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Drinking Water Decisions of Canadian Municipal Households

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
p	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published

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Drinking Water Decisions of Canadian Municipal Households

by Gordon Dewis

1 Introduction

Water availability and water quality are ongoing issues of interest to Canadians. Canadians are concerned about how the environment affects their health, and thus about the quality of the water they drink.[1] A number of high profile incidents involving municipal water supplies during the past decade have increased the level of scrutiny to which people are subjecting their drinking water.

This paper presents results from the 2007 *Households and the Environment Survey* relating to drinking water decisions of Canadian households. Census metropolitan areas (CMAs) are large urban areas that provide a convenient way to examine data from the survey. While smaller urban areas that have municipal water systems do exist in Canada, the number of respondents in these areas often means that detailed results for these areas cannot be released for reasons of data quality.

Definitions and concepts

A census metropolitan area (CMA) is an area consisting of one or more neighbouring municipalities situated around a major urban core. A census metropolitan area must have a total population of at least 100,000 of which 50,000 or more must live in the urban core. A census agglomeration (CA) must have an urban core population of at least 10,000.

Census subdivision (CSD) is the general term for municipalities (as determined by provincial or territorial legislation) or areas treated as municipal equivalents for statistical purposes (for example, Indian reserves, Indian settlements and unorganized territories).

Municipal households are households that are located in census metropolitan areas (CMAs).

1.1 Household water source

In 2007, 19 out of 20 (95%) households in Canada's census metropolitan areas (CMAs) were connected to municipal water supplies (see Table 1). Certain variations were observed across the country. For example, households in CMAs in Atlantic Canada were less likely to be connected to a municipal water system than households in CMAs in the rest of the country. New Brunswick CMAs had the lowest proportion of households that had a municipal water supply (66%), followed by Nova Scotia (74%). The other provinces[2] all had more than 90% of CMA households connected to a municipal water supply, with Saskatchewan reporting the highest proportion (98%).

Because there is a diversity of municipal water system networks across the country, some municipalities have a higher percentage of households within their boundaries connected to their municipal water system than others.

1. Task Force on a Canadian Information System for the Environment, 2001, *Sharing Environmental Decisions: Executive Summary and Recommendations: Final Report of the Task Force on a Canadian Information System for the Environment*, Ottawa.
2. Excluding Prince Edward Island, which had no census metropolitan areas in the 2006 Census.

Different sources of water

Municipal water refers to water delivered to households through the municipal water supply system.

Private water sources are wells and surface sources such as springs, lakes, rivers and dugouts. These are sometimes referred to as non-municipal water sources.

Collectively, municipal and non-municipal water may be referred to as tap water.

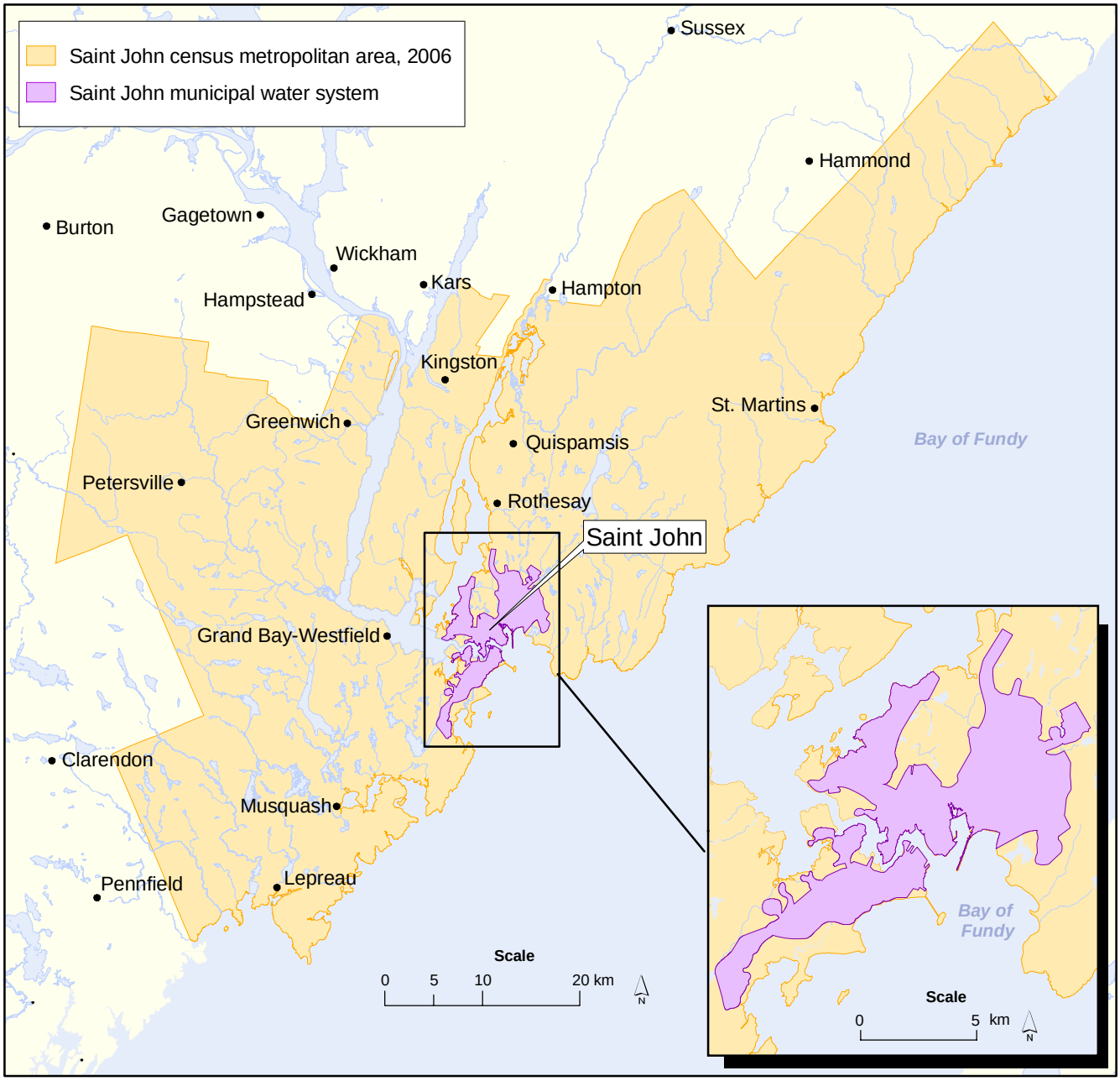
Bottled water includes purchased water in a water cooler, tank or other dispenser. It excludes water coolers that were filled with tap water.

