



# 2011 Annual Drinking Water Quality Report

**MC HENRY**

**IL1110600**

**Annual Water Quality Report for the period of January 1 to December 31, 2010**

**This report is intended to provide you with important information about your drinking water and the efforts made by the MC HENRY water system to provide safe drinking water. The source of drinking water used by MC HENRY is Ground Water. For more information regarding this report contact:**

**Name : Michael S. Palmer**

**Phone 815-363-2186**

**Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que entienda bien.**

## Source of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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 pickup 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 by-products 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 and mining activities.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

In order 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (800-426-4791).

---

## Source Water Assessment

---

### **A Source Water Assessment summary is included below for your convenience.**

To determine McHenry's susceptibility to groundwater contamination, the Well Site Survey, published in 1992, and the recharge area survey performed by IRWA were reviewed. During the surveys of McHenry's source water protection area, Illinois EPA staff recorded potential sources, routes, or possible problem sites within the 200 or 400 foot minimum setback zones and 1,000 foot maximum setback zones and IRWA recorded sites within the recharge areas. Two sites exist within 400 feet of wells #2 and #3. No sites are located in the combined maximum setback zone. Four sites are located inside the recharge area and one additional site is proximate to the recharge area. Wells #5 and #6 have no sites located within the minimum or maximum setback zones. Three sites are located inside the recharge area and an additional four sites are located outside the recharge area. No sites are located in the minimum or maximum setback zones around wells #7, #8, or #9. No sites are located within the minimum setback zone around well #10 but one site is located within the maximum setback zone. The Illinois EPA considers the source water of this facility to be susceptible to VOC contamination. This determination is based on a number of criteria including: monitoring conducted at the wells, monitoring conducted at the entry point to the distribution system, the available hydro-geologic data on the wells, and the land-use activities in the recharge area of the wells. The Illinois Environmental Protection Act established minimum protection zones of either 200 or 400 feet for McHenry's active community water supply wells. These minimum protection zones are regulated by the Illinois EPA. In addition to the minimum setback zones, three recharge areas have been delineated. These delineations included wells #2, #5, #6, and #11. A recharge area is the geographic area surrounding a well or well field providing potable water to a community water supply as modeled using computer software to determine a five-year time of travel. In addition to source water protection, the finished water is protected by a cross connection control ordinance. Cross connection protection is crucial to a water system because a cross connection to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the supply. To further minimize the risk to the City's water supply, the Illinois EPA recommends that the following activities be assessed. First, the supply may wish to petition McHenry City Council to enact a maximum setback zone ordinance. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to 1,000 feet from their wells. Second, the Illinois EPA recommends that McHenry adopt both a wellhead protection plan and recharge area management program to reduce the risk of contamination to the water supply. Third, contingency planning documents should be developed to ensure the water department and emergency response staff are aware of and adequately trained to implement emergency procedures. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a water supply will minimize their risk of being without safe and adequate water.

### **Vulnerability Waiver**

Due to favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal for TP05 (wells 7+8) and TP06 (wells 9+10). This vulnerability waiver is in effect from January 1, 2011, and December 31, 2013. The renewal of this waiver is conditional upon required sampling and sample results.

## 2010 Regulated Contaminants Detected

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.

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

**Action Level Goal (ALG):** 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.

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

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

**Maximum Contaminant Level or (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.

**ppm:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

**ppb:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

**N/A:** not applicable.

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

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

**Maximum Residual Disinfectant Level Goal or (MRDLG):** The level of disinfectant in drinking water 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.

### Water Quality Test Results:

#### Lead and Copper

#### Health Effects:

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 McHenry 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 exposure by flushing your tap for 30 seconds to 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 <http://www.epa.gov/safewater/lead>.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites Over Copper AL	Units	Violations	Likely Source of Contamination	
Lead	7/11/2008	0	15	5.78	1	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits	<a href="#">Edit</a>
Copper	7/11/2008	1.3	1.3	.806	0	ppm	No	Corrosion of household plumbing systems; Erosion of natural deposits	

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Regulated Contaminants									
Disinfectants & Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant	
Chlorine	1/01/2010 - 12/31/2010	1.1	0.9016 - 1.1464	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes	<a href="#">Edit</a>
Haloacetic Acids [HAA5]	6/10/2010	1	1 - 1	N/A	60	ppb	No	By-product of drinking water chlorination	
TTHMs [Total Trihalomethanes]	6/10/2010	5	4.6 – 4.6	N/A	80	ppb	No	By-product of drinking water chlorination	<a href="#">Edit</a>

Inorganic Contaminants									
	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant	
Barium	10/12/2009	0.098	0.07 - 0.098	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	<a href="#">Edit</a>
Fluoride	10/12/2009	1.1	0.74 – 1.1	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge	<a href="#">Edit</a>
Nitrate (As N)	1/6/2010	1	0 - 0.52	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	<a href="#">Edit</a>
Selenium	10/12/2009	1	0 - 1	50	50	ppb	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.	
<b>Sodium</b> There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.	10/12/2009	70	11 – 70	N/A	N/A	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration	<a href="#">Edit</a>

Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant	
<b>Alpha Emitters</b>	4/8/2009	.313	.313 - .313	0	15	pCi/L	No	Erosion of natural deposits	<a href="#">Edit</a>
<b>Combined Radium 226/228</b>	4/8/2009	1.099	1.099 – 1.099	0	5	pCi/L	No	Erosion of natural deposits	<a href="#">Edit</a>
State Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant	
<b>Iron</b> This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	10/12/2009	0.1	0.025 – 0.1	N/A	1.0	ppm	No	Erosion from naturally occurring deposits	<a href="#">Edit</a>
<b>Manganese</b> This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	10/12/2009	28	4 - 28	150	150	ppb	No	Erosion of naturally occurring deposits	<a href="#">Edit</a>
<b>Zinc</b>	10/12/2009	.02	0 - .02	5	5	ppb	No	Naturally occurring; discharge from metal factories	<a href="#">Edit</a>

**Note:**

- The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.
- Any monitoring results of unregulated contaminants are available.
- The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please call our Water Division at 815-363-2186. To view a summary version of the completed Source Water Assessments, including the importance of source water, susceptibility to contamination determination and documentation/recommendation of source water protection efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>
- There are regularly scheduled City Council Meetings held on Mondays at 7:30 pm for public participation in the decision making process that may affect the quality of the water. These meetings are held at the Municipal Center located at 333 S. Green Street. Please contact the Municipal Center at 815-363-2100 for dates and agenda schedules.