



City of Rochester, New York

Dept. of Environmental Services
Bureau of Water

Water Supply ID# NY2704518

A close-up photograph of a young child with wet, brown hair drinking from a green garden hose. The child's face is in profile, with eyes closed and mouth open around the hose. Water is spraying out of the hose into the child's mouth. The background is a bright yellow wall.

2011 Water Quality Report

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 IN 2011

The City entered into a 25-year water exchange agreement with the Monroe County Water Authority (MCWA), guaranteeing another generation of area residents and water customers an abundance of clean drinking water at a reasonable cost. The new “buy-sell” agreement enables the daily exchange of millions of gallons of water between the two systems at an established rate and optimizes the availability of water to the city and county. The agreement provides a price structure for exchanging water and sharing capital costs in a manner that benefits both parties. Under the new agreement, the City and MCWA will continue to share certain capital costs for system improvements that benefit the customers of both entities.

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 MCWA. This water is treated at MCWA’s Shoremont Treatment Plant located on Dewey Avenue www.MCWA.com. During 2011, both systems were in compliance with applicable State drinking water requirements.

The New York State Department of Health (NYSDOH) has evaluated the susceptibility of water supplies statewide for potential contamination under the Source Water Assessment Program (SWAP). Though their assessment of the Hemlock/Canadice Lake watershed identified several potential sources of contamination, none were particularly noteworthy. The City’s extensive testing of these pristine lakes confirms that contamination from human activity is negligible.

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 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. Like many other cities in the U.S., your water is also fluoridated. According to the U.S.

Centers for Disease Control (CDC), fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l. In 2011, fluoride treatment was interrupted for three months for system upgrades. For the remaining balance of the year with fluoride treatment, 772 fluoride tests were run and 98.5% of the results fell within the CDC’s optimum range.

Water treated at the Hemlock Filtration Plant flows to the city by gravity through three large 115-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, which in turn supplies 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 26 million gallons per day (MGD), depending on the season. Some areas of the City may receive



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.ny.gov/lands/5009.html> for more conservation tips.



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 2011?

The City reached the 50% completion mark for the Rush Reservoir Liner and Floating Cover project. This project is part of a \$25 million effort to bring our reservoirs into compliance with a new EPA regulation. Other projects completed included cleaning and cement lining over 8.6 miles of aging cast-iron pipes, primarily in the northwest and southwest parts of the city. The City also engaged a consulting engineering firm to evaluate the viability of the Holly fire protection system. The Holly system is a separate high-pressure water distribution system mostly used for fire protection. Included in the study was a financial assessment of present and future costs to maintain the system in operation as opposed to phasing it out and transferring current users to the domestic system. A recommendation is expected during 2012.

2011 STATISTICS

The average production at the Hemlock Filtration Plant was 36.68 MGD. Consumption in the city averaged 21.39 MGD for its population of 210,565, which represents 58,330 retail accounts. Wholesale sales to upland communities, including MCWA, averaged 18.8 MGD. Lost water, the portion of water put into the system that cannot be accounted for by metered sales or other permitted uses, was 7.7 MGD (21% of total amount produced). The Base Charge for water was \$3.13/1000 gals.

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

You may contact a 24-hr. customer service representative at **311**. Learn more about bureau services, fees, and contacts at: www.cityofrochester.gov/waterbureau/

SHOULD I BE CONCERNED ABOUT CHEMICAL CONTAMINANTS IN MY WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants and we have found no 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 contaminant does not mean there is a health risk, and in fact, some substances such as chlorine and fluoride 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** or **Monroe County Department of Public Health (MCDPH)** at **585-753-5469**.



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 may include microbial and inorganic contaminants; pesticides and herbicides; organic chemical contaminants; disinfection byproducts; and radioactive substances.

WHAT KINDS OF TESTING WERE PERFORMED ON OUR DRINKING WATER?

Your water was tested for more than 80 types of regulated microorganisms and chemical compounds in 2011. 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. All of our test results were in compliance with State drinking water requirements.

WERE THE PROTOZOANS *CRYPTOSPORIDIUM* OR *GIARDIA* FOUND IN OUR WATER?

No. All City and MCWA tests for these organisms in source waters were again negative in 2011. However, (continued on back panel)



Substance	units	MCLG	MCL	Hemlock Average (range)	Ontario Average (range)	Likely Source	Meets EPA Standards
Barium	mg/L	2	2	0.017	0.021 (0.020-0.022)	Erosion of natural deposits	Yes
Chloride	mg/L	250	NA	33 (25-36)	26 (25-29)	Natural deposits, road salt, water treatment chemicals	Yes
Fluoride	mg/L	NA	2.2	0.83 (0.00-1.28)	0.7 (0.2-1.4)	Water treatment additive to promote dental health	Yes
Nitrate	mg/L	10	10	0.18 (0.08-0.30)	0.34 (0.23-0.37)	Fertilizers, erosion of natural deposits, septic tank leachate	Yes
Sodium	mg/L	NA	NA	19	14	Natural deposits, road salt, water treatment chemicals	NA
Treatment Requirements (TT) - 95% of samples each month must be less than 0.3 NTU. Range and lowest monthly percentage are listed below. Turbidity is a measure of water clarity and is used to gauge filtration process.							
Turbidity Entry Point	NTU	NA	TT	100% (0.04-0.15)	100% (0.04-0.09)	Soil Runoff	Yes
Bacteria –The maximum and average % positive are listed below. 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%	2.1% 0.60	0.09	Naturally occurring	Yes
Disinfectant and Disinfectant By-products (DBPs) –Average and Range are listed below. *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*	1.05 (0.6-1.5)	1.1 (0.8-1.5)	Required treatment chemical	Yes
Total THMs	µg/L	NA	80	46 (17-73)	34 (15-61)	By-product of chlorination	Yes
Haloacetic Acids	µg/L	NA	60	32 (7-48)	12 (4-26)	By-product of chlorination	Yes
Lead and Copper –Test results for 90% of the samples must be less than the Action Level (AL), instead of an MCL. The 90th percentile and the range of results are listed below. Six of 55 samples tested exceeded the lead AL.							
Lead	µg/L	0	15	15 (ND-42)	1.9 (ND-8)	Corrosion of plumbing	Yes
Copper	µg/L	1300	1300	88 (ND-200)	60 (ND-370)	Corrosion of plumbing	Yes

Definition of Terms

µg/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 that, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL **Maximum Contaminant Level**– the highest level of a contaminant that is allowed in drinking water. MCLs 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 either absent or present below current limits of testing.

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.

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*, *Giardia* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791) or MCDPH (753-5469.)

IS THERE LEAD IN MY DRINKING WATER?

At-the-tap lead levels in the majority of Rochester households remain below allowable limits. However, the amount of lead present does vary by the age and types of plumbing materials found in your home and by how long the water sits in your pipes before it is used. You can minimize your lead intake from water by simply allowing the tap to run for one or two minutes before use. Pregnant women, 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**. 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 2011 is available at www.cityofrochester.gov/waterquality/ or by calling **428-6477**.

Questions? Call 311

Outside the city call 428-5990

www.cityofrochester.gov



Thomas S. Richards, Mayor
City of Rochester, NY