

Champlain Water District

Water Quality 2005

*Safe Drinking Water
All the Way to your Tap*

Inside:

Find out why we will be changing the way we disinfect the water and how it may affect you.

This change will start in May 2006.



In 2004, Champlain Water District's Peter L. Jacob Water Treatment Facility maintained its high degree of treatment process optimization and continued its 6th straight year as the first water utility in the country to receive USEPA's Excellence in Water Treatment Award from the Partnership for Safe Water. We invite school and community groups to visit our treatment facility, view this prestigious award, and learn about their drinking water "from source to tap."

The Champlain Water District (CWD) works hard to assure safe, high quality drinking water is delivered to its customers. We accomplish this by:

- protecting the Lake Champlain watershed as the secluded, deep water source that supplies the water,
- treating the water with state-of-the-art filtration, disinfection and corrosion control at the Peter L. Jacob water treatment plant,
- assuring corrosion control and disinfection by-product control throughout the county-wide distribution system.

This year's Water Quality Report focuses on the efforts that CWD is undertaking to change its method of disinfection from "free chlorination" to "chloramination" in order to improve drinking water quality, and how this change may affect you, our customers. **Please turn to the center pages of this report to learn more.**

The water that CWD provides throughout Chittenden County - as far North as Milton, as far East as the Village of Jericho, and as far South as Shelburne - is of the highest quality and serves many uses for 68,000 customers and many of the areas major employers, such as IBM, Husky and IDX Corporation.

Regulatory Corner

Maximum Contaminant Level (MCL)

Maximum Contaminant Level Goal (MCLG)

Treatment Technique

Regulation of Contaminants



What are the USEPA regulations ?

CWD's philosophy has always been to go beyond Federal and State Requirements to protect public health as we continue to meet all present Federal and State water quality standards. In order for our customers to understand these standards, there are a few USEPA definitions to learn:

- ▶ **Maximum Contaminant Level (MCL)** - the highest level of a contaminant that is allowed in drinking water.
- ▶ **Maximum Contaminant Level Goal (MCLG)** - the level of a contaminant in drinking water below which there is no known or expected risk to health.
- ▶ **MCLs and MCLGs are set by USEPA** after extensive research and public comment. MCLs define a safe water supply by setting levels a trace contaminant may not exceed. MCLs are set as close to the MCLG as feasible using the Best Available Technology.
- ▶ **Treatment Technique** - a USEPA requirement for water suppliers to install and optimize water treatment processes that are intended to reliably remove a required percentage for a specific possible contaminant.
- ▶ **Action level** - the concentration of a contaminant which triggers treatment or other requirements that a water system must follow.
- ▶ **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 disinfectants in maintaining sanitary quality.
- ▶ **Maximum Residual Disinfectant Level (MRDL)** - The highest level of a disinfectant allowed in drinking water. Addition of a disinfectant maintains sanitary quality.
- ▶ **Parts per million (ppm) or Milligrams per Liter (mg/l)**
- ▶ **Parts per billion (ppb) or Micrograms per Liter (µg/l)**
- ▶ **Picocuries per liter (pCi/L)**- a measure of radioactivity in water
- ▶ **Million fibers per liter** - a measure of Asbestos fibers in water
- ▶ **Treatment techniques are set by USEPA** when monitoring technology cannot precisely detect certain contaminants. In these cases, a surrogate measurement is used to determine compliance in a reliably operated treatment facility. An example is the use of turbidity (a measurement of water clarity or cloudiness) to indicate microbial protozoan removal in a treatment plant. (Turbidity is a good indicator of the effectiveness of the disinfectants, the filtration, and the general quality of the water.)
- ▶ **USEPA wants you to know** that the presence of certain contaminants in drinking water does not necessarily indicate that the drinking water poses a health risk. USEPA, and the State of Vermont prescribe regulations which limit the amount of certain contaminants in water provided by a public water system. CWD monitors for all regulated trace contaminants (including naturally occurring radioactivity) on specific schedules as required by USEPA. USEPA never expresses results of water monitoring as "zero." Scientifically, it is impossible to measure "zero." Therefore, USEPA requires every trace substance to be analyzed using an approved method with a required detection limit. When no trace substance is found, then it is expressed as "none detected = ND."
- ▶ **CWD monitors for these trace chemicals** even though they are extremely unlikely to be present in CWD's source because of the characteristics of CWD's deep water Shelburne Bay source. CWD has monitored 109 trace substances for many years according to the schedules established by the USEPA and has received all non-detect test results for 2004. CWD's non-detect monitoring results are not specifically listed in this report due to space limitations. **To receive a listing of these specific undetected contaminants - contact CWD and ask for the latest specific non-detect report.**

Water characteristics

Immunocompromised
Persons read this!



