More on source water

The sources of 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.

- 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 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 by-products 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 be the result of oil and gas production and mining activities.

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 provide the same protection for public health.

Water Quality 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 from infections. These people should seek advice about drinking water from their health care providers. 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 Hotline (800-426-4791).

Health Effects of Lead:

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. Infants and young are typically more vulnerable to lead in drinking water than the general population. It is possible that the lead levels at your home may be higher than at other homes in the community as a result of materials used in you home's plumbing. To reduce or eliminate lead levels flush your tap for 30 seconds to two minutes before using the tap water. 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.*

Methyl Tertiary-Butyl Ether (MTBE)

You may have heard about the compound MTBE that is a gasoline additive. This compound has contaminated some drinking water supplies across the country. We have tested for this compound for several years and will continue to do so. Our drinking water does NOT contain MTBE.

Source Water Assessment Report (SWA)

The State performed an assessment of our Lake Michigan source water in 2003 and completed it in 2004 to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a six-tiered scale from "very-low" to "high" based primarily on geologic sensitivity, water chemistry and contaminant sources. The susceptibility of our source is "moderate". A copy of the report can be obtained by contacting the Water Facilities Manager at 847-3487.

On the inside 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.

Parts per million (ppm): A measurement of concentration. One part per million corresponds to one minute in two years.

Parts per billion (ppb): A measurement of concentration. One part per billion corresponds to one minute in 2000 years.

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

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

Maximum Contaminant Level Goal: The "Goal" (MCLG) is 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.

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

NTU: Nephlometric Turbidity Unit. Turbidity level shall not exceed 0.5 NTU in 95% of the samples every month. This is the measurement of suspended material that is found in water. We monitor it because it's a good indicator of effectiveness of our filtration system.

pCi/l: Pico curies per liter (a measure of radioactivity).

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

Alpha emitters, Radium 226 & 228: Radionuclide contaminants that give off ionizing radiation. 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 data is representative of the water quality, but some are more than one year old.

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

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

Is there a Cross Connection here?

Cross connections are the links through which it is possible for contaminating materials to enter a drinking water supply. The contaminant enters the drinking water system when the pressure of the polluted source exceeds the pressure of the drinking water source. To prevent backflow and back-siphonage use properly installed, certified devices and be aware of potential hazards such as hoses in standing water and connections of pipe to private wells.

DO YOU KNOW WHAT A PENNY WILL BUY?

One penny will deliver 7 gallons of drinking water to your home and family every day of the year!

"NOW THAT'S SERVICE"

FACT: Northwest Ottawa Water System used over 2.4 billion gallons in 2007

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Northwest Ottawa Water Treatment Plant

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During January 2008 we did not complete all required continuous online turbidity monitoring and therefore cannot be sure of the quality of our drinking water during that time.

What should I do? There is nothing you need to do at this time. This was not an emergency.

The table below lists the contaminant we did not properly test for; how often we are supposed to sample and how often we actually sampled.

Contaminant		Required sampling frequency	Our sampling frequency	Time Period
Turbidity	When continuous monitoring equipment is offline:	Every 4 hours for not more than 5 days	Not sampled for approximately 10 hours	January 8, 2008

What happened? What is being done? On January 8, 2008 a power outage caused the loss of data from a dedicated computer system for continuous online turbidity monitoring (which collects turbidity samples every 15 minutes). When turbidimeters and data collecting systems fail we are required to collect grab samples at least every 4 hours while the filter is in service. Plant staff was unaware that the turbidimeter data was not being saved. Approximately 10 hours of turbidimeter data was lost on January 8th. Plant staff failed to collect grab samples from the individual filters every four hours during this time period. However the combined filter effluent and tap water leaving the water plant was monitored every 4 hours for the entire duration and at no time during the 10 hour period did the turbidity exceed drinking water standards. For more information, please contact Mr. Joseph VanderStel, Water Facilities Manager, 519 Washington, Grand Haven, MI, 49417 at 616-847-3488, or the Michigan Department of Environmental Quality at 616-356-0271.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the Northwest Ottawa Water Treatment Plant.

Listed below are contaminants/substances detected in Northwest Ottawa's Water System

Not listed are the hundreds of other contaminants for which we tested that were not detected

