

2015

Saginaw Region Drinking Water Quality Report



Entities Covered
by this Report:

Delivering Quality Water ❖ Drinking water quality was the focus of local and national news reports for much of 2015. The entities served by the Saginaw Water Treatment Plant, listed to the right, enjoy a reliable supply of drinking water that surpasses federal and state quality standards. This is the direct result of the hard work of dedicated drinking water professionals in your town and at the Saginaw Water Treatment Plant. Please take a moment to read this report and learn more about the quality of the water that comes out of your tap. El informe contiene informacion importante sobre la calidad del agua en su comunidad. Traduzcalo o hable con alguien que lo entienda bien.

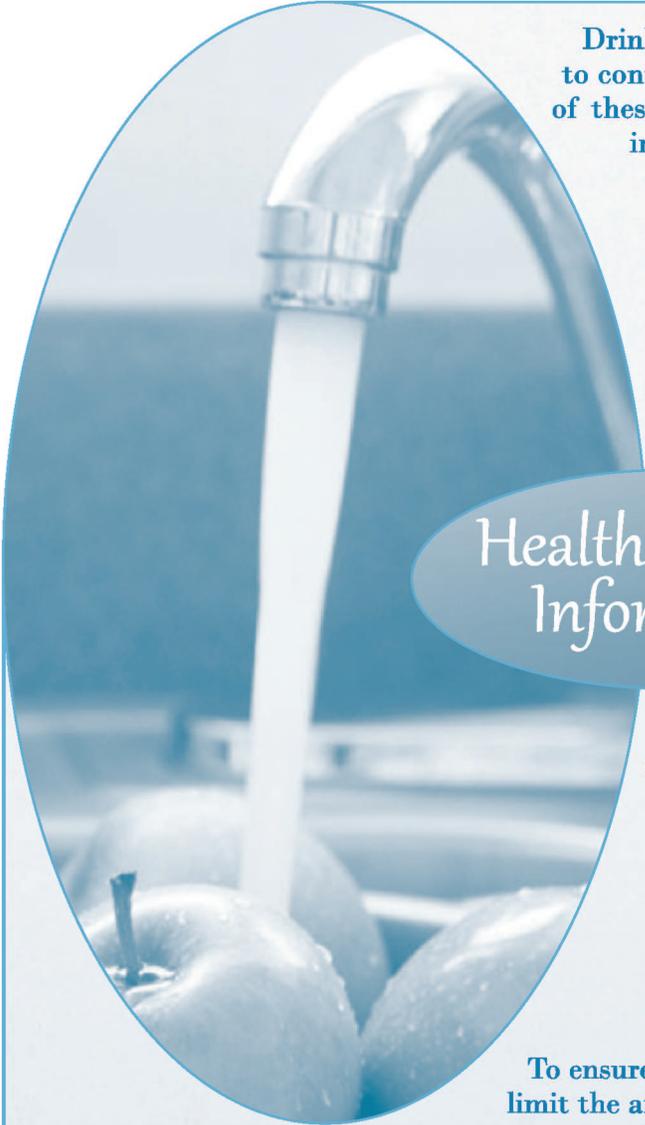
Protecting Public Health ❖ According to the American Water Works Association, water utilities can deliver safe drinking water most economically and effectively by:

1. Utilizing the highest quality available water sources
2. Employing appropriate treatment
3. Actively managing water quality during conveyance

Water from the Saginaw Water Treatment Plant and your local water utility achieves all of these: 1) our water is sourced from Lake Huron, one of the largest and highest quality sources of fresh water in the world; 2) our water receives proven treatment technologies and is subjected to hundreds of quality tests each day to surpass compliance with state and federal regulations; 3) our water is disinfected, pressurized, and sampled during distribution to ensure safe arrival at your tap. Further, our water supply, treatment, and distribution systems are operated and maintained by highly trained and certified staff using hands-on techniques and computerized control systems. Their commitment to quality delivers reliable water to nearly 175,000 people in the region AND prolongs the life of our infrastructure.

Local Water Utilities ❖ Each entity that obtains its drinking water from the Saginaw Water Treatment Plant maintains its own distribution system, which includes underground water mains and other facilities that deliver water to your tap. Your community is responsible for repairing water main breaks, collecting certain water samples, and routinely flushing water mains to maintain water quality. Please see the back of this report for your local contact information.

