La Crosse 2015 Water Quality Report

The La Crosse Water Utility is pleased to present you with its annual Water Quality Report for 2015. This report provides a complete summary of water quality information from 2015 and also includes general information describing the city's water system, services and other activities of interest. The

La Crosse Water Utility is committed to providing its customers with clear information describing water quality. Informed customers are strong allies.

During 2015, the Utility had no violations of maximum contaminant levels or other water quality standards.

Our Water Supply

All water supplied to City of La Crosse is groundwater, drawn by wells from a shallow, unconsolidated sand and gravel aquifer. The aquifer is an impressive source of water, easily producing millions of gallons of water daily. The Water Utility operates thirteen active high capacity wells located generally south of the La Crosse River and on French Island. Wells range in depth between 100 to 160 feet deep and have pumping capacities of up to 3,500 gallons per minute (gpm).

Water use in the city of La Crosse averaged 10.59 million gallons per day (MGD) in 2015, as compared to 10.88 MGD in 2014. Maximum water production in 2015 was 17.75 MGD on June 10th. The City's all-time maximum production of 37.3 MGD occurred on June 6, 1988. Normal water pressure to La Crosse customers ranges between 35 and 100 psi. A water system study completed in 1999 indicated that the existing water supply system has adequate capacity to meet projected demands for water at least through the year 2020. Fluoride and chlorine are added to the water as it is pumped into the distribution system. City-wide, in 2015 fluoride and chlorine dosages from all City wells averaged 0.70 PPM and 1.03 PPM, respectively. The Water Utility also doses a polyphosphate additive at seven wells to control problems related to manganese in the water. For the seven treated wells, in 2015 polyphosphate dosage at these wells resulted in an average of 1.40 PPM of total phosphate. One sample from the water distribution system has a result of 0.115 PPM of total phosphorus.

Water samples are routinely taken and analyzed for contaminants as required by Federal and State regulations. Unless otherwise noted, information shown in this report is for the period January 1 through December 31, 2015. This report contains many terms and abbreviations related to water quality that our customers may not be familiar with. A summary of terms, abbreviations and definitions is included in this report to help you better understand the information.

Who oversees the Water Utility?

The La Crosse Water Utility operates under the direction of the City's Board of Public Works and Common Council. The Board of Public Works usually meets weekly and considers a wide variety of issues related to Water Utility operations. Agendas for Board of Public Works meetings are posted outside the City Clerk's office in City Hall, and are also available on the City's Web Site: www.cityoflacrosse.org. If you have questions regarding this report or concerning the La Crosse water system, please call: **Mark Johnson, Utilities Manager, 400 La Crosse Street, La Crosse, WI 54601 (608-789-7536).**

Why are there contaminants in my drinking water?

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791), or by visiting their Office of Water website at www.epa.gov/OW.

Do I need to take special precautions?

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the environmental protection agency's Safe Water Drinking Hotline (800-426-4791).

The La Crosse Water Utility vigilantly tests and monitors the City's water supply to assure the end quality to consumers. Test results have detected some contaminants. The Water Quality Data Table section of this report provides information showing that all water quality criteria met or exceeded Federal and State requirements in 2015. **The EPA has determined that City of La Crosse water is safe at the levels detected.**

Tauj ntawn: La Crosse Water Utility **Xov tooj: 608-789-7536**

Tsab ntawv nov muaj lust seem ceeb qhia txog peb cov dej haus nyob hauv zo La Crosse no.

Yog nej muaj teeb meem txog dej haus hu rau tus xov tooj no 608-789-7536.

Water quality at the wells.

Samples are taken periodically (as required by sampling schedules issued by the Wisconsin DNR) at City wells to monitor concentrations of several common indicators. The information shown below shows ranges of results of water samples taken directly from the City's thirteen active wells, in accordance with sampling requirements and schedules provided by the DNR.

