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Grand Haven Charter Township

2009 Annual Drinking Water Quality Report

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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 stormwater runoff, industrial or domestic 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 byproducts 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. Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

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.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children may 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. 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 thirty seconds to two minutes before using water for drinking or cooking.

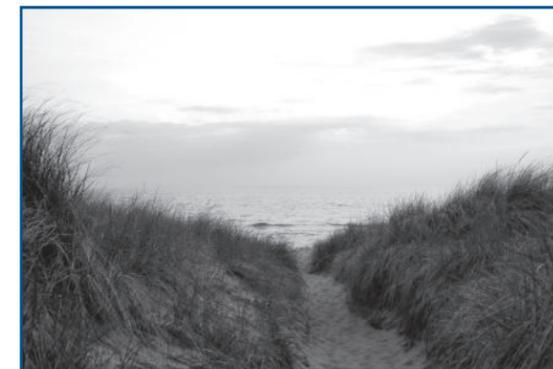
If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

DO YOU KNOW WHAT A PENNY WILL BUY?

One penny will deliver about seven gallons of drinking water to your home and family every day of the year.

FACT:
Northwest Ottawa Water System
Used Over 2.1 Billion Gallons
of Water in 2008

Grand Haven Charter Township is pleased to present this year’s Drinking Water Quality Report. This report is designed to inform you about the quality of the water we deliver to you everyday. 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

We boast about our pre-filtered water and consider it the best source in West Michigan.

Water is collected through submerged intakes located several feet under the bottom of Lake Michigan and is pre-filtered as it enters the treatment facility. The natural sand above the intakes provide the pre-filter barrier which compliments the plant’s direct filtration process.

We are pleased to report that your drinking water is safe and meets the Federal and State of Michigan drinking water health standards. The Northwest Ottawa Water System (NOWS) treatment plant and Grand Haven Charter Township routinely monitor for a variety of dissolved mineral and organic substances in your drinking water pursuant to state and federal laws.

This report is designed to give you detailed information which will ensure you of the quality of your drinking water. The tables in this brochure show the results of this monitoring from January 1st through December 31st, 2008.

If you have any questions about this report or your drinking water, please contact Public Services Director Mark VerBerkmoes at 842-5988 ext. 6313 or mverberkmoes@gh.org.

Moreover, to provide you with an opportunity for public participation in decisions — some of which might affect drinking water quality — the public is invited to attend the bi-monthly NOWS Administrative Committee meetings held at the Water Plant Conference Room. You may call Grand Haven Township for an up-to-date meeting schedule.

All drinking water – including bottled water – may be reasonably expected to contain at least a small amount of some contaminants. It’s important to remember that the presence of these substances does not necessarily indicate that the 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:

1-800-426-4791

EPA/CDC guidelines on appropriate means to lessen the risk of cryptosporidium and other microbial contaminants are also available from the Safe Drinking Water Hotline.

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.

The sources of drinking water (both tap and bottled water) include rivers, streams, lakes, 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.

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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 (MCL) - 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 (MCLG) - 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 is a good indicator of the 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 NOW 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, (MDRL). 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 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 disinfectant to control microbial contaminants.

Listed below are contaminants/substances detected in the Northwest Ottawa Water System. (Not listed are the hundreds of other contaminants for which we tested and that were not detected)

REGULATED MONITORING AT THE CUSTOMER TAP

Substance	Violation Yes/No	Highest Level Detected	Unit Measurement	Range of Detection	MCL	MCLG	Likely Source of Contamination
Lead (from 2007)	No	2.0	ppb	<1.0 — 24.0	AL=15	0	Corrosion of household plumbing systems Copper and Lead testing is performed once every three years and highest level detected = 90th percentile. The next scheduled testing period is 2010.
Copper (from 2007)	No	55.0	ppb	6.0 — 98.0	AL=1300	1300	

REGULATED AND UNREGULATED MONITORING AT THE TREATMENT PLANT AND DISTRIBUTION SYSTEM

Total Coliform Bacteria	No	0% System Wide	Presence or absence	Coliform Bacteria was never detected	Bacteria in 5% of monthly samples		Naturally present
Turbidity Lowest monthly % meeting the turbidity limits=100%	No	0.30 (January)	NTU	0.06— 0.30 (point-of-entry)	5.0 (TT)		Soil runoff (Turbidity is a measure of the cloudiness of the water.)
Fluoride	No	0.9	ppm	1 sample/ year	4	4	Water additive that promotes strong teeth
Nitrate	No	0.4	ppm	1 sample/ year	10	10	Runoff from fertilizer and septic tanks
Alpha emitters (2002)	No	<0.7	pCi/L	1 sample/ 9 years	15	0	Erosion of natural deposits
Arsenic (2007)	No	Not Detected	ppb	1 sample/ 9 years	10	0	
Barium (2001)	No	20	ppb	1 sample/ 9 years	2000	2000	
Selenium (2001)	No	1.0	ppb	1 sample/ 9 years	50	50	
Radium 226 & 228 (2002)	No	<0.9	pCi/L	1 sample/ 9 years	5	0	
Sodium	No	10.0	ppm	1 sample/ year			Mineral and nutrient erosion
Chlorine Residuals	No	1.54 avg.	ppm	1.30 — 1.67	MRDL= 4.0	MRDLG = 4.0	Water additive used to control microbes
Chloride	No	15.0	ppm	1 sample/year			Mineral and nutrient erosion
Total of 75 Herbicides and Pesticides were tested and all results were recorded as Not Detected.			ppm	1 sample/3 years		Not Detected	Runoff/leaching from land application & discharge from factories

REGULATED MONITORING IN THE DISTRIBUTION SYSTEM

Total Trihalomethanes (TTHM)	No	37.9 avg.	ppb	10.6– 82.7*	80 avg.	0	By-product of drinking water chlorination <small>*Includes Initial Distribution System Evaluation samples for Stage 2</small>
Haloacetic Acids (HAA5)	No	33.7 avg.	ppb	6.4 — 84.6*	60 avg.	0	

Tips on Outdoor Water Conservation



- 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 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.
- Deep soak your 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 water, can reduce turf disease and insects, depending on soil and temperature conditions.

- Water during the cool part 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.
- 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.
- Plant drought resistant trees and plants.** Many beautiful trees and plants thrive with far less watering than other species.
- Put a layer of mulch around trees and plants.** Mulch will slow evaporation of moisture and discourage weed growth.
- 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.
- Use a broom, not a hose to clean driveways and sidewalks.**
- 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.
- Tell your children not to play with the hose and sprinklers.** Without adult supervision, children end up leaving hoses and sprinklers on.
- 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 to pay for it.
- 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.
- Toilets use the most water with an average of 27 gallons per person per day.

Use water...and use it wisely!