For example, although most of the population in the Saint John CMA is located at the mouth of the Saint John River, the CMA extends northeast and southwest along the shore of the Bay of Fundy, as well as inland (see Map 1). The challenges of maintaining the oldest municipal water system in Canada combined with geographic constraints means that some rural portions of the CMA are not connected to the municipal water system (shown in purple).[3]

Highly urban CMAs on the other hand, such as Windsor, Regina and Vancouver, have much greater shares of their households connected to their municipal water systems, resulting in 100%, 100% and 98% of CMA households, respectively, being connected to the municipal water system (see Table 2).

3. Saint John Water, September 21st, 2009.

Map 1
Saint John, CMA



Source(s): Saint John Water, 2009; Statistics Canada, 2006 Census geographic boundary files.

1.2 Drinking water decisions

Canadian households have options when it comes to the water they drink. Most have the option of drinking the water coming out of their taps, either from their municipality or from a private source, or they can drink bottled water. Of those households that had a municipal water supply in 2007, 59% reported they drank primarily tap water; twenty-nine percent drank primarily bottled water; while 11% reported they drank both tap and bottled water equally.

1.3 Water treatment

In 2007, 56% of CMA households with a municipal water supply treated their water before drinking it (see Table 4). Households in the Kitchener CMA were most likely to treat their water, with eight out of ten doing so, while seven out of ten households in the Toronto and Kelowna CMAs treated their tap water prior to drinking it (see Table 3). Aesthetic reasons (appearance, taste or odour) was most frequently reported by households (58%). One out of two reported the removal of water treatment chemicals, such as chlorine, while 45% treated their water for actual or perceived health risks such as bacterial contamination. Forty-one percent of households treated their water for the presence of metals or minerals.

While there are several types of filters and purifiers that can be used to treat one's drinking water (see text box "Water filters and purification systems"), jug filters were the most common, with 35% of households that had a municipal water supply and drank it using one (see Table 1). On-tap filters and purifiers were the next most frequently reported type of filter (12%). Treatment devices on the main supply pipe were reported by just over 1 in 20 (6%). Four percent of CMA households that had a municipal water supply and drank their tap water reported using more than one type of filter or purifier.

Another common form of water treatment is boiling the water for several minutes before using it. Boil water advisories and orders are often issued by health authorities when there is a risk of bacterial contamination of the water supply as a result of an event like heavy rains causing farm runoff to enter a reservoir, or as a preventative measure when water mains are being maintained or if the water system disinfection systems are not working properly. Usually, these advisories are only in effect for a few days, but they can be in effect for much longer periods of time in extreme cases. As of March 31, 2008, there were 1,766 boil-water advisories in Canada.[4] The reasons for these advisories ranged from "adverse taste to high coliform count to a breakdown in chlorination equipment".[5]

Regardless of the reason, 12% of CMA households that drank municipally-supplied water boiled their water in order to make it safe at least once in the twelve months before they were interviewed (see Table 1).

1.4 CMA households with a non-municipal water supply

While most households in CMAs had municipally-supplied drinking water, 4% of households had non-municipal water supplies, such as private wells and surface sources (for example, springs, lakes, rivers and dugouts) (see Table 5). Because of this low proportion, it is only possible to examine national level data.

More than half (56%) of CMA households with a non-municipal water supply reported they drank primarily tap water. Thirty-four percent reported that they drank primarily bottled water, while 8% reported drinking both tap and bottled water equally.

