

WATERFORD TOWNSHIP 2001 WATER QUALITY REPORT

Hear-ye! hear-ye! The Waterford Township Department of Public Works (DPW) presents its' fourth annual Drinking Water Quality Report! The Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ) require us to report to you the quality of your drinking water. While a statutory requirement, Waterford Township considers it a priority to inform you, our customers, about the safety of the water you drink and the importance of protecting our water supply. We are excited and proud to bring this report to you and feel that the information we are providing is important. If you have any questions or desire more information about this report or any other subject related to your water quality, please contact Tom Coburn (Water and Sewer Division Superintendent), Phone: 248-674-2278 Fax: 248-674-8658, Email: jcoburn@twp.waterford.mi.us 5240 Civic Center Drive, Waterford, MI 48329-3715.



Where does my drinking water come from?

Waterford Township's water supply is obtained from fifteen (15) wells located at twelve (12) different locations throughout the Township. Ten (10) of the well sites contain a Water Treatment Plant that performs a variety of treatment processes including iron and manganese removal. Additional chemicals are also added to disinfect the water and to control other contaminants such as lead and copper.

Why are there contaminants in my drinking water?



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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Around the country sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. The Waterford Twp. system is pumped exclusively from wells that are not under the influence of surface water. 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.

- ✓ **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.
- ✓ **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.



Do I need to take special precautions?

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. Food and Drug Administration (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. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

What contaminants are in my water?



The Water Quality Data Table on the last page of this report lists all of the drinking water contaminants that were detected during the calendar year of this report. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

The following is a list of some common contaminants and their associated health effects when the Maximum Contaminant Level (MCL) level is exceeded. If a particular MCL, or Action Level (AL), is exceeded, additional treatment or other action may be required. However, Waterford Township's water falls below the MCL's or AL's for these and all other parameters monitored.

- ✓ **Copper** is an essential nutrient, but some people who drink water-containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water-containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
- ✓ Some people who drink water containing **fluoride** in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth. Waterford Twp. does not add fluoride to its finished water. However, fluoride does occur naturally in ground water. Please refer to the data table on the last page for the levels of fluoride observed in 2001.
- ✓ Infants and young children are typically more vulnerable to **lead** in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking water Hotline (800-426-4791).
- ✓ Infants and children who drink water-containing **lead** in excess of the action level 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. Waterford Township's water for Operational Year 2001 was below the (AL) Action Level for lead. Please refer to the table on page last page for the specific results for lead in Operational Year 2001.

Trihalomethanes (THMs) are a category of organic contaminants that are a by-product of disinfecting water with chlorine. Under the Information Collection Rule (ICR), we are required to monitor four specific contaminants in this category. The four contaminants are: Dichlorobromomethane, Bromoform, Chlorodibromomethane, and Chloroform.

- ✓ For more information about this rule view the EPA website at: <http://www.epa.gov/>



Should I be concerned about Arsenic, Nitrate and Chloride in the water?

Three (3) contaminants – **Arsenic**, **Nitrate**, and **Chloride** are of particular concern in some groundwater supplies throughout Oakland County. In Waterford Township's case, none of these contaminants exceed any MCL's or AL's. The DPW, however, continues testing for these contaminants at more frequent intervals than required to ensure our water quality.

The following is a brief description of these contaminants taken from an U.S. Geological Survey study done for Oakland County. Copies of this study are available at the Township Hall.

- ✓ **Arsenic**, while used in the manufacturing of pesticides, metal products, pigments and dyes, and medicine, is a naturally occurring element in our environment and therefore, can be found in groundwater. While a known carcinogen, the health effects of arsenic depend on the amount consumed. The year 2001 MCL for arsenic was 50 ppb and Operational Year 2001 tests indicate that arsenic was not detected at or above the MCL limit in Waterford Township's Water System. In Operational Year 2006, the MCL for arsenic is scheduled to be lowered to 10 ppb. The Township does not expect any problems with meeting the more stringent criteria either as current tests indicate treated levels below 5 ppb. Please visit our web page for further information regarding the Township's arsenic levels at:

✓ <http://www.twp.waterford.mi.us/publicworks/ARSENIC.htm>

While your drinking water meets EPA standards for arsenic, it does contain low levels of arsenic. The EPA standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research on the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

- ✓ **Nitrate** is formed when oxygen in the air or dissolved in water combines with nitrogen. While nitrate is naturally occurring, concentrations can rise from septic tank leachate and fertilizers, which are rich in nitrogen. Infants below the age of six months who drink water-containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. The MCL for nitrate is 10 ppm and Waterford's water was not detected to have any nitrates for the samples taken in Operational Year 2001.

