The susceptibility of our source is “moderate”. A copy of the report can be obtained by contacting the Water Facilities Manager at 847-3487.

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 you have 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 Drinking Water Hotline at 800-426-4791 or at http://www.epa.gov/safewater/lead.

Methyl Tertiary Butyl Ether (MTBE): This gasoline additive has contaminated some drinking water supplies across the country. Our drinking water does not contain MTBE.


These models are available at tools that demonstrate sources of water pollution and prevention. The good news is that they are free of charge to borrow and use. Below are example organizations that have used these models:

- Schools (3rd thru 6th Graders)
- Church’s
- Environmental Groups
- Cub/Boy/Girl Scouts

All models have setup instructions and a teacher’s guide.

If you have any questions about this report or your drinking water, please contact the Water Facilities Manager: Joe VanderStel at 847-3487 or jvanderstel@grandhaven.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 quarterly NWS/ Administrative Committee meetings held at the Grand Haven City Hall Council Chambers. You may call the City of Grand Haven 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.

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 cryptosporidium and other microbial contaminants are also available from the Safe Drinking Water Hotline.

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.

The City of Ferrysburg 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.

Pictured above is Grand Haven’s widely recognized South Pier and “Cat-Walk.” A popular destination for visitors to the Tri-Cities.

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 complements 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 the City of Ferrysburg 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, 2017.

Continued from back page
### DEFINITIONS

- **Parts per million (ppm)** - A measurement of concentration. One part per million corresponds to one minute in two years.
- **Parts per billion (pppb)** - 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 a 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 Techniques
- 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 0.3 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** - picocuries 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 these contaminants.

### Grof Alpha emitters, Radon Exhaust & 222 & 228 - Radionucleide contaminants that give off ionizing radiation. The state allows NOWS to monitor for certain contaminants less than once per year. The concentration of these contaminants is 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 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.

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 TREATMENT PLANT

#### Substance
- **Substance**: pH, Turbidity, Chlorine Residuals (ppm), Fluoride, Chloride, Sodium, Sulfate, Gross Alpha, Radium 226 & 228, Barium, Selenium, Arsenic, Nitrate, Direct Cyanide

#### Unit Measurement
- **Unit Measurement**: ppm, NTU

#### Range of Detection
- **Range of Detection**: 1 sample/3 yrs., Non-Detected

#### MCLG
- **MCLG**: 0, 0.10, 0.19, 0.79, 0.19, 12, 20, 2, 2, 20, 1, 2, 1, 1, 1, 10

#### Likely Source of Contamination
- **Likely Source of Contamination**: System Wide, 0% System Wide, Presence or Absence, Never detected, 5% of monthly samples, Naturally present

### REGULATED MONITORING AT THE CUSTOMER TAP

#### Substance
- **Substance**: Lead, Copper

#### Unit Measurement
- **Unit Measurement**: ppb

#### Range of Detection
- **Range of Detection**: 0 to 0, 0 to 27

#### MCLG
- **MCLG**: AL=15, AL=1300

#### Likely Source of Contamination
- **Likely Source of Contamination**: Corrosion of household plumbing systems, Copper and Lead testing is performed once every three years and the highest level detected = 90th percentile. The next scheduled testing period is 2015.

### REGULATED AND UNREGULATED MONITORING AT THE TREATMENT PLANT AND DISTRIBUTION SYSTEM

#### Substance
- **Substance**: Total Coliform/Coli Bacteria, Chlorine Residuals (system wide), Fluoride, Chloride, Sodium, Sulfate, Gross Alpha, Radium 226 & 228 (2015), Barium, Selenium, Arsenic, Nitrate, Available Cyanide

#### Unit Measurement
- **Unit Measurement**: ppm, pCi/L

#### Range of Detection
- **Range of Detection**: 0.01 to 0.10 Yearly Avg. = 0.02, 0.12 to 1.92, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year, 1 sample/ year

#### MCLG
- **MCLG**: Sodium, Chloride, Gross Alpha, Radium 226 & 228 (2015), Barium, Selenium, Arsenic, Nitrate, Available Cyanide

#### Likely Source of Contamination
- **Likely Source of Contamination**: Soil runoff, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks, Runoff from fertilizer and septic tanks

### REGULATED MONITORING IN THE DISTRIBUTION SYSTEM

#### Substance
- **Substance**: Total Trihalomethanes (TTHM), Haloacetic Acids (HAAs)

#### Unit Measurement
- **Unit Measurement**: LRAA, LRAA

#### Range of Detection
- **Range of Detection**: 19 to 38, 10 to 43

#### MCLG
- **MCLG**: 80, 60

#### Likely Source of Contamination
- **Likely Source of Contamination**: By-product of drinking water chlorination, Compliance is based on a Locational Running Average Annual (LRAA)

### 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.

### pH Values
- **pH Values**: 6, 7, 8, 9

### Alkalinity in Parts per Million
- **Alkalinity in Parts per Million**: Zone of Deposition, Intermediate Zone of Corrosion, Curve of values necessary to produce a coating of calcium carbonate, Curve of values necessary to prevent iron stains.

### Drinking Water Stability and Corrosion

**Is your drinking water corrosive?**

**NOWS Tap Water Yearly Average pH Value = 7.9**

**NOWS Tap Water Yearly Average Alkalinity Value = 129 ppm**

From these results water falls into the zone of deposition/calcium carbonate coating. This coating is critical to customers in controlling possible “lead” contamination.