

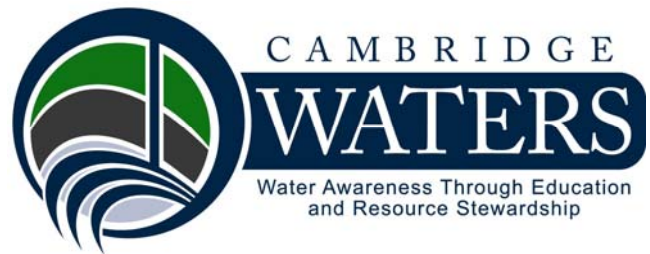
## Profiling Ontario Cities & Towns Using Ground Water

### Cambridge

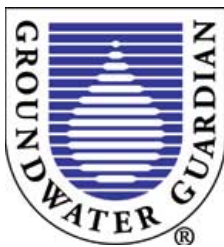
The City of Cambridge is situated in the heart of Southern Ontario, Canada, approximately a one-hour drive west of Toronto, and a three-hour drive northeast of Detroit. The City is a local area municipality within the Regional Municipality of Waterloo, the largest urban area dependent upon groundwater in Canada. Cambridge is situated at the confluence of the Grand and Speed rivers, which are important sources of drinking water for a number of communities. Underlying bedrock aquifers supply most of the drinking water to Cambridge (population 130,000) as well as to the other municipalities within the Regional Municipality of Waterloo (which has a total population of approximately 500,000). The City relies on twenty-seven water supply wells up to 60 metres (200 feet) deep. The highest producing wells occur in the heart of the City and these supply almost half of the water used by residents and industries. Many of these wells date back to the 1900's with the first wells being drilled in 1891. Approximately 80% of the water consumption in the City is drawn from groundwater. The remaining 20% comes from the Grand River and is pumped into the Manheim aquifer and mixed with groundwater before distribution. Although this precious resource is relied upon as our source of drinking water, other water uses place a great strain on its availability. However, attitudes towards water usage and conservation have begun to change with the recent water restriction bylaws, educational activities and events, and very successful incentive programs (rain barrels, high efficiency toilet replacement programs, among others).

### Groundwater Guardian Community

Cambridge WATERS is currently the only Groundwater Guardian community in Canada. Since 1997, Cambridge WATERS has undertaken groundwater protection and conservation related activities including the development of educational posters and teaching packages, and participated in public awareness events and wellhead protection implementation plans.



Cambridge Groundwater Guardian recently changed their name on their 10th anniversary (December 2007) to better reflect their focus. The new name, "Cambridge WATERS" (which stands for **W**ater **A**wareness **T**hrough **E**ducation and **R**esource **S**tewardship) represents the group's interest in "water" issues (both surface and groundwater), "awareness" and "education" (for general public as well as schools), and "resource stewardship." The new name reflects the subcommittee's past (and future) projects that involve "telling the Cambridge water story."



Cambridge WATERS retains its membership in the Groundwater Foundation as the only Canadian member and as "a proud Groundwater Guardian member since 1997."

Cambridge WATERS is a standing subcommittee of the Cambridge Environmental Advisory Committee of Council. The purpose of the subcommittee is to be the coordinating organization for the Cambridge community and to develop and implement the Groundwater Guardian program and water awareness, education, and resource stewardship projects. The subcommittee works with Cambridge schools, community groups, churches and businesses as well as individuals to develop projects that improve water awareness, education, and resource stewardship in the community. Cambridge WATERS membership is comprised of water professionals from private industry, government, and members of the public.



Past projects have included developing Cambridge-specific teacher packages for elementary grades, articles for various publications, personal appearances in classrooms and information booths at local festivals.

***About Groundwater Guardian***

*The Groundwater Foundation is a non-profit organization dedicated to educating and motivating people to care for and about groundwater. The foundation established the Groundwater Guardian (GG) to encourage communities of all types (cities, counties, watersheds, etc.) to begin and enhance groundwater education and protection activities. Groundwater Guardian supports communities in their efforts and recognizes their achievements. For more info on the Groundwater Foundation, including membership or if you want to start a similar group in your municipality, please visit [www.groundwater.org](http://www.groundwater.org).*

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Cambridge WATERS

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## Water taste salty? Blame our roads

October 29, 2008 , **JEFF OUTHIT**, RECORD STAFF

[HTTP://NEWS.THERECORD.COM/NEWS/CANADAWORLD/ARTICLE/435845](http://news.therecord.com/news/canadaworld/article/435845)

### WATERLOO REGION

Salt in local tap water has soared 15 per cent over the past five years, the latest measurements reveal. Officials blame road salt that's seeping into groundwater. "This does not represent a significant risk to the regular population," said Doug Quibell, regional manager of environmental health. Salt remains four times below the Ontario standard for drinking water, on average. But it's a health concern for people on low-salt diets.