Albee Township
Village of Birch Run
Birch Run Township
Blumfield Reese Water Authority
Bridgeport Charter Township
Buena Vista Charter Township
Carrollton Township
Frankenlust Township
James Township
Kochville Township
Saginaw Charter Township
City of Saginaw
Village of St. Charles
Spaulding Township
Swan Creek Township
Taymouth Township
Thomas Township
Tittabawassee Township
City of Zilwaukee



Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily pose a health risk. For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline, 800.426.4791.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive materials 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 occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming*
- *Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses*
- *Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems*
- *Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities*

Health & Safety Information

To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration's regulations establish limits for contaminants in bottled water, which must provide similar public health protection.

Special Health Concerns ❖ Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Federal guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from EPA's Safe Drinking Water Hotline, 800.426.4791.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Parts per million (ppm) and parts per billion (ppb) - One ppm can be equated to four teaspoons of salt in a standard 24-foot backyard pool. One ppb is like one teaspoon of salt in an Olympic-sized pool.

Maximum Contaminant Level (MCL) - The MCL is the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible, using the best available treatment technology. MCLs are set at very stringent levels by the state and federal government.

Maximum Contaminant Level Goal (MCLG) - The MCLG is 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.

pCi/l - picocuries per liter (a measure of radioactivity)

Nephelometric Turbidity Unit (NTU) - A measure of clarity based on how much light is scattered by suspended matter in the water. The lower the NTU, the less cloudy the water.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.

nd - not detected.

na - not applicable/available.

Terminology

2015 Water Treatment Division Projects

- Completed maintenance on high service pumps #2 and #7
- Exercised low service header valves and repaired wash water check valve
- Cleaned and inspected west clear well
- Replaced fluoride day tank and repaired lime transfer long worm
- Replaced house load water line
- Installed control wiring on new flow meter and valves in Washington discharge meter vault
- Cleaned exterior of Gratiot water storage tank
- Completed pressure vault concrete work
- Refurbished and painted cabinets in the bacteriological laboratory
- Continued control and electrical panel projects: rebuilt panel A-1 and removed control panel A

2015 Maintenance and Service Division Projects

- Installed 13,666 radios (as of March 1, 2016) as part of Automated Meter Reading Project
- Completed cross connection inspections: 455 high hazard and 316 low hazard
- Replaced approximately 1750 feet of 12-inch water main pipe on Cooper Ave. from N. Bond to N. Michigan
- Replaced service lines with K copper on Mackinaw St. from Weiss to State and on portions of N. Niagara from Johnson to W. Genesee

Additional projects are completed throughout the regional distribution system. Please contact your local water utility to learn more.

Your drinking water comes from Lake Huron, is purified at the Saginaw Water Treatment Plant and then delivered to your community and your tap. This process takes several days to complete.

SOURCE WATER

Your drinking water comes from Lake Huron, one of the largest and highest quality sources of fresh water in the world.

The raw water intake is near Whitestone Point, a location selected in the 1940s after an engineering study showed that water at this location was typical of deep Lake Huron currents, and relatively free from influences from Saginaw Bay and nearby on-shore sources of contamination. The raw water is purchased from the Saginaw-Midland Municipal Water Supply Corporation (jointly owned by the Cities of Saginaw and Midland), and travels 65 miles through reinforced concrete pipe to the Saginaw Water Treatment Plant for processing.

In June 2004, the Michigan Department of Environmental Quality completed its assessment of our Lake Huron raw water supply and issued a Source Water Assessment report. This assessment determined our raw water supply's susceptibility to contamination. The State used a seven-tiered susceptibility rating scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources.

The susceptibility of our raw water was rated "moderately low." Although the threat of contamination still exists, this rating is the best a surface water source can achieve. The forethought used in selecting the location of the intake helped our raw water supply achieve its "moderately low" susceptibility rating.

If you would like to review a copy of the Source Water Assessment report, or have questions about it, please contact the Saginaw Water Treatment Plant at 989.759.1640.

