

# VILLAGE OF CARY 2011 WATER QUALITY CONSUMER CONFIDENCE REPORT

The Village of Cary is committed to providing the highest quality drinking water to its 18,271 residents and 500+ businesses. Our water is sampled frequently according to strict Environmental Protection Agency (EPA) regulations. This report is intended to provide you with important information about your drinking water and the efforts made by the CARY water system to provide safe drinking water. The source of drinking water used by CARY is Ground Water. Please contact Mike Walsh, of the Cary Public Works Department, at (847) 639-0003 if you have additional questions. If you would like to learn more, please feel welcome to attend one of our regularly scheduled meetings on the second Tuesday of every month at Village Hall.

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 groundwater 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 be the result of oil and gas production and mining activities.

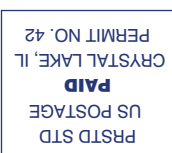
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's 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).

## SOURCE WATER ASSESSMENT SUMMARY

The Village of Cary (Facility Number 1110100) utilizes nine active community water supply wells. Wells #3, #4, #6, #8, #9, #10, #11, #12, and #13 (Illinois EPA #20138, #20139, #20141, #20142, #00306, #20144, #00705, #00952, #01428 respectively) produce approximately 1.7 million gallons per day delivered to 6,100 service connections and serve an estimated population of 18,713 individuals in Cary. To determine Cary's susceptibility to groundwater contamination, the Illinois EPA's Well Site Survey, published in 1989, and Baxter and Woodman's Groundwater Protection Needs Assessment, first published in 1992 and revised in 1999, were reviewed. During the surveys of Cary's source water protection area, potential sources, routes, or possible problem sites within the 200 or 400 foot minimum setback zones, 1,000 foot maximum setback zones, and recharge areas were recorded. No sources are located within any of the minimum setback zones of Cary's wells. There are four sources located in the proposed maximum setback zone around wells #8 and #9. There are also four sources located in the proposed maximum setback zone around well #6. Within the recharge areas, two sources are located in the recharge area for wells #10, #11, and #12. Numerous sources were located in the recharge area for wells #3, #8, and #9. The Illinois EPA considers the source water of this facility to be 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, the available hydrogeologic data on the wells, and the land-use activities in the recharge area of the wells. The Illinois Environmental Protection Act established minimum protection zones of either 200 or 400 feet for Cary's active community water supply wells. These minimum protection zones are regulated by the Illinois EPA. In addition, as part of Baxter and Woodman's Groundwater Protection Needs Assessment, recharge areas for wells #3, #8, #9, #10, #11, and #12 have been delineated. A recharge area is the geographic area surrounding a well or well field providing potable water to a community water supply as modeled using computer software to determine a five-year time of travel. To further minimize the risk to the Village's water supply, the Illinois EPA recommends that the following activities be assessed. First, the supply may wish to petition the Village of Cary to enact a maximum setback zone ordinance. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to 1,000 feet from their wells. Second, the Illinois EPA recommends that Cary adopt a wellhead protection plan to reduce the risk of contamination to the water supply. Third, the Village of Cary should establish a regulated recharge area and develop and implement a recharge area management plan. However, this would require a cooperative effort with other local political bodies because the recharge area around wells #10, #11, and #12 extends beyond the Village of Cary corporate limits and into McHenry County, Algonquin, and Lake in the Hills. Fourth, the supply should explore the options of either properly abandoning inactive well #5 or retrofitting it for use as a source of water. Inactive wells that are not properly abandoned (filled and sealed) can act as direct conduits into the aquifer which may allow surficial contaminants to enter the water supply and are considered "potential routes" of contamination under the Environmental Protection Act. In addition to source water contamination prevention, Cary should also consider the following efforts to protect the finished water supply. First, a cross connection control ordinance should be adopted and a program designed to implement the ordinance. Cross connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the supply. Second, contingency planning documents should be developed to ensure the water department and emergency response staff are aware of and adequately trained to implement emergency procedures. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a water supply will minimize their risk of being without safe and adequate water.



# 2011 REGULATED CONTAMINANTS DETECTED

THE VILLAGE OF CARY HAD NO WATER QUALITY STANDARD VIOLATIONS DURING THE 2011 CALENDAR YEAR.

## DEFINITIONS *Lead and Copper—Date Sampled: 8/1/2011*

**Action Level (AL)**—The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. 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 drinking water, testing methods, and steps you can take to minimize exposure, information is available from the Safe Drinking Water Hotline or <http://www.epa.gov/safewater/lead>

**Action Level Goal (ALG)**—The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

LEAD MCLG	LEAD ACTION LEVEL (AL)	LEAD 90TH PERCENTILE	# SITES OVER LEAD AL	COPPER MCLG	COPPER ACTION LEVEL (AL)	COPPER 90TH PERCENTILE	# SITES OVER COPPER AL	LIKELY SOURCE OF CONTAMINATION
0	15 ppb	2.8 ppb	1	1.3 ppm	1.3 ppm	0.105 ppm	0	Corrosion of household plumbing systems; erosion of natural deposits

## WATER QUALITY TEST RESULTS

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation. **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal 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. MCLG's allow for a margin of safety. **ppm:** milligrams per litre or parts per million—or one ounce in 7,350 gallons of water. **ppb:** micrograms per litre or parts per billion—or one ounce in 7,350,000 gallons of water. **N/A:** not applicable. **Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples. **Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water. **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety. **pCi/L:** Picocuries per liter (a measure of radioactivity).

DISINFECTANTS & DISINFECTION BY-PRODUCTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINANT
Chlorine	2011	0.68	0.55-0.68	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes
Total Trihalomethanes (TTHM)	8/9/2011	11	11-11	N/A	80	ppb	No	By-product of drinking water chlorination

INORGANIC CONTAMINANTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINANT
Barium	10/20/2009	1.5	0.034-1.5	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	10/20/2009	1.9	0.9-1.9	4	4	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; fertilizer discharge
Iron*	10/20/2009	0.13	0-0.13	N/A	1	ppm	No	Erosion of natural deposits
Manganese*	10/20/2009	2.0	0-2.0	150	150	ppb	No	Erosion of natural deposits
Selenium	10/20/2009	2.1	0-2.1	50	50	ppb	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium**	10/20/2009	120	22-120	N/A	N/A	ppm	N/A	Erosion of naturally occurring deposits; used in water softener regeneration
Zinc*	10/20/2009	0.14	0-0.14	5	5	ppm	No	Naturally occurring; discharge from metal factories

\*Iron, Manganese and Zinc are not currently regulated by the USEPA. However, the state has set MCLs for these contaminants for supplies serving a population of 1,000 or more.

\*\*There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

RADIOACTIVE CONTAMINANTS	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	MCLG	MCL	UNITS	VIOLATION	LIKELY SOURCE OF CONTAMINANT
Combined Radium	1/18/2011	4.39	0-4.39	0	5	pCi/L	No	Erosion of natural deposits

CONTAMINANTS	MAXIMUM CONTAMINATION LEVEL GOAL	TOTAL COLIFORM MAXIMUM CONTAMINATION LEVEL	HIGHEST NO. OF POSITIVE	FECAL COLIFORM OR E. COLI MAXIMUM CONTAMINATION LEVEL	TOTAL NO. OF POSITIVE E. COLI OR FECAL COLIFORM SAMPLES	VIOLATION	LIKELY SOURCE OF CONTAMINATION
Coliform Bacteria	0	5%	5%	0	0	No	Naturally present in the environment

**Note:** The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.