They have been advised to count the salt in their tap water while they monitor their daily salt intake. This information should be available from their physicians or dietitians. These people are also advised to avoid drinking softened water, which contains an even higher level of salt. "Restaurants and food premises often use softened water," Quibell said. Governments are trying, with some success, to reduce road salt applied to municipal roads in a bid to limit rising salt levels. Annual salt tonnages fell 24 per cent between 2003 and 2007 because of better monitoring and anti-icing strategies. However, salting soared 33 per cent last winter. Almost 58,000 tonnes were applied, slightly more than the salt applied in 2003. "We had a lot of snow accumulation, a lot of big dumps of snow and a lot of generally icier conditions," said Eric Hodgins, regional manager of source water. Non-salt products are being tested. Politicians have not embraced them because they are up to 20 times more expensive.

"Absolutely eliminating salt is cost-prohibitive," Quibell said. Today, salt in tap water has reached 52 parts per million, on average. The Ontario standard for drinking water is 200 parts per million. Salt is not considered toxic, so this is an esthetic standard. Above this, water may taste too salty. "The vast majority of sodium that anyone takes in comes from food," Quibell said. Officials expect salt in tap water will eventually decrease if governments can reduce road salting. Some salt in tap water comes from road salting in recent years. But in deeper wells, salt applied decades ago is still making its way into groundwater.

To restrain road salt, officials are:

- Testing non-salt products.
- Placing salt brine on roads before a storm to prevent ice. This cuts down on salting.
- Educating private operators to reduce salt applied to parking lots and sidewalks.

### SALT FACTS

Tests were conducted this year at 44 locations in the region where drinking water enters the system for distribution.

#### Results:

- 32 locations (73 per cent) had water where the salt content was higher than 20 parts per million. This is the trigger level to warn residents on low-salt diets.
- Six locations (14 per cent) had salt higher than 100 parts per million.
- One had salt above 200 parts per million, which is the Ontario drinking standard.
- On average, salt in tap water has reached 52 parts per million. By comparison, a bottle of Nestlé Pure Life has 40 parts per million. Salt is sometimes added to bottled water for flavour.



## Sodium levels high in region's drinking water

Melissa Hancock

Published on Oct 28, 2008 Cambridge Times

<http://www.cambridgetimes.ca/printarticle/149229>

A person who follows a low-salt diet should know that sodium levels in Waterloo Region's drinking water often exceed recommended guidelines, according to public health. "Sodium is not considered a toxin," says Doug Quibell, the region's manager of environmental health.

About 40 water samples taken - between January and August this year - from the majority of entry points of treated water into the region's water distribution system showed levels higher than 20 milligrams of sodium per litre of water, according to a public health report.

Those entry points are to be tested for sodium levels at least once every five years, according to Ministry of the Environment requirements. The provincial standard for sodium levels in drinking water is 200 mg/L; but public health is to be made aware of when levels exceed 20 mg/L.

"This (monitoring) is something for people on sodium-restricted diets," said Quibell. He noted that no more than 10 per cent of total daily sodium intake should come from sodium in drinking water for a person on a sodium-restricted diet, which is where the 20 mg/L guideline comes from. Calculated with that percentage in mind, the standard also assumes the average person drinks 1.5 litres of water per day, the report says.

The rate at which sodium levels are increasing in the region averages to about 15 per cent since 2003, says the report, and it is suspected that the salt thrown down on roads to melt ice during the winter is the lead contributor to the increases. "This wasn't a surprise because this is a fairly uniform trend across the province," said Quibell.

Road salt reduction strategies, including education workshops for salting contractors, have been implemented in the region. Ellen Curitti, a dietitian and regional public health nutritionist, said sodium levels in the region's drinking water do not compare to those levels found in everyday foods.

Consuming less than 2,300 mg of sodium per day - about one teaspoon of table salt - is what Health Canada recommends for all adults. A person on a low-salt diet may be instructed to eat less than 1,500 mg of sodium per day, noted Curitti. "But it seems very difficult to follow that because there's so much sodium in our food," she said. Recent food studies have shown that nearly 80 per cent of the sodium that people eat is added during food processing, noted the dietitian. The rest is either natural, added during cooking, or added at the table.

"It's very difficult to follow that low-sodium diet," maintained Curitti. A high level of sodium is found in water in houses equipped with water softeners, and which do not have separate lines for drinking water, said Curitti. Two litres of softened water could contain up to 1,000 mg of sodium, according to public health's report.

Drinking and cooking with softened water is not recommended by public health.



## 'Less is more'

<http://www.cambridgetimes.ca/printarticle/149231>

Editorial, Cambridge Times, Published on Oct 28, 2008

Road salt is suspected to be the lead contributor to the increase in sodium levels in drinking water across the region. Public and environmental health officials warn that people on low-salt diets should include tap water in daily tracking of sodium intake. The levels do not pose health risks for the average person, according to public health.

What is interesting is that it was back in the mid-1990s when Waterloo Region was first aware that sodium levels were on the rise. It is just one example of what can happen in the environment over an extended period of time. Years worth of salt being spread across our roadways add up. Clearly, it has added up enough that now a simple amount of water needs to be considered when a person following a low-salt diet keeps track of their daily intake.