REGULATORY UPDATE

Lead: Lead in drinking water continues to make headline news. Please see the "Lead and Copper" section on the inside of this report for more information.

Algal Toxins: In June 2015, EPA issued guidance on algal toxins in public drinking water supplies. The guidance is intended to help impacted water systems protect human health while regulatory standards are developed.

Fluoride: In June 2015, the Centers for Disease Control and Prevention issued "A Statement on the Evidence Supporting the Safety and Effectiveness of Community Water Fluoridation." This was followed by support from the US Surgeon General to continue with current fluoridation practices. www.cdc.gov/fluoridation

Long Term 2 Enhanced Surface Water Treatment Rule (LT2): Saginaw completed the first round of LT2 *Cryptosporidium* and *Giardia* source water monitoring in 2006. The second round began in October 2015 and results are presented inside this report. water.epa.gov/lawsregs/rulesregs/sdwa/lt2

2015 Drinking Water Quality Test Results

The table below shows the results of water quality tests in the Saginaw Water Treatment System during 2015, unless otherwise noted. The State allows us to monitor for certain contaminants less than once per year because their concentrations are not expected to change year to year. We remained in compliance with all of the monitoring and reporting requirements, and had no violations. Our water met or surpassed all state and federal water quality and safety standards.

Regulated Inorganic Parameters (sampled in the distribution system)

parameter	test date	unit	avg	range	MRDL	MRDLG	violation	likely sources
Chlorine	2015	ppm	0.88	0.73-0.99	4	4	no	Water additive used to control microbials

Regulated Inorganic Parameters (sampled at the plant's finished water tap)

parameter	test date	unit	avg	range	MCL	MCLG	violation	likely sources
Fluoride ¹	2015	ppm	0.86	na	4	4	no	Water additive to promote strong teeth
Barium	2014	ppm	0.28	na	2	2	no	Erosion of natural deposits

Regulated Radiological Parameters (sampled at the plant's finished water tap)

Combined radium 2011	pCi/l	0.45	na	5	0	no	Erosion of natural deposits
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Regulated Microbiological Parameters (sampled in the filtered water confluence)

Turbidity ²	2015	NTU	0.05	0.03-0.19	TT ³	none	no	Soil runoff, suspended matter in lake water
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1. The Saginaw Water Treatment Plant monitors and supplements the fluoride level in drinking water to maintain a level close to 1 ppm to promote dental health. This fits with EPA's secondary fluoride standard of 2 ppm to prevent dental disease in children. The level reported above is from annual regulatory sampling. Staff members also conduct daily fluoride sampling. Results in 2015 were: average=0.81 ppm; range=0.11-1.16 ppm.
2. Turbidity in systems that provide filtration, like Saginaw, must never exceed 1 NTU, and must not exceed 0.3 NTU in more than 95% of daily samples in any month to remain in compliance. 100% of our samples in 2015 achieved these requirements. This indicates that our treatment process is working effectively.

Unregulated Parameters (not regulated at the State or Federal Level)

parameter	test date	unit	avg	range	MCL/MCLG	violation	likely sources
Sodium ³	2015	ppm	7	na	unregulated	no	Naturally occurring
Bromochloromethane	2015	ppb	trace	na	unregulated	no	Byproduct of drinking water disinfection
Dichloromethane	2015	ppb	0.7	na	unregulated	no	Byproduct of drinking water disinfection

3. This data is provided for those with dietary concerns. Sodium was detected at 7 ppm, which equates to 1.66 milligrams of sodium per 8 ounce glass of water.

❖ In 2015, an Additional 120 Contaminants were Tested for and NOT Detected ❖

NEW!

2015 LT2 Results ❖ In October 2015, the Saginaw Water Plant began conducting monthly source water monitoring for *Cryptosporidium*, *Giardia*, and *E. coli*. *Cryptosporidium* and *Giardia* were not detected in our raw water in 2015 and have NEVER been detected in our treated drinking water. *E. coli* was also not detected. *Cryptosporidium*, *Giardia*, and other microbial pathogens come from human and animal waste. They are sometimes found in untreated surface waters (lakes, rivers, streams). Saginaw's test results have been so favorable through the years that our water was placed into the lowest and best category when the LT2 rule began in 2006. This allowed us to avoid the need to add costly treatment measures, keeping our water rates as low as possible.

