City of Shawano
2013 Annual Drinking Water Quality Report

This is our fourteenth Annual Drinking Water Quality Report. We want you to be informed about the water we deliver and you use every day. We are dedicated to providing you, our customer, with safe, clean and high quality drinking water. We want to share with you the results of our efforts.

If you have any questions about this report or concerning your water utility, please contact the Director of Public Works at (715) 526-3512. To learn more, please attend any of our regularly scheduled Field Committee meetings. The meetings are usually held the last Monday of each month at 7:00 a.m. at the Public Works Department, 2905 E. Richmond St., Shawano.

The Wisconsin Department of Natural Resources website is also a great source of information on drinking water. The DNR's "Drinking Water and Groundwater" website can be accessed at http://dnr.wi.gov/org/water/dwg.

Where Our Water Comes From

The City of Shawano Public Works Department owns and operates the water supply and distribution system for most of the City of Shawano. The area along Green Bay Street east of Waukechon St. is served by Shawano Lake Sanitary District. The Shawano water system presently consists of five active ground water wells constructed in the Elk Mound Group of the Cambrian Sandstone, a 500,000 gallon elevated storage tank, a 2 million gallon ground storage reservoir and the water distribution system. The distribution system consists of approximately 56 miles of water main. The system pumps 1.37 million gallons of water per day from our five wells. The employees at the Shawano Public Works Department work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Educational Information

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, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source 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 the result of oil and gas production and mining activities.
- In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health.

DPW Tests for Water Quality

The DPW staff monitors over 60 different contaminants in your drinking water according to Federal and State Laws In addition, we also monitor on a weekly basis for potential harmful bacteria. Out of the 60 plus constituents that we are required to test, only 20 had detectable levels, none of which were in violation.

The EPA has determined that your water is safe at these levels. We are proud to report that the water provided by the City of Shawano meets or exceeds established Federal and State water quality standards.

Tests Results for 2012

Here are the number of contaminants that were required to be tested in the last five years. This report may contain up to five years worth of water quality results. If a water system tests annually, or more frequently, the results from the most recent year are shown. If testing is done less frequently, the results shown are from the past five years.

Contaminant Group	# of Contaminants
Disinfection Byproducts	2
Inorganic Contaminants	17
Microbiological Contaminants	3
Radioactive Contaminants	4
Synthetic Organic Contaminants including Pesticides and Herbicides	27
Unregulated Contaminants	4
Volatile Organic Contaminants	20

The following table shows the detection results of our monitoring for the period of January 1—December 31, 2012. The state requires monitoring certain constituents less than once a year because concentrations of these constituents are not expected to vary significantly from year to year. Some of our data (e.g., for organic constituents), though representative, are more than one year old.

2012 TEST RESULTS

Contaminant (Unit Measurement)	MCLG	Meets Safe Drinking Water Act Standards	MCL	Level Detected	Range	Likely Source of Contamination
Disinfection Byproducts						
HAA5 (ppb)	60	Yes	60	2	nd-2.0	Byproduct of drinking water chlorination
TTHM (ppb)	0	Yes	80	8.5	2.0-8.5	Byproduct of drinking water chlorination
Inorganic Contaminants						
Arsenic (ppb)	n/a	Yes	10	2	1—2	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2	Yes	2	0.061	.010-.061	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	Yes	100	1	nd-1	Discharge from steel and pulp mills; Erosion of natural deposits
Copper (ppm)	1.3	Yes	AL = 1.3	0.21	0 of 20	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Fluoride (ppm)	4	Yes	4	0.1	0.1-0.1	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead (ppb)	0	Yes	AL = 15	14	1 of 20	Corrosion of household plumbing systems; Erosion of natural deposits
Nickel (ppb)	n/a	Yes	100	6.7	3.8-6.7	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
Nitrate (N03-N) (ppm)	10	Yes	10	3.25	1.20-3.30	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (ppm)	n/a	Yes	n/a	6.1	1.7-6.2	n/a
Unregulated Contaminants						
Bromodichloro-methane (ppb)	n/a	Yes	n/a	3.00	0.78-3.0	n/a
Chloroform (ppb)	n/a	Yes	n/a	5.3	0.61-5.3	n/a
Dibromochloro-methane (ppb)	n/a	Yes	n/a	1.3	0.63-1.3	n/a
Radioactive Contaminants						
Radium (226 + 228) (pcCi/l)	0	Yes	5	1.5	1.5	Erosion of natural deposits