Sanitary quality

Source quality

Disinfectant-by-product
quality

Aesthetic quality



In providing a safe, high quality water there are several characteristics that a water supplier should meet:

1. Sanitary quality - bacteriological, viral and protozoan quality that is assured by consistent and efficient filtration, and, by disinfection with chlorine. This is the primary goal of any water supplier as consumers cannot reliably achieve this protection with home treatment devices.

CWD wants immunocompromised persons (ICP's) to know that they may be particularly at risk from infections and should seek advice from their health care providers. ICP's include:

1. Those undergoing chemotherapy or organ transplants.
 2. Those with AIDS / HIV or other immune system disorders.
 3. Some elderly
 4. Infants.
2. Source quality - the cleaner a water supplier's source, the more effective a water supplier's treatment process is at producing high quality water. Common sense tells us that if you have high quality untreated water going into a facility, then you will have the highest quality finished water leaving that facility. This is important for sanitary and trace chemical considerations. Home owners cannot reliably treat poor quality source waters on their own.

In general, USEPA wants you to know that, depending on the condition of any water source and its watershed area, some untreated source water may be impacted by the following contaminants:

1. Biological (Viruses & Bacteria).
 2. Inorganic (Metals & Salts).
 3. Synthetic organic chemicals (Pesticides, Herbicides, Volatile Organic Chemicals).
 4. Naturally occurring radioactivity.
3. Disinfectant-by-product quality - disinfection with chlorine is essential to assure sanitary water. This disinfection process does create by-products (DBPs) that impact the finished water. All water suppliers must deal with the balancing of sanitary risks from too little chlorine with the DBP risks from too much chlorine. DBPs may be reduced by the consumer using treatment devices approved by NSF International for TTHM removal only if these devices are properly installed and continually maintained.
 4. Aesthetic quality - aesthetic considerations also determine the acceptability of a water supply. Disinfection processes and distribution system management also impact water taste and odor. Taste/odor is relatively easy to reduce by the consumer using properly installed and maintained NSF approved treatment devices or by simply allowing water to set in a refrigerated container.

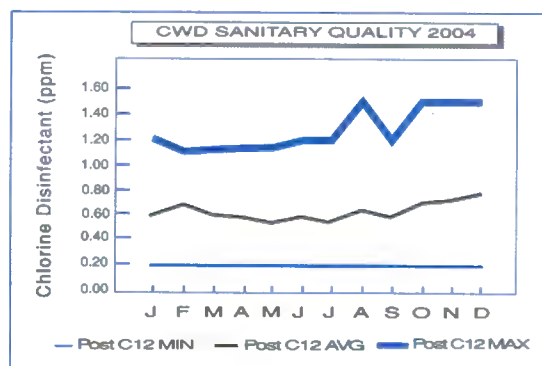
Violations that occurred during the year:
Champlain Water District had no violations during the year.

USEPA believes that drinking water, including bottled water, may reasonably be expected to contain at least trace amounts of contaminants. More information about contaminants and associated health risks can be obtained by calling CWD or the Safe Drinking Water Hotline.

CWD's SANITARY QUALITY

When evaluating a high quality water you should look for:

- a) a chlorine residual of at least 0.1 mg/L but not more than 4.0 mg/L (MRDL),
- b) a median heterotrophic plate count (HPC) of less than 500 cfu/ml, and
- c) total coliform absent 95% of the time.
- d) less than 0.10 ntu turbidity from each filter.



This graph shows that CWD's disinfectant residual stays consistent throughout the year and is well below the USEPA allowable level for chlorine residual of 4.0 mg/L.

The data from the table below shows that, even during warm water conditions experienced during June through October, the sanitary quality of CWD water is excellent with very low HPC levels and total coliforms absent 100 % of the time.

