

Annual Water Quality Report 2015

Countryside Lake Water Service Area

Lake County Illinois Department of Public Works

Purpose and Background

This is the annual water quality report (or consumer confidence report) for the period of January 1 to December 31, 2014. Each year we will issue this report to provide information about the quality of our drinking water as well as details on the source of our water and what it contains. These reports are issued in compliance with the requirements of the Safe Drinking Water Act and are also intended to demonstrate our commitment to providing a safe and reliable supply of drinking water.

The Water Source, Treatment and Delivery System

There are four groundwater wells that serve your community. They are located on Thorntree Road, Lakeview Parkway at Countryside Lake Drive, and two south of Midlothian Road at Countryside Lake Drive. Three of the four wells reach into water bearing limestone or sand and gravel formations called "aquifers" 200 feet below ground. The other is drilled into a sandstone aquifer over 800 feet deep.

A network of water mains over 12 miles in length, inter-connects the well sites with a 250,000 gallon elevated storage tank to form a unified water supply and distribution system.



Water Quality

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of certain contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the US Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

To ensure that tap water is safe to drink, the Environmental Protection Agency prescribes limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Your tap water quality is consistently monitored by the County and the Illinois Environmental Protection Agency (IEPA).

Water quality is judged by comparing your water to USEPA benchmarks for water quality. One such benchmark is called the Maximum Contaminant Level Goal (MCLG). The MCLG is the level of a contaminant in drinking water below which there is no known or expected health risk. This goal allows for a margin of safety. Another benchmark is a Maximum Contaminant Level (MCL). An MCL is the highest level of a contaminant that is allowed in drinking water. An MCL is set as close to an MCLG as feasible using the best available treatment technology. The MCL and MCLG are established by the USEPA.



Public Participation... If you have any questions about this report, or about your water system, please contact Austin McFarlane at 847-377-7500 or by email to amcfarlane@lakecountyil.gov. You may also visit the Lake County website at www.lakecountyil.gov to learn about opportunities for public participation at County Board meetings where decisions are made that affect drinking water quality. We always like to hear from our customers.



Este es un reporte importante sobre la calidad de su agua. Si usted no cuenta con alguien que pueda traducirle este reporte, llame al Lake County Public Works al 847.377.7500 y con mucho gusto le asistiremos.



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Contaminants Detected

| Compound (units) | Highest Level Found | Range of Detections | MCLG | MCL | Violation | Sample Date * | Probable Compound Source |
|---|---------------------|---------------------|-----------------------|--------|-----------|---------------|--|
| Disinfectants & Disinfectant By-Products | | | | | | | |
| Chlorine (ppm) | 0.9 | 0.7 - 1.0 | MRDLG=4 | MRDL=4 | N | 2014 | Water additive used to control microbes. |
| Total Haloacetic Acids (HAA5) (ppb) | 6.49 | 1.80 - 6.49 | No goal for the total | 60 | N | 6/16/14 | By-product of drinking water chlorination. |
| Total Trihalomethanes (TTHMs) (ppb) | 23.0 | 1.13 - 23.0 | No goal for the total | 80 | N | 6/16/14 | By-product of drinking water chlorination. |
| Inorganic Contaminants | | | | | | | |
| Arsenic (ppm) | <0.0005 | <0.0005 - <0.0005 | n/a | 0.01 | N | 7/10/12 | Erosion of natural deposits. |
| Barium (ppm) | 0.0277 | 0.011 - 0.0277 | 2 | 2 | N | 7/10/12 | Erosion of natural deposits. |
| Chromium (ppm) | <0.005 | <0.005 - <0.005 | 0.1 | 0.1 | N | 7/10/12 | Erosion of natural deposits. |
| Cyanide (ppm) | <0.013 | <0.013 - <0.013 | 0.2 | 0.2 | N | 1/13/11 | Erosion of natural deposits. |
| Fluoride (ppm) | 0.781 | 0.605 - 0.781 | 4.0 | 4.0 | N | 7/10/12 | Added for dental health. |
| Iron (ppm) | 0.192 | 0.111 - 0.192 | n/a | 1.0 | N | 7/10/12 | Erosion of natural deposits. |
| Manganese (ppm) | <0.015 | <0.015 - <0.015 | n/a | 0.15 | N | 7/10/12 | Erosion of natural deposits. |
| Mercury (ppm) | <0.0002 | <0.0002 - <0.0002 | 0.002 | 0.002 | N | 7/10/12 | Erosion of natural deposits. |
| Nitrate (as Nitrogen) (ppm) | 0.144 | <0.05 - 0.144 | 10 | 10 | N | 7/23/14 | Erosion of natural deposits. |
| Nitrite (as Nitrogen) (ppm) | <0.04 | <0.04 - <0.04 | 1 | 1 | N | 7/10/12 | Erosion of natural deposits. |
| Sodium (ppm) ¹ | 77.8 | 25.3 - 77.8 | n/a | n/a | N | 7/10/12 | Erosion of natural deposits. |
| Sulfate (ppm) | 348 | 35.3 - 348 | n/a | n/a | N | 7/10/12 | Erosion of natural deposits. |
| Zinc (ppm) | <0.100 | <0.100 - <0.100 | n/a | 5.0 | N | 7/10/12 | Erosion of natural deposits. |
| Radioactive Contaminants | | | | | | | |
| Combined Radium (226/228) (pCi/l) | 3.5 | 3.5 - 3.5 | 0 | 5 | N | 4/4/12 | Erosion of natural deposits. |
| Gross Alpha excluding radon and uranium (pCi/L) | 4.8 | 4.8 - 4.8 | 0 | 15 | N | 4/4/12 | Erosion of natural deposits. |

* Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for during the CCR calendar year. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.