Indicator	Sample Date	Range of Results	Average
Alkalinity	2008-09	134 to 297 ppm	232 ppm
Aluminum	2008-09	0 to 0.049 ppm	0.004 ppm
Calcium	2008-09	45 to 91 ppm	76.5 ppm
Chloride	2008-09	7.3 to 112 ppm	53.7 ppm
Hardness	2008-09	148 to 340 ppm	281 ppm
Iron	2008-09	0 to 0.2 ppm	0.05 ppm
Magnesium	2008-09	11.9 to 35.1 ppm	27.6 ppm
Manganese	2008-09	0 to 0.46 ppm	0.14 ppm
pH	2008-09	6.8 to 7.5 S.U.	7.11 S.U.
Total Dissolved Solids	2008-09	199 to 590 ppm	410 ppm

Water Quality Data Table

The Water Quality Data Table that follows lists all drinking water contaminants detected and the most recent sample date. The EPA or the DNR allows the Water Utility to monitor for certain contaminants less than once per year because concentrations of these contaminants do not change frequently.

Water Quality Data Table

Contaminants (units)	MCLG	MCL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Inorganic Contaminants								
Antimony (ppb)	6	6	0.0	n/d	n/d	2014	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Arsenic (ppb)	0	10	4.0	n/d	4.0	2014	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm)	2	2	0.128	0.049	0.128	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cadmium (ppb)	5	5	0.0	n/d	n/d	2014	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
Total Chromium (ppb)	100	100	3.3	n/d	3.3	2014	No	Discharge from steel and pulp mills; Erosion of natural deposits; Corrosion of household plumbing systems.
Fluoride (ppm)	4	4	0.9	n/d	0.9	2014	No	Erosion of natural deposits; Water additive which promotes strong teeth.
Mercury (ppb)	2	2	0.2	n/d	0.2	2014	No	Erosion of natural deposits; discharge of refineries and factories; runoff from landfills; runoff from cropland.
Nickel (ppb)	100	100	13.6	n/d	13.6	2014	No	Nickel occurs naturally in soils, groundwater and surface waters and is often used in electroplating, stainless steel and alloy products.
Nitrate [measured as Nitrogen] (ppm)	10	10	4.56	n/d	4.56	2015	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. Highest average from any individual sample site.
Nitrite [measured as Nitrogen] (ppm)	1	1	0.0	n/d (average)	n/d	2014	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium (ppb)	50	50	1.0	n/d	1.0	2014	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Thallium (ppb)	0.5	2	0.0	n/d	n/d	2014	No	Leaching from ore-processing sites; discharge from electronics, glass and drug factories.
Unregulated Contaminants								**Sample Information**
Bromoform (ppb)	NR	NR	4.50	n/d	3.00	2015	No	Range reflects highest results from monitoring sites.
Bromodichloromethane (ppb)	NR	NR	7.51	5.67	7.51	2015	No	Range reflects highest results from monitoring sites.
Chloroform (ppb)	NR	NR	10.10	4.92	10.10	2015	No	Range reflects highest results from monitoring sites.
Chlorodibromomethane (ppb)	NR	NR	2.86	2.81	8.50	2015	No	Range reflects highest results from monitoring sites.
Sodium (ppm)	NR	NR	74.40	5.90	74.40	2014	No	Erosion of natural deposits; Leaching
Sulfate (ppm)	NR	NR	32.10	7.40	32.10	2014	No	All samples from wells.
Volatile Organic Contaminants								**Typical Source**
Tetrachloroethylene (ppb)	0	5	1.2 (average**)	n/d	1.5	2015	No	Discharge from factories and dry cleaners.
Trichloroethylene (ppb)	0	5	0.7 (average**)	n/d	1.2	2015	No	Discharge from metal degreasing sites and other factories.
Radioactivity								Typical Source
Gross Alpha (Excl R & U) (pCi/l)	0	15	7.0	-0.3	7.0	2014***	No	Erosion of natural deposits.
Gross Alpha (Incl R & U) (pCi/l)	NR	NR	7.0	-0.3	7.0	2014***	No	Erosion of natural deposits.
Radium (226 + 228) (pCi/l)	0	5	2.6	-0.4	2.6	2014***	No	Erosion of natural deposits.

*** Represents the highest average value from any individual sample site.*

Disinfection Byproducts

								Typical Source
HAA5 (ppb) [Haloacetic Acid]	60	60	21.0	2.88	21.0	2015	No	By-product of drinking water chlorination; samples from distribution system.
TTHMs (ppb) [Total Trihalomethanes]	0	80	23.9	18.6	23.9	2015	No	By-product of drinking water chlorination; samples from distribution system.