2004 MONTH	A VG/WATER TEMP/DEG-F	MEDIAN HPC COUNT (STD=<500)	TOTAL COLIFORM (STD ABSENT 95% OF THE MONTH)
January	45	2	Absent 100%
February	43	1	Absent 100%
March	41	2	Absent 100%
April	43	1	Absent 100%
May	48	2	Absent 100%
June	56	7	Absent 100%
July	60	5	Absent 100%
August	62	7	Absent 100%
September	64	5	Absent 100%
October	62	3	Absent 100%
November	58	6	Absent 100%
December	51	6	Absent 100%

Safe Drinking Water All The Way To Your Tap

This year's Water Quality Report focuses on the efforts that CWD is undertaking to change its method of disinfection from "free chlorination" to "chloramination" in order to improve drinking water quality, and how this change may impact you, our customers.

Drinking Water Disinfection

Your drinking water supply comes from a deep, 75 ft intake, 2500 ft from shore in Shelburne Bay. It is treated and conveyed to your home through distribution system pipelines and storage tanks. Federal regulations require that the water remains disinfected all the way through to your home tap. Disinfection assures the biological safety of the water. It is the disinfection method that CWD will be changing in order to improve your drinking water quality to further protect public health. Chlorine and chloramines can be used as disinfectants.

Disinfection By-Products

Every method of disinfection creates disinfection by-products (DBPs) as the water is treated and pumped through the distribution system. Federal regulations limit the amount of DBPs at your home tap. These regulations are becoming more strict to improve the overall drinking water quality for consumers.

When chlorine is used it is called free chlorine disinfection. The chlorine combines with natural materials in the water to form DBPs called trihalomethanes (TTHMs) and haloacetic acids (HAA5s). When chloramines are used instead of chlorine, fewer of these DBPs are formed. This results in better water quality.

For over 30 years CWD has successfully assured safe drinking water to its customers. CWD is a

respected national leader in assuring such high water quality and is taking steps to make sure its water quality is improved even further.

Right now federal Safe Drinking Water Act regulations include the following maximum concentrations of total TTHMs and HAA5s:

TTHMs.....80 µg/l
HAA5s.....60 µg/l

In comparison, CWD's drinking water has averaged only 45 µg/l TTHMs and 52 µg/l HAA5s. CWD is committed to reduce these levels even further to continue to assure safe drinking water for its customers.

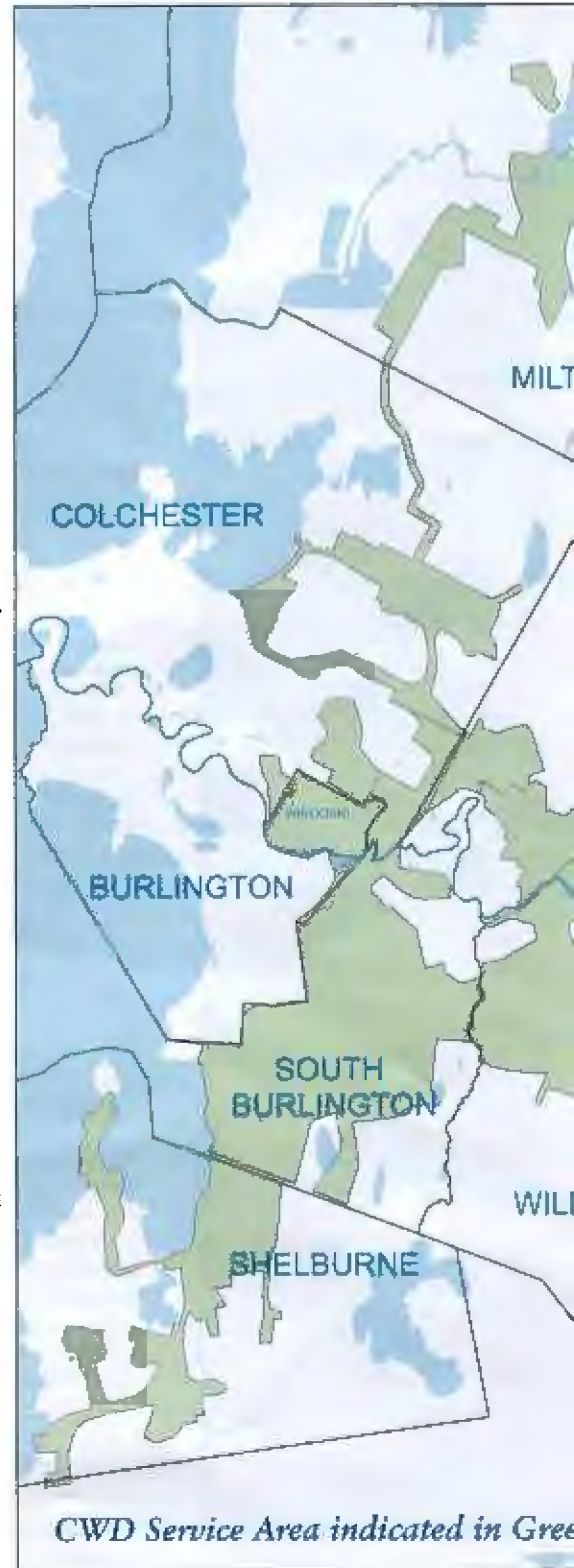
This is why CWD is changing its disinfection method from free chlorine to chloramines – to reduce the disinfection by-products to assure high quality water that continues to satisfy regulatory requirements.

