Date	Unit	Highest Level Detected	SMCL	Range of Detection	Noticeable Effects Above the SMCL	Source of Contaminant
Manganese	2019	ppb	0.48	50	0.0-0.48	black to brown color; black staining; bitter metallic taste	Erosion of natural deposits and corrosion of iron pipes

2019 Unregulated Contaminants - Monitored in the Distribution System Haloacetic Acids

Unregulated Contaminant	Test Date	Unit	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Haloacetic Acid 9 (HAA9)	2019	ppb	n/a	31.41	6.72-31.41	n/a	By-product of drinking water chlorination
Haloacetic Acid 5 (HAA5)	2019	ppb	60	22.5	4.5-22.5	no	By-product of drinking water chlorination
Haloacetic Acid Brominated 6 (HAA6BR)	2019	ppb	n/a	11.34	2.22-11.34	n/a	By-product of drinking water chlorination

GLWA voluntarily monitors for Cryptosporidium and Giardia in our source water monthly. The untreated water samples collected from our Belle Isle Intake indicated the presence of one Giardia cyst in December 2023 and one Cryptosporidium oocyst in March 2023. All other samples collected from the Belle Isle Intake in 2023 were absent for the presence of Cryptosporidium and Giardia. Systems using surface water like GLWA must provide treatment so that 99.9 percent of Giardia lamblia and Cryptosporidium is removed or inactivated. GLWA's drinking water treatment process is designed to remove and inactivate these protozoans.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

2023 CITY OF DETROIT TAP WATER MINERAL ANALYSIS

Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	3.00	0.01	0.19
Total Solids	ppm	174	113	136
Total Dissolved Solids	ppm	165	97	128
Aluminum	ppm	0.160	0.018	0.049
Iron	ppm	0.5	0.2	0.3
Copper	ppm	0.003	ND	0.001
Magnesium	ppm	8.8	6.7	7.8
Calcium	ppm	33.3	24.9	26.9
Sodium	ppm	9.4	4.6	5.4
Potassium	ppm	1.3	0.9	1.0
Manganese	ppm	0.002	ND	ND
Lead	ppm	ND	ND	ND
Zinc	ppm	0.022	ND	0.001
Silica	ppm	2.9	1.1	2.1
Sulfate	ppm	36.0	20.1	24.9
Chloride	ppm	15.0	7.5	10.5

Parameter	Units	Max.	Min.	Avg.
Phosphorus	ppm	0.73	0.35	0.49
Free Carbon Dioxide	ppm	16.4	4.4	8.7
Total Hardness	ppm	166	90	116
Total Alkalinity	ppm	94	68	79
Carbonate Alkalinity	ppm	ND	ND	ND
Bi-Carbonate Alkalinity	ppm	94	68	79
Non-Carbonate Hardness	ppm	72	6	36
Chemical Oxygen Demand	ppm	11.7	ND	4.3
Dissolved Oxygen	ppm	20.0	7.2	10.6
Nitrite Nitrogen	ppm	ND	ND	ND
Nitrate Nitrogen	ppm	1.47	0.29	0.41
Fluoride	ppm	0.86	0.10	0.60
pH		7.52	7.03	7.27
Specific Conductance @ 25 °C	µmhos	297	161	204
Temperature	°C	23.4	2.3	13.7



Great Lakes Water Authority (GLWA) is required to notify water users of any unresolved significant deficiencies identified by the Michigan Department of Environment, Great Lakes, and Energy, Drinking Water and Environment Health Division (EGLE). Below is the status of significant deficiencies in the GLWA water system identified by EGLE:

Date Identified by EGLE	Description	Compliance Agreement Deadline	Status
08-02-2022	Improper rapid mixing and coagulant feed location at the Southwest water plant	12-31-2027	Contractor has been identified
08-02-2022	Inoperable flocculation equipment at the Southwest water plant	07-31-2031	Preliminary procurement phase
05-25-2022	Inoperable rapid mixing equipment at the Springwells 1930's water plant	12-31-2023	Completed in December 2023.
05-25-2022	Inoperable flocculation equipment at the 1958 Springwells water plant	11-11-2027	Phase I - Construction phase in progress and is scheduled to be completed in 2025



While we're doing the big stuff you can help with the small stuff and make a big difference.

Tip 1: Periodically cleaning leaves and trash out of your catch basin will help reduce debris, better indicate stormwater flows, and it helps to reduce flooding. It's a breeze! What you'll find doing small stuff.

Tip 2: Dumping your fat, oil and grease in a disposable container. Don't put fat, oil, or grease down your drains, eventually, it will build up and create blockages in your drains and may cause a backup into your home. Have your delicious cooking stock to your ribs and not to your pipes.

Tip 3: Disconnecting your downspouts and rerouting the water. Disconnecting your downspouts and directing stormwater runoff into lawns and away from the storm drains prevent it from flowing into streams or rivers. Who knew how much fun this could be.

