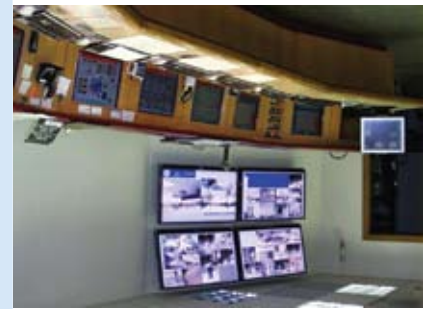


If you happen to see a Water Department vehicle parked in your neighborhood and personnel operating a fire hydrant, blowing a large stream of water out into the street, a very important maintenance procedure is being performed. The hydrant flushing program, which the Racine Water Utility's construction division undertakes each year during the warm weather months, is an essential function for any community water system. In fact, we are required to do so by DNR code. By performing this task, two things are accomplished: 1) the hydrant is checked for proper function, and 2) accumulated sediments in the water main are blown out and water quality improved. Unfortunately, this procedure sometimes causes disturbances in the water main and can cause "cloudy" or "rusty" water at the customers' taps. If your home experiences these episodes after hydrant flushing in your neighborhood, allow a few hours for the water to clear up. If the water remains discolored or cloudy after a reasonable time, please call the Racine Water Utility at 636-9185.



Hydrant Flushing

The Racine Water Utility conducts tests every day of the year, monitoring the water for harmful microorganisms, chemical constituents, and for properly controlling the water treatment process. In 2008, the laboratory staff conducted over 11,900 bacteriological tests on plant process and finished waters with over 3,300 of these bacteriological tests on water from the consumers' taps. Additionally, the laboratory staff, treatment plant operators, and contract laboratories performed over 41,500 analyses for chemical and physical constituents in the process, finished, and distribution system waters. In all, 56,800 water quality analyses to ensure RWU customers receive the safest and the highest quality of water possible. In addition to manual water quality testing, the Racine Water Utility employs dozens of on-line monitoring instruments connected to a state-of-the-art computer control system. These water quality monitors provide continuous around-the-clock information for making treatment decisions and proving water quality goals are met.



TREATMENT PLANT CONTROL ROOM



ON-LINE PHOSPHATE ANALYZER

Water News from 2008 Making Sure the Water is At Its Best!



MEMBRANE FILTRATION BUILDING

Racine Water Utility Drinking Water Quality Report 2008



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 or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. It can also

Sources and Contaminants

Water that is too corrosive can dissolve lead and other contaminants from your home's plumbing and fixtures. Testing shows this is not happening in the vast majority of Racine homes. In 2008, the Utility returned to compliance with the lead action level of 15 parts per billion. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced, or reduced. It is possible that the lead levels in your home may be higher than at other homes in the area due to materials used in the construction of your home's plumbing system. If you are concerned about lead levels in your water (young children are more vulnerable to lead than adults), you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes prior to using the water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

Lead in Drinking Water

To ensure that tap water is safe, 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 guidelines establish limits for contaminants in bottled water that must provide the same protection for public health. 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 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 (800) 426-4791.

Water delivered by the Racine Water Utility must be safe from microbes and chemical toxicity, and also safe from exposure to trace levels of chemicals over a lifetime of 80 years. Source water from the lake and from homes throughout the City and surrounding communities is monitored for over 90 regulated contaminants. Racine test results during 2008 are listed in the table on the other side of this brochure. Only the substances that were detected are listed in the table.



Welcome to Racine's Drinking Water Quality Report

This brochure is a snapshot of your home's water quality provided last year. Included are details about where your water comes from, what it contains, and how it compares to the Environmental Protection Agency (EPA) and State of Wisconsin standards. The Racine Water Utility's water quality meets or exceeds all Federal and State drinking water quality standards. We are committed to providing you with information, because informed customers are our best allies.

Water Source Supply

Water delivered to Racine customers is treated and purified water drawn from Lake Michigan. The lake provides abundant, high quality water for many major cities along its shores.

In 2004, the Wisconsin Department of Natural Resources completed a source water assessment for the Racine Water Utility. The purpose of this assessment is to determine the relative susceptibility of Lake Michigan to contamination in the Racine area. Although the water treatment plant protects its customers from potentially adverse health effects due to contamination, the source water assessment provides a guide to implement preventative practices and limit contamination.

For more information go to:

www.epa.gov/safewater/protect/sources

or call the numbers listed in this report.