A recent national survey of 63 water utilities reported an 82-percent average reduction in disinfection by-products after they changed from chlorine to chloramine.¹ CWD expects the following before and after results once the change to chloramines disinfection is made:

DBPs	Before Change	After Change
TTHMs	45 µg/l	25 µg/l
HAA5s	52 µg/l	28 µg/l

Municipal Areas Served by "Town" Water in:

Shelburne, South Burlington, Williston, Essex Junction, Essex, Jericho Village, Milton, Winooski, Colchester along Mallet's Bay, and the non-lake shore portion of Colchester.



CWD Service Area indicated in Green

¹ AWWA Research Foundation report, "A Guide for the Implementation and Use of Chloramines," 2004. Much of the information contained in this annual Water Quality Report is taken from this publication.

Questions and Answers about chloramine disinfection

What's the difference between chlorine and chloramine?

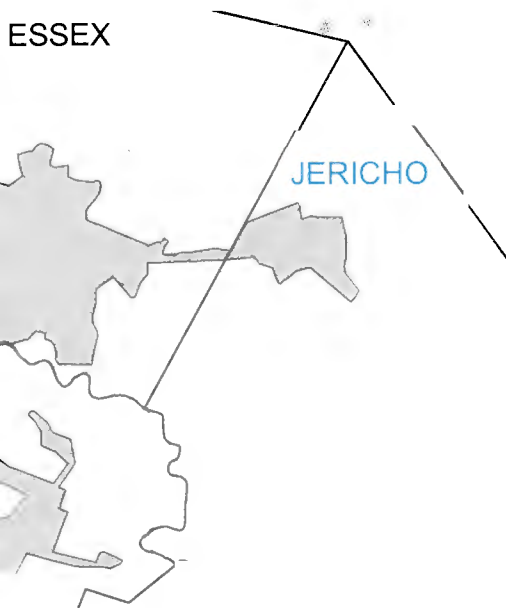
Chlorine is a disinfectant chemical that is added to the drinking water at the treatment plant by using the

There's only one goal at the Champlain Water District in South Burlington, Vt. – to provide the safest drinking water supply possible. What may be the case at many water systems, but Champlain Water District is not just another water system. The medium-sized municipal utility in northwestern Vermont has attained a national reputation for achieving excellence and widespread public confidence. Behind the scenes, a proactive political body supports management's commitment to using the best resources and technology available to produce exceptionally high-quality water."

Excerpt from AWWA Mainstream publication,

Vol. 48, No. 3

ESSEX



Public Involvement:

CWD is governed by a Board of Commissioners publicly elected from each member town. Public Board meetings are held at 12 noon the second Tuesday of each month.

liquid chemical sodium hypochlorite. The chlorine then stays in the water at a low concentration throughout the distribution system to keep the water safe by protecting against biological growth.

Chloramine is a form of chlorine that is treated by adding ammonia to the water after chlorine is added. This combination of chemicals forms chloramines instead of free chlorine. Like chlorine, chloramine also keeps the water safe by protecting against biological growth throughout the distribution system, but it also produces less DBPs.

When will the change to chloramine take place?

CWD is currently installing new chemical feed equipment that will provide for the use of chloramines. However, the new equipment will not be turned on until the *spring of 2006* in order to provide plenty of time for customers and each community to understand and prepare for this change in disinfection method.

Is chloramine disinfection safe? Is it a proven treatment method?

Yes to both questions. The US Environmental Protection Agency (EPA) accepts chloramines as a disinfectant and recognizes its ability to control the formation of disinfection by-products. There are many cities and towns throughout the country that use chloramines for disinfection.

