

# DRINKING WATER QUALITY REPORT - 2010



## IMPORTANT HEALTH INFORMATION

The City of Ann Arbor Water system consistently provides a reliable supply of high quality drinking water that surpasses all state and federal drinking water quality requirement. The City of Ann Arbor strives to provide you with the best water possible. This report provides results of water quality monitoring for 2010.

The staff of Ann Arbor Public Services is strongly committed to bringing you the best drinking water.

- We take pride in not only meeting all federal and state drinking water regulations, but in reaching higher goals.
- We participate in voluntary programs which improve our organization and establish more stringent water quality goals.
- Our monitoring programs far exceed those required by the U.S. Environmental Protection Agency and the Michigan Department of Natural Resources & Environment to assure the quality of your drinking water.
- We follow the recommendations made by our local police, our state regulatory agency, the American Water Works Organization and others to protect the City of Ann Arbor and our customers from potential threats to our water system.



The majority of Ann Arbor’s drinking water comes from Barton Pond, a reservoir created on the Huron River by Barton Dam.



Photo by Dale Fischer (2004)

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The Ann Arbor Water Treatment Plant was built in 1938 and has been upgraded continually to keep up with regulations, increase reliability, and to improve drinking water quality.

## IMPORTANT HEALTH INFORMATION

### WATER SUPPLY AND TREATMENT

The Ann Arbor water supply is comprised of both surface and groundwater sources. About 85% of the water comes from the Huron River. The remaining 15% comes from multiple wells located south of Ann Arbor. The water from both sources is blended at the water treatment plant. Since we use a surface water supply (Huron River water), the USEPA and MDEQ regulations require it to be treated, filtered, and disinfected to ensure that any harmful substances are removed. When treatment is complete, the water is pumped to homes, schools, and businesses in Ann Arbor as well as to Ann Arbor and Scio townships for resale to their customers.

The USEPA requires water utilities to provide the following health information to their customers as part of their **Annual Water Quality Report**. This information is generic and may or may not apply to Ann Arbor drinking water.

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 the land and through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline.

More information about contaminants and potential health effects can be obtained by calling the **USEPA's Safe Drinking Water Hotline at 1-800-426-4791** or online at [www.epa.gov/safewater](http://www.epa.gov/safewater)

Contaminants that might be expected to be in source water - untreated water - include microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; pesticides and herbicides; organic chemical contaminants, including synthetic and volatile organic chemicals; and radioactive contaminants, which can be naturally occurring.

***Cryptosporidium*** is a protozoan parasite that is too small to be seen with a microscope. It is sometimes found in surface waters, especially when the waters contain a high amount of fecal waste from runoff or other activities. Those who are infected with this parasite can experience gastrointestinal illness. The USEPA and the Center for Disease Control have published guidelines on ways to reduce the risk of *Cryptosporidium* infection. The guidelines are available from the Safe Drinking Water Hotline.

***No detectable levels of Cryptosporidium have been found in samples collected from Ann Arbor's source waters.***



### SPECIAL INFORMATION FOR SENSITIVE POPULATIONS:

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline.

## SPOTLIGHT ON WATER EMERGENCIES

If there is a chance your water may not be safe to drink, you will be notified by newspaper, mail, radio, TV, or hand-delivery. The notice will describe any precautions you need to take, such as boiling your water. There are four possible types of emergency notifications:

**Boil Water Advisory:** A Boil Water Advisory is a public statement advising customers to boil tap water before consuming it. Advisories are issued when an event occurs that may cause the water distribution system to become contaminated, such as a loss of pressure from a water main break or back siphonage event. An advisory does not mean that the water is contaminated, but that there is a chance contamination has occurred.

**Boil Water Notice:** A Boil Water Notice is issued when contamination is confirmed in the water system.

**Do Not Drink Notice:** A Do Not Drink Notice will be issued when the water contains a contaminant that cannot be removed by boiling. In this case, bottled water should be used for drinking or cooking.

**Do Not Use Notice:** A Do Not Use Notice will be issued if there is a contaminant in the water that may be inhaled or otherwise harmful on contact. In this case, bottled water should be used for all water consumption, including bathing, cooking and laundry.

