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City of Rochester, New York
Hemlock Filtration Plant
7412 Rix Hill Road
Hemlock, NY 14466



City of Rochester, New York

Bureau of Water

2007 Water Quality Report

Water Supply ID# NY2704518

Delivering
**pure and
wholesome
drinking
water right
to your home
everyday.**



Robert J. Duffy, Mayor
City of Rochester, NY

The Rochester Water Bureau is pleased to provide you with this report on the quality of your drinking water. The report provides news on your water system, and describes the source of your drinking water, its treatment and test results.

MAJOR DECISIONS EXPECTED IN 2008.

In 2008, the City will finalize its plans for compliance with an Environmental Protection Agency (EPA) regulation that will impact the City's three drinking water storage reservoirs. Updates on this important project will continue to be made available on the City's website <http://www.cityofrochester.gov>.

WHERE DOES MY WATER COME FROM?

Since 1876, Rochester residents have relied upon Hemlock and Canadice Lakes for their drinking water supply. The City supplements its water supply with Lake Ontario water purchased from Monroe County Water Authority (MCWA.) This water is treated at MCWA's Shoremont Treatment Plant located on Dewey Avenue www.MCWA.com.

HOW IS MY WATER TREATED AND DELIVERED?

The Hemlock and Shoremont treatment plants both employ similar treatment processes involving coagulation, filtration, and disinfection. During coagulation, chemicals are added to untreated water, causing the natural occurring particulates to clump together into larger particles called floc. The floc is removed by filtration, and the water is then disinfected through addition of chlorine. It is also fluoridated for consumer dental health benefits.

Water treated at the Hemlock Filtration Plant flows to the city by gravity through three, large 100 year-old pipelines. Along the way, water is sold wholesale to water districts in the towns/villages of Livonia, Lima, North Bloomfield, Richmond and also to the MCWA, who in turn supply it to several communities. A large volume of treated water is stored in the City's three open reservoirs. It is re-disinfected as it exits each reservoir and enters a complex grid (over 500 miles) of water mains that distribute the water to city homes and businesses.



Lake Ontario water is pumped into the city distribution system primarily in the area of Mt. Read Blvd. and West Ridge Rd. The volume of purchase varies from 0 to 30 million gallons per day (MGD), depending on the season. Some areas of the City may receive either Hemlock Lake or Lake Ontario water, or a mixture of both, depending on the season and the prevailing pattern of demand.

WHAT TYPES OF WATER SYSTEM IMPROVEMENTS WERE COMPLETED OR INITIATED IN 2007?

We re-invested roughly \$6 million into our water system last year. Projects included cleaning and cement lining over 37,000 feet of aging cast-iron mains as well as the complete replacement of 6,000 feet of mains. A 25 mile segment of the old transmission pipe was subjected to a system that uses electrodes and electrical currents to suppress corrosion on the exterior of the pipe.

2007 STATISTICS

The average production at the Hemlock Filtration Plant was 37.0 million gallons per day (MGD). Consumption in the city averaged 22.6 MGD for its population of 219,000, which represents 60,200 retail accounts. Wholesale sales to upland communities, including MCWA, averaged 19.1 MGD. Lost water, which is the portion of water put into the system that cannot be accounted for by metered sales or other permitted uses, was 8.6. The Base Charge for water was \$2.77/1000 gals.

SHOULD I BE CONCERNED ABOUT CHEMICAL CONTAMINANTS IN MY WATER?

We have found no chemical contaminants in our water at levels that raise concern. Please understand that all drinking water, including bottled water, contains at least small amounts of impurities. The mere presence of a chemical does not mean there is a health risk, and in fact, some substances such as chlorine and fluoride



HOW CAN I SAVE MONEY ON WATER?

Simple changes in your daily routine can save you money on your water bill and also reduce stress on the environment. Always fix dripping and leaking faucets, toilets and garden hoses. Log on to <http://www.dec.state.ny.us/website/dow/whatdo.html> for more conservation tips.

are added to the water supply for health reasons. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at **1-800-426-4791**.

HOW DO CONTAMINANTS GET INTO THE WATER?

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and underground aquifers. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material. It can also pick up contaminants that result from the presence of animals and from human activities. These contaminants may include: microbial and inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and, radioactive substances.

WHAT KINDS OF TESTING WERE PERFORMED ON OUR DRINKING WATER, AND HOW WELL DID ROCHESTER COMPLY WITH THE HEALTH DEPARTMENT STANDARDS FOR WATER QUALITY?

Your water was tested for more than 130 types of regulated biologic agent and chemical compounds in 2007. Samples were collected from all stages of the system, including the source (streams and lakes), various steps in the treatment process, the storage reservoirs, and from the customers' taps.

On August 19, 2007, our water system violated a drinking water "treatment technique" standard that involved the disinfection of water at Highland Reservoir. A four hour lapse in the chlorination process resulted in water leaving the reservoir with chlorine levels below the regulatory limit of 0.2 mg/L. Only a small area downstream of the reservoir was affected. Fire hydrants in the area were flushed to remove the non-chlorinated water from the mains. Additionally, numerous water samples were collected for bacteria tests and all test results were negative. Steps have been taken to prevent future failures.

HOW CAN I FIND OUT MORE ABOUT FEES AND WATER SERVICE RELATED ISSUES?

You may contact a customer service representative (24 hr) at **428-5990**. Learn more about Bureau services, fees, and contacts at: www.cityofrochester.gov/des/index.cfm?id=536.

