

# Annual Drinking Water Quality Report

EFFINGHAM

IL0490250

Annual Water Quality Report for the period of January 1 to December 31, 2015

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

The source of drinking water used by EFFINGHAM is Surface Water

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Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Source of Drinking Water
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, and can pickup 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 be the result of oil and gas production and mining activities.

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 EPAs Safe Drinking Water Hotline at (800) 426-4791.
In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.
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 Safe Drinking Water Hotline (800-426-4791).
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 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 <a href="http://www.epa.gov/safewater/lead">http://www.epa.gov/safewater/lead</a> .

## Source Water Information

Source Water Name	Type of Water	Report Status	Location
INTAKE (01459) LITTLE WABASH	SW	<u>Active</u>	_____
INTAKE (01460) LAKE SARA	SW	<u>Active</u>	_____
INTAKE (01895) HOLLAND ENERGY	SW	<u>Active</u>	_____
INTAKE (45170) CIPS LAKE PUMP	SW	<u>Active</u>	_____

If you want to learn more about the City of Effingham water supply you are welcome to attend the next City Council Meeting scheduled for the first and third Tuesdays of each month at City Hall 6:00 p.m. We want our valued customers to be informed about their water quality. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by City Hall or call our water operator at (217) 347-5056. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Drinking water for the City of Effingham, Illinois (Facility No. 0490250) is supplied by the Effingham Community Water Supply (CWS). CIPS Lake (IEPA #45170) serves as the primary source of drinking water and also serves as a holding basin for water from other sources. A secondary intake is maintained on the Little Wabash River (IEPA #10459) which can pump directly to CIPS Lake or the Water Treatment Plant. An additional intake is maintained on Lake Sara (IEPA #01460) which can gravity feed to CIPS Lake or by gravity feed to Goldstein Bend Pump Station which can then pump directly to the Water Treatment Plant. As of Dec. 13, 2007, the City of Effingham is capable of obtaining water from the Kaskaskia River as an additional water source. The HRWS Pump Station is capable of pumping the water either to CIPS Lake or directly to the Water Treatment Plant. All four sources are Surface Water.

Average water pumped is 2.0 million gallons per day to approximately 7,100 service connections and an estimated population of 18,100 people. Connected facilities that purchase water from Effingham includes Snake Trail PWD (0495350), Lake Sara Co-op (0495150), and Heartville PWD (0495200). Two facilities, EJ Water Corp. (07900100) and Teutopolis (0490450) purchase a portion of their water from Effingham. Maps and tables are not available in the Visually Impaired Accessible version. However, the information presented in the maps and tables is summarized within the text sections of this fact sheet.

## Source Water Assessment

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by City Hall or call our water operator at (217) 347-5056. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Source of Water: EFFINGHAM Illinois EPA considers all surface water sources of public water supply to be susceptible to potential pollution problems. Hence the reason for mandatory treatment of all public 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.

**Coliform Bacteria**

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample.	1	Fecal Coliform or E. Coli MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive.	1	N	Naturally present in the environment.

**Lead and Copper**

Definitions:  
 Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.  
 Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	07/16/2014	1.3	1.3	0.044	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	07/16/2014	0	15	3.5	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

**Water Quality Test Results**

Maximum Contaminant Level Goal or 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.

Maximum Contaminant Level or MCL: 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.

Maximum residual disinfectant level goal or MRDLG: 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.

Maximum residual disinfectant level or MRDL: 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.

Definitions: The following tables contain scientific terms and measures, some of which may require explanation.

ppb: micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

## Water Quality Test Results

na: not applicable.

Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

ppm: milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

**Regulated Contaminants**

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloramines	12/31/2015	2	2 - 2.4	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)*	2015	28	19.4 - 36.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2015	36	21.45 - 54	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2015	0.016	0.016 - 0.016	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2015	0.8	0.757 - 0.757	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2015	0.27	0.27 - 0.27	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	2015	47	47 - 47			ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	07/07/2014	0.48	0.48 - 0.48	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	07/07/2014	2.92	2.92 - 2.92	0	15	pCi/L	N	Erosion of natural deposits.
Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Simazine	2015	1	0 - 0.79	4	4	ppb	N	Herbicide runoff.

## Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.22 NTU	N	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff.

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

## Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

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Please see next two (2) pages for Report on Unregulated Contaminant Monitoring Rule (UCMR3)

## Unregulated Contaminant Monitoring Rule (UCMR3)<sup>1</sup>

### Water Treatment Plant

Substance (units) Ug/l (ppm)	Year Sampled	Amount Detected (average)	Range of Detections (lowest - highest)	Typical Source
1,1-Dichloroethane	2015	ND	ND	Halogenated alkane, used as a solvent.
1,2,3-trichloropropane	2015	ND	ND	Halogenated alkane; used as an ingredient in paint, varnish remover, solvents and degreasing agents
1,3-butadiene	2015	ND	ND	Alkene; used in rubber manufacturing and occurs as a gas
1,4-Dioxane	2015	ND	ND	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics, and shampoos, cleaning agent, surface coating, and adhesive agent.
Bromochloromethane	2015	ND	ND	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides.
Bromomethane	2015	ND	ND	Halogenated alkane; occurs as a gas, and used as a fumigant on soil before planting, on crops after harvest, on vehicles and buildings, and for other specialized purposes
Chlorate	2015	ND	ND	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Chlorodifluoromethane	2015	ND	ND	Chlorofluorocarbon; occurs as a gas, and used as a refrigerant, as a low-temperature solvent, and in fluorocarbon resins, especially tetrafluoroethylene polymers.
Chromium	2015	1.4	1.4 - 1.4	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation
Hexavalent Chromium 6	2015	1.4	1.4 - 1.4	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.
Cobalt	2015	ND	ND	Naturally-occurring element found in the earth's crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine and as a germicide
Molybdenum	2015	ND	ND	Naturally-occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Perfluorobutanesulfonic acid (PFBS)	2015	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluoroheptanoic acid (PFHpA)	2015	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic acid (PFHxS)	2015	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorononanoic acid (PFNA)	2015	ND	ND	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic acid (PFOS)	2015	ND	ND	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS still generated incidentally
Perfluorooctanoic acid (PFOA)	2015	ND	ND	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	2015	69	65 - 73	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium	2015	0.93	0.86 - 1.0	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

<sup>1</sup>Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. A maximum contaminant level (MCL) for these substances has not been established by either state or federal regulations, nor has mandatory health effects language.

**Unregulated Contaminant Monitoring Rule (UCMR3)<sup>1</sup>**

**Distribution System**

Substance (units) Ug/l (ppm)	Year Sampled	Amount Detected (average)	Range of Detections (lowest – highest)	Typical Source
Hexavalent Chromium (6)	2015	1.3	1.2 - 1.4	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
Chlorate	2015	ND	ND	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Chromium	2015	1.4	1.3 - 1.4	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation
Cobalt	2015	ND	ND	Naturally-occurring element found in the earth's crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine and as a germicide
Molybdenum	2015	ND	ND	Naturally-occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Strontium	2015	66	63-68	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium	2015	0.86	0.83-0.89	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

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