



Water Quality Report *for* 2010



Reading Your Water Quality Report

Each year, the Holland Board of Public Works distributes a water quality report to the public. Formally known as the Consumer Confidence Report, this document is a result of a Federal regulation passed by the U.S. Environmental Protection Agency as part of the 1996 Safe Drinking Water Act Amendments, requiring that all community water systems provide customers with an annual water quality report by July 1 of each year.

Most of the content of this report is mandated. The primary focus of this piece, however, is the water quality table (see page 3) that lists the results of year-round monitoring for more than 200 water constituents. Only the constituents that are found are listed in the table.

This annual Drinking Water Quality Report provides you with an overview of those results and of the quality of drinking water delivered to you during the period of January 1 through December 31, 2010. This report not only provides information about the quality of your drinking water, but also about its source, treatment, monitoring and more.

We are pleased to inform you that the Holland Board of Public Works had zero violations of any standards during the 2010 calendar year. The substances which were detected were all well below the levels allowed by the Environmental Protection Agency (EPA).

We hope this annual report will provide helpful information about the water you rely on for your daily needs.

Amount of Treated Water Consumed in 2010:

3.68 billion gallons

A treatment process that focuses on health

How Your Water Is Treated and Monitored

Your water system consists of several major components: source, treatment, and distribution. The Holland Water Treatment Plant draws fresh water from Lake Michigan through an intake structure. The intake pipe delivers the water to the plant where it is then mixed with: sodium hypochlorite for disinfection, fluoride to help prevent tooth decay, and followed with the addition of alum to aid in removing particles. The water is then moved to one of the Holland BPW tanks where it sits for a period of time during which particles are settled out of the water.

The water then goes through a sand and carbon filter.

Following the completion of testing and treatment, the water is then pumped into large mains, which carry the water to the HBPW distribution system, and is then delivered to our customers' tap.

At each step, HBPW water professionals make sure that the system is working as it should. Specially trained operators continually monitor the entire process so that

you have a reliable supply of safe drinking water. In-plant samples are collected and tested on site throughout the day and night by a certified operator. Online analyzers monitor the process on a continuous basis.

In addition, samples of the treated water are regularly collected from various locations throughout the distribution system and analyzed for many organic and inorganic substances.

The Holland Board of Public Works, a community-owned utility, operates the Holland Water Treatment Plant. The HBPW provides electric, broadband, water, and wastewater treatment to the greater Holland, Michigan area.

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Definitions

The following definitions may be helpful in your understanding of this report.

90th Percentile: 90 percent of the samples were below the number listed. (Copper = 0.042 ppm; Lead = 0.0 ppb)

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

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the maximum contaminant level goal as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

N/A: Not applicable.

Nephelometric Turbidity Units (NTU): A measurement of the clarity of water. The HBPW monitors it because it is a good indicator of the effectiveness of our filtration system.

Parts Per Million (ppm), Parts Per Billion (ppb): The maximum contaminant level (MCL) means the maximum amount allowed for certain contaminants. MCLs are measured in either parts per million or parts per billion. Listed are some comparisons to help define these measurements:

| | |
|-------------------------------------|-------------------------------------|
| One part per million equals: | One part per billion equals: |
| One inch in 16 miles | One inch in 16,000 miles |
| One minute in two years | One second in 32 years |
| One cent in \$10,000 | One cent in \$10 million |

Unregulated Contaminants: Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of the unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Areas Served By the Holland BPW



Please **share this report with others.**

Landlords and businesses are encouraged to share this report with non-billed water users.

Percent of U.S. residents who receive their water from public water facilities:

85%

Your Opinion Counts

The venture into municipal ownership of public utilities began in 1883, with the City of Holland proposing a bond to cover the cost of construction for a waterworks system. Since this beginning, the Holland BPW has been responsive to the needs and opinions of our residents and customers.

Your opinion counts. Public board meetings are held at the HBPW Service Center located at 625 Hastings Avenue (just west of US 31) on the Monday (between the first and third Wednesday) of each month at 4:00 pm. We recommend that you call to confirm the meeting time and date, prior to attending or visit our website at www.hollandbpw.com for the exact date and time of the meetings.