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

WERE THE PROTOZOANS CRYPTOSPORIDIUM OR GIARDIA FOUND IN OUR WATER?

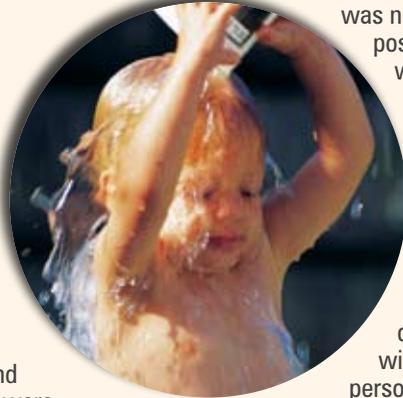
Water samples from Cobb's Hill Reservoir, Highland Reservoir and Hemlock Lake were tested for Cryptosporidium and Giardia. Test results for Cryptosporidium were negative. The Giardia test results were negative for the Cobb's Hill and Hemlock Lake samples, but positive for the Highland sample (1 cyst in 10L). A repeat sample from Highland Reservoir was negative for Giardia. At the time of the positive result, a large number of ducks were wintering on the ice and open water at Highland, which could explain the positive result. To discourage future duck activity, kevlar cables were strung above the water at Highland Reservoir and Cobb's Hill Reservoir.

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 their risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (**1-800-426-4791**).

IS THERE LEAD IN MY DRINKING WATER?

At-the-tap lead levels in the vast majority of Rochester households remain well below allowable limits, but the amount of lead present does vary by the age and types of plumbing materials found in individual households. Infants and young children are typically more vulnerable to the effects of lead than the general population. If you are concerned about elevated lead levels in water, call us at 428-6477. You can minimize your lead intake from water by simply allowing the tap to run for one or two minutes before use. For more information about lead in drinking water, call the Safe Drinking Water hotline at 1-800-426-4791, or log onto: www.epa.gov/safewater/lead/index.html.

A complete list of results for all substances tested in 2007 is available at www.cityofrochester.gov (search for water quality), or by calling **428-6680**.



Substance	units	MCLG	MCL	Hemlock Average (range)	Ontario Average (range)	Likely Source	Meets EPA Standards
Barium	mg/L	2	2	0.018	0.020 (0.020-0.021)	Erosion of natural deposits	Yes
Chromium	ug/L	100	100	1.1	ND	Erosion of natural deposits	Yes
Fluoride	mg/L	NA	2.2	0.90 (ND-1.10)	0.85 (0.05-1.2)	Water treatment additive to promote dental health	Yes
Nitrate	mg/L	10	10	0.22 (0.15-0.33)	0.34 (0.28-0.40)	Fertilizers; erosion of natural deposits; septic tank leachate	Yes
Chloride	mg/L	NA	250	31 (28-33)	25 (21-26)	Natural deposits; road salt	Yes
Sodium	mg/L	NA	NA	17	14 13-14	Natural deposits, road salt, water treatment chemicals	NA
Sulfate	mg/L	NA	250	16 (15-17)	29	Natural deposits	Yes
Treatment Requirements —95% of samples each month must be less than 0.3 NTU. Range and lowest monthly percentage are listed. Turbidity is a measure of water clarity and is used to gauge filtration process.							
Turbidity Entry Point	NTU	NA	TT	100% (0.05-0.22)	100% (0.03-0.10)	Soil Runoff	Yes
Bacteria —The maximum and average % positive are listed. Total Coliform is a group of bacteria used to indicate the general sanitary conditions in a water system. Most species of this group do not present a health concern, but one species, <i>E. coli</i> can be pathogenic. In 1993, the State Health Department granted the City a “biofilm variance,” or exception to the Total Coliform MCL. Biofilm is a layer of bacteria that can be found on almost all surfaces, including the inside wall of water pipes. The variance does not apply to <i>E. coli</i> .							
Total coliform	% Positive	0	5%	2.4% 0.5%	NA	Naturally occurring	Yes
Disinfectant and Disinfectant By-products (DBPs) Average and Range are listed. *Chlorine has a MDRL (Maximum Disinfectant Residual Level) and MDRLG (MDRL Goal) rather than an MCL and MCLG.							
Chlorine (entry point)	mg/L	4*	4*	0.87 (0.3-1.1)	1.0 (0.6-1.3)	Required treatment chemical	Yes
Total THMs	ug/L		80	38 (14-55)	NA	By-product of chlorination	Yes
Haloacetic Acids	ug/L		60	26 (3.4-44)	NA	By-product of chlorination	Yes
Lead and Copper (2006 results) —90% of samples must be less than the Action Level (AL) 90th percentile and the number of samples exceeding AL are listed. This replaces the MCL.							
Lead	ug/L	0	15	9.1 (6%)	NA	Corrosion of plumbing	Yes
Copper	mg/L	1300	1300	98 (0%)	NA	Corrosion of plumbing	Yes

Definition of Terms

- ug/L** **Micrograms per liter**— same as parts per billion (ppb); corresponds to one ounce in 7,812,500 gallons of water.
- AL** **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**— the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLGs as feasible.

- MCLG** **Maximum Contaminant Level Goal**— the level of a contaminant in drinking water below which there is no known or expected health risk, with allowance for a margin of safety.
- mg/L** **Milligrams per liter**— same as parts per million (ppm); corresponds to one ounce in 7812.5 gallons of water.
- ND** **Not Detected**— laboratory analysis indicates that the constituent is not present.
- NA** **Not Applicable**
- NTU** **Nephelometric Turbidity Unit**— a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.