Chloraminated water is safe for bathing, drinking, cooking and all everyday uses. For the majority of consumers there will be no negative effects as a result of this change. However, there are two groups of people who need to take special care with chloraminated water: kidney dialysis patients and fish owners. This is discussed further below.

How will the change to chloramine disinfection affect me?

Your drinking water will have less disinfection by-products, and will have less of a chlorine taste and odor. Most customers will not observe any difference, other than

some reduction in the "chlorine" smell they may have experienced when drinking a glass of water. Some centers and hospitals providing kidney dialysis and individuals, commercial establishments and laboratories maintaining fish tanks will have to ensure that the pretreatment steps they currently use to remove free chlorine are adjusted to remove chloramines. For example, carbon filtration or water treatment products that neutralize chloramines may be used. If you use a carbon filter it must contain high quality granular activated carbon and you must permit sufficient contact time.

What about fish tank owners?

Fish tank owners, including hobbyists, restaurants and fish markets who now treat for chlorine in the water should assure that they have appropriate carbon filtration equipment or use water treatment products that neutralize chloramines. These products are readily available through pet and aquarium stores, as well as from companies that service commercial fish tanks.

Does letting water sit for a few days remove chloramines from tanks or pond water?

No. Unlike chlorine, which disappears when water sits for a few days, chloramines may take weeks to disappear.

How are kidney dialysis patients affected by chloramine?

Chloramine can diffuse through the reverse osmosis membrane filters used by some hemo-dialysis machines, and patients undergoing kidney dialysis could be adversely affected. To prevent this, dialysis equipment must be adjusted to remove chloramines and the treated water must be monitored to measure the final chloramine concentration. Dialysis facilities will need to modify and/or test their dialysis treatment equipment to determine its continued safe operation.

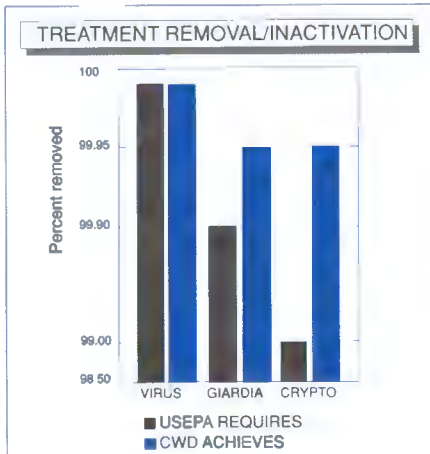
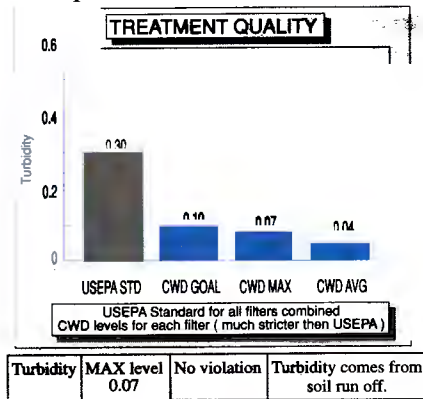
What should people with home dialysis machines do to remove chloramine?

Check with your physician. Often, home dialysis service companies can make the needed modifications.

CWD'S SANITARY QUALITY (continued)

Protozoan and virus protection is provided through optimized filtration and post-disinfection. When evaluating a water supplier for proper protozoan and virus treatment, the combined filtration and post-disinfection processes should remove and destroy 99% of *Cryptosporidium* oocysts, 99.9% of *Giardia* cysts and 99.99% of viruses.

USEPA believes some people may be more vulnerable to contaminants in drinking water than the general population. *Cryptosporidium* and *Giardia* are microbial parasites that can be found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. This is why CWD continues to upgrade and optimize its water treatment processes.



CWD's continued use of state of the art particle counting technology has entered a new phase as our first generation counters were replaced with upgraded technology. This investment in new particle counting technology continues to allow each process filter to be optimized at removing particles larger than 2 microns (about 1/13,000th of an inch) in size.

CWD continues the *Giardia* and *Cryptosporidium* testing it has been conducting since 1989 and continues to sample for *Giardia* and *Cryptosporidium* during the "worst" case times of the year – during late fall when Shelburne Bay's thermocline drops, and during the spring snowmelt. The snowmelt sampling for March 2004 showed 3.8 *Giardia* cysts/ 100 Liters of untreated Lake Water. There was no *Cryptosporidium* detected. The fall sampling showed none detected for both *Giardia* and *Cryptosporidium*. CWD has conducted several studies with Dr. Tom Manley of Middlebury College to determine the best strategic location for our new intake pipe to avoid the snowmelt water that can impact specific locations within Lake Champlain.