Fifty-seven percent of households that drank water from a non-municipal supply treated their water prior to consumption. The use of a filter or purifier on the main supply pipe was most prevalent, with 31% of these households using one. Twenty percent used an on-tap filter, while 18% used a jug filter. Twelve percent of households reported that more than one type of filter was used.

4. Canadian Medical Association, 2008, *Investigative report: 1766 boil-water advisories now in place across Canada*, CMAJ, May 6, 178(10):1261, *http://www.cmaj.ca/cgi/reprint/178/10/1261.pdf* (accessed August 25, 2009).
5. *Ibid.*

Water filters and purification systems

There are a number of ways to treat tap water. The method used depends on:

- the source of the water (i.e., municipal versus non-municipal water source);
- the volume that needs to be treated; and
- the reason for treating the water (for example, aesthetic reasons, mineral or metal contamination, contamination by a pathogen such as bacteria).

Households that draw their water from a private source, such as a well, tend to install filters and purification devices on the main water pipe in their dwelling. Households connected to a municipal water supply are more likely to install these devices on their taps or use a jug filter.

More than one such device can be installed on a dwelling's main water pipe. For example, a household may use a mechanical filtration system to remove particulate matter from the water, an ultraviolet purification system to neutralize any bacteria that may be present and a water softener to make the water less hard. Generally, these systems are more expensive than on-tap and jug filter systems.

On-tap filters are devices that are attached directly to a faucet. Typically, they have a bypass valve that allows the tap to be used normally and only filtered when required. Most on-tap filters use activated charcoal as the filter medium.

Jug filters consist of a jug or pitcher with an integrated filter cartridge that usually contains an activated charcoal filter medium. Water is added to a reservoir in the pitcher and flows through the filter before collecting in the main part of the pitcher or jug.

2 Selected municipalities

Municipalities were selected to provide a broad geographic representation, with all provincial capital cities being included (see Tables 2 and 3). The amount of publishable data pursuant to Statistics Canada's data quality guidelines for a municipality was also taken into consideration.

2.1 St. John's CMA

Ninety-one percent of households in Canada's eastern-most CMA, St. John's, had municipally-supplied water in 2007. Almost three-quarters (72%) reported they drank primarily tap water.

Of those households that drank tap water, two-thirds (67%) treated their water prior to consumption. Almost half (49%) of the households that drank tap water used a jug filter to treat their water.

Forty-three percent of households that treated their tap water did so to improve its appearance, taste or odour, while 47% did so to remove water treatment chemicals, such as chlorine.

2.2 Charlottetown CSD[6]

In 2007, 89% of the households in the Charlottetown CSD had a municipal water supply. Two-thirds (67%) of these households reported they drank primarily tap water, with about 27% reporting they drank primarily bottled water. Almost half (49%) of the households that drank tap water reported they treated their water prior to consumption.

6. Although Prince Edward Island did not have any census metropolitan areas according to the 2006 Census of Population, it is possible to identify those respondents who lived in the Charlottetown census subdivision (CSD) based on their postal code. Due to limitations of the sample design, it is only possible to report on a subset of the characteristics pertaining to water treatment.

2.3 Halifax CMA

In 2007, slightly less than three-quarters of the households (74%) in the Halifax CMA had a municipal water supply. Seventy-three percent of these households reported they drank primarily tap water, with the remainder reporting drinking either primarily bottled water or tap and bottled water equally. Just over half (52%) of those households that drank tap water treated the water prior to consumption.

Of those households that treated their tap water prior to drinking it, 58% did so to improve the appearance, taste or odour and half treated their water to remove water treatment chemicals.

2.4 Saint John CMA[7]

Just over half (55%) of the households in the Saint John CMA had a municipal water supply, which is the lowest rate for a CMA in Canada. Slightly more than two-thirds (68%) of households that had a municipal water supply reported they drank primarily tap water.

2.5 Fredericton CA[8]

About 62% of the households in the Fredericton CA had a municipal water supply in 2007. Of these households, 72% indicated they drank primarily tap water.

2.6 Québec CMA

Ninety-five percent of the households in the Quebec CMA had a municipal water supply. Almost 6 out of 10 (59%) of these households reported they drank primarily tap water, while 31% drank primarily bottled water, with 10% drinking both tap and bottled water equally.

Almost 3 out of 10 (29%) of households that drank the municipally-supplied water treated it prior to consumption. Sixty-three percent of these households treated their water to improve the appearance, taste or odour, while 56% did so to remove water treatment chemicals, such as chlorine. Concerns of possible bacterial contamination were cited by 38% of households, while about 36% treated their water to remove metals or minerals.

2.7 Montréal CMA

Almost all (98%) of the households in the Montréal CMA had a municipal water supply in 2007. Six out of ten of these households drank primarily tap water and slightly more than one-quarter (26%) drank primarily bottled water. The remaining 14% reported drinking both tap and bottled water equally.