The purpose of the LT2 rule is to reduce illness linked with disease-causing microorganisms in drinking water. It is important to note, however, *Cryptosporidium*, *Giardia*, and microbial pathogens can be spread through means other than drinking water.

Each individual water utility is responsible for performing certain tests; here are the results:

Total Coliform Bacteria ❖ In 2015, a single sample tested positive for total coliform bacteria in the greater distribution system. Immediate retesting results were negative so there was no violation.

Stage 2 Disinfection Byproducts ❖ The results shown for Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) are the highest locational running annual averages calculated quarterly by each community. The range shows the single highest and lowest detections during 2015 compliance monitoring.

Lead and Copper ❖ Communities in the Saginaw Region have historically remained well under the maximum level allowed for lead or copper in drinking water systems. **Lead and copper are not naturally present in our water and the Saginaw Treatment Plant monitors to ensure that drinking water is non-corrosive.** Because of this favorable track record, all communities in the Saginaw system participate in a triennial coordinated test. The figures below are from the 2013 coordinated test.

Lead and copper compliance is based on the 90th percentile, where nine out of ten samples must be below the Action Level (AL). One of the testing sites in the regional service area had a single detect above the AL for lead, but this is not a violation. No sites exceeded the AL for copper.

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.

Your water utility is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. If you are concerned about lead, you may wish to have your water tested.

Community-Specific Results



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 www.epa.gov/safewater/lead

	Albee Twp	Village of Birch Run	Birch Run Twp	Blumfield/Reese	Bridgeport Twp	Buena Vista Twp	Carrollton Twp	Frankenlust Twp	James Twp	Kochville Twp	City of Saginaw	Saginaw Twp	Village of St. Charles	Spaulding Twp	Swan Creek Twp	Taymouth Twp	Thomas Twp	Tittabawassee Twp	City of Zilwaukee
TTHM (ppb)	51	45	61	67	69	83	49	50	48	72	30	58	60	44	48	59	51	65	44
Low	50.7	22.4	31.2	34	38.5	18.2	39.4	25.5	29.3	42	18.1	26.3	25.3	23.7	26.2	28.9	18.8	26	24.3
High	50.7	51.7	66.6	71	92.1	102	49.7	58.6	50.5	95	78.6	85.3	93.5	51.5	64.9	61.4	65	74	57.6
Monitoring Violation?	no	no	no	no	no	no	yes*	no	no	no	no	no	no	no	no	no	no	no	no
MCL Violation?	no	no	no	no	no	yes**	no	no	no	no	no	no	no	no	no	no	no	no	no
HAA5 (ppb)	22	23	27	28	29	24	25	26	25	30	22	31	24	22	25	24	23	32	26
Low	22	12	19	17	13	10	21	14	15	21	8	13	11	11	14	3	10	15	13
High	22	26	29	38	48	43	24	29	23	38	32	42	36	21	26	30	25	47	32
Monitoring Violation?	no	no	no	no	no	no	yes*	no	no	no	no	no	no	no	no	no	no	no	no
MCL Violation?	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
LEAD (ppb)	0	1.5	6.5	0	0	0	0	2.5	0	0	8	2.4	4.5	6.5	0	0	2	0	0
Sites exceeding AL?	no	no	no	no	1***	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Violation?	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
COPPER (ppm)	0.36	0.17	0.30	0.22	0.28	0.20	0.18	0.26	0.20	0.24	0.19	0.23	0.24	0.23	0.27	0.27	0.48	0.23	0.19
Sites exceeding AL?	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Violation?	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no

TTHM: MCL=80 ppb MCLG=none | HAA5: MCL=60 ppb MCLG=none | Lead: AL=15 ppb MCLG=0 | Copper AL=1.3 ppm MCLG=1.3 ppm
Likely sources: TTHM and HAA5: byproducts of drinking water disinfection | lead and copper: corrosion of household plumbing

*Tier 3 Public Notice: In the first quarter of 2015, Carrollton Township did not collect the necessary samples. There was no emergency and no need to boil water. If you have questions, please call 989.754.4611 x 110.