Regional staff will start to hold educational workshops for salting contractors before slippery wintertime weather starts to blow in. Last year, the *Times* spoke to one private salting contractor who said he adds water to road salt so that it gets to work quicker on the ground, and also means less salt is needed. That is one example of what salters can do to limit their salt use.

As people on low-salt diets should monitor how much tap water they drink because of sodium levels, let us hope that salters this year keep in mind where their profits ultimately end up.

The old "less is more" adage comes to mind.



# Santa Clarita vote is 'huge,' PWQA says

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Tuesday, October 21, 2008

By [Tom Williams](#), Senior Editor

ANAHEIM, CA — The Pacific Water Quality Association (PWQA), the Water Quality Association (WQA) and their allies will be gathering data in coming weeks to show California lawmakers that banning water softeners would have unintended downsides such as increasing consumption of energy, water, soaps and detergents.

Meanwhile, the PWQA is urging its members to help oppose, financially through a political action committee or otherwise, a local proposition being decided on the November ballot in the Los Angeles County community of Santa Clarita. Since 2003 Santa Clarita has banned installation of new softeners and has had a [voluntary](#) softener-removal program, but if approved by voters, the new law would mandate residential softener removals there.

Some water districts in California and elsewhere have sought recently to reduce salinity in wastewater, and the need to treat it, by restricting the installation or use of water softeners or by seeking their voluntary removal. However, according to PWQA spokesmen, the Santa Clarita proposal, if passed, would create the first mandatory removal ordinance.

"This is huge," PWQA's Tracy Strahl told the group at its recent conference in Anaheim. "This is the first time ever that somebody will be forced to remove an appliance from their home."

Water softeners periodically discharge to waste a brine solution that has been used to regenerate the softener's ion exchange media. Proponents of softener removal in Santa Clarita say it will reduce the chloride load on the sanitation district's two wastewater treatment plants. The state has ordered the sanitation district to reduce its plant chloride discharges to protect fish and downstream agricultural users. Proponents say softener removal would save district ratepayers about \$70 million that would have to be spent to come into state compliance by building new wastewater treatment facilities.

If the Santa Clarita referendum — called "Measure S" — passes, all residential owners of water softeners that discharge into the sewer system of the Santa Clarita Valley Sanitation District would have to remove them no later than six months after the January 1, 2009, effective date of the ordinance. The district would compensate each resident for up to 100 percent of the softener's value. Softeners not discharging into the sewer system, approved softeners in commercial facilities, and exchange-tank softeners would not be affected.

The sanitation district estimates that about 4 percent of homes it serves have water softeners that would have to be removed. It says thousands of pounds of salt are discharged daily into its sewers by those softeners.

The PWQA and WQA are also seeking to be proactive in the coming year by opposing any further measures in the state legislature like AB 2270, which would have given local water districts more powers to regulate softeners. Although approved earlier this year by the legislature, AB 2270 was vetoed by Gov. Arnold Schwarzenegger. Although PWQA and WQA view that veto as a victory, they are unsure if the governor would veto another similar measure.

To find out more about the PWQA, click [here](#).

To read information provided by the Santa Clarita sanitation district about Measure S, click [here](#).

For related information on this story, click [here](#).



**From:** Mitch.Bishop@lvvwd.com [mailto:Mitch.Bishop@lvvwd.com]  
**Sent:** Tuesday, October 28, 2008 1:03 PM  
**To:** Paul Willms  
**Cc:** jwemhoff@groundwater.org  
**Subject:** Groundwater Guardian Council Nomination

Hello!

My name is Mitch Bishop and I currently serve on the Groundwater Guardian Council for The Groundwater Foundation. As part of the Groundwater Guardian Council, I serve on the Nomination Committee. You have been suggested as a potential nominee for the Council, and it would be my pleasure to recommend you for contention.

For your reference:

- The Groundwater Guardian Council provides feedback and guidance to The Groundwater Foundation on items relating to the Groundwater Guardian program. It is comprised of 15 Groundwater Guardian representatives – 10 Community representatives and five Affiliate representatives.
- Nominees are elected by ballot by the current Council members at the fall Council meeting held with The Groundwater Foundation's National Conference on Tuesday, November 18.
- Council duties generally take just a few days worth of work each year. The Council generally, but not always, meets via conference call in the spring, and face-to-face at the Groundwater Foundation Conference each fall. A lot of correspondence occurs via email.
- Council members are encouraged, but not required, to attend the fall Council meeting at Groundwater Foundation's National Conference.
- Elected Council members are assigned to committees: The Nomination Committee contacts potential nominees about serving on the Council. The Review Committee awards designation to Groundwater Guardian Communities and Affiliates (this committee meets via conference call each fall). The Program/Finance Committee works with Foundation staff specific Groundwater Guardian program issues.
- Council members serve three-year terms. Members can serve two consecutive terms.

I have enjoyed my time on the Council immensely and would encourage you to participate. It has been extremely rewarding to work with other Groundwater Guardians and to support the Groundwater Foundation's mission and goals.

Please contact me if you have any questions and to hopefully express an interest in serving on the Council!

Thanks!  
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*A proud Groundwater Guardian community since 1997*