Inorganic Contaminants

Contaminant(s) (units)	MCLG	AL*	Your Water	# of Samples greater than AL*	Sample Date	Exceeds AL	Typical Source
Copper (ppm)		1.3	1.3	0.5150	0 of 30	2014*	No	Erosion of natural deposits; Leaching; Corrosion of household plumbing systems; from wood preservatives
Lead (ppb)		0	15	2.93	0 of 30	2014*	No	Corrosion of household plumbing systems; Erosion of natural deposits.

* Sampled every three years.

Microbiological Contaminants:

Total 2015 samples from sites in the water distribution system	726
Number of coliform detects in 2015 distribution system samples	0
Total 2015 samples from water system production wells	57
Number of coliform detects in 2015 production well samples	0

Synthetic Organic Chemicals—Source water samples taken in 2011 showed no detectable synthetic organic chemicals. There were no sampling requirements for synthetic organic chemicals in 2015.

Volatile Organic Chemicals—Water system samples taken in 2015 produced No Detects for these chemicals:
Benzene, Bromobenzene , Bromomethane, Carbon Tetrachloride, Chloroethane, Chloromethane, o-Chlorotoluene, p-Chlorotoluene, Dibromochloromethane, Dibromomethane,1,2-Dichlorobenzene (O-), 1,3-Dichlorobenzene (M-), 1,4-Dichlorobenzene (P-), 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-Dichloroethylene, cis-1,1-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene, 1,3-Dichloropropene, Ethyl Benzene, Chlorobenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Toluene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, Vinyl Chloride, Xylene Total.

Lead: 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 La Crosse Water Utility is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your 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 (800-426-4791) os at www.epa.gov/safewater/lead.

Nitrates: Nitrates in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Radon: Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 Picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your state radon program or call EPA's Radon Hotline (800-SOS-RADON).

Terms and Abbreviations used in this report:

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

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 using the best available treatment technology.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to consume 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

***AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow. Systems exceeding a lead and/or copper action level must take actions to reduce lead and/or copper in the drinking water. The lead and copper values represent the 90th percentile of all compliance samples collected. If you want information on the number of sites or the actions taken to reduce these levels, please contact the Water Utility office.

Variances & Exemptions (V & E): State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Non-Detects (n/d): Laboratory analysis indicates the constituent is not present.

Not-Applicable (n/a): Limits do not apply.

Not-Regulated (NR): State or EPA has not established a limit.

Parts per million (ppm) or Milligrams per liter (mg/l): One part per million corresponds to one minute in two years or one penny in $10,000.

Parts per billion (ppb), or Micrograms per liter (µg/l): One part per billion corresponds to one minute in 2,000 years or one penny in $10,000,000.

Picocuries per liter (pCi/l): Picocuries per liter is a measure of the radioactivity in water.

Total Coliform Rule (TCR): Refers to EPA regulations for microbiological standards.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Ongoing Water Utility Projects, Issues and Activities:

- The La Crosse Water Utility was selected to participate in the 3rd cycle of sampling required by USEPA's Unregulated Contaminant Monitoring Rule (UCMR3). This sampling program is in addition to annual sampling required by the Wisconsin DNR. The purpose of this additional sampling is to monitor currently unregulated contaminants in drinking water and to provide data to the USEPA to support decisions concerning whether future regulations of these contaminants is required to protect public health. UCMR3 samples were taken at all City wells and from the water distribution system, starting in 2014 and finishing in 2015. Refer to the information entitled Water Quality Data Table – UCMR3 Sampling Program, included with this Water Quality Report. Please contact Mark Johnson at the Utilities office, 400 La Crosse Street, La Crosse, WI 54601, 608-789-7536, with any questions regarding the UCMR3 requirements.
- The Water Utility is continuing with its residential water meter replacement program, which includes a cross-connection control (CCC) inspection. Affected property owners will be contacted by letter and then must schedule an appointment to allow the Utility to enter properties, access meters, and complete the required work. Educational material related to the CCC program is also provided to property owners at the time of the inspection. Meters and control valves must be accessible, and valves functional, for meter exchanges and should remain accessible at all times, not just for access by the Water Utility. In the event a pipe bursts inside your home, quick access to the shut-off valves may save extensive water-related damage to your property. The cross-connection control program is required under the Wisconsin Administrative Code. Additional detailed information describing the cross-connection control program is available on the Water Utility page of the City web site (www.cityoflacrosse.org).
- Use of City fire hydrants is allowed only under the conditions of the Water Utility's Hydrant Use Policy. This policy is available on the City of La Crosse web page or by contacting the Water Utility office. If you observe ANY suspicious activity involving a fire hydrant or any part of the water system, please report this immediately to the Water Utility or to the Police Department.
- Current water rates are shown as follows; the last water rate increase was implemented on January 1, 2016. Sanitary sewer and Storm Water Utility charges are in addition to water charges.

