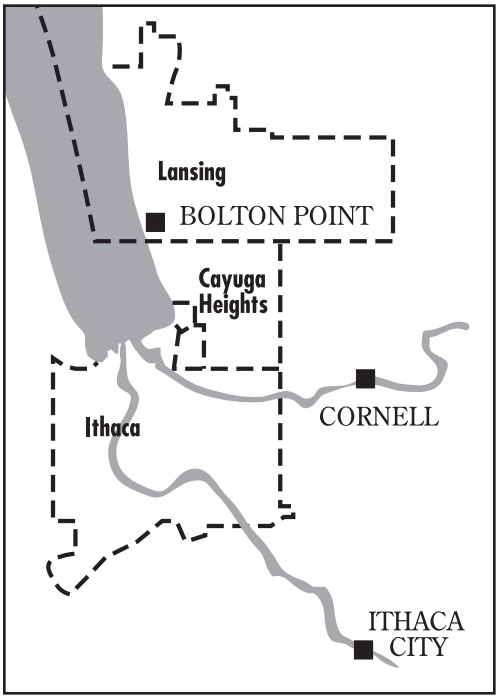
Drinking Water Quality Report 2011

Bolton Point Municpal Water System City of Ithaca Water System Cornell University Water System



In the spirit of municipal cooperation, the Bolton Point, City of Ithaca, and Cornell University water systems provide this unified *Drinking Water Quality Report.* These three interconnected water supply systems are the largest in Tompkins County and we want you to be fully informed about your water's quality and the need to protect its sources. This overview of last year's water quality includes 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 your drinking water, please contact the appropriate person listed at the right. Or you may attend any of our regularly scheduled public meetings.

Location and Description of Water Sources

BOLTON POINT MUNICIPAL WATER SYSTEM (BOLTON POINT OR BP-MWS)

Cayuga Lake is the source of water for the BP-MWS. The water intake is approximately 3 miles north of Stewart Park, 400 feet out from the eastern shore of Cayuga Lake and 65 feet below the surface of the lake. The system serves residents of the Towns of Dryden, Ithaca and Lansing, and the Villages of Cayuga Heights and Lansing and provides water to some City of Ithaca customers on Oakwