

2005

# Annual Water Quality Report

for 2004



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## A Message to Our Customers

Water is essential to our lives. Its availability, its quality and its use are important issues for each of us. This report is being provided to you as a requirement by the Environmental Protection Agency (EPA), and because the Holland Board of Public Works (HBPW) wants you to know about our water quality results for 2004. The Holland BPW had no Safe Drinking Water Act violations in 2004. Our test results confirm that your tap water not only meets federal and state standards for drinking water, but in most cases, it surpasses them. Every day we deliver, on average, 12,500,000 gallons of high quality water to over 50,000 people throughout the area.

Our water professionals are focused on providing the highest quality water, which is why we routinely test from samples collected from our source of supply, treatment plant and distribution system. Holland BPW's Water Treatment Plant, in conjunction with three independent laboratories conducted over 50,000 tests encompassing more than 200 contaminants during the year 2004. This 2004 Water Quality Report details only those contaminants that were detected in the treated water delivered to you during the period of January 1 through December 31, 2004.

The Holland Board of Public Works is affiliated with the American Water Works Association (AWWA), the American Water Works Research Foundation and the Michigan Section of AWWA. Composed of more than 57,000 water supply professionals, AWWA gives us access to a wealth of timely and accurate resources, research information, and professional development.

Holland Board of Public Works employees are on the job 24 hours a day to assure that you and your family receive high quality, dependable water. This is performed at a cost that is a real savings to you. One dollar buys 1,000 gallons of our water that can be delivered to you 24 hours a day, 365 days a year. Compare that to the cost of any bottled water on the market and we believe that you will conclude that the HBPW's water and service quality are truly a good value!

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

Holland Board of Public Works

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo o hable con alguien que lo entienda bien.



# Understanding this Report

The 2004 Water Quality Report, also known as the Consumer Confidence Report (CCR) is a federally mandated document, which provides up to date information regarding water quality data.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 1/800/426.4791 or visit their web site at [www.epa.gov/ogwdw](http://www.epa.gov/ogwdw).

For more information about this report, or for questions relating to your drinking water, please call the Water Treatment Plant, at 616/399.9410.

The table below lists the Environmental Protection Agency's (EPA) regulated and unregulated contaminants detected in Holland's drinking water during 2004. **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.**

Substance (units)	Highest Level Detected	EPA's MCL	EPA's MCLG's	Violations	Range of Detection	How it Gets in the Water
<b>Regulated at the Water Treatment Plant</b>						
Fluoride (ppm)	1.25	4	4	No	0.65-1.25	Additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (ppm)	0.80	10	10	No	0.50-0.80	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits
Turbidity (NTU)	0.10	1	n/a	No	0.03-0.10	Soil runoff
Total Organic Carbon	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 month and because the level was low, there is no requirement for TOC removal.					Naturally present in the environment
<b>Regulated at the Customer's Tap</b>						
Copper (ppm) - distribution* -- tested 9/4/04	0.057 90th Percentile	1.3 Action Level	1.3	No	<0.004-0.097	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) - distribution* -- tested 9/4/04	2.0 90th Percentile	15 Action Level	0	No	<1-8	Corrosion of household plumbing systems; erosion of natural deposits
<b>Regulated in the Distribution System</b>						
Chlorine [Cl <sub>2</sub> ] (ppm) (Cl <sub>2</sub> Running Annual Average = 0.87 ppm)	1.56	4.0 MRDL	4.0 MRDLG	No	0.15 - 1.56	Water additive used to control microbes
Total Trihalomethanes [TTHM] (ppb) (TTHM Running Annual Average = 25.4 ppb)	46.2	80	0	No	10.7 - 46.2	By-product of drinking water chlorination
Haloacetic Acids[HAA] (ppb) (HAA Running Annual Average = 19.0 ppb)	29.0	60	n/a	No	9.0 - 29.0	By-product of drinking water chlorination
Total Coliform Bacteria (% Positive Samples per Month)	4 %	5 %	0 %	No	0 - 4 %	Naturally present in the environment
<b>Unregulated Contaminants</b>						
Sodium (ppm)	12.0	n/a	n/a	No	8.0 - 12.0	Naturally occurring mineral
The Holland BPW performed additional testing for other unregulated contaminants. No detections were found. Results of these 2004 tests and early 2005 tests are available by contacting the Water Treatment Plant at 616/399.9410.						
<b>Table Footnotes</b>						
* Holland had zero sites that exceeded the action levels for lead or copper.						
<b>Key Terms and Abbreviations:</b>						
Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.					
MCL	Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.					
MCLG	Maximum Contaminant Level Goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency, and allow for margin of safety.					
MRDL	Maximum Residual Disinfectant Level is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.					
MRDLG	Maximum Residual Disinfectant Level Goal is the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.					
na	Not applicable.					
NTU	Nephelometric Turbidity Units A measure of the clarity of water.					
90th Percentile	90 percent of the samples were below the number listed.					
ppb	Parts per billion					
ppm	Parts per million					
Turbidity	A measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.					
Unregulated Contaminants	Are those for which 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.					

# 2004 Water Quality Test Results

# Where Your Drinking Water Comes From. How it is Treated & Monitored.

The Holland Water Treatment Plant draws fresh water from Lake Michigan through an intake structure located near the shoreline. An intake pipe delivers the water to the plant. The water is then mixed with sodium hypochlorite for disinfection, with fluoride to help prevent tooth decay, and followed with the addition of alum to aid in removing particles. The water then moves to one of four tanks where it sits for a period of time during which particles are settled out.

Next, the water is filtered through sand and anthracite coal.

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

Plant operators monitor water quality extensively at each stage of the water treatment. In-plant samples are collected and tested on site throughout the day and night by a certified operator. On-line analyzers monitor the process on a continuous basis.

Additionally, samples of the treated water are regularly collected from various locations throughout the distribution system and are analyzed to assure its quality and safety.

The Holland BPW 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 HBPW is pleased to provide this information and would be happy to answer any questions regarding the quality of the drinking water.



## Parts Per Million?

Many consumers find water regulations and drinking water quality reports difficult to understand. MCL stands for 'maximum contaminant level' and defines the highest level of contaminant that is allowed in drinking water. MCLs are defined in parts per million or parts per billion. What does this mean? Listed are comparisons of these measurements:

One part per million equals:

- One inch in 16 miles
- One minute in two years
- One cent in \$10,000

One part per billion equals:

- One inch in 16,000 miles
- One second in 32 years
- One cent in \$10 million



## For Customers with Special Health 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 from their health care providers. Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection from cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## Source Water Assessment

The source of the City of Holland's water is Lake Michigan. The State of Michigan performed a Source Water Assessment of the HBPW's water source in 2003 to determine the susceptibility or relative potential for contamination. The susceptibility rating is on a six-tiered scale 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."

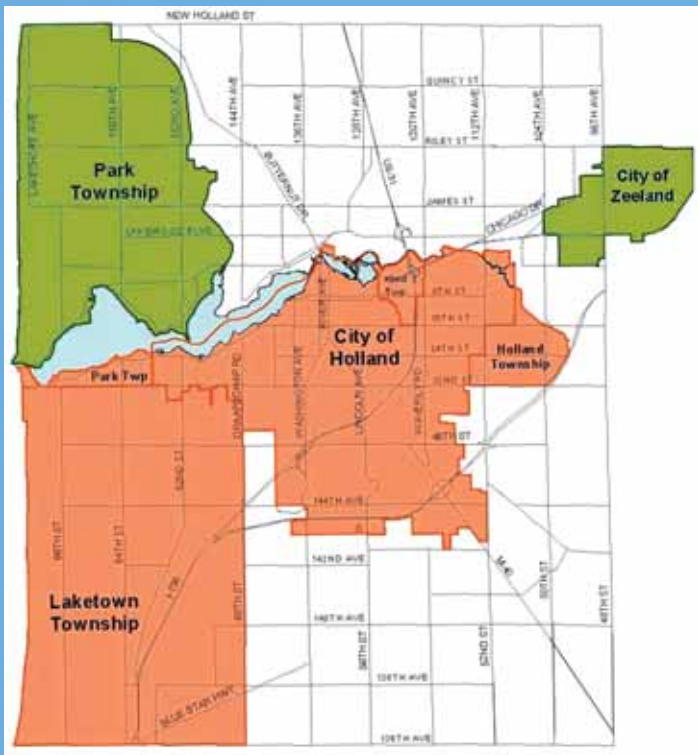
A copy of the full report can be obtained by contacting the Water Treatment Plant at 616/399.9410.

## HBPW Tests for Cryptosporidium

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 Cryptosporidium in 2004.

# Water Service Areas



■ Retail      ■ Wholesale

To learn more about the efforts to assure that our drinking water meets all federal and state standards, visit our website at [www.hollandbpw.com](http://www.hollandbpw.com), or the Environmental Protection Agency's Website at [www.epa.gov/safewater/](http://www.epa.gov/safewater/)

**To report a water emergency, call:**  
HBPW 24-hour line, 616/355.1500.

**For water system information, contact:**  
Holland Water Treatment Plant  
46 N. Lakeshore Drive  
Holland, Michigan 49424  
616/399.9410  
616/355.1559 FAX  
[www.hollandbpw.com](http://www.hollandbpw.com)

John Van Uffelen, P.E., Director, Water/Wastewater  
James Van De Wege, Water Plant Superintendent

**For more information on other water-related issues, contact:**  
US EPA Safe Drinking Water Hotline .....800/426.4791  
EPA Web site.....[www.epa.gov/ogwdw](http://www.epa.gov/ogwdw)



## Contaminants That May Be Present In Untreated Water

**The Holland Board of Public Work's drinking water met all federal and state drinking water standards in 2004.** However, 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 that is the source for the Holland water system, but other types of source water as well.

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 and 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 might be expected to be in source water (untreated 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 storm water 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 storm water 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 storm water 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, the EPA prescribes regulations which set limits on the amount of certain contaminants in water provided by public water systems.

The Federal Drug Administration regulations also establish limits for contaminants in bottled water, which must provide the same protection for public health.

# We Want Our Customers to be Informed

Attend our regularly scheduled meetings normally held the third Monday of each month at 4:00 p.m., 625 Hastings Avenue, Holland, Michigan. The meeting date is subject to change, so it is recommended that you call (616/355.1500) to confirm the exact time and date of the meeting.

Landlords and businesses are encouraged to share this report with non-billed water users. Additional copies of this report for posting in common areas or on bulletin boards are available by calling the HBPW's Communications Department at 616/355.1576.



This Water Quality Report is printed entirely on recycled material. Soy ink, rather than petroleum-based ink, is used throughout.



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