

Annual Drinking Water Quality Report for 2009
Village of Caledonia
3095 Main Street Caledonia, NY 14423
Public Water Supply ID# 2501013

INTRODUCTION

To comply with State regulations, the Village of Caledonia, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. We are proud to report that our system did not violate a maximum contaminant level throughout 2009. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact **Christopher Buckley, Water Treatment Plant Operator, (585) 538-2253** or **Livingston County Environmental Health Department, (585) 243-7280**. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled village board meetings. The meetings are held the 1st Tuesday of every month at the Village of Caledonia Village Office located at 3095 Main Street Caledonia, NY. The meetings start at 6:30pm except for July and August, which start at 4:00pm.

WHERE DOES OUR WATER COME FROM?

In general, 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 pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water system serves 2,327 residents through 880 service connections. Our system also serves the Town of Caledonia District #1 (PWS ID# 2530004) and the Caledonia Manufactured Home Park. Our water source consists of groundwater drawn from 2 wells, which are located at the intersection of East Avenue and Park Place *and purchased water from the Monroe County Water Authority*. Both wells are tested for bacteria and nitrate levels monthly. Well #1 represents the primary source for the village supply and is 17.5 feet in depth. Well #2, 35 feet in depth, is utilized as a back up source of water during periods of high demand. The water is disinfected with a hypochlorite solution as well as sequestered for iron, manganese, and calcium. Volatile Organic Contaminants are removed from the supply through the use of an air stripper¹. Fluoride is then added to the water for the promotion of healthy teeth and gums prior to distribution. In 2009 the Village of Caledonia treated and pumped a total of 34,355,000 gallons of water. That is a monthly average of 6,871,000 gallons and a daily average of 237,000 gallons.

On May 26, 2009 the Village of Caledonia began purchasing water from the Monroe County Water Authority. The MCWA draws its water from Lake Ontario and uses a treatment process that consist of: coagulation, filtration, and disinfection. *Coagulants are added to clump together suspended particles, enhancing their removal during filtration. Chlorine is used to disinfect the water and to provide the residual disinfectant that ensures the sanitary quality of the water as it travels from each plant to your home.* Chlorine is added for disinfection and fluoride to

¹ A packed-tower aerator consisting of cylindrical tank filled with a packing material made of plastic or other material. Water is distributed over the packing at the top of the tank and air is forced in at the bottom using a blower.

help prevent tooth decay. In 2009 we purchased a total of 42,071,000 gallons of water. That is a monthly average of 6,238,000 gallons and a daily average of 200,000 gallons. As of the connection to the MCWA the Village wells are no longer connected to the system.

The NYSDOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface geology to the wells. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section “Are there contaminants in our drinking water?” for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

As mentioned before, our water is derived from 2 wells. The source water assessment has rated these wells as having a high susceptibility to microbial, nitrate, industrial solvent, and other industrial contaminants. While no significant sources of contamination have been identified in the assessment area, the wells draw from an unconfined aquifer with high hydraulic conductivity. In other words, groundwater and contaminants can move through the water table relatively quickly. *In general the Great Lakes source used by MCWA is not very susceptible because of the size and quality of the Lake Ontario. Because storm and waste water contamination are potential threats to any source water, the water provided to our customers undergoes rigorous treatment and testing prior to its delivery*

The Livingston County Department of Health and the NYSDOH will use this information to assist in the direction of future source water protection activities. These may include additional water quality monitoring, resource management, planning, and education programs. A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted below.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: Volatile Organic Contaminants, Synthetic Organic Contaminants, Inorganic Contaminants, Nitrate, Fluoride, Total Trihalomethanes, Halo-acetic Acids, Radioactive Contaminants, and Coliform Bacteria. The table presented below depicts which compounds were detected in your drinking water. Total Trihalomethanes, and Halo-acetic Acids were sampled for in Town of Caledonia District #1, 3350 Brown Road, and 2952 W. Main Street. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

The Caledonia public water supply has recently been investigated for being ground water under the direct influence of surface water (GWUDI). On September 11, 2006 micro particulate analysis testing was performed on the Village of Caledonia’s raw (pre-treated) water. Based on the MPA, the well water supply appears to be directly influenced by surface water. The results showed the presence of green algae, pollen, plant debris, and nematodes, which indicates a likely surface water connection to the wells. Surface water may contain varying amounts of cryptosporidium and giardia. Cryptosporidium and giardia cysts were *not* seen in the lab sample results. In accordance with Part 5-1, NYSDOH and EPA, water supplies that are under the direct influence of surface water must install filtration equipment as soon as possible. This is why the Village of Caledonia began purchasing water from the MCWA in May.

It should be noted that all drinking water, including bottled drinking water, may be reasonably 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 (800-426-4791) or the Livingston County Health Department at (585) 243-7280.

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, inorganic compounds, volatile organic compounds, and synthetic organic compounds. None of these compounds were detected in your drinking water.