### What to do during a Boil Water Advisory or Notice:

- Bring water to a boil and keep at a rolling boil for at least one minute. Cool before using. This includes water used for brushing teeth, making ice, washing raw foods, and preparing drinks, as well as water provided for pets. Boiling removes harmful bacteria in the water that may cause illness. Water used for bathing and laundry does not need to be boiled.
- Throw away ice made during the time the Advisory or Notice was issued, as freezing does not kill bacteria.
- Flush the piping inside your homes and businesses once the Advisory or Notice has been lifted by running all cold water faucets in your home for one minute, flushing automatic ice makers by making and discarding several batches of ice, and running drinking water fountains for one minute.
- Use hot, soapy water (you may add one tablespoon of bleach per gallon as a precaution) to wash dishes, and rinse them with boiled water.
- Boiling your water is recommended even if you have a filter system on your faucet or refrigerator. Most point-of-use filters are designed to improve the taste and odor of water but will not remove harmful bacteria. You can learn about the capability of your filter by contacting the manufacturer or NSF International, an independent testing group located in Ann Arbor (734-769-8010).

## PROTECTING ANN ARBOR'S SOURCE WATER

The City of Ann Arbor has completed a Source Water Assessment and Protection Plan. This plan determines the protection areas for all of our sources of supply, assesses the potential for contamination, and develops plans for improving protection of those areas. The assessment for both the river and groundwater supplies included determining the susceptibility, or relative potential for contamination impacting each source of supply. A six-tiered scale was used to rate the potential for contamination. The scale ranges from "very low" to "high." The susceptibility rating is based on the geologic sensitivity and the number and types of potential contaminant sources located within our source water protection areas. The susceptibility of the Huron River was rated "high" and the wells were rated "moderate."



The Huron River provides a majority of our drinking water.

## WATER RESOURCES IN THE CITY

### STORMWATER IMPACTS AND YOU

We depend on storm drains and sewers, drainage ditches and culverts to keep our streets from flooding during storms. Yet, these devices also direct polluted and untreated rainwater straight into our local waterways.

You can do your part to protect our natural resources. Begin by understanding where pollution comes from - Over 50% of the pollution that impacts our water supply occurs when heavy rains or snowmelts — called runoff — wash over land and carry contaminants from our everyday activities into the nearest waterway.

Prevent Water Pollution - From disposing of prescription drugs through a "take back" program or choosing phosphorus-free lawn fertilizer, to picking up pet waste or maintaining your septic system, there are many ways to make a difference. Check out [www.hrwc.org](http://www.hrwc.org) for more information.

Capture, Infiltrate and Clean Rainwater - Preventing or slowing the surging erosive flows of polluted water that happen when rain falls on hard surfaces such as roads, parking lots and rooftops is also part of the solution.

Garden with Native Plants - Try planting a Rain Garden, or use a Rain Barrel to collect rain water and use it for irrigation around your garden.

Save Water, Save Energy - Using water efficiently and using less of it saves energy, saves money and reduces carbon emissions. Help mitigate global warming impacts to the Huron River with tips and tools for using water wisely.

### WATER EMERGENCY REPORTING

In compliance with Public Act 222, be advised of the following: Any resident experiencing an overflow or backup of a sewage disposal system or storm water system should immediately upon discovery, or in the exercise of reasonable diligence should have discovered, contact the City of Ann Arbor by calling (734) 794-6333 (24-hour emergency number).

In addition - File a Report

Use the Citizen Request System to file the report (use 'Water System Issue' as the Service Request type in step 2). This will enable the City to better focus staff resources for complaints.

Basement Flooding Assistance

Intense rainstorms can potentially overwhelm the city's drainage systems and in rare instances, basement flooding can result. Residents are urged to check their homeowners' insurance policies to ensure coverage for any property damage from basement flooding. Often this type of coverage is not included in the standard homeowners policy and residents must request a special rider in order to be covered. The City of Ann Arbor tracks instances of basement flooding to identify causes, potential patterns, and opportunities for inclusion in the Footing Drain Disconnect program.

### CITY LAUNCHES ONLINE TAP WATER INFORMATION TOOL



#### *Consumer's Guide to Tap Water* Responses to frequently asked questions about tap water quantity and quality

The following questions are answered online at [www.a2gov.org/A2H2O](http://www.a2gov.org/A2H2O). If an online link is not convenient, please call the Customer Service Center during weekday business hours at (734) 794-6333.

1. How can I evaluate my Ann Arbor water bill? (How do I access my personal online water usage report? How do I interpret the information, especially for periods with much higher water usage? How can I look for leaks or other reasons for a water usage spike?)
2. My water appears cloudy straight from the tap but becomes clear after sitting in a glass for a few minutes. Why?
3. My water appears discolored from the tap (reddish, other color).
4. I am noticing a change in my water pressure at the tap - lower or higher.
5. I am noticing a taste or odor in my tap water.
6. I am looking for ways to conserve water and reduce my bill.
7. What is backflow protection and how does it affect me?
8. I have other tap water questions not addressed above.