Definitions of Terms

In the previous table you may have found many terms and abbreviations you were not familiar with. To help you better understand these terms, we've provided the following definitions:

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Maximum Contaminant Level (MCL) - 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.
Maximum Contaminant Level Goal (MCLG) - 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.
Parts per billion (ppb) *or Micrograms per liter* - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
Parts per million (ppm) *or Milligrams per liter (mg/l)* - One part per million corresponds to one minute in two years or a single penny in $10,000.
Picocuries per liter (pCi/L) - A measure of the radioactivity in water.
Total Coliform Rule (TCR) - A measure of testing that has been performed since the early 20th century.
Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

Additional Health Information

Inorganic Contaminants

Arsenic. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

Chromium. Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Drinking Softened water may raise your exposure to higher levels of copper .

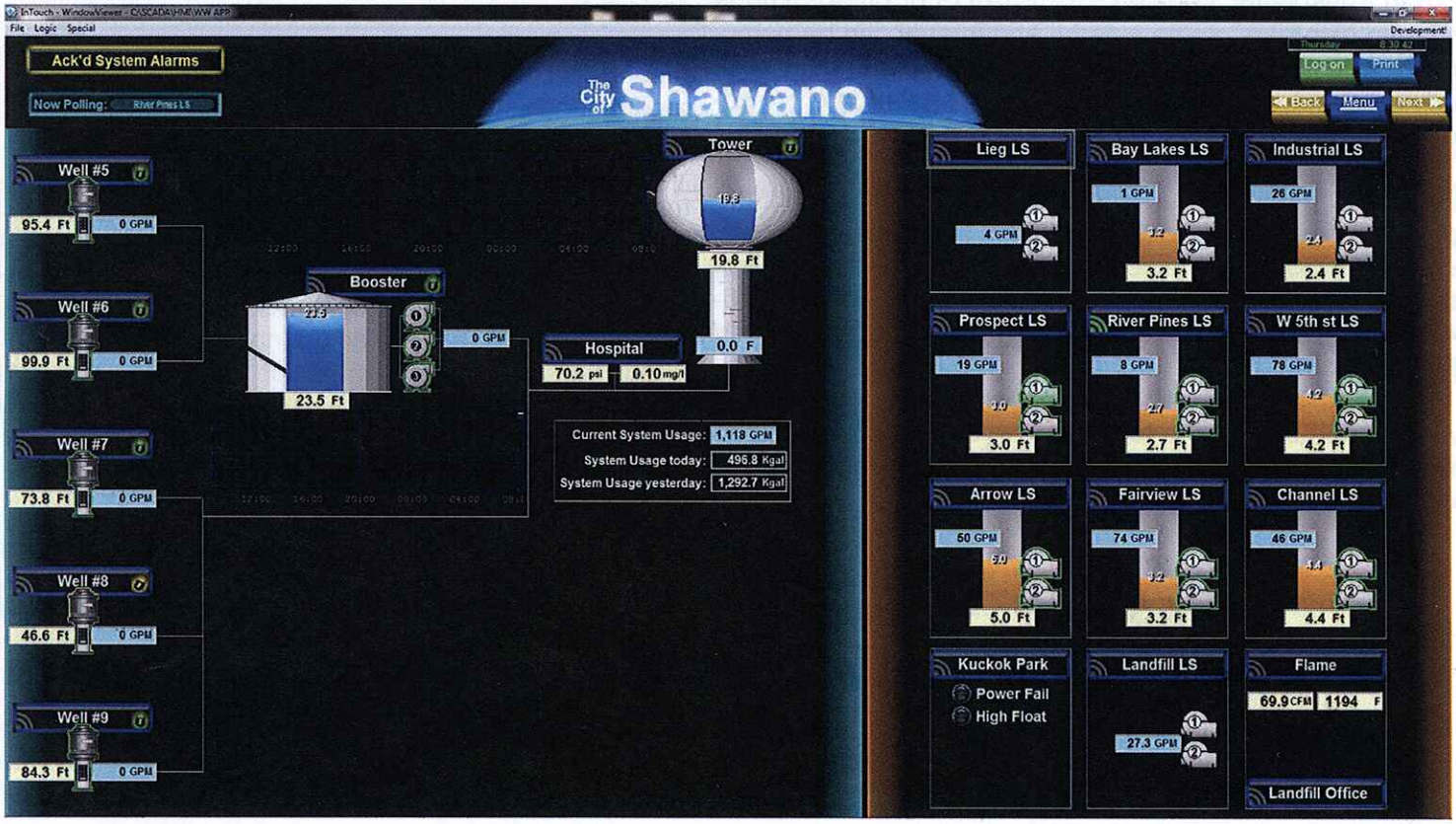
Fluoride. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