Water Monitoring Issues: During Operational Year 2001, the DPW was required to give public notification in June for one positive E-Coli detection at one testing point. Resamples were taken and found to be negative. As a result there was no

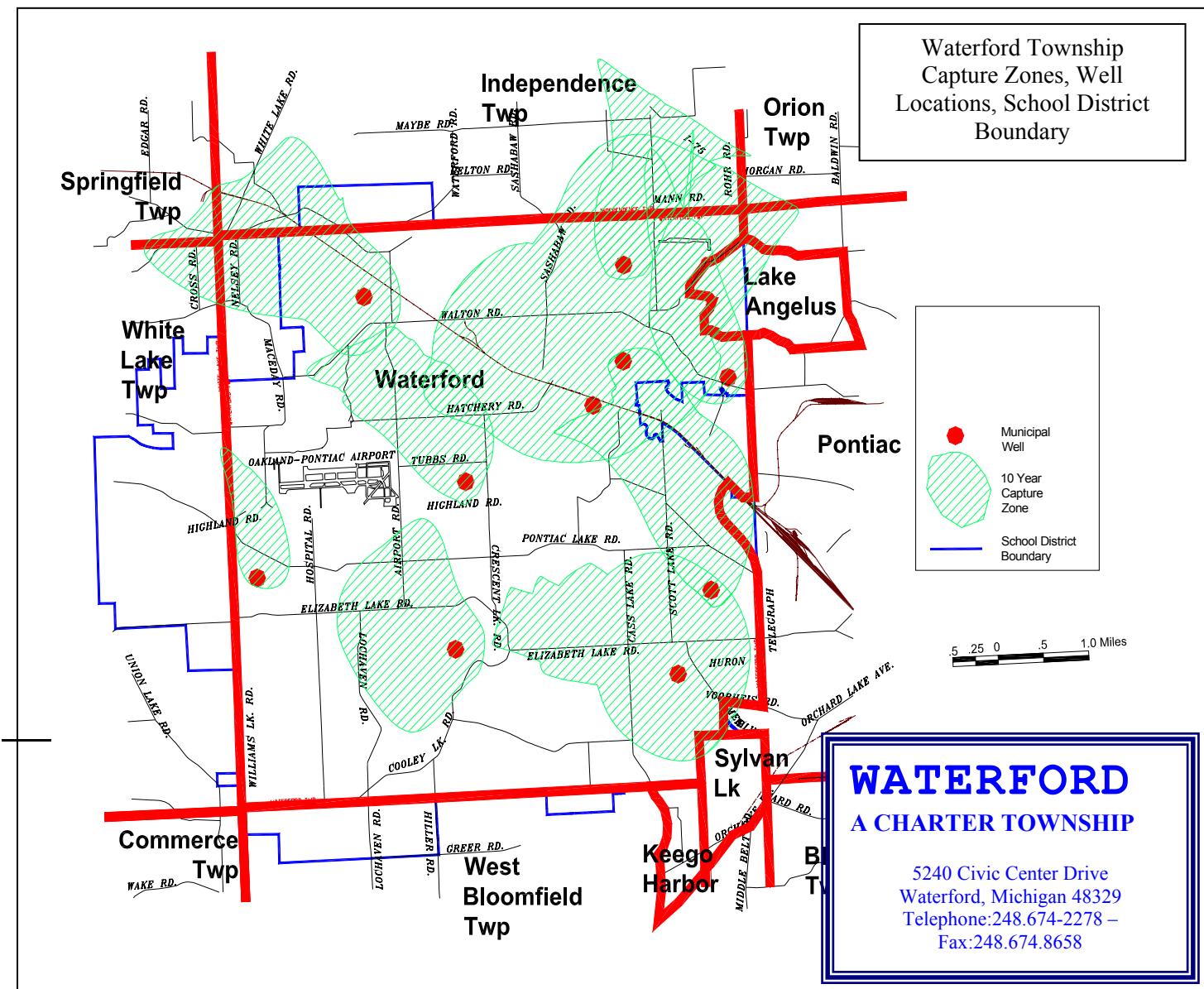
What's being done to protect our water supply?



treatment technique violation and no further action was required.

