Your Annual Drinking Water Quality Report For
Baldwin Township
January 1, 2018 - December 31, 2018

Dear Customer:

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

Where does our water come from?
The source of our water is Lake Huron; the intake structure is located approximately 1 mile off shore at a depth of approximately 40 feet. This water source has been in use since 1992 and is considered to be of the highest quality.

The water is then treated via a very effective and unique process designed to reduce, remove or destroy contaminants in the source water. This processing takes place at our facility located at 247 S. Baldwin Resort Rd. and is owned by the ***Huron Shore Regional Utility Authority (HSRUA).*** The water treatment plant is staffed by MDEQ-certified professional water treatment specialists who in addition to formal education and job-related courses, keep current on ever-changing technology and regulations by attending continuing education courses, workshops, and seminars. As you will see in the following information, we monitor our lake water and drinking water supplied to you very closely to ensure its quality.

The State of Michigan has completed a Source Water Assessment Report (SWAR) for our water system. Included in the SWAR is the susceptibility ranking for our intake. The ranking is based on several factors, including intake location, depth, water chemistry, and contaminant sources. Based on the report, our intake has a moderate degree of sensitivity to potential contaminants. The potential contaminant sources have a minimal influence over the intake. This minimal contaminant threat combined with the moderately sensitive intake yields a moderate susceptibility determination for the HSRUA intake. If you would like to review a copy of the complete report, please contact your Local Township.

Baldwin Township wants their customers to be informed about their water quality and will be glad to answer any questions pertaining to your water supply. If you as a customer are confused or feel misinformed, give your utility the opportunity to clarify things.

We routinely monitor your drinking water for contaminants according to federal and state laws. The following tables included with this report show the results of our monitoring for the period of January 1 to December 31, 2018. Sample results that are more than five years old need not be included in the report, even if it is the last available data for the supply (e.g., some metals are collected on a nine-year frequency). All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency Safe Drinking Water Hot Line at 1-800-426-4791.

It's our pleasure to report that in 2018 as in all years past, the water delivered from the water treatment plant met or surpassed all federal and state standards for quality.

If you wish to obtain a copy of this report contact your Township Hall listed at the end of this report. If you have questions concerning the contents of this report or the water utility, contact:

Catherine Garnham
HSRUA Superintendent
989-362-0050
247 S. Baldwin Resort Rd.
East Tawas, MI 48730

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

***Environmental Protection Agency* (EPA)**

***Food and Drug Administration* (FDA)**

***Maximum Contaminant Level* (MCL)** - The "Maximum Allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

***Maximum Contaminant Level Goal* (MCLG)** - The "Goal" 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.

***Maximum residual disinfectant level (*MRDL) -** 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

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

***Michigan Department of Environmental Quality* (MDEQ)**

***Nephelometric Turbidity Unit* (NTU)** - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

***Not regulated* (NR) -** The substance is not currently regulated by the USEPA and or MDEQ. Monitoring helps EPA to determine where these contaminants occur and whether there is a need to regulate them.

***Not applicable* (NA)**

***Not Detected* (ND)**

***Parts per million* (ppm)**

***Parts per billion* (ppb)**

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

The table below lists all the drinking water contaminants that we detected during the 2018 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018. 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. All the data is representative of the water quality, but some are more than one year old.

Inorganic Contaminants

Contaminant	MCL, MRDL or TT	MCLG or MRDLG	Level Detected		Range	Unit of Measurement	Violation Yes / No	Typical Source of Contaminant
Fluoride (Plant Tap)	4	4	0.59		N/A	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium	NR	NR	5		N/A	ppm	No	Naturally occurring constituent in water
Turbidity*	TT	N/A	0.04 avg.	0.06 max.	N/A	NTU	No	Soil Runoff

*Turbidity is the measure of clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. High levels may pose a health hazard by interfering with disinfection. Low turbidity is one of the most important indicators of effective water treatment. Samples of the system's filtered water must be less than or equal to 0.3 NTU in at least 95% of the samples. During the year 2018, all (100%) of samples have met this requirement.

Disinfectants (Chlorine) & Disinfection By-Products (DBP's)

Contaminant	MCL, MRDL or TT	MCLG or MRDLG	Level Detected	Range	Unit of Measurement	Violation Yes / No	Typical Source of Contaminant
Chlorine (Distribution System)	4	4	Running Annual Average 0.66	0.09/1.53	ppm	No	Water additive used to control microbes
TTHM - Total Trihalomethanes	80	N/A	43.6	N/A	ppb	No	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids	60	N/A	15.8	N/A	ppb	No	Byproduct of drinking water disinfection
Total Organic Carbon** (Sampled Quarterly)	None	N/A	–	1.08/1.56	ppm	No	Normally present in the environment

**Total Organic Carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts such as Trihalomethanes and Haloacetic acids. Due to low TOC values there is no TT requirement for a percentage reduction.

Lead and Copper Monitoring

Sampled in Baldwin Township's distribution system at individual taps during the monitoring period of June 1, 2018 thru September 30, 2018.

Inorganic Contaminant Subject to AL	Action Level	MCLG	Your Water[1]	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	6	ND - 7	2018	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper (ppm)	1.3	1.3	0.17	0.08 – 0.13	2018	0	Corrosion of household plumbing systems; Erosion of natural deposits.

[1] Ninety (90) percent of the samples collected were at or below the level reported for Your Water.