  Fixed charges and **Public Fire Protection (PFP) charges** are based on the size of the meter:

Meter Size	Qtrly Fixed	Qtrly PFP	Meter Size	Qtrly Fixed	Qtrly PFP
5/8″	$23.18	$8.50	3″	$163.77	$126.69
3/4″	$23.18	$8.50	4″	$222.48	$213.21
1″	$40.17	$21.32	6″	$352.26	$423.33
1-1/4″			8″	$562.38	$676.71
1-1/2″	$71.07	$42.33	10″	$791.04	$1,013.52
2″	$101.97	$67.98			

  Fixed charges for Public Fire Protection (PFP), which recovers Water Utility-related costs to provide fire-fighting capacity as part of the water system, were implemented as of January 1, 2010. The Water Utility page of the City web site includes information further explaining Public Fire Protection charges.

  Usage charges are based on the amount of water used, as recorded by water meters. Water usage is billed based on the number of "units" used. One unit = 100 cubic feet = 748 gallons of water

  The first 5,000 cubic feet (50 units) of water is billed at $1.05 per unit.

  The next 70,000 cubic feet (700 units) of water is billed at $0.84 per unit

  The next 225,000 cubic feet (2,250 units) of water is billed at $0.77 per unit

  Over 300,000 cubic feet (3,000 units) of water is billed at $0.54 per unit

  Please visit the Water Utility page of the City website (www.cityoflacrosse.org) for other charges, as determined and approved as part of the 2011 PSC rate case, that may apply for specific or special services.
- The Water Utility flushes the entire water system annually to purge naturally occurring minerals and sediments that accumulate over time. These materials do not pose a health hazard but can discolor the water when the system is disrupted. Most system flushing is done at night, which allows use of wells that are normally off during the day and makes almost the full system capacity available for flushing. Night flushing has been very successful in significantly reducing daytime problems when water demand is highest. If you experience discolored water as a result of water system flushing, these materials can usually be flushed out of home plumbing systems by running cold water from an outside hose bib, an interior basement faucet, or into a bathtub. Please contact the Water Utility office with questions related to water system flushing and especially related to the night flushing procedure.
- The treatment method using a polyphosphate additive to sequester or "tie-up" iron and manganese has been very successful in preventing customer problems related to discolored water. The Water Utility continues to evaluate that treatment method and other, possibly more effective additives. Please contact the Water Utility office with questions related to this water treatment method.
- City ordinance requires that each dwelling or other building used for human habitation has an individual connection for water service. A policy is in-place to address locations where properties share water service laterals. Installation of new water services or mains usually includes assessment of a portion of the cost to the property owner. Property owners should contact the Utilities office if they have reason to believe they share a water service with another property, or with questions related to the requirements for individual service connections.
- Water meters include a built-in "leak indicator" or other means to provide a quick, visual method to check for possible, internal leaks. If a property owner believes that all water use inside the building is off and the leak indicator is still showing water use, this shows that water is passing through the meter to some internal use. Property owners may check out the Water Utility page of the City web site at www.cityoflacrosse.org/water for information on Water Loss & the Cost of Leaks, and other useful owner responsibilities that may help reduce the impact of water related emergencies within homes. If a leak is suspected, residential property owners may contact the Utilities office (608-789-7536) to schedule a no-charge service appointment for assistance in finding internal water leaks.
- Please visit the Water Utility page of the City web site (www.cityoflacrosse.org) for additional information related to the City water system, or contact the Water Utility office (608-789-7536) with questions.