Forty-three percent of households that drank tap water indicated they treated their water prior to consumption. About one quarter (24%) of households that drank tap water treated it using a jug filter and 12% used an on-tap filter. One in ten households that drank tap water boiled their water in order to make it safe at some point during the twelve months before the survey was conducted.

Just over half of the households (51%) that treated their water did so to remove water treatment chemicals and 48% indicated they did so to improve the appearance, taste or odour. Forty-five percent treated their water to remove metals or minerals and 43% treated their water to address possible bacterial contamination. About 1 in 10 reported they treated their water for some other reason.

7. Due to the relatively low number of respondents in the Saint John CMA that indicated they had a municipal water supply, many of the statistics related to the treatment of tap water cannot be released.
8. Due to the relatively low number of respondents in the Fredericton census agglomeration (CA) that indicated they had a municipal water supply, many of the statistics related to the treatment of tap water cannot be released.

2.8 Ottawa–Gatineau CMA

The Ottawa–Gatineau census metropolitan area is unique among the CMAs in Canada in that it straddles a provincial border. The Quebec and Ontario portions each have their own municipal water supply system, so in addition to the CMA-level analysis, analysis has been done for each provincial part of the CMA.

In 2007, 87% of households had municipally-supplied water. Sixty-four percent of these households reported they drank primarily tap water, while 25% reported they drank primarily bottled water. The remaining 10% reported they drank tap and bottled water equally.

Slightly more than half (51%) of the households in the CMA that drank tap water treated their water in some way prior to consumption. Households treated their water for a variety of reasons. The most frequently reported reason was to improve the appearance, taste or odour (72%), followed by the removal of water treatment chemicals, such as chlorine (49%). The removal of metals or minerals was reported by 45% of households, while about one-third (32%) treated their water to remove possible bacterial contamination.

2.8.1 Quebec part of Ottawa–Gatineau CMA[9]

In 2007, 25% of the households in the Ottawa–Gatineau CMA were on the Quebec side of the Ottawa River.[10] About eight out of ten (81%) had a municipal water supply. Of these households, slightly more than half (53%) reported they drank primarily tap water, while 36% drank primarily bottled water. The remainder reported they drank both tap and bottled water equally.

2.8.2 Ontario part of Ottawa–Gatineau CMA

Three-quarters of the households in the Ottawa–Gatineau CMA were on the Ontario side of the Ottawa River in 2007.[11] Almost 9 out of 10 (89%) had a municipal water supply. Two-thirds of these households reported they drank primarily tap water, while 22% said they drank primarily bottled water. The remaining 11% reported they drank both tap and bottled water equally; bringing the total percentage of households that had a municipal water supply and drank it to 78%.

More than half (55%) of the households that drank tap water from a municipal water supply treated the water prior to consumption, with 38% having used a jug filter. Almost three-quarters (72%) of those households that treated their water did so to improve its appearance, taste or odour. Forty-five percent treated their water to remove water treatment chemicals, while 42% did so to remove metals or minerals. Almost one-third (32%) indicated possible bacterial contamination as the reason they treated their water.

2.9 Toronto CMA

Ninety-six percent of households in the most populous CMA in Canada, Toronto, reported that they had a municipal water supply in 2007. Slightly more than half (53%) of these households indicated they drank primarily tap water, while almost a third (32%) reported drinking primarily bottled water. Fourteen percent reported drinking both tap and bottled water equally.

Of those households that drank tap water, most (70%) treated their water prior to drinking it, with jug filters being the most common form of treatment (44%). Fifteen percent of tap water drinkers reported boiling their water in order to make it safe to drink at some point during the twelve months prior to answering the survey.

Sixty-one percent of households that treated their water did so to improve the appearance, taste or odour. Almost half (49%) treated their water to remove water treatment chemicals, while a similar share (46%) were attempting to

9. The sampling methodology was designed to allow analysis at the census metropolitan area (CMA) level. The distribution of households in the Ottawa-Gatineau CMA means that the data quality of some values is such that the values cannot be released, particularly for the Quebec part of the CMA, which has approximately one-third of the number of households found in the Ontario part of the CMA.
10. Statistics Canada, Households and the Environment Survey 2007 (survey no. 3881), special tabulation.
11. *Ibid*.

remove minerals and metals. Forty-nine percent of households in the Toronto CMA that treated their water did so because of possible bacterial contamination.

2.10 London CMA

In 2007, 90% of the households in the London CMA had a municipal water supply. Just over 6 out of 10 (61%) of these households reported they drank primarily tap water, 28% reported the drank primarily bottled water and about 10% reported drinking both tap and bottled water equally.

More than half (53%) of the households that drank tap water treated their water prior to consumption. One-third (33%) of these households used a jug filter to treat their water, while about 18% used an on-tap filter or purifier.

Of those households that treated their tap water prior to drinking it, more than half (57%) did so to improve the appearance, taste or odour of the water. Forty percent treated their water to remove water treatment chemicals and 36% treated their water to remove metals or minerals. About 31% treated their water because of concerns about possible bacterial contamination.