CWD'S SOURCE QUALITY

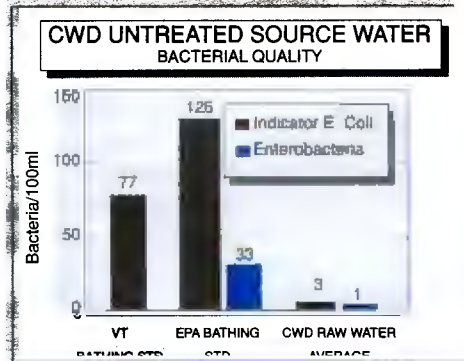
Many of the people who live along Shelburne Bay, and the streams flowing into Shelburne Bay, do not realize that their homes, yards, and parks are within an area called the "Shelburne Bay Watershed." By protecting the Shelburne Bay watershed, residents help protect the quality of CWD's deep Shelburne Bay source. The streams that make up this watershed include the La Platte River, Potash Brook, North Brook, Munroe Brook, McCabes Brook, and Bartlett Brook. CWD's water source is far off shore in Shelburne Bay. CWD invested in this source area because it is well away from potential sources of contamination.

CWD's Watershed Management Program for Source Protection has the following objectives:

- Characterize watersheds (all the rain and snow melt that enter a specific stream or river come from an area that is called that stream's "watershed") and the Shelburne Bay Source.
- Build partnerships toward improving lake water quality.
- Educate people about Shelburne Bay's role in providing drinking water.
- Limit degradation of the CWD source water.

In a major initiative addressing specific stormwater needs, Champlain Water District has joined with Vermont's U.S. Senators, Pat Leahy and Jim Jeffords, and manages a grant program for Chittenden County municipalities that will construct stormwater control measures where they are needed the most. \$1.5 Million was made available through this program through the efforts of Vermont's Senate delegation in 2003 and an additional \$1.5 million in 2004.

For more info on stormwater measures go to www.smartwaterways.org



This graph shows how CWD untreated source water contains very low numbers of sanitary bacterial indicators even when comparing with levels USEPA says are allowable in bathing beach water. Of course, CWD finished water is absent of any bacteriological indicator organisms.

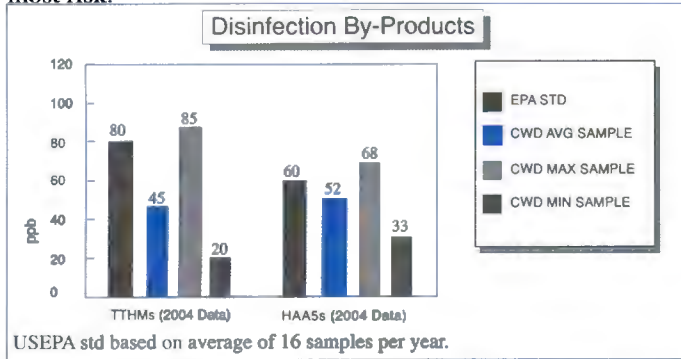
CWD'S DISTRIBUTION SYSTEM MONITORING

In addition to the 109 trace chemicals monitored for within CWD's deep water Shelburne Bay source, by agreement, CWD monitors the distribution systems of our municipal, served systems. The sanitary quality of this monitoring was described above. Another type of distribution monitoring is testing for asbestos fibers within systems that contain limited amounts of asbestos-cement (AC) pipe. AC pipes are structurally stronger than plain cement pipes and are present in limited areas of some of the served systems. The MCL for Asbestos is 7 million fibers/L.