Some people may be more vulnerable to contaminants found 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/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Radioactive contaminants, which occur naturally or result from oil and gas production and mining activities, come from gas stations, urban storm water runoff and septic systems.

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.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Inorganic contaminants, such as salts and metals, which can occur naturally or result from storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Microbial contaminants, such as viruses and bacteria, which may come from wastewater treatment plants, septic systems, agricultural livestock operations and wildlife.

pick up substances resulting from the presence of animals or humans. Substances that can be present in source water include:

EPA and Wisconsin Requirements For Racine's Drinking Water

Good News About Lead!

Since 1993, the Racine Water Utility (RWU) fed a corrosion inhibitor chemical to reduce the amount of lead and copper dissolving into the water from the piping in our customers' homes. In 2004, the lead action level was exceeded by the RWU, placing the Utility out of compliance with the Lead and Copper Rule. In 2006, the Utility changed its corrosion inhibitor in an effort to bring the system back into compliance. Lead levels did decrease, but not enough to comply with the law. In early 2008, the RWU changed its major chemical used for clarification of Lake Michigan water. This change resulted in producing water less corrosive towards metal pipes. Both rounds of lead and copper sampling in 2008 have shown the system is now in compliance with the lead and copper rule. Lead levels are now below the EPA action level, and although the RWU never exceeded copper action levels, copper concentrations have also decreased. The Racine Water Utility plans another treatment chemical change to further reduce lead and copper levels in the drinking water of its customers. The RWU will continue to aggressively monitor lead and copper levels into the future. Please read other information in this brochure pertaining to lead in drinking water and how to limit exposure to lead from the drinking water. If you would like further information regarding lead, please call us using the contact telephone numbers in this brochure.

Racine Water Utility Contact Numbers:

Water Quality Concerns or Complaints:
636-9441 or 636-9534

Billing Questions: 636-9181

Reporting Possible Water Main or Service Breaks: 636-9185

Scheduling Service Appointments:
636-9185 or 636-9186



Racine Water Utility
100 Hubbard Street • Racine, WI 53402



City of Racine Water Quality Table 2008

Microbiological Results					
Contaminant	MCLG	MCL	Highest Monthly	Violation	Major Source
Total Coliform Bacteria	0	< 5%/month	0.84%	No	Human and animal fecal waste
Viruses, Giardia	0	TT		No	Human and animal fecal waste
Legionella	0	TT		No	Found naturally in water, multiplies in heating systems
Regulated Inorganic Results					
Contaminant	MCLG	MCL	Results	Violation	Major Source
Sampled in March 2003					
Asbestos (mfl)		7	< 0.174	No	Erosion of natural deposits
Sampled in September 2008					
Antimony (ppb)	6	6	< 0.1	No	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic (ppb)	10	10	< 2.0	No	Erosion of natural deposits
Barium (ppm)	2	2	0.018	No	Erosion of natural deposits
Beryllium (ppb)		4	< 0.03	No	By-product of industrial processes
Cadmium (ppb)		5	< 1.0	No	By-product of industrial processes, erosion of natural deposits
Chromium (ppb)		100	< 1.0	No	Erosion of natural deposits
Cyanide		200	< 20	No	By-product of industrial, mining, and metal finishing processes
Mercury (ppb)		2	< 0.1	No	Erosion of natural deposits
Nickel (ppb)		100	3.8	No	Erosion of natural deposits
Nitrite (ppm)	1	1	< 0.01	No	Runoff from fertilizer use, leaching from septic tanks, sewage
Selenium (ppb)		50	< 2.0	No	Erosion of natural deposits
Thallium (ppb)		2	< 0.4	No	Erosion of natural deposits
Sampled in 2008					
Fluoride (ppm)		4	Average: 1.07 Range: 0.86 - 1.25	No	Water additive which promotes strong teeth, erosion of natural deposits, discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	0.34	No	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Organic Results (Sampled in 2008)					
Contaminant	MCLG	MCL	Results	Violation	Major Source
TTHM (ppb)	0	80	29.8	No	By-product of drinking water chlorination
(Total trihalomethanes)			Range: 10.2 - 58.9		
HAA (ppb)	0	60	16.3	No	By-product of drinking water chlorination
(Haloacetic acids)			Range 7.3 - 29.2		
Volatile Organic Compounds (ppb)	38 other compounds were tested with no detection of any of these chemicals			No	By-product of industrial processes, petroleum production, gas stations, urban storm run-off and residential uses
Synthetic Organic Compounds (ppb)	40 compounds were tested with no detection of any of these chemicals			No	By-product of industrial processes, petroleum production, gas stations, urban storm run-off and residential uses
Lead and Copper Results (Sampled in 2008)					
Results of Lead and Copper Sampling at Residential Water Taps					
Contaminant	No. of sites Exceeding A.L.	MCLG	Action Level	90% Level Violation	Major Source
Copper (ppm) - 1st Half 2008	0 out of 102	1.3	A.L. = 1.3	0.37, No	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppb) - 1st Half 2008	9 out of 102	0	A.L. = 15	11, No	Corrosion of household plumbing systems, erosion of natural deposits
Copper (ppm) - 2nd Half 2008	0 out of 105	1.3	A.L. = 1.3	0.30, No	Corrosion of household plumbing systems, erosion of natural deposits
Lead (ppb) - 2nd Half 2008	8 out of 105	0	A.L. = 15	11, No	Corrosion of household plumbing systems, erosion of natural deposits
Particulate Results (Sampled in 2008)					
Contaminant	MCLG	MCL	Results	Violation	Major Source
Turbidity (ntu)	na	TT Never > 1 95% of time < 0.5	Highest = 0.053 Average Daily Highest = 0.043	No	Soil runoff, suspended matter in source water
Radiological Results					
Combined Radium Tested in 2008, Gross Alpha and Beta Tested in 2008					
Contaminant	MCLG	MCL	Results	Violation	Major Source
Beta/photo Emitters (pCi/l)	0	50	2.2	No	Decay of natural and man-made deposits
Alpha Emitters (pCi/l)	0	15	1	No	Erosion of natural deposits
Combined Radium (pCi/l)	0	5	0.6	No	Erosion of natural deposits
Unregulated Contaminant Results (Sampled in 2008)					
Contaminant	MCLG	MCL	Results	Violation	Major Source
Sodium (ppm)	na	na	7.4		Erosion of natural deposits
Sulfate (ppm)	na	na	21		Erosion of natural deposits
Ortho-phosphate (ppm)	na	na	0.42		Erosion of natural deposits, addition of chemical in water treatment
Iron (ppm)	na	na	0.02		Erosion of natural deposits, addition of chemical in water treatment
Total Organic Carbon (ppm)			1.71		Decay of natural and man-made deposits