2.11 Winnipeg CMA

Ninety-four percent of the households in the Winnipeg CMA had a municipal water supply in 2007. Half of these households reported drinking primarily tap water, while 41% indicated they drank primarily bottled water. Slightly less than 1 in 10 (9%) reported they drank both tap and bottled water equally.

More than half of the households that drank tap water (55%) treated their water prior to drinking it, with 38% using a jug filter. About 12% of households that drank tap water used an on-tap filter to treat their water.

Aesthetic reasons (appearance, taste or odour) were the most frequently reported reason tap water drinkers treated their water, with 74% reporting it. Half of the households that treated their water did so to remove water treatment chemicals, such as chlorine. Forty-four percent treated their water to remove possible bacterial contamination and about one-third (32%) treated their water to remove metals or minerals.

2.12 Regina CMA

In 2007, all of the responding households in the Regina CMA reported having municipally-supplied water. Six out of ten households reported that they drank primarily tap water, while 28% drank primarily bottled water. Of those households that drank tap water, just over six out of ten (61%) treated their water, with 40% using a jug filter.

Sixty-eight percent of the households that treated their water did so to improve the appearance, taste or odour and 38% treated the water to remove water treatment chemicals. Slightly more than half (52%) of those households that treated their water before drinking it did so to remove possible bacterial contamination.

2.13 Calgary CMA

Ninety-four percent of the households in the Calgary CMA had a municipal water supply in 2007. Sixty-five percent of these households reported drinking primarily tap water. Just over one-quarter (26%) drank primarily bottled water and 9% reported they drank both tap and bottled water equally.

Sixty-three percent of the households that drank tap water treated the water prior to drinking it. Almost half (46%) used a jug filter to purify their water, while 12% used an on-tap filter.

Aesthetic reasons (appearance, taste or odour) were the most commonly cited reason households treated their tap water, with 65% reporting it. Fifty-six percent treated their water to remove water treatment chemicals such as chlorine, while 44% did so to remove metals or minerals. Almost half (49%) treated their municipally-supplied tap water to remove possible bacterial contamination.

2.14 Edmonton CMA

Nineteen out of twenty (95%) households in the Edmonton CMA had a municipal water supply in 2007. Sixty-three percent of these households reported they drank primarily tap water, 26% reported they drank primarily bottled water and 11% reported drinking both tap and bottled water equally.

Slightly less than half (48%) of those that drank tap water indicated they treated their water prior to using it. Almost one-third (32%) of households that drank tap water used a jug filter to treat it and about one in ten used an on-tap filter or purifier.

The removal of water treatment chemicals, such as chlorine, was the most frequently reported reason for treatment, with more than half (54%) indicating it. Half of the households that treated their tap water did so to improve the appearance, taste or odour, while slightly less than half (48%) treated their water to address possible bacterial contamination. Forty-six percent of households treated their water to remove metals or minerals

2.15 Vancouver CMA

Almost all of the households in the Vancouver CMA (98%) had a municipal water supply in 2007. Slightly less than 7 out of 10 (69%) of these households drank primarily tap water; 24% drank primarily bottled water; and 7% drank both tap and bottled water equally.

Of those households that drank tap water, two-thirds (67%) treated their water prior to consuming it. Thirty-five percent indicated they used a jug filter; 14% used an on-tap filter or purifier; and about 5% used a filter or purifier on the main supply pipe. In the twelve months prior to the respondent's interview, 28% reported they boiled their water in order to make it safe to drink.

Water quality advisories in Vancouver

Turbidity is a measure of the cloudiness of drinking water. In the fall of 2006, the turbidity levels of municipally-supplied water in the Greater Vancouver Regional District (GVRD) reached record levels as a result of extremely heavy rainfall upstream of the Capilano and Seymour reservoirs. As turbidity increases, so too does the risk of gastro-intestinal illness from consuming the affected water. The GVRD Medical Health Officers issued an advisory to use bottled water or boiled water until the conditions improved.

A similar rainfall event occurred in December 2007, while the 2007 survey was being conducted, however no boil water advisory was issued.

More than half (55%) of the households that treated their water did so to remove possible bacterial contamination. As well, half of the households that treated their tap water did so to improve the appearance, taste or odour. One out of two households in the Vancouver CMA that treated their tap water did so to remove water treatment chemicals, such as chlorine. Forty percent of households treated their water to remove metals or minerals.

2.16 Victoria CMA

In 2007, 94% of households in the Victoria CMA had a municipal water supply. Three-quarters of these households reported they drank primarily tap water, while about 17% reported drinking primarily bottled water.

Of the households that drank tap water, 46% reported they treated their water prior to using it. Jug filters were used by 29% of tap water drinking households.

Almost 6 out of 10 (59%) of households that treated their water did so to improve the aesthetic characteristics (appearance, taste, and odour), while 45% did so to remove water treatment chemicals, such as chlorine. More than 4 out of 10 (43%) treated their water to remove possible bacterial contamination.