MUNICIPAL SYSTEM	MCL	LEVEL DETECTED	VIOLATION YES OR NO	SOURCE
SOUTH BURLINGTON	7 Million Fibers/L	None Detected	No	AC pipe
ESSEX JUNCTION	7 Million Fibers/L	None Detected	No	AC pipe
COLCHESTER TOWN SYSTEM	7 Million Fibers/L	None Detected	No	AC pipe
VILLAGE OF JERICHO	7 Million Fibers/L	0.199 million fibers/L (35 times less than MCL)	No	AC pipe
WILLISTON	7 Million Fibers/L	0.189 million fibers/L (37 times less than MCL)	No	AC pipe

CWD's DISINFECTANT BY-PRODUCT QUALITY

CWD maintains high quality drinking water, free from pathogenic (dangerous) bacteria and protozoa while, at the same time, keeping disinfectant by-products (DBPs) to a minimum. USEPA has recently implemented a more restrictive new standard for two groups of compounds - known as total trihalomethanes (TTHMs); and total haloacetic acids (HAA5s). CWD is fortunate to have extremely low natural levels of bromide in its source water as the brominated DBPs have been implicated as contributing the most risk.



	MCL	Violation Yes or No	Average Detected	Range Detected	Source
TTHMs	80 ppb	No	45 ppb	20 - 85 ppb	By Product of Disinfection
HAA5s	60 ppb	No	52 ppb	33 - 68 ppb	By Product of Disinfection

* Some people who drink water containing TTHMs or HAA5s in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.

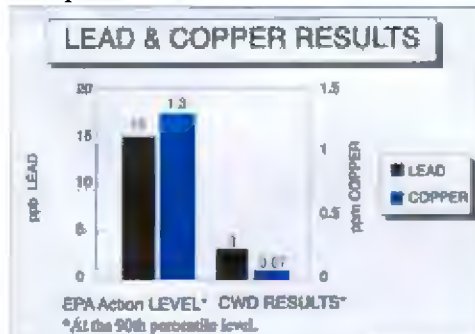
This graph shows that CWD water has approximately one half of the TTHM standard.

CWD is lowering TTHMs and HAA5s and continuing to produce high quality sanitary water. Some approaches being used are more effective disinfection at lower disinfectant levels and alternative pre-oxidation. **Chloramines, a new disinfection process, will be implemented in the Spring of 2006.**

Testing has shown significant TTHM and HAA5 reductions using this beneficial process.

CWD's LEAD & COPPER TREATMENT

CWD adds 0.09 to 0.16 mg/L of zinc and from 0.9 to 1.6 mg/L of phosphate to reduce lead and copper leaching from individual home plumbing. This program has been very effective and allowed CWD to become one of the first systems in Vermont to meet the USEPA action level for lead and copper leaching from home plumbing. CWD is required to extensively monitor 32 high risk sample sites for lead.



In 2004, zero of 32 sample sites exceeded the USEPA action level for lead. If your house contains lead solder, flush your tap for 30 seconds before using the tap water. The next 3 year monitoring cycle begins June 2007.

CWD's AESTHETIC QUALITY

All of the different types of water quality presented - sanitary, source and DBP - interact and influence one another as well as affecting the aesthetic quality of the water. CWD's challenge - as for all water suppliers - is to manage all these aspects to produce a high quality water. After CWD produces the water, it is distributed to 12 municipal water systems within nine served communities. The 12 water systems then deliver the water to you, the consumer.

The following table lists CWD aesthetic water conditions. These are parameters that are not based upon human health concerns, but affect how a consumer views their water supply.

AESTHETIC CONDITION	USEPA SECONDARY MCL	CWD TREATED WATER
ALUMINUM	STATE SELECTED	LESS THAN .06 ppm
COLOR	15 UNITS	2 UNITS
ALKALINITY	N/A	42-56 ppm AS CaCO3
CALCIUM HARDNESS	N/A	45 ppm AS CaCO3
TOTAL HARDNESS	N/A	61 ppm AS CaCO3 (3.6 GRAINS/GAL)
CHLORIDE	250 ppm	17 ppm
FOAMING AGENTS	0.5 ppm	LESS THAN 0.1 ppm
TOTAL ORGANIC CARBON	N/A	2.1-2.3 ppm
CONDUCTIVITY	N/A	175 µS/cm (127-220)
pH	6.5-8.5 pH UNITS	6.8-7.6 pH UNITS
TOTAL DISSOLVED SOLIDS	500 ppm	113 ppm
IRON	0.3 ppm	LESS THAN .01 ppm
MANGANESE	.05 ppm	.007 ppm
SODIUM	N/A	7.5 ppm
POTASSIUM	N/A	1.31 ppm
SULFATE	250 ppm	15 ppm
SILVER	0.1 ppm	LESS THAN .005 ppm*
SILICA	N/A	1.4 ppm
SILICON	N/A	.67 ppm
BROMIDE	N/A	LESS THAN .02 ppm
FLUORIDE **	2 ppm	1.14 ppm (.87-1.51)

* Silver may leach from consumer purchased carbon pre-filters

NOTE: Except for bacteriological testing, all CWD test analyses are conducted by independent certified laboratories. Bacteriological testing is conducted by CWD's on-site State Certified Laboratory.