#### **MAKE EVERY DROP COUNT**

Buy a **Home Water Audit Kit** for just \$2!  
Learn more at [www.a2gov.org/A2H2O](http://www.a2gov.org/A2H2O)

# WATER QUALITY TEST RESULTS

The Ann Arbor Water Treatment Plant performs hundreds of thousands of tests each year to ensure your drinking water not only meets, but exceeds federal and state water quality standards.

## THE CITY OF ANN ARBOR HAD NO DRINKING WATER VIOLATIONS IN 2010.

Substances that were detected in some water samples are reported in the following tables. Please note that some substances, such as fluoride and monochloramine, are added to the water to improve public health. All the detected substances are well within stringent Federal and State limits.

### UNDERSTANDING THE WATER QUALITY TEST RESULTS

1. Identify constituents in the left-hand column.
2. Compare the detection level and range to the MCL and MCLG standards.
3. Confirm your drinking water meets all federal and state drinking water health standards.
4. Contact Water Treatment Services if you have questions.  
**(734) 794-6426**  
**water@a2gov.org**

#### REGULATED AT THE WATER TREATMENT PLANT

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

**mg/l:** Milligrams per liter; equivalent to parts per million

**µg/l:** Micrograms per liter; equivalent to parts per billion

**n/a:** Not applicable

**ND:** Non-detectable

**Avg:** Regulatory compliance with some MCLs are based on a running annual average of monthly or quarterly samples.

Regulated Substance	Units	Highest Level Detected	Range of Individual Samples	MCL	MCLG	Source of Contamination
Fluoride	mg/l	1.34	0.10 - 1.34	4	4	Added to water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer factories.
Nitrate	mg/l	0.9	0.4 - 0.9	10	10	Runoff from fertilizer use; Leaching from septic tanks and sewage; Erosion of natural deposits.
Nitrite	mg/l	58.3	5.0 - 58.3	1000	1000	Runoff from fertilizer use; Leaching from septic tanks and sewage; Erosion of natural deposits.
Barium	mg/l	22	n/a	2000	2000	Erosion of natural deposits.
Bromate	mg/l Avg	6.0 <sup>1</sup>	1.7 - 8.1	10	0	By-product of ozone disinfection of drinking water.
Total Organic Carbon	% Removal	43 <sup>1,2</sup>	43 - 67	<25	n/a	Naturally occurring.

<sup>1</sup> Highest level for Bromate & TOC detected is based on a running annual average of monthly samples (includes 2009 data)

<sup>2</sup> Poorest removal corresponds to highest concentration.

## WATER QUALITY TEST RESULTS (CONTINUED)

### TURBIDITY - REGULATED AT THE WATER TREATMENT PLANT

**Turbidity:** A measure of the cloudiness of water. The Ann Arbor Water Treatment staff monitors turbidity because it is a good indicator of the effectiveness of the filtration system. Turbidity must be less than 0.3 NTU in at least 95% of the measurements taken throughout each month. It must never exceed 1.0 NTU.

**Nephelometric Turbidity Unit (NTU):** A measure of light scattered from particles in water.

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

Regulated Element	Highest Single Measurement (cannot exceed 1.0 NTU)	Lowest Monthly % of Samples Meeting Turbidity Limit	Violation?	Source of Contamination
Turbidity	0.14 NTU	100%	No	Soil erosion

### MONOCHLORAMINE - REGULATED AT THE DISTRIBUTION SYSTEM

**Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety.

Regulated Substance	Units	Highest Level Detected	Range of Individual Samples	MRDL	MRDLG	Source of Contamination
Monochloramine	mg/l	2.8 <sup>1</sup>	2.26 - 2.8	4	4	Disinfectant added at Water Treatment Plant.

<sup>1</sup> Regulatory compliance is based on a running annual average of quarterly samples and includes 2009 data.

