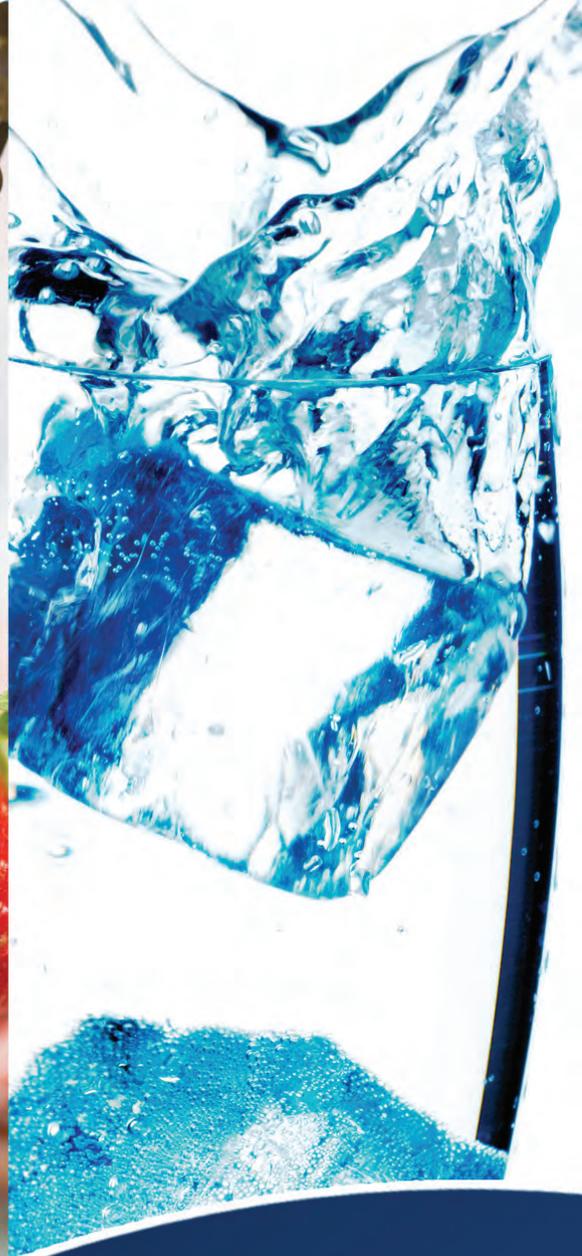


# ANNUAL WATER QUALITY REPORT

WATER TESTING  
PERFORMED  
IN 2014



*Presented By*  
**City of Decatur**

## Our Mission Continues

We are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2014. Most notably, last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply. We celebrate this milestone as we continue to manage our water system with a mission to deliver the best-quality drinking water. By striving to meet the requirements of the SDWA, we are ensuring a future of healthy, clean drinking water for years to come.

Please let us know if you ever have any questions or concerns about your water.

## Community Participation

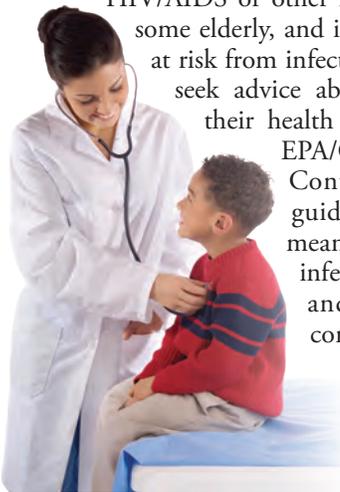
City of Decatur Council meetings are open to the public. For further information, contact the City Clerk's office at (217) 424-2708.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders,

some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S.

EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Where Does My Water Come From?

The City of Decatur uses Lake Decatur as its source of drinking water. Lake Decatur, which is 2,850 surface acres in size, is located entirely within the city limits of Decatur. The Sangamon River is the primary source of water for Lake Decatur, which has a drainage area of 925 square miles, 83 percent of which is used for growing corn and soybeans. When Lake Decatur water levels are low, the city uses wells located in Piatt and DeWitt counties to supplement the water supply.

## Source Water Assessment

The Illinois EPA has completed a source water assessment for Decatur. The Illinois EPA considers all surface water sources of public water supply to be susceptible to potential pollution problems. This is the reason for the mandatory treatment of all public surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. Primary sources of pollution in Illinois lakes can include agricultural runoff, land disposal (septic systems), and shoreline erosion.

Because of the low geologic sensitivity and the monitoring results of our DeWitt county wells, the Illinois EPA does not consider these wells to be susceptible to volatile organic contaminants (VOCs), synthetic organic contaminants (SOCs), or inorganic contaminants (IOCs). In accordance with Illinois EPA regulations, the wells each have a minimum protection zone of 200 feet.

Under the Clean Water Act Section 319, the U.S. EPA provides grants for the Illinois EPA to finance projects that demonstrate cost-effective solutions to nonpoint source (NPS) problems and promote public knowledge and awareness of NPS pollution. Section 319 projects funded for the Lake Decatur Watershed include the Upper Sangamon River Basin Water Quality Improvement Project and the Nutrient Management Plan Implementation. The Macon County Soil and Water Conservation District and the Agricultural Watershed Institute also administer several water quality improvement projects in the watershed.

## Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is pumped from Lake Decatur to the South Water Treatment Plant. Chlorine dioxide is added to destroy bacteria and protozoa that may be in the raw water. The water then goes to mixing basins where aluminum sulfate and calcium hydroxide are added for softening. The addition of these substances causes small particles to adhere to one another, making them heavy enough to drop to the bottom of large settling basins and be mechanically removed. Powdered activated carbon is added for taste and odor control. The fine particles that still remain are removed in the filtration process, in which the water passes through layers of anthracite and sand. Chlorine is then added to maintain the disinfection process throughout the distribution system. Lastly, a small amount of fluoride is added to prevent dental decay. Positive water pressure is continuously maintained in the distribution system to prevent the intrusion of any contaminants into our water mains.



## QUESTIONS?

Contact Don Giger, Water Production Operations Supervisor, at (217) 424-2866 or [dgiger@decaturil.gov](mailto:dgiger@decaturil.gov).



## When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

## How much water do we use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. (During medieval times, a person used only 5 gallons per day.) It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.

## When was chlorine first used in the U.S.?

In 1908, Jersey City, New Jersey, and Chicago, Illinois, were the first water supplies to be chlorinated in the U.S.

## Seventy-one percent of Earth is covered in water: how much is drinkable?

Oceans hold about 96.5 percent of all Earth's water. Only three percent of the Earth's water can be used as drinking water. Seventy-five percent of the world's fresh water is frozen in the polar ice caps.

## How much water is in our atmosphere?

Forty trillion gallons of water are carried in the atmosphere across the U.S. each day.

## How much water is in our bodies?

Water makes up almost two-thirds of the human body and 70 percent of the brain.

## How long can a person go without water?

Although a person can live without food for more than a month, a person can live without water for only approximately one week.

## Is tap water cheaper than soda?

Yes! You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And water has no sugar or caffeine.

## Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Barium</b> (ppm)	2014	2	2	0.0067	0.0067–0.0067	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Chlorine</b> (ppm)	2014	[4]	[4]	1	0.8–1.4	No	Water additive used to control microbes
<b>Chlorite</b> (ppm)	2014	1	0.8	0.245	0.150–0.340	No	By-product of drinking water disinfection
<b>Fluoride</b> (ppm)	2014	4	4	1.03	0.97–1.06	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]–Stage 2</b> (ppb)	2014	60	NA	16	2.2–21	No	By-product of drinking water disinfection
<b>Nitrate</b> <sup>1</sup> (ppm)	2014	10	10	9	0.8–9	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]–Stage 2</b> (ppb)	2014	80	NA	60	13.072–80.77	No	By-product of drinking water disinfection
<b>Total Organic Carbon</b> <sup>2</sup> (ppm)	2014	TT	NA	2.1	1.2–4.7	No	Naturally present in the environment
<b>Turbidity</b> <sup>3</sup> (NTU)	2014	TT	NA	0.42	0.05–0.42	No	Soil runoff
<b>Turbidity</b> (Lowest monthly percent of samples meeting limit)	2014	TT=95% of samples <0.3 NTU	NA	97	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2014	1.3	1.3	0.029	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead</b> (ppb)	2014	15	0	3.2	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

### STATE REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Sodium</b> <sup>4</sup> (ppm)	2014	NA	NA	15	15–15	No	Erosion of naturally occurring deposits; Used in water softener regeneration

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Sulfate</b> (ppm)	2014	250	NA	41	41–41	No	Runoff/leaching from natural deposits; Industrial wastes

## UNREGULATED CONTAMINANT MONITORING REGULATION STAGE 3 (UCMR3)<sup>5</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
<b>Chlorate</b> (ppb)	2014	100	100–100
<b>Chromium</b> (ppb)	2014	1.7	1.6–1.8
<b>Hexavalent Chromium</b> (ppb)	2014	1.9	1.8–2.0
<b>Molybdenum</b> (ppb)	2014	1.0	1.0–1.0
<b>Strontium</b> (ppb)	2014	29	10–47
<b>Vanadium</b> (ppb)	2014	1.1	1.0–1.1

<sup>1</sup> Nitrates in drinking water at levels above of 10 ppm is a health risk for infants of less than six months of age. High nitrates levels in drinking water can cause blue baby syndrome. Nitrate levels can 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.

<sup>2</sup> The percentage of Total Organic Carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set by IEPA.

<sup>3</sup> Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

<sup>4</sup> Sodium is not currently regulated by the U.S. EPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1,000 or more.

<sup>5</sup> A maximum contaminant level (MCL) for these contaminants has not been established by either state or federal regulations, nor has mandatory health effects language. The purpose of monitoring unregulated contaminants is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

## Definitions

**AL (Action Level):** The concentration of a contaminant that triggers treatment or other required actions by the water supply.

**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.

**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.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SMCL (Secondary Maximum Contaminant Level):** SMCLs are established to regulate the aesthetics of drinking water like taste and odor.

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