Baldwin Township has no lead water service lines. There is a total of 391 water service lines of either all copper or copper/polyethylene composition. We are currently working on a distribution system materials inventory to compile site-specific information regarding water service lines.

Important 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 services lines and home plumbing. HSRUA 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 your water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.

PFAS *(Per- and Polyfluoroalkyl Substances)* Monitoring

Date Collected	Sampling Location	PFOS + PFOA (ppt)	LHA (ppt) PFOS + PFOA	Total tested PFAS (ppt)
11-15-2018	Plant Tap	ND	70	ND

What are Per- and polyfluoroalkyl substances (PFAS) and why are they harmful?

Per- and polyfluoroalkyl substances (PFAS), sometimes called PFCs, are a group of chemicals that are resistant to heat, water, and oil. PFAS have been classified by the U.S. Environmental Protection Agency (EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples of the general U.S. population.

These chemicals are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs. Studies in people who were exposed to PFAS found links between the chemicals and increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers.

Are there health advisory levels?

The EPA has not established enforceable drinking water standards, called maximum contaminant levels, for these chemicals. However, EPA has set a lifetime health advisory (LHA) level in drinking water for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). The PFOA and PFOS LHA is the level, or amount, ***below which no harm is expected from these chemicals***. The LHA level is 70 parts per trillion (ppt) for PFOA and 70 ppt for PFOS. If both PFOA and PFOS are present, the LHA is 70 ppt for the combined concentration.

The amount of PFOA and PFOS combined in the samples collected from the HSRUA water treatment plant tap was ND (not detected based on the laboratory's analytical report). There are many other PFAS compounds that currently do not have LHA levels. For information on PFOA, PFOS and other PFAS, including possible health outcomes, you may visit these websites: https://www.epa.gov/pfas; http://www.michigan.gov/som/pfasresponse; or www.atsdr.cdc.gov/pfas.

Who can I call if I have questions about PFAS in my drinking water?

If any resident has additional questions regarding this issue, the State of Michigan Environmental Assistance Center can be contacted at 800-662-9278. Representatives may be reached to assist with your questions Monday – Friday, 8:00 AM to 4:30 PM. You may also contact HSRUA at 989-362-0050.

Is it safe to eat fish in these areas?

Wild fish samples are being collected from local lakes and rivers. These samples will be analyzed to determine the levels of PFAS in fish and make recommendations on how much is safe to eat. Some information is already available in the State of Michigan Eat Safe Fish guides, which are available at http://www.michigan.gov/eatsafefish.

May I bathe or swim in water containing PFAS?

Yes, information currently available suggests that this is not a major contributor to overall exposure.

How can PFAS affect people's health?

Some scientific studies suggest that certain PFAS may affect different systems in the body. The National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR) is working with various partners to better understand how exposure to PFAS might affect people's health.

If you are concerned about exposure to PFAS in your drinking water, please contact the MDHHS Toxicology Hotline at 800-648-6942 or the CDC/ATSDR: **https://www.cdc.gov/cdc-info/** or 800-232-4636. Currently, scientists are still learning about the health effects of exposures to PFAS, including exposure to mixtures.

What other ways could I be exposed to PFOA, PFOS and other PFAS compounds?

PFAS are used in many consumer products. They are used in food packaging such as fast food wrappers and microwave popcorn bags; waterproof and stain resistant fabrics such as outdoor clothing, upholstery, and carpeting; nonstick coatings on cookware; and cleaning supplies including some soaps and shampoos. People can be exposed to these chemicals in house dust, indoor and outdoor air, food, and drinking water. There is still uncertainty regarding these routes of exposure and more research is necessary.

What is being done about this issue?

State and local agencies are actively working to obtain more information about this situation as quickly as possible. Additional testing of the drinking water will be conducted to demonstrate that the PFAS levels are consistent and reliably below the existing LHA. Additional monitoring in and around our region and other affected areas will also be performed by the Michigan Department of Environmental Quality, which will help us answer more questions and determine next steps.

How can I stay updated on the situation?

The state has created a website where you can find information about PFAS contamination and efforts to address it in Michigan. The site will be updated as more information becomes available. The website address is **http://michigan.gov/pfasresponse**

Baldwin Township is proud that your drinking water meets all federal and state requirements. We have learned from our monitoring and testing that some contaminants have been detected but are well within the standards. The EPA has determined that your water is safe at these levels.

Information for people with special 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, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hot Line (800-426-4791).

The sources of all 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 from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water 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 storm water 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 storm water runoff, and septic systems.

- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production in mining activities.

In order to ensure that tap water is safe to drink, the **EPA** prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. **FDA** regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

There is nothing more important to our community than quality drinking water. The maintenance and expansion of the treatment facility and distribution system has and will continue to be important to the growth and welfare of Iosco County.

We will continue to work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.

Opportunities for Public Participation:

We believe that informed citizens can be strong allies of water systems as they take action on pressing problems. The following is a listing of meeting dates and locations where your elected officials may discuss water system issues.

Water Supplier	Regular Meeting Schedule	Time/Location/Contact
Baldwin Township	**2nd Wednesday of each month**	**6:00 p.m. Baldwin Township Hall 1119 Monument Road Tawas City, MI 48763 989-362-3742**
Huron Shore Regional Utility Authority	**1st Tuesday of each month**	**9:00 a.m. HSRUA Treatment Plant 247 S. Baldwin Resort Road East Tawas, MI 48730 989-362-0050**