3 Conclusion

Despite having safe, clean drinking water supplies available to them,[12] many Canadian households choose to drink bottled water, even though the cost per litre is many times that of the water from their taps.

Of the CMAs profiled, Saskatoon, Victoria and Halifax had the highest rates of households that used primarily tap water (76%, 75% and 73%, respectively), while households in the Winnipeg, Toronto and Quebec CMAs were least likely to have used primarily tap water (50%, 53% and 59%, respectively).

Even among those households that chose to drink their tap water, many felt the need to treat it before drinking because of concerns about the taste, odour or appearance of the water, the removal of water treatment chemicals or metals and minerals, or worries about bacterial contamination.

Although municipal and non-municipal water users treated their tap water at roughly the same rate (56% and 57%, respectively), how they treat their water differs significantly. Municipal water users were much more likely to treat their water using a jug filter than non-municipal water users (35% compared to 18%), while non-municipal water users were much more likely to use a filter or purifier on the main supply pipe than municipal water users (31% compared to 6%).

Of those CMAs profiled in this report, households in the Winnipeg CMA reported that they treated their tap water for aesthetic reasons more than any other, while those in the Saskatoon CMA reported the removal of water treatment chemicals. Households within the Vancouver CMA most often reported that the reason for treatment was due to concerns about bacterial contamination (see text box "Water quality advisories in Vancouver").

12. Health Canada, 2007, *Water Talk*, (HC Pub: 4155; Cat.: H128-1/07/514E; ISBN: 978-0-662-46562-1).

Tables

Table 1
Drinking water, municipal water supply, by province, 2007

	Municipal water supply[1]	Households that had a municipal water supply			
		Primary type of drinking water, tap water[2]	Primary type of drinking water, both tap and bottled water[2]	Primary type of drinking water, tap, or both tap and bottled water equally[2]	Primary type of drinking water, bottled[2]
	percent				
Canada	**95**	**59**	**11**	**70**	**29**
Newfoundland and Labrador	91	72	F	80	F
Prince Edward Island[3]	…	…	…	…	…
Nova Scotia	74	73	F	79	F
New Brunswick	66	58	F	63	34
Quebec	97	60	13	73	27
Ontario	94	54	12	66	33
Manitoba	94	50	9 E	59	41
Saskatchewan	98	70	8 E	78	21
Alberta	95	64	10	74	26
British Columbia	97	69	7	75	25

	Households that had a municipal water supply						
	Treated water prior to consumption[4]	Used any filter[4]	Used an on-tap filter or purifier[4]	Used a filter or purifier on the main supply pipe[4]	Used a jug filter[4]	Used more than one type of filter[4]	Boiled water in order to make it safe to drink in the last twelve months[4]
	percent						
Canada	**56**	**49**	**12**	**6**	**35**	**4**	**12**
Newfoundland and Labrador	67	61	F	F	49	F	F
Prince Edward Island[3]	…	…	…	…	…	…	…
Nova Scotia	52	45	F	F	36	F	F
New Brunswick	64	56	F	F	49 E	F	F
Quebec	39	33	10 E	3 E	22	F	9
Ontario	66	60	14	9	43	5	11
Manitoba	55	50	12 E	F	38	F	F
Saskatchewan	44	42	12 E	F	29	F	F
Alberta	56	51	11	F	40	F	9 E
British Columbia	64	49	14	5	33	3 E	25

1. As a percentage of all households in census metropolitan areas (CMAs).
2. As a percentage of all households that had a municipal water supply.
3. Prince Edward Island did not have any census metropolitan areas according to the 2006 Census of Population.
4. Information relates only to households that reported consuming primarily tap water, or both tap and bottled water equally.

Source(s): Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey, 2007(survey no. 3881).

Table 2
Drinking water, municipal water supply, by Canadian municipalities, 2007

	Municipal water supply [1]	Households that had a municipal water supply			
		Primary type of drinking water, tap water [2]	Primary type of drinking water, both tap and bottled water [2]	Primary type of drinking water, tap, or both tap and bottled water equally [2]	Primary type of drinking water, bottled [2]
	percent				
All Census Metropolitan Area (CMA) households [3]	**95**	**59**	**11**	**70**	**29**
St. John's, CMA	91	72	F	80	F
Charlottetown, Census Subdivision (CSD) [4]	89	67	F	73	27 E
Halifax, CMA	74	73	F	79	F
Moncton, CMA	76	51	F	53	43
Fredericton, Census Agglomeration (CA) [4]	62 E	72	F	77	F
Saint John, CMA	55	68	F	80	F
Saguenay, CMA	97	63	F	71	29 E
Québec, CMA	95	59	10 E	68	31
Sherbrooke, CMA	91	74	F	81	F
Trois-Rivières, CMA	95	68	F	79	F
Montréal, CMA	98	60	14	73	26
Ottawa - Gatineau, CMA	87	64	10 E	74	25
Ottawa - Gatineau, CMA (Quebec part)	81	53	F	63	36 E
Ottawa - Gatineau, CMA (Ontario part)	89	67	11 E	78	22
Kingston, CMA	82	60	F	66	33 E
Peterborough, CMA	82	45	F	53	44
Oshawa, CMA	94	48	F	61	38
Toronto, CMA	96	53	14	67	32
Hamilton, CMA	96	56	9 E	65	35
St. Catharines, CMA	94	49	F	59	41
Kitchener, CMA	95	45	F	52	48
Brantford, CMA	88	40	F	53	46
Guelph, CMA	85	54	F	73	F
London, CMA	90	61	10 E	72	28
Windsor, CMA	100	48	F	64	36
Barrie, CMA	87	41	F	52	48
Greater Sudbury, CMA	89	54	F	64	36
Thunder Bay, CMA	89	73	F	82	18 E
Winnipeg, CMA	94	50	9 E	59	41
Regina, CMA	100	60	F	71	28
Saskatoon, CMA	97	76	F	83	17 E
Calgary, CMA	94	65	9 E	74	26
Edmonton, CMA	95	63	11 E	74	26
Kelowna, CMA	93	58 E	F	60 E	F
Abbotsford, CMA	93	60	F	67	33 E
Vancouver, CMA	98	69	7	76	24
Victoria, CMA	94	75	F	82	17 E