** CWD adds 1.0 ppm of fluoride for dental health under the Vermont Department of Health Fluoridation Program.

ADDITIONAL INFORMATION

CWD contacts: 802-864-7454

Jim Fay - General Manager

Dick Pratt - Asst. General Manager/Chief Engineer

Michael G. Barsotti - Water Quality Director

mikeb@cwd-h2o.org

USEPA Safe Drinking Water Hotline (provides information on potential health effects and how to lessen infection risk from *Cryptosporidium* and other biological contaminants)

1-800-426-4791

Vermont DEC Water Supply Division

1-800-823-6500

Vermont Department of Health Laboratory

1-800-660-9997

Municipal water systems served by CWD:

Town of Shelburne	985-5120
City of South Burlington	864-4361
Town of Williston	878-1239
Village of Essex Junction	878-6944
Town of Essex	878-1344
Colchester Fire District #1	654-2476
Colchester Fire District #3	878-4337
Village of Jericho	899-2938
Malletts Bay Water Company	864-7454
Town of Milton	893-1605
City of Winooski	655-6422
Colchester Town	864-7454

Champlain Water District

403 Queen City Park Road
South Burlington, VT 05403

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AVAILABLE CWD PUBLICATIONS

Watershed Management Program for Source Protection

Cryptosporidium - The Filtration Challenge, New England Water Works Association (NEWWA) Journal, December 1996.

A Water Utility's Experience Using Third Party Assessment and Self Assessment in Striving to Achieve Filtration Process Optimization, American Water Works Association, 1996 Water Quality Technology Conference.

Applying Self-assessment to Filter Optimization, American Water Works Association Opflow, February 1997.

Evaluation of Particle Counters Using Microscopic Counts, Journal of American Water Works Association, December 1997.

Count Matching In-Situ Particle Counts to Scanning Electron Microscopic Counts for Treatment Facility Process Control, AWWA, 1998 Water Quality Technology Conference.

Why a Water Utility Should Join the National Initiative Entitled the Partnership for Safe Water, NEWWA Annual Conference, September 1998 and Reseau Environnement, St. Hyacinthe, Quebec, March 2000. NEWWA Journal, June 2000. AWWA Annual Conference 2004.

Surface Water Source Characterization to Overcome Operational Complacency and Aid Source Delineation, 1999 Water Quality Technology Conference, November 1999.

Investigating and Controlling THAA's within a Complex Transmission System, 2000 Water Quality Technology Conference, October 2000.

Exploring the Interrelationship of Water Quality Standards, Source Protection, and Wastewater Treatment in Northwestern Vermont, AWWA Source Protection Conference, January 2001.

Modelling Storage and the Inlet Reconfiguration, AWWA International Retention Time Management Symposium 2002.

Investigating a Standpipe Mixing System as a Tool for Managing Retention Time and DBP Formation, 2003 Water Quality Technology Conference, November 2003.

CWD Lead Public Information Flyer.

Partnering to Advance Source Protection Within the Storm Water Arena, 2005 AWWA Source Protection Conference, January 2005.

Municipal Public Utilities "Watch Program"

We are requesting the public to voluntarily set up a Public Utilities Infrastructure "WATCH PROGRAM," modeled after the success of existing Neighborhood Watch Programs.

We are asking the public to report any suspicious activity to their local police department. Examples would include unauthorized use of fire hydrants, or trespassing in water or wastewater related treatment facility areas, such as storage tanks.

This type of public surveillance will reduce the costs associated with vandalism, as well as further enhance overall security during the present national challenge that we are facing.

Any type of non-emergency questions can be referred to your local public works director with the member towns, or the Champlain Water District's general manager. We thank you for your help in assisting us in enhancing public safety and security. This announcement is provided by the Champlain Water District in conjunction with the following communities: South Burlington, Shelburne, Essex Town, Essex Junction, Williston, Colchester, Winooski, Milton, and the Village of Jericho.

Please open to find Champlain Water District's latest water quality report.

Employers should provide enclosed information to their employees and landlords to their tenants.

Extra copies are available at no charge by contacting CWD or CWD served systems.