Regulated Substance	Units	Highest Level Detected	Range of Individual Samples	MCL	MCLG	Source of Contamination
Total Trihalomethanes (TTHMs)	mg/l Avg	4.75	0.6 - 8.1	80	0	By-product of drinking water disinfection
Total Haloacetic Acids (HAA5s)	mg/l Avg	5.0	1.9 - 9.7	60	0	By-product of drinking water disinfection

### BISPHENOL-A AND OTHER ENDOCRINE DISRUPTING COMPOUNDS

Endocrine disrupters (i.e. bisphenol-A, pentachlorophenol, etc.) are substances that interfere with the synthesis, secretion, transport, binding, action, or elimination of natural hormones in the body that are responsible for the maintenance of normal cell metabolism, reproduction, development, and/or behavior. They are sometimes also referred to as hormonally active agents, endocrine disrupting chemicals, or endocrine disrupting compounds (EDCs). **In 2009, the City of Ann Arbor tested for bisphenol-A and other endocrine disrupting compounds at the City's Water Treatment Plant with no detections.**

## COPPER AND LEAD - REGULATED AT THE CUSTOMER'S TAP

All samples collected and analyzed were well within the strict Federal and State limits. The data is from the 2008 testing conducted in accordance with regulations. Of 54 homes sampled, two exceeded the action level for lead.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Ann Arbor 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 - 2 minutes before using 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead)

**Action Level:** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements a water system must follow.

**Action Level Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

Regulated Substance	Units	Detection Level at 90th Percentile	AL	ALG	Source of Contamination
Lead - 2008 Customer's plumbing	mg/l	8	15	0	Corrosion of household plumbing systems; Erosion of natural deposits.

Water quality tests also showed the following characteristics in our water. Federal and State standards have yet to be established and all results are within limits accepted by most public health officials.

Non-Regulated Substance	Average	Range of Individual Samples	Source of Contamination
Hardness (Calcium Carbonate)	142 mg/l	99-180 mg/l	Naturally occurring minerals; Controlled by water treatment process.
pH	9.3	7.8-9.5	Controlled by water treatment process.
1,4 Dioxane	<0.001	<0.001	Groundwater contamination from manufacturing process and landfills.
Perchlorate	0.03 µ g/l	ND - 0.06 µ g/l	Groundwater contamination from manufacturing process
Sodium	56 mg/l	45 - 74 mg/l	Naturally occurring minerals; Runoff of road salt into surface water; Caustic soda used in water treatment process; Bleach used in water treatment process.

## HEXAVALENT CHROMIUM (CHROMIUM-6)

Total Chromium, (which includes hexavalent and trivalent forms of chromium), is regulated under the national Safe Drinking Water Act. The maximum allowable level of total chromium in the finished drinking water is 100 parts per billion. Ann Arbor is required to test its finished water for total chromium every nine years. However, the city tests the water for chromium on an annual basis. **Results from the last three annual Ann Arbor water tap samples were below the EPA-approved laboratory method's minimum detection limit (currently set at 2 parts per billion).** As the laboratory cannot detect levels below 2 parts per billion, samples below this minimum detection limit are considered "not-detected."



City of Ann Arbor  
Water Treatment Services  
919 Sunset Road  
Ann Arbor, MI 48013  
(734) 794-6426

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Inside is your **ANNUAL DRINKING WATER QUALITY REPORT**, a summary of the results of tests conducted to detect contaminants in your drinking water. This report is provided to educate our customers about the quality of Ann Arbor water. The Michigan Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (USEPA) require all water agencies to report this information each year.



## **CONTACT US**

### **CUSTOMER SERVICE AND BILLING**

Customer Service Center  
301 East Huron Street  
Ann Arbor, MI 48107  
(734) 794-6320

### **WATER QUALITY AND TREATMENT**

Water Treatment Services  
919 Sunset Road  
Ann Arbor, MI 48103  
(734) 794-6426  
[water@a2gov.org](mailto:water@a2gov.org)

### **AFTER HOURS EMERGENCY**

(734) 794-6470

The Water Treatment Services Unit is staffed 24 hours per day. In the event of emergencies such as water main breaks, emergency water turn-offs, and sanitary or storm sewer back-ups, please call the City of Ann Arbor Water Treatment Services Unit.

**VISIT US ONLINE:** [www.a2gov.org/government/publicservices/water\\_treatment](http://www.a2gov.org/government/publicservices/water_treatment)

## **GET INVOLVED**

Council general sessions are open to the public and are broadcast on cable channel 16 (CTN). They are held the first and third Monday of every month unless otherwise noted, and begin at 7:00 PM in Council Chambers (Ann Arbor City Hall, 301 East Huron street).

In addition, targeted public meetings are periodically held to discuss improvements and to listen to our citizens' and customers' concerns. Information about these meetings will be posted on the City of Ann Arbor website ([www.a2gov.org](http://www.a2gov.org)).