Water Quality Data Table - UCMR3 Sampling Program

The following data represents results of the Water Utility's participation in EPA's third round of samples under USEPA's Unregulated Contaminant Monitoring Rule (UCMR3).

Contaminant (units)	MCLG	MCL	Your Water	Range Low	Range High	Average	Sample Period	Viola-tion	Source and sampling information	Notes
Samples Taken from Wells										
Chromium (ppb)	100	100	1.8	n/d	1.8	0.30	2014-2015	No	Samples from all 13 active City wells	1,2,3
Dissolved Hexavalent Chromium (ppb)	NR	NR	1.6	n/d	1.6	0.28	2014-2015	No	Samples from all 13 active City wells	1,2,3
Molybdenum (ppb)	NR	NR	1.1	n/d	1.1	0.04	2015	No	Samples from all 13 active City wells	1,2,3
Strontium (ppb)	NR	NR	170	n/d	170	42.32	2014-2015	No	Samples from all 13 active City wells	1,2,3
Vanadium (ppb)	NR	NR	3.2	n/d	3.2	0.60	2014-2015	No	Samples from all 13 active City wells	1,2,3
1,4-Dioxane	NR	NR	0.22	n/d	0.22	0.02	2014-2015	No	Samples from all 13 active City wells	1,2,3
Perfluoro octanesulfonic acid - PFOS (ppb)	NR	NR	0.140	n/d	0.140	0.002	2014	No	Samples from all 13 active City wells	1,2,3,4
Perfluoro-1-hexanesul-fonic acid - PFHxS (ppb)	NR	NR	0.032	n/d	0.032	0.0004	2014	No	Samples from all 13 active City wells	1,2,3,4
Chlorate (ppb)	NR	NR	30	n/d	30	0.77	2014	No	Samples from all 13 active City wells	1,2,3
1,1-Dichloroethane (ppt)	NR	NR	48	n/d	48	0.53	2014	No	Samples from all 13 active City wells	1,2,3
Chlorodifluoromethane (ppt)	NR	NR	210	n/d	210	2.84	2014	No	Samples from all 13 active City wells	1,2,3
Samples Taken from Distribution System										
Chromium (ppb)	100	100	1.2	n/d	1.2	0.57	2014-2015	No	Samples from 4 distribu-tion system locations	1,2,3
Dissolved Hexavalent Chromium (ppb)	NR	NR	1.2	n/d	1.2	0.55	2014-2015	No	Samples from 4 distribu-tion system locations	1,2,3
Strontium (ppb)	NR	NR	130	n/d	130	64.25	2014-2015	No	Samples from 4 distribu-tion system locations	1,2,3
Vanadium (ppb)	NR	NR	2.0	n/d	2.0	0.87	2014-2015	No	Samples from 4 distribu-tion system locations	1,2,3
Chlorate (ppb)	NR	NR	20	n/d	20	1.25	2014	No	Samples from 4 distribu-tion system locations	1,2,3

Notes:

1. "Range" reflects results from all monitoring sites or distribution system locations.
2. "Your Water" value reflects highest single sample result from all monitoring well sites or distribution system locations.
3. "Average" value reflects calculated average of all sample results.
4. The USEPA has issued a Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOAs), at an advisory level of 70 ng/l (parts per trillion). One City well (Well 23) had one sample result over the advisory level and is currently not scheduled to run as part of the normal water supply rotation. One follow-up sample to-date had a result below the reportable level for PFOAs, with additional sampling planned. Note that all samples from the water distribution system, taken concurrently with samples from Well 23, had no reportable levels of PFOAs.
   The full USEPA report, entitled, Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA), is available on the Water Utility section of the City's website at www.cityoflacrosse.org.

Not-Regulated (NR): State or EPA has not established a limit.
Non-Detects (n/d): Laboratory analysis indicates the constituent is not present.
Parts per Billion (ppb) or Micrograms per liter (ug/l); One part per billion corresponds to one minute in 2,000 years or one penny in $10,000,000
Parts per Trillion (ppt) or Nanograms per liter (ng/l); One part per trillion corresponds to one minute in 2,000,000 years or one penny in $10,000,000,000.