WORKING HARD FOR YOU.
Learn more: detroitmi.gov/handbooks

HOW TO DISCONNECT DOWNSPOUTS

Disconnecting your downspouts from the underground drain tiles near your house can be a simple task that helps reduce basement flooding. The drain tiles due to age can be cracked and they connect to the sewer system. By disconnecting, where you can safely do so, you allow the rain and snowmelt runoff into your lawn rather than into the sewer system. Every residential household receives a 25% green credit on the Drainage Charge part of your DWSD bill, assuming you already disconnected the downspouts.

SUPPLIES NEEDED

- Work Gloves
- Eye Protection
- Cardboard
- Handcups
- Measuring Tape
- Marker
- Shovel
- Shovel
- Downspout elbow and extension

SUPPLIES NEEDED IN STEP 4

- For ball pipe use: Concrete, Chicken wire, Newspaper, Plastic fabric, Round or clearing

STEP 1: Determine if the pipe where the downspout connects is a ball shape or straight.

STEP 2: Form a deep, 3-4 inch deep trench around the downspout. Form where the opportunity exists to separate the pipe from the pipe.

STEP 3: Cut the downspout with a hacksaw where you observed and right above where the downspout enters the pipe. Remove that section of downspout.

STEP 4: Ball Pipe: Cut about 18" to 24" away from the downspout and from the ball pipe. Dig out the ball pipe. Make sure the ball pipe is not broken. If it is, use a hacksaw to cut it into two pieces. If it is broken, use a hacksaw to cut it into two pieces. If it is broken, use a hacksaw to cut it into two pieces. If it is broken, use a hacksaw to cut it into two pieces.

STEP 5: If the downspout is not a ball pipe, use a hacksaw to cut it into two pieces. If it is broken, use a hacksaw to cut it into two pieces. If it is broken, use a hacksaw to cut it into two pieces. If it is broken, use a hacksaw to cut it into two pieces.

STEP 6: After disconnecting the downspout, use a shovel to dig out the trench. Use a shovel to dig out the trench. Use a shovel to dig out the trench. Use a shovel to dig out the trench.

STEP 7: After disconnecting the downspout, use a shovel to dig out the trench. Use a shovel to dig out the trench. Use a shovel to dig out the trench. Use a shovel to dig out the trench.

HOW AND WHY BASEMENTS FLOOD AND STEPS YOU CAN TAKE TO PROTECT YOUR PROPERTY:

Visit www.detroitmi.gov/basementprotection to download the City of Detroit Basement Backup & Flooding Handbook.



2023 CALENDAR YEAR ACCOMPLISHMENTS

ACTIVE ACCOUNTS

246,376

TOTAL RESIDENTIAL

49,554

TOTAL NON-RESIDENTIAL

DWSD WAYS TO PAY



30%

MAIL



44%

ONLINE



11%

KIOSK



15%

PHONE

DWSD LIFELINE PLAN

As of August 2022, all existing Water Residential Assistance Program enrollees were transitioned to Detroit's new income-based water affordability program, the DWSD Lifeline Plan.



25,945

TOTAL HOUSEHOLDS ENROLLED IN LIFELINE PLAN

Tier 1

22,456

Households paying \$18 Monthly Bill

Tier 2

1,172

Households paying \$43 Monthly Bill

Tier 3

2,317

Households paying \$56 Monthly Bill

\$40 MILLION

ALLOCATED TO PAY OFF PAST DUE BALANCES AND MONTHLY GAP PAYMENTS FROM REGIONAL, STATE AND FEDERAL FUNDING

3,878

Customers enrolled in DWSD 10/30/50 Payment

INFRASTRUCTURE EFFORTS



5,884 LEAD SERVICE LINES REPLACED* 

7.33
MILES**

WATER MAIN REPLACED

59.82
MILES**

WATER SYSTEM CONDITION ASSESSMENTS

2.83
MILES**

SEWER SYSTEM CONDITION ASSESSMENTS

0.76
MILES**

CITY SEWER REPLACED OR LINED

* Pipes replaced with copper lines in 2018-2023 ** Work performed in 2023 only

FIRE HYDRANTS

29,881
TOTAL CITY WIDE



0.5%
NEEDED REPAIRS

SEWER SYSTEMS & CATCH BASINS

38,636
CATCH BASINS CLEANED AND INSPECTED
(SINCE AUG.2017)



SEWER RESILIENCY

541 MILES CLEANED IN 2023

1,354
MILES CLEANED SINCE 2020

DWSD STORMWATER DATA

DWSD GREEN STORMWATER INFRASTRUCTURE (GSI) PROGRAM

19
PROJECTS TOTAL

83.8
MILLION GALLONS
MANAGED ANNUALLY

99.99
ACRES MANAGED

DWSD STORMWATER HUB

detroitstormwater.org

16
PRIVATE PROJECTS
ADDED

833.8
TOTAL ACRES
MANAGED

574.8
MILLION GALLONS
TOTAL GALLONS
MANAGED ANNUALLY

For more information, visit detroitmi.gov/DWSD

This report is available on the
City of Detroit website at
detroitmi.gov/2023waterqualityreport

We welcome your comments and opinions
about this report. Please direct your comments
or questions to the DWSD Public Affairs Group.

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**Water & Sewerage
Department**

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