See notes at the end of the table.

Table 2 – continued

Drinking water, municipal water supply, by Canadian municipalities, 2007

	Households that had a municipal water supply						
	Treated water prior to consumption [5]	Used any filter [5]	Used an on-tap filter or purifier [5]	Used a filter or purifier on the main supply pipe [5]	Used a jug filter [5]	Used more than one type of filter [5]	Boiled water in order to make it safe to drink in the last twelve months [5]
	percent						
All Census Metropolitan Area (CMA) households [3]	**56**	**49**	**12**	**6**	**35**	**4**	**12**
St. John's, CMA	67	61	F	F	49	F	F
Charlottetown, Census Subdivision (CSD) [4]	49	46	F	F	F	F	F
Halifax, CMA	52	45	F	F	36	F	F
Moncton, CMA	F	F	F	F	F	F	F
Fredericton, Census Agglomeration (CA) [4]	F	F	F	F	F	F	F
Saint John, CMA	F	F	F	F	F	F	F
Saguenay, CMA	F	F	F	F	F	F	F
Québec, CMA	29	25	F	F	16 E	F	F
Sherbrooke, CMA	F	F	F	F	F	F	F
Trois-Rivières, CMA	F	F	F	F	F	F	F
Montréal, CMA	43	36	12 E	F	24	F	10 E
Ottawa - Gatineau, CMA	51	47	7 E	F	36	F	F
Ottawa - Gatineau, CMA (Quebec part)	F	F	F	F	F	F	F
Ottawa - Gatineau, CMA (Ontario part)	55	51	F	F	38	F	F
Kingston, CMA	59	54	F	F	42	F	F
Peterborough, CMA	67	67	F	F	50	F	F
Oshawa, CMA	64	64	F	F	45	F	F
Toronto, CMA	70	62	14	10	44	6	15
Hamilton, CMA	64	58	15 E	F	41	F	F
St. Catharines, CMA	68	62	F	F	39	F	F
Kitchener, CMA	80	76	F	F	57	F	F
Brantford, CMA	51	51	F	F	F	F	F
Guelph, CMA	57	54	F	F	F	F	F
London, CMA	53	50	18 E	F	33	F	F
Windsor, CMA	57	54	F	F	36	F	F
Barrie, CMA	62	61	F	F	F	F	F
Greater Sudbury, CMA	50	47 E	F	F	F	F	F
Thunder Bay, CMA	60	56	F	F	44	F	F
Winnipeg, CMA	55	50	12 E	F	38	F	F
Regina, CMA	61	60	F	F	40	F	F
Saskatoon, CMA	35	32	F	F	23	F	F
Calgary, CMA	63	59	12 E	F	46	F	F
Edmonton, CMA	48	43	10 E	F	32	F	F
Kelowna, CMA	70	53 E	F	F	F	F	F
Abbotsford, CMA	59	55	F	F	F	F	F
Vancouver, CMA	67	50	14	5 E	35	3 E	28
Victoria, CMA	46	39	F	F	29	F	F

1. As a percentage of all households.
2. As a percentage of all households that had a municipal water supply.
3. These values include only households in CMAs. Households in Charlottetown CSD and Fredericton CA are not included.
4. Not included in "All Census Metropolitan Area (CMA) households".
5. Information relates only to households that reported consuming primarily tap water, or both tap and bottled water equally.

Source(s): Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey, 2007 (survey no. 3881).