For a more detailed water quality parameter list, please contact the Racine Water Utility

How to Read the Water Quality Table

Use the definitions here to understand what the scientific data means for your drinking water:

The **Compliance Level** may be a substance's highest level detected in the water, or an average concentration of all samples tested, depending on the regulation for the substance. If multiple samples were tested in 2008, the lowest and highest detected values are listed under **Range of Detections**.

Regulated substances have **Maximum Contaminant Levels (MCLs)** set by the EPA. This is the highest level of the substance legally allowed in drinking water. Some contaminants also have **Maximum Contaminant Level Goals (MCLGs)**. This is the level of a substance where there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as practical using the best available water treatment processes.

Monitoring for unregulated contaminants is also conducted. Although these are substances that do not have MCLs, the EPA evaluates them when assessing future drinking water regulations. The MCL for lead and copper is known as the **Action Level (AL)**. This is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. For compliance, 90% of all samples tested must be below the Action Level.

Turbidity is a measure of water clarity used to evaluate the effectiveness of the filtration system. One criterion for enforcement of the turbidity regulation is a **Treatment Technique (TT)**. This is a water treatment process that is required by the EPA to reduce the level of turbidity in the water.

The **Units of Measurement** reported for each substance depend on the nature of the analytical measurement and the amount of the substance detected. Listed below are the abbreviations for these units:

ppm: parts per million or milligrams per liter
ppb: parts per billion or micrograms per liter

pCi/l: pico curies per liter, a measure of radioactivity
ntu: nephelometric turbidity units

Cryptosporidium

Cryptosporidium and giardia are two microscopic organisms which can cause severe gastrointestinal upsets if ingested. In 1993, cryptosporidium caused the major outbreak in Milwaukee sickening nearly 300,000 people. Currently, the Racine Water Utility is testing incoming Lake Michigan for these two micro-organisms as part of a mandated EPA 2-year monitoring program. After 16 months of the 24-month sampling program, not a single cryptosporidium or giardia has been detected. More importantly, customers of the Racine Water Utility are protected from any possible passage cryptosporidium and giardia through the water. Since January 2006, the Utility passes all water through millions of individual membrane fibers, removing any possible cryptosporidium, giardia, and bacteria from the water before it is pumped out to the distribution system.



ULTRAFILTRATION MEMBRANE FIBERS