¹ There is not a federal or state MCL for sodium. Monitoring is required for information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If the level is greater than 20 ppm, and you are on a sodium-restricted diet, you should consult a physician.

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| Abbreviation | Definition |
|--------------|---|
| AL | Action Level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements. |
| LRAA | Locational Running Annual Average is the average of all monthly or quarterly samples for the last year at specific monitoring locations. |
| MCL | Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water. |
| MCLG | Maximum Contaminant Level Goal is the contaminant level below which there is no known or expected health risk. |
| MRDL | The highest level of a disinfectant allowed in drinking water. |
| MRDLG | The level of a drinking water disinfectant below which there is no known or expected risk to health. |
| mrem/gr | millirems per year. |
| n/a | Not applicable |
| pCi/L | picocuries per liter. |
| ppb | Parts-per-billion is also referred to as micrograms per liter ($\mu\text{g/L}$). Equivalent to one ounce in 7,350,000 gallons of water. |
| ppm | Parts-per-million is also referred to as milligrams per liter (mg/L). Equivalent to one ounce in 7,350 gallons of water. |
| RAA | Running Annual Average is the average of all monthly or quarterly samples for the last year at all the sample locations. |
| TT | Treatment Technique refers to a required process intended to reduce contaminant levels in drinking water. |

Understanding the Columns

| | |
|-----------------|---|
| Highest Level | Represents the highest sample result collected during the calendar year, unless otherwise noted. |
| Range of Detec- | Represents the range of individual sample results, from lowest to highest that were collected during the calendar year, unless otherwise noted. |
| Sample Date | Will reflect the date the sample was most recently analyzed. |
| Violation | Will indicate whether or not a violation occurred with each contaminant that was detected. |
| Probable Source | Lists where contaminants may originate. |

Vulnerability Waiver:

Due to favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal. No monitoring for VOCs, cyanide and SOCs is required between January 1, 2014 and December 31, 2016.

NOTE: Lake County is in full compliance with all State and Federal regulations governing the control of lead and copper within public drinking water supplies. 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. Lake County Public Works 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 about lead in drinking water, testing methods, and steps to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.



Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- *Eliminate excess use of lawn and garden fertilizers and pesticides, which contain hazardous chemicals that can reach your drinking water source*
- *Pick up after your pets*
- *Dispose of chemicals properly; take used motor oil to a recycling center*

Lead and Copper

| Compound (Units) | 90th Percentile | # of Sites Over Action Level | MCLG | Action Level | Sample Date* | Probable Compound Source |
|------------------|-----------------|------------------------------|------|--------------|--------------|--|
| Copper (ppm) | 0.393 | 0 | 1.3 | 1.3 | 8/2012 | Erosion of natural deposits; Corrosion of household plumbing. |
| Lead (ppb) | < 4 | 0 | 0 | 15 | 8/2012 | Erosion of natural deposits; Corrosion of household plumbing. |

Coliform Bacteria

| Maximum Contaminant Level Goal | Total Coliform Maximum Contaminant Level | Highest Number 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 | 0 | 0 | 0 | Naturally present in the environment. |

Important Health Information

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. The USEPA and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline at 1-800-426-4791.



Contaminant Sources in Drinking Water

Both tap and bottled water come from rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in untreated water include:

- Microbial contaminants such as viruses and bacteria can be naturally occurring or may come from sewage treatment plants, septic systems and live stock operations.
- Inorganic contaminants such as salts and metals can be naturally occurring or can result from urban storm water runoff, wastewater discharges, oil or gas production, mining, or farming.
- Pesticides and herbicides come from sources such as agricultural and residential storm water runoff.
- Organic chemical contaminants including synthetic and volatile organic compounds are by-products of industrial processes and petroleum production but can also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

Source Water Assessment

Based on information obtained in a Well Site Survey published in 1992 by the Illinois EPA, no potential sources or possible problem sites were located within the survey area of the Countryside Lake Subdivision's wells. The Illinois EPA has determined that the Countryside Lake Subdivision Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells. Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that the Countryside Lake Subdivision Community Water Supply is not vulnerable to viral contamination. This determination is based upon the completed evaluation of the following criteria during the Vulnerability Waiver Process: the subdivision's wells are properly constructed with sound integrity and proper site conditions; a hydrogeologic barrier exists which should prevent pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. Because the subdivision's wells are constructed in a confined aquifer, which should prevent the movement of pathogens into the wells, well hydraulics were not considered to be a significant factor in the susceptibility determination. Hence, well hydraulics were not evaluated for this groundwater supply.