Table 3

Reasons why households with a municipal water supply treated their water before using it, by Canadian municipalities, 2007

	Treated water prior to consumption[1]	Reasons for treating[2]				
		To improve appearance, taste or odour	To remove water treatment chemicals such as chlorine	To remove metals or minerals	To remove possible bacterial contamination	Other reasons
	percent					
All Census Metropolitan Area (CMA) households[3]	**56**	**58**	**50**	**41**	**45**	**12**
St. John's, CMA	67	43	47	F	F	F
Charlottetown, Census Subdivision (CSD)[4]	49	F	F	F	F	F
Halifax, CMA	52	58	50	F	F	F
Moncton, CMA	F	F	F	F	F	F
Fredericton, Census Agglomeration (CA)[4]	F	F	F	F	F	F
Saint John, CMA	F	F	F	F	F	F
Saguenay, CMA	F	F	F	F	F	F
Québec, CMA	29	63	56	36	38	F
Sherbrooke, CMA	F	F	F	F	F	F
Trois-Rivières, CMA	F	F	F	F	F	F
Montréal, CMA	43	48	51	45	43	10 E
Ottawa - Gatineau, CMA	51	72	49	45	32	F
Ottawa - Gatineau, CMA (Quebec part)	F	F	F	F	F	F
Ottawa - Gatineau, CMA (Ontario part)	55	72	45	42	32	F
Kingston, CMA	59	74	F	F	F	F
Peterborough, CMA	67	76	F	F	F	F
Oshawa, CMA	64	74	49	F	F	F
Toronto, CMA	70	61	49	46	49	10
Hamilton, CMA	64	61	45	22	31	F
St. Catharines, CMA	68	69	48	F	42	F
Kitchener, CMA	80	57	50	38 E	30 E	F
Brantford, CMA	51	F	F	F	F	F
Guelph, CMA	57	F	F	F	F	F
London, CMA	53	57	40	36	31 E	F
Windsor, CMA	57	62	57	F	51	F
Barrie, CMA	62	F	F	F	F	F
Greater Sudbury, CMA	50	F	F	F	F	F
Thunder Bay, CMA	60	60	46	34	35	F
Winnipeg, CMA	55	74	50	32 E	44	F
Regina, CMA	61	68	38 E	F	52	F
Saskatoon, CMA	35	62	64	51	F	F
Calgary, CMA	63	65	56	44	49	F
Edmonton, CMA	48	50	54	46	48	F
Kelowna, CMA	70	F	F	F	F	F
Abbotsford, CMA	59	81	75	F	F	F
Vancouver, CMA	67	50	50	40	55	10
Victoria, CMA	46	59	45	F	43	F

1. As a percentage of households with a municipal water supply reporting that tap water was used.
2. Relates only to households reporting that tap water was used.
3. These values include only households in CMAs. Households in Charlottetown CSD and Fredericton CA are not included.
4. Not included in "All Census Metropolitan Area (CMA) households".

Source(s): Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey, 2007 (survey no. 3881).

Table 4

Reasons why households with a municipal water supply treated their water before using it, by province, 2007

	Treated water prior to consumption[1]	Reasons for treating[2]				
		To improve appearance, taste or odour	To remove water treatment chemicals such as chlorine	To remove metals or minerals	To remove possible bacterial contamination	Other reasons
	percent					
Canada	**56**	**58**	**50**	**41**	**45**	**12**
Newfoundland and Labrador	67	43	47	F	F	F
Prince Edward Island[3]	…	…	…	…	…	…
Nova Scotia	52	58	50	F	F	F
New Brunswick	64	72	50	F	F	F
Quebec	39	50	51	44	42	11
Ontario	66	63	48	42	43	11
Manitoba	55	74	50	32[E]	44	F
Saskatchewan	44	65	51	42	45	F
Alberta	56	59	56	45	49	14
British Columbia	64	53	51	39	53	10

1. As a percentage of households in census metropolitan areas with a municipal water supply reporting that tap water was used.
2. Relates only to households reporting that tap water was used.
3. Prince Edward Island did not have any census metropolitan areas according to the 2006 Census of Population.

Source(s): Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey, 2007 (survey no. 3881).

Table 5

Drinking water, non-municipal water supply, by Canadian municipalities, 2007

	Non-municipal water supply[1]	Households that had a non-municipal water supply			
		Primary type of drinking water, tap water[2]	Primary type of drinking water, both tap and bottled water[2]	Primary type of drinking water, tap, or both tap and bottled water equally[2]	Primary type of drinking water, bottled[2]
	percent				
All Census Metropolitan Area (CMA) households	**4**	**56**	**8**	**64**	**34**

	Households that had a non-municipal water supply						
	Treated water prior to consumption[3]	Used any filter[3]	Used an on-tap filter or purifier[3]	Used a filter or purifier on the main supply pipe[3]	Used a jug filter[3]	Used more than one type of filter[3]	Boiled water in order to make it safe to drink in the last twelve months[3]
	percent						
All Census Metropolitan Area (CMA) households	**57**	**55**	**20**[E]	**31**	**18**	**12**[E]	**F**

1. As a percentage of all CMA households.
2. As a percentage of all households that had a non-municipal water supply.
3. Information relates only to households that reported consuming primarily tap water, or both tap and bottled water equally.

Source(s): Statistics Canada, Environment Accounts and Statistics Division, Households and the Environment Survey, 2007 (survey no. 3881).