Lead. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. All potential sources of lead in the household should be identified and removed, replaced or reduced.

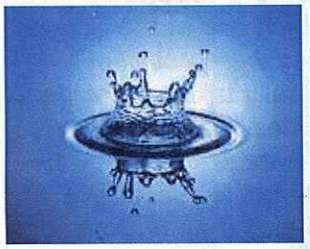
Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791) or from the EPA's web site at www.epa.gov/safewater/hfacts.html. The water samples we took indicate a reportable level of 14 ppb in 1 of 20 samples, which are at the allowable level of 15 ppb. These samples were not of our water system as such, but were actually taken in residential homes. Again drinking softened water may raise your exposure to higher levels of copper.

Nitrate. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than 6 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.



The **Total Coliform** Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are performed to determine if harmful bacteria are also present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. DPW treats the water with chlorine as a disinfectant. We are not required to add chlorine, but do so as a precautionary measure.

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



Drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's safe drinking water hot line (1-800-426-4791).

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 the risk of infection by cryptosporidium and other microbial contaminants are available from the Environmental Protection Agency's safe drinking water hotline (1-800-426-4791) or from their web site at www.epa.gov/safewater/hfacts.html.

As you can see by the table, **our system has no violations.** We're proud that your drinking water meets or exceeds all Federal and State Requirements

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man made. Constituents can be microbes, organic or inorganic chemicals, or radioactive materials.

The fact that our system is based on deep well water reduces the risk of certain contaminants associated with surface water systems, such as cryptosporidium.

The total cost to our customers in 2010 for monitoring and testing the water system in order to maintain the level of quality as shown above was just under $22,000.

What's New for 2013?

Water main replacements that are coordinated with 2013 street reconstruction projects are in the following areas: E. Lieg Ave. from Prospect St. East to Waukechon St. , Waukechon St. 150ft South and North of E. Lieg Ave., Fifth St. from Fairview Way East to Arlington Ct., Green Bay Ct. from E. Fifth St. to E. Green Bay St.

We will be updating our SCADA system to operate on SMU fiber network. The SCADA systems controls the wells, reservoir and water tower. The SCADA system provides alarms when the tower level is too high or low and when there is a power outage that requires the operators to use standby generators.

All 5 wells have been maintained based on the DNR recommended schedule.

The DPW provides clean safe water to all of its customers. We are also responsible to inspect the plumbing in your building to make sure that there is no possibility that it could contaminate the city water supply. Cross-Connection inspections will be done at 200 businesses and 300 residences during 2013. If your home or business is to be inspected this year you will be notified by mail to schedule an inspection. If you would like to have your home or business scheduled for inspection call the DPW .

City of Shawano — Public Works Department

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