The Safe Water Drinking Act

Helps protect you every day when you turn on the tap.

Every day we take water for granted, but tap water quality, convenience and value is not taken lightly by the people who ensure it is safe and available when you want it.

The Safe Drinking Water Act (SDWA) was passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. Amended in 1986 and 1996, the law requires many actions to protect drinking water and its sources. It authorizes the United States Environmental Protection Agency

(US EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The EPA, states, and water systems then work together to make sure that these standards are met.

Originally, SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for

water system improvements, and public information as important components of safe drinking water.

The SDWA applies to every public water system in the U.S. The US EPA sets the national standards based on sound science to protect against health risks, considering available technology and costs. Each standard also includes requirements for water systems to test for contaminants in the water to make sure standards are achieved.

The Michigan Department of Environmental Quality has the authority to directly oversee water systems in our state. Acting as a primacy agent, they make sure water systems test for contaminants, review plans for water system improvements, conduct on-site inspections and sanitary surveys, provide training and technical assistance.

So the next time you turn on the tap, think about the water. A lot of effort goes into bringing you safe, reliable water. **Use it responsibly.**

Water Quality Test Results for 2010

Water Main Pipe in the HBPW System:

239 miles

Average life of a water main is about 50 years. The HBPW has some water mains that have operated without major incident for over 100 years. Roughly 25% of the water main is over 50 years old. Although the water system may be operating great today, much of the system is coming of age.

The Holland Board of Public Works is committed to providing safe, dependable, quality drinking water 24 hours a day, 365 days a year. As a state certified microbiological laboratory, the HBPW's Water Treatment Plant in conjunction with three independent laboratories, conducted over 50,000 tests encompassing more than 200 contaminants during the year 2010.

Our water professionals are focused on providing the highest quality water, which is why we regularly test samples collected from our treatment plant and throughout the water distribution system. This Report details only those contaminants that were detected in the treated water delivered to you in 2010.

Additionally, each month the Holland Board of Public Works voluntarily tests the water coming into the treatment plant for the presence of cryptosporidium.

This testing is not required by state or federal authorities, but is done to ensure that our drinking water is the highest quality possible. Cryptosporidium is a protozoan parasite that is too small to be seen without a microscope. It is sometimes found in surface waters, especially during periods of storm water runoff. Those who are infected with this parasite may experience gastrointestinal illness. The Holland BPW did not detect any cryptosporidium in the water supply.

The HBPW has consistently safeguarded its water supply and maintained a system which has never violated a maximum contaminant level or any other water quality standard.

The table below lists the Environmental Protection Agency's (EPA) regulated and unregulated contaminants detected in Holland's drinking water during the period of 2010. **All of the contaminants are well BELOW allowed levels.** Not listed are over 200 other contaminants, including pesticides and herbicides, for which we tested and that were not detected. Results of these 2010 tests and early 2011 tests are available by contacting the Holland BPW at 616.355.1500.

Water Quality Data *for* 2010

| Substance (units) | Highest Level Detected | EPA'S MCL | EPA'S MCLG | Violations | Range of Detection |
|--|--|---|---|------------|--------------------|
| REGULATED AT THE WATER TREATMENT PLANT | | | | | |
| Fluoride (parts per million) | 1.32 | 4.0 | 4.0 | None | 0.58 - 1.32 |
| Nitrate (parts per million) | 0.50 | 10.0 | 10.0 | None | 0.40 - 0.50 |
| Turbidity (NTU) | 0.07 | 1.0 | N/A | None | 0.02 - 0.07 |
| Total Organic Carbon (TOC) | The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each quarter and because the level was low, there is no requirement for TOC removal. | | | | |
| REGULATED AT CUSTOMER'S TAP | | | | | |
| Copper (parts per million)-distribution. Tested 8/2010. | 0.042 90th Percentile | 1.3 Action Level | 1.3 | None | 0.0 - 0.067 |
| Lead (parts per billion)-distribution. Tested 8/2010. | 0.0 90th Percentile | 15 Action Level | 0 | None | 0.0 - 6.0 |
| REGULATED IN THE DISTRIBUTION SYSTEM | | | | | |
| Chlorine [Cl ₂] (parts per million) (Highest Running Annual Average = 0.86) | 1.48 | 4.0 Maximum Residual Disinfectant Level (MRDL) | 4.0 Maximum Residual Disinfectant Level Goal (MRDLG) | None | 0.07 - 1.48 |
| Total Trihalomethanes [TTHM] (parts per billion) (Highest Running Annual Average = 35) | 48.0 | 80 | 0 | None | 14.0 - 48.0 |
| Halo Acetic Acids [HAA] (parts per billion) (Highest Running Annual Average = 25) | 33.0 | 60 | None | None | 11.0 - 33.0 |
| Total Coliform Bacteria | 0 | <5% | 0% | None | 0 |
| UNREGULATED CONTAMINANTS | | | | | |
| These are contaminants for which the EPA has not established drinking water standards. The purpose of the unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether further regulation is warranted. | | | | | |
| Sodium (parts per million) | 13.0 | Not Regulated | Not Regulated | None | 8.0 - 13.0 |

