

2008 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

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, 2008**.

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

Conservation

Tips on outdoor water conservation

1. Water your lawn only when it needs it. A good way to see if your lawn needs watering is to step on the grass. If it springs back up when you move, it doesn't need water. If it stays flat, start sprinkling, but don't over water that lawn! As a general rule, you should only have to water your lawn every five to seven days during the summer. The experts say that most lawns require about one inch of water per week from rain or sprinkling.
2. Deep soak you lawn. When you do water, do it long enough for the moisture to soak down to the roots where it will do the most good. A light sprinkling can evaporate quickly and tends to encourage shallow root systems. Applying at least 0.1 to 0.2 inches for each irrigation event, instead of over watering, can reduce turf disease and insects, depending on soil and temperature conditions.
3. Water during the cool parts of the day. Early morning generally or prior to the highest temperature of the day is better than dusk since it helps prevent growth of fungus.
4. Don't water the gutter, street or driveway. Position your sprinklers so water lands on the lawn or garden, not on paved areas. Also avoid watering on windy days.
5. Plant drought resistant trees and plants. Many beautiful trees and plants thrive with far less watering than other species.
6. Put a layer of mulch around trees and plants. Mulch will slow evaporation of moisture and discourage weed growth.
7. Consider dripping. When it comes to watering individual trees, flowerbeds, potted containers, or other non-grassy areas, consider applying water directly to the roots using low volume drip irrigation. This will reduce water waste through evaporation or runoff, and will prevent unwanted weeds from growing.
8. Use a broom, not a hose, to clean driveways and sidewalks.
9. Don't run the hose while washing your car. Clean the car with a pail of soapy water. Use the hose just to rinse it off.
10. Tell your children not to play with the hose and sprinklers. Without adult supervision, children end up leaving hoses and sprinklers on.
11. Be rain smart. Adjust your irrigation system as the seasons and weather change. Or better yet, install a shut-off device that automatically detects rain or moisture. These devices are inexpensive and enable you to take advantage of the water without having paying for it.
12. Check for leaks in pipes, hoses, faucets and couplings. Leaks outside the house may not seem as bad since they're not as visible. But they can be just as wasteful as leaks inside. Check frequently and keep them drip-free.

Did You Know?

Only 3% of the tap water we use on a typical day is used for drinking.

Households consume at least 50% of their water by lawn sprinkling. Inside, toilets use the most water, with an average of 27 gallons per person per day.

Use water.....and use it wisely!



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: Nephelometric 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 2.1 billion gallons in 2008

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:

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 Northwest Ottawa Water Treatment Plant 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 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 at 800-426-4791 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.

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 City of Grand Haven G.H. Charter Twp. Spring Lake Twp. Village of Spring Lake City of Ferrysburg Crockery Twp.	No No No No No No	8.0 2.0 3.0 4.0 5.0 1.0	AL=15	0	<1.0 – 19.0 (2) <1.0 – 24.0 (1) <1.0 – 5.0 <1.0 – 5.0 <1.0 – 8.0 <1.0 – 1.0	ppb	Corrosion of Household plumbing Copper and Lead testing performed once every 3 years. Highest Level Detected = 90th Percentile. From 2007 <u>Next scheduled testing period is 2010</u>	Total Trihalomethanes (TTHM) (1 maximum resident time sample and 3 average resident time samples)	No	Highest Running Annual Avg. = 39.1	80 Compared To Running Annual Avg.	0	12.6 – 78.1	ppb	By-product of drinking water chlorination
COPPER City of Grand Haven G.H. Charter Twp. Spring Lake Twp. Village of Spring Lake City of Ferrysburg Crockery Twp.	No No No No No No	52.0 55.0 67.0 213.0 167.0 328.0	AL=1300	1300	9.0 – 57.0 6.0 – 98.0 8.0 – 112.0 26.0 – 351.0 16.0 – 266.0 4.0 – 625.0	ppb		Haloacetic Acids (HAA5) (1 maximum resident time sample and 3 average resident time samples)	No	Highest Running Annual Avg. = 30.3	60 Compared To Running Annual Avg.	0	<1.0 – 65.2	ppb	
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) City of Grand Haven G.H. Charter Twp. Spring Lake Twp. Village of Spring Lake City of Ferrysburg Crockery Twp.	No No No No No No	Highest Running Annual Avg. = 1.49	MRDL = 4.0	MRDLG = 4.0	Monthly Avg. 1.48 – 1.93 1.27 – 1.82 1.11 – 1.65 1.40 – 1.95 1.33 – 1.78 1.03 – 1.32	ppm	Water additive used to control microbes
<u>Turbidity</u> Lowest monthly % meeting the turbidity limits=100%	No	0.15 (January)	5.0 (TT)		0.05 – 0.15 (point-of-entry)	NTU	Soil Runoff	Chloride	No	13			No range values 1 sample/yr.	ppm	Mineral and nutrient erosion
Fluoride	No	0.91	4	4	No range values 1 sample/yr.	ppm	Water additive which promotes strong teeth	Sodium	No	9			No range values 1 sample/yr.	ppm	Mineral and nutrient erosion
Nitrate	No	0.8	10	10	No range values 1 sample/yr.	ppm	Runoff from fertilizer and septic tanks								
Arsenic (2007)	No	Not Detected	10	0	No range values 1 sample/9 yrs.	ppb	Erosion of natural deposits								
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									
Total of <u>75 Herbicides and Pesticides</u> were tested and all of the results were recorded as <u>Not Detected</u>											Not Detected	No range values 1 sample/3 yrs.	ppm	Runoff/leaching from land application & discharge from factories	
For definitions of terms please see insert															

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