REGULATED MONITORING AT THE CUSTOMER'S TAP								REGULATED MONITORING IN THE DISTRIBUTION SYSTEM							
Substances	**Violation Yes/No**	**Highest Level Detected**	**MCL**	**MCLG**	**Range of Detection (x) # of sites exceeding AL**	**Units**	**Source**	**Substances**	**Violation Yes/No**	**Highest Level Detected**	**MCL**	**MCLG**	**Range of Detection**	**Units**	**Source**
LEAD			AL=15	0		ppb	Corrosion of Household plumbing	Total Trihalomethanes (TTHM) (1 maximum resident time sample and 3 average resident time samples)	**No**	**Highest Running Annual Avg. = 40.3**	**80** Compared To Running Annual Avg.	0	11.4 – 69.6	ppb	By-product of drinking water chlorination
City of Grand Haven	**No**	8.0			<1.0 – 19.0 **(2)**										
G.H. Charter Twp.	**No**	2.0			<1.0 – 24.0 **(1)**										
Spring Lake Twp.	**No**	3.0			<1.0 – 5.0		**Copper and Lead testing performed once every 3 years.** ***and*** **Highest Level Detected = 90th Percentile.** From 2007 Next scheduled testing period is 2010								
Village of Spring Lake	**No**	4.0			<1.0 – 5.0										
City of Ferrysburg	**No**	5.0			<1.0 – 8.0										
Crockery Twp.	**No**	1.0			<1.0 – 1.0										
COPPER			AL=1300	1300		ppb		Haloacetic Acids (HAA5) (1 maximum resident time sample and 3 average resident time samples)	**No**	**Highest Running Annual Avg. = 26.8**	**60** Compared To Running Annual Avg.	0	4.9 – 70.1	ppb	
City of Grand Haven	**No**	52.0			9.0 – 57.0										
G.H. Charter Twp.	**No**	55.0			6.0 – 98.0										
Spring Lake Twp.	**No**	67.0			8.0 – 112.0										
Village of Spring Lake	**No**	213.0			26.0 – 351.0										
City of Ferrysburg	**No**	167.0			16.0 – 266.0										
Crockery Twp.	**No**	328.0			4.0 – 625.0										
REGULATED AND UNREGULATED MONITORING AT THE TREATMENT PLANT AND DISTRIBUTION SYSTEM															
Total Coliform Bacteria	**No**	0% System wide	Bacteria in 5% of the monthly samples		Coliform Bacteria was never detected	Presence or absence	Naturally present	**CHLORINE RESIDUALS** (distribution monitoring)							
Turbidity Lowest monthly % meeting the turbidity limits=100%	**No**	0.10 (July)	5.0 (TT)		0.06 – 0.10 (point-of-entry)	NTU	Soil Runoff	City of Grand Haven	**No**	**Highest Running Annual Avg. =1.39**	**MRDL** = 4.0	**MRDLG** = 4.0	Monthly Avg. 1.47 – 1.74	ppm	Water additive used to control microbes
Fluoride	**No**	1.2	4	4	No range values 1 sample/yr.	ppm	Water additive which promotes strong teeth	G.H. Charter Twp.	**No**				1.29 – 1.61		
								Spring Lake Twp.	**No**				1.01 – 1.54		
								Village of Spring Lake	**No**				1.14 – 1.62		
								City of Ferrysburg	**No**				1.05 – 1.30		
								Crockery Twp.	**No**				1.17 – 1.90		
Nitrate	**No**	0.8	10	10	No range values 1 sample/yr.	ppm	Runoff from fertilizer and septic tanks	Chloride	**No**	21			No range values 1 sample/yr.	ppm	Mineral and nutrient erosion
Arsenic (2007)	**No**	Not Detected	10	0	No range values 1 sample/9 yrs.	ppb	Erosion of natural deposits	Sodium	**No**	13			No range values 1 sample/yr.	ppm	Mineral and nutrient erosion
Alpha emitters (2002) (Gross Alpha)	**No**	<0.7	15	0		pCi/L									
Barium (2001)	**No**	20.0	2000	2000		ppb									
Selenium (2001)	**No**	1.0	50	50		ppb									
Radium-226 & Radium-228 (2002)	**No**	<0.9	5	0		pCi/L									

For definitions of terms please see insert

2007 ANNUAL DRINKING WATER QUALITY REPORT

ANNUAL REPORT

NORTHWEST OTTAWA WATER SYSTEM

City of Grand Haven, Grand Haven Charter Township, Village of Spring Lake, City of Ferrysburg, Spring Lake Township and Crockery Township

Postal Customer

2007 ANNUAL DRINKING WATER QUALITY REPORT

NORTHWEST OTTAWA WATER SYSTEM

City of Grand Haven, Grand Haven Charter Township, Village of Spring Lake, City of Ferrysburg, Spring Lake Township and Crockery Township

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We're pleased to present to you this year's Drinking Water Quality Report. This report is designed to inform you about the quality of 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 are committed to ensuring the quality of your drinking water.

Our water source is Lake Michigan. Water is collected by submerged intakes and is pre-filtered as it enters the treatment facility. Our submerged intakes are located several feet under the lake bottom. Natural sand that is above the intakes provides the pre-filter barrier, which complements our direct filtration process.

We're pleased to report that your drinking water is safe and meets federal and state requirements. The Northwest Ottawa Water Treatment Plant routinely monitors for a variety of dissolved mineral and organic substances in your drinking water according to federal and state laws. The tables in this report show the results of our monitoring for the period of **January 1 - December 31, 2007.**

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of these substances. It's important to remember that the presence of these substances does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe drinking Water Hotline (800-426-4791).

Visit us on the web: http://www.grandhaven.org

The public is invited to attend the bimonthly Northwest Ottawa Water System (NOWS) Administrative Committee meetings held at the Water Plant Conference Room. Please call our staff at 847-3488 for the meeting schedule.

Tour Your Water Plant

We welcome and encourage the public to tour our facility. We provide a walking tour that takes you through the process of water treatment and laboratory testing. Larger groups are preferred. Tour is usually 45 minutes long.

Call our water facility operator at 847-3488 or 847-3487

Northwest Ottawa Water Treatment Plant
30 Sherman Street
Grand Haven, Michigan
Phone (616) 847-3487
Fax (616) 850-8738

Mailing Address for the above: 519 Washington Avenue
Grand Haven, Michigan 49417