**In the fourth quarter of 2015, Buena Vista Township exceeded the MCL and missed the deadline to submit their report outlining corrective actions, which will include using an automatic flushing device to increase water circulation. There was no need to boil water during this time. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. For more information, please call 989.754.6536.

***See Lead and Copper information above.

Local Contacts

Please consider attending meetings locally and with the City of Saginaw if you would like to comment on the decisions affecting your drinking water. Meeting times are shown below, along with who to contact if you have questions about this report or local water projects.

Water Supplier

Albee Township
Birch Run Township
Village of Birch Run
Blumfield/Reese
Bridgeport Township
Buena Vista Township
Carrollton Township
Frankenlust Township
James Township
Kochville Township
City of Saginaw
Saginaw Township
Village of St. Charles
Spaulding Township
Swan Creek Township
Taymouth Township
Thomas Township
Tittabawassee Township
City of Zilwaukee

Meeting Schedule/Time/Location

Second Tuesday, 8:00 pm, 10645 East Road
Second Tuesday, 7:00 pm, 8411 Main Street
Fourth Monday, 7:00 pm, 12060 Heath Street
Third Monday, 7:30 pm, 12810 E. Washington, Reese
First Tuesday, 6:00 pm, 6206 Dixie Highway
Fourth Monday, 6:00 pm, 1160 S. Outer Drive
Second & last Monday, 5:30 pm, 1645 Mapleridge Road
Varies, please call 989.684.3883, 3933 Patterson Road
Second Monday, 7:30 pm, 6060 Swan Creek Road
Third Monday, 7:00 pm, 3245 Kochville Road
Mondays, twice monthly, call 989.759.1480 for details
Second & Fourth Mondays, 7:00 pm, 4980 Shattuck Road
Second Wednesday, 7:00 pm, 110 W. Spruce Street
Third Tuesday, 6:00 pm, 5025 East Road
Second Monday, 4:00 pm, 11415 Lakefield Road
Second Wednesday, 7:00 pm, 4343 Birch Run Road
First Monday, 7:00 pm, 8215 Shields Drive
Second Tuesday, 7:30 pm, 145 S. Second Street
Last Monday, 3:30 pm, 319 Tittabawassee Road

Water Utility Contact

Mark Jebb, 989.770.4844
Brad Thomas, 989.624.9773
Terry Engelhardt, 989.624.9856
Ron Ebenhoeh, 989.868.9940
Ruthann Evans, 989.777.0974
Dexter Mitchell 989.754.6536
Mark Pilkington, 989.754.4611 x110
Mike Brown, 989.684.3883
Mark Jebb, 989.781.1353
Mike Comstock 989.792.7596 x115
Paul Reinsch, 989.759.1640
Sonny Grunwell, 989.791.9870
Patrick Mishler, 989.865.8287
Don Ackerman, 989.777.2733
Debra Wurtzel, 989.865.6251
A.J. Nowak, 989.624.4159 x24
Rick Hopper, 989.781.0150
Ed Mahaney, 989.695.6517
Eric Mahan, 989.737.0369



You receive your water from the Saginaw Water Treatment Plant, which is a not-for-profit department of the City of Saginaw, governed by Saginaw City Council. We encourage your interest in the decisions pertaining to your drinking water. Meetings are held on Mondays, twice monthly. For details or to register as a speaker, please contact the City Clerk's office at 989.759.1480.

Dennis Browning, Mayor

Amos O'Neal, Mayor Pro Tem

Michael Balls, Council Member

Annie Boensch, Council Member

Larry Coulouris, Council Member

Dan Fitzpatrick, Council Member

Floyd Kloc, Council Member

Brenda Moore, Council Member

Demond Tibbs, Council Member

Tim Morales, City Manager

Kimberly Mason, Director of Water and Wastewater Treatment Services

Paul Reinsch, Superintendent of Water Treatment and Field Operations

Phillip Karwat, PE, Public Services Director

Water Quality Questions: 989.759.1640

USEPA Safe Drinking Water Hotline: 800.426.4791

Electronic Water Quality Report: www.saginaw-mi.com/ccr.php

Saginaw Water
Treatment Plant