The Holland BPW performed additional testing for other unregulated contaminants; no detections were found. Results of these 2010 tests are available by contacting the Water Treatment Plant at (616) 355-1589.

What you should know about Contaminants That May Be Present in Untreated Water

The Holland Board of Public Works met all federal and state drinking water regulations without exception during 2010. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some minerals and other constituents considered contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk.

Federal law requires that the highest level of any contaminant detected in our treated water be reported to you. Those results are listed in this document.

Federal law also requires that we explain the contaminants that may be present in source water (untreated water), not just Lake Michigan which is the source for the Holland water system, but other types of source water as well.

The sources of drinking water (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 expected to be in source (untreated) water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from urban activities, 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, or farming.

agriculture, urban storm water runoff and residential uses.

- **Synthetic and volatile organic chemical contaminants**, which are by-products of industrial processes and petroleum production, and can come from gasoline stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or the result of industrial activities.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that 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 similar protection for public health.

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).

Amount of Water in the HBPW
Waverly Water Tank:

80 million glasses

Source Water Assessment

The Federal Safe Drinking Water Act was amended in 1996 and requires states to develop and implement source water assessment programs to analyze existing and potential threats to the quality of public drinking water throughout the state.

The State of Michigan performed a Source Water Assessment of the Holland BPW's water source (Lake Michigan) in 2003 to determine the susceptibility or relative potential for contamination. The susceptibility rating is on a six-tiered scale ranging from "very-low" to "high" based primarily on geologic sensitivity, water chemistry and contamination sources. The State rated the HBPW's intake as "moderately sensitive" and the source water as having a "moderately high" susceptibility to contamination. The State identified 364 potential sources of contamination within the total watershed of 175 square miles that could impact our water source.

The report further states, "historically the Holland Board of Public Works Water Treatment Plant has effectively treated this water source to meet drinking water standards. There have been no detections of synthetic or volatile organic contaminants in the system's raw water." A copy of the full report can be obtained by contacting the Holland Board of Public Works.

Number of Fire Hydrants
maintained by the HBPW:

2,320

Lead in Your Drinking Water

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 HBPW is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When 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 or at <http://www.epa.gov/safewater/lead>.

Customers with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health-care providers. The Environmental Protection Agency/Center for Disease Control offers guidelines on appropriate means to lessen the risk of infection from cryptosporidium and other microbial contaminants. These are available by calling the Safe Drinking Water Hotline at 800/426.4791.

Drinking Water Resources

Questions regarding this report should be directed to Water Management staff at the Holland BPW Water Treatment Plant, contact:

Holland Water Treatment Plant
46 N. Lakeshore Drive
Holland, Michigan 49424
TEL: 616/355.1589

To report a water emergency, call:
616/355.1500.

To arrange a tour of facilities, call
616/355.1589.

For information on water conservation, visit our web site: **www.hollandbpw.com**.

Environmental Protection Agency's Safe Drinking Water Hotline Number, call: 800.426.4791 or visit their web site at **www.epa.gov/ogwdw**

American Water Works Association, call: 800.926.7337, **www.awwa.org**

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