Waterford Township is making every effort to protect the groundwater source of our drinking water supply. The township voluntarily participates in the MDEQ Wellhead Protection Program. The use of certain household hazardous chemicals (like paints, solvents, gasoline, etc.) should be closely monitored in order to eliminate the possibility of groundwater contamination. You can help protect our water supply by using chemicals carefully. If you have an unused water well, inform the township to obtain information on how to have it plugged – open holes are easy conduits for chemicals to travel and contaminate ground water. Please see the attached map to determine if you live in a WHPA. Remember: prevention of ground water contamination is far less expensive than ground water cleanup! For more information about this program call the township or view the MDEQ website found at:

<http://www.michigan.gov/deq>



Waterford Township Wellhead Protection Map: Waterford Township DPW currently has (10) Michigan Department of Environmental Quality (MDEQ) approved Well Head Protection Area's (WHPA's), which are shown on the map above. These areas define the boundaries of the 10-year zone of capture for a specific wellhead. If there were a contaminant release at the edge of the boundary, it would take approximately 10 years for it to reach the wellhead, if untreated. As a result, this powerful analytical tool allows for the development of an action plan to resolve the problem before the wellhead would become contaminated.

Approved WHPA's for Waterford Township are listed as follows:

APPROVED:

Lotus Lake Silver Lake Donelson Park
Pleasant Lake Marion Street Jayno Heights

Lorena Street Crescent Lake
Lake Oakland Vista Villa

In addition, Waterford DPW submitted a complete Well Head Protection Plan (WHPP) to the MDEQ in December of 2001 and is awaiting approval, which is expected by the middle of 2002. As soon as approval is received, implementation of the (WHPP) will proceed as soon as possible thereafter.

For more information contact:

Waterford Township
Phone: 248-674-2278
Web Site: <http://www.twp.waterford.mi.us/publicworks>

Attn: Tom Coburn
Fax: 248-674-8658

5240 Civic Center Drive
Waterford, MI 48329-3715

2001 Water Quality Data Table

Per MDEQ and/or EPA monitoring requirements, contaminant-monitoring schedules vary and can exceed calendar years in collection and testing frequency. Unless otherwise noted, the data presented in this table is from testing done in the calendar year 2001.

Contaminants	MCLG	MCL	Your Water	Sample Range	Typical Source
Inorganic Contaminants					
Fluoride (ppm)	4	4	* 0.4	0.1 to 0.7	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	10	10	ND	ND	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Arsenic (ppb)	N/A	**50	*2.78	1 to 6	Used in Agricultural production. Naturally found in the environment.
Selenium (ppb)	50	50	.8	0 to 5	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharges from mines.
Barium (ppm)	2	2	*.15	.07 to .22	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Organic Contaminants					
TTHM [Total Trihalomethanes] (ppb)	NA	100	22.8	7 to 31.4	By-product of drinking water chlorination
Microbial Contaminants					
Total Coliform (% of monthly positive samples)	0	<5%	1.4%	ND to 1.4%	Naturally present in the environment.
Contaminants (Special Monitoring)					
Sodium (ppm)	NR	NR	30.5	15 to 46	Erosion of natural deposits. *see the definition below for (NR) Not Regulated contaminants.
Copper/Lead	MCLG	AL	90th Percentile	# of sites above action level	
Copper (ppm)	1.3	1.3	0.786	0 out of 30 sites = 0.0%	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	0	15	5.9	1 out of 30 sites = 3.3%	Corrosion of household plumbing systems; Erosion of natural deposits

Terms and Abbreviations/Units Descriptions as used above:

MCLG: Maximum Contaminant Level Goal: 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.

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.

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

* Indicates an annual average calculation.

** Beginning in Operational Year 2006 the arsenic MCL level is scheduled to be lowered to 10 (ppb).

90th Percentile: The number in the annual sample range that lies 90% away from the lowest sample observed, or 10% away from the highest sample observed.

pCi/L: picocuries per liter

ppm: parts per million, or milligrams per liter (mg/l)

ppb: parts per billion, or micrograms per liter (µg/l)

% of monthly positive samples: % of samples taken monthly that were positive

NA: Not Applicable

ND: Contaminant Not Detected

NR: Not Regulated Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

Your Water Column: Highest Single Value Obtained during the Reporting Period, Unless noted by a (*), which indicates an Annual Average.

Sample Range Column: Lowest Single Value Obtained to the Highest Single Value Obtained during the Reporting Period.