Water Quality Table							
Detected Substances				2009 Results except as noted			
Supply (Source)				Village of Caledonia Wells	Purchased Water MCWA L. Ontario		Meets EPA Standards
Substances	Units	MCLG	MCL	Range of detected values		Likely Source	
Barium	mg/L	2	2	ND	0.021 - 0.023	Erosion of natural deposits	Yes
Chloride	mg/L	NA	250	120 (2006)	24 - 27	Naturally occurring	Yes
Fluoride	mg/L	NA	2.2	0.80 - 1.3	0.1 - 1.1	Natural and additive - promotes strong teeth	Yes
Nitrate	mg/L	10	10	2.9 - 4.9	0.28 - 0.40	Erosion of natural deposits	Yes
Sodium	mg/L	NA	NS	52 (2006)	13 - 15	Naturally occurring	Yes
Sulfate	mg/L	NA	250	108 (1999)	25	Naturally occurring	Yes
Organics, Pesticides, Herbicides							
Caffeine	ng/L	NS	NS	NA	4 (2008)	Pharmaceutical	Yes
Cotinine	ng/L	NS	NS	NA	2.1 (2008)	Pharmaceutical	Yes
Triclosan	ng/L	NS	NS	NA	ND (2008)	Personal care products	Yes
Treatment Requirements - 95% of samples each month must be less than 0.3 NTU (For filtered surface water such as MCWA). Range and lowest monthly percentage are listed. Turbidity is a measure of water clarity and is used to gauge filtration performance.							
Turbidity - Entry Point	NTUs	NA	TT	0.04 - 0.22 100%	0.04 - 0.12 100%	Soil runoff	Yes
Microbial - No more than 5% of monthly samples can be positive. The highest monthly % positive is listed.							
Coliform	% Positive	0	0.05	0% positive	NA	Naturally occurring	Yes
Disinfectant and Disinfectant By-products (DBPs) - Average and Range are listed. * Chlorine has a MDRL (Maximum Disinfectant Residual Level) and MDRLG (MDRL Goal) rather than an MCL and MCLG.							
Chlorine Residual - Entry Pt	mg/L	4 *	4 *	0.8 (0.30-1.2)	1.1 (0.8-1.5)	Additive for control of microbes	Yes
Total THMs Stage 1 3 samples Stage 2 6/9/09 Stage 2 11/17/09	ug/L	NA	80	32 (22-43) 35.5 (35-36) 28.5 (25-32)	33 (17-52)	Byproduct of water chlorination	Yes
Haloacetic Acids Stage 1 3 samples Stage 2 6/9/09 Stage 2 11/17/09	ug/L	NA	60	6.7 (4.4-10) 21.5 (20-23) 7.5 (5.9-9.3)	11 (4-28)	Byproduct of water chlorination	Yes
Lead and Copper - 90% of samples must be less than the Action Level (AL). The 90th Percentile and the number of samples exceeding the AL are listed.							
Copper (Customer Tap Samples)	mg/L	1.3	AL=1.3	0.27 (None)	0.1 (None)	Corrosion of household plumbing	Yes
Lead (Customer Tap Samples)	ug/L	0	AL=15	2.3 (None)	4.3 (None)	Corrosion of household plumbing	Yes

Definitions:

***90th Percentile Value:** The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or greater than 90% of the lead and copper values detected at your water system. The action level for lead and copper was not exceeded at any of the sites tested.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

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.

Maximum Residual Disinfectant Level (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.

Maximum Residual Disinfectant Level Goal (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 contamination.

Action Level (AL): The concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Not Applicable: (N/A)

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

MCWA: Monroe County Water Authority.

Note: The following contaminants were tested for but not found: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,1-Dichloropropene, EDB,1,2,3-Trichlorobenzene, 1,2,3Trichloropropane, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3,5, Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropane, 1,3-Dichloropropene(Cis), 1,3-Dichloropropene(Trans), 1,3-dinitrobenzene, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 2,2,4,4-tetrabromodiphenyl ether, 2,2,4,4,5,5-hexabromodiphenyl ether, 2,2,4,4,5,5-hexabromobiphenyl, 2,2,4,4,5,5-pentabromodiphenyl ether, Dioxin, 2,4 D, 2-4-5 TP, 2,4,6-trinitrotoluene (TNT), 2-Chlorotoluene, 3-Hydroxycarbofuran, 4,4'-DDT, 4-Chlorotoluene, Acetochlor, Acetaminophen, Aldicarb Sulfone, Aldicarb Sulfoxide, Aldrin, Aluminum, Antimony, Arsenic, Atrazine, Benzene, Benzo(a)pyrene, Beryllium, Bromobenzene, Bromochloromethane, Bromomethane, Butachlor, Cadmium, Carbamazepine, Carbaryl, Carbofuran, Carbon Tetrachloride, Chlordane, Chlorobenzene, Chloroethane, Chloromethane, Chromium, cis-1,2-Dichloroethene, Cryptosporidium, Cyanide, DCPA, Dalapon, DBCP, Di(2-Ethylhexyl) Adipate, Di(2-Ethylhexyl) Phthalate, Diazepam, Dibromomethane, Dicamba, Dichlorodifluoromethane, Dichloromethane (Methylene Chloride), Dieldrin, Dimethoate, Dinoseb, Diquat, Endothall, Endrin, Estrone, Estradiol, Ethinyl Estradiol, Ethylbenzene, Fluoxetine, Gemfibrozil, Glyphosate, Gross Alpha, Giardia, Gross Beta, Heptachlor, Heptachlorepoxyde, Hexachlorobenzene, Hexachlorobutadiene, Hexachlorocyclopentadiene, Ibuprofen, Iron, Isophorone, Isopropyl Benzene, Lindane, Iopromide, Manganese, Mercury, Methomyl, Methoxychlor, Metolachlor, Metribuzin, MTBE, n-Butylbenzene, Nickel, Nitrite, N-nitroso-di-n-butylamine, N-nitroso-di-n-propylamine, N-nitroso-diethylamine, N-nitroso-dimethylamine, N-nitroso-methylethylamine, N-nitroso-pyrrolidine, n-

Propylbenzene, Oxamyl, PCB's, Pentachlorophenol, Pichloram, p-Isopropyltoluene, Progesterone, Propachlor , RDX, sec-Butylbenzene, Selenium, Silver, Simazine , Styrene, Sulfamethoxazole, Terbufos sulfone, tert-Butylbenzene, Testosterone, Tetrachloroethene, Thallium, Toluene, Toxaphene, trans-1,2-Dichloroethene, Trichloroethene, Trichlorofluoromethane, Trimethoprim, Tritium, Vinyl Chloride, Xylene, Zinc

For more information on The Village of Caledonia's or MCWA's monitoring program call **Christopher Buckley, Water Treatment Plant Operator, (585) 538-2253 or Livingston County Environmental Health Department, (585) 243-7280**. Additional information is available at www.mcwa.com.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

Nitrate

As you can see by the table, our system had no violations, but we have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements. Although nitrate was detected below the MCL, it was detected at 5.0mg/L, which is one-half of the MCL. Therefore, we are required to present the following information on nitrate in drinking water:

“Nitrate in drinking water at levels above 10 mg/l is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause a blood condition called methemoglobinemia (blue baby syndrome), which is characterized by a reduced ability of the blood to carry oxygen. The Livingston County Department of Health advises that the water containing more than 10mg/L of nitrates should not be used for drinking water or food preparation for pregnant or nursing women and infants. It is recommended that bottled water certified by the New York State Department of Health be used for drinking and food preparation purposes. If you are caring for an infant, you should ask for advice from you health care provider.”

Nitrate samples are collected two times a month in order to closely monitor fluctuating nitrate levels. Nitrates are water-soluble and can readily move through the soil into groundwater. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Nitrates are formed from the organic nitrogen contained in fertilizers, manure, leachate from septic systems/sewage and erosion of natural deposits through a series of biological processes. Nitrates are naturally present in a number of foods, particularly vegetables. They are also used as preservatives in meats such as bacon. The major use of nitrates is in lawn, garden and agricultural fertilizers. As of May 26, 2009 and the switch over the MCWA we no longer sample for nitrates.

Sodium Health Effects

“Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing 270 mg/l of sodium should not be used for people on moderately restricted diets.”

INFORMATION ON FLUORIDE

Our system is one of the many drinking water systems in New York State that provide drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the NYDOH requires that we monitor fluoride levels on a daily basis. As of May 26, 2009 we no longer add fluoride at our former water plant. However, the MCWA adds fluoride at their water plant.

Information on Lead in Drinking Water

There is no lead in the water we deliver to your home. It is possible for water to pick up lead from home plumbing solder or fixtures if it sits in the pipes for a long time but our testing indicates this is not a problem for our customers. However, due to problems some water suppliers have had with drinking water lead levels, the USEPA is requiring all water suppliers to include the following educational text in their annual water quality reports:

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. MCWA 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 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 <http://www.epa.gov/safewater/lead>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2009, our system was in violation of a drinking water standard due to our wells being designated ground water under the direct influence of surface water. In order to comply with minimum treatment requirements we have to either install filtration or seek a new source. The Village of Caledonia began purchasing water from the Monroe County Water Authority on May 26, 2009 to be in compliance. We also missed one disinfection by-product sample in September. We will sample in September 2010 to comply with drinking water standards.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded most state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ◆ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ◆ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.
- ◆ You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:
 - ◆ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
 - ◆ Turn off the tap when brushing your teeth.

- ◆ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it, and you can save almost 6,000 gallons per year.
- ◆ Watering lawns less frequently and preferably in early morning or late evening.
- ◆ Use swimming pool covers to minimize evaporation.
- ◆ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.

SYSTEM IMPROVEMENTS AND UPGRADES

In May 2009 the Village began purchasing water from the Monroe County Water Authority. System upgrades included a new PRV valve and telemetry system to monitor and control tower levels.

In 2010 the Water Department will be installing a new water main on Grand Circle, and the West Main Tower will have the interior inspected.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions. **This report was prepared by Christopher Buckley, (State of New York Department of Health Public Water System Operator Certification # NY0036450) and Livingston County Environmental Health Department utilizing the testing results provided by New York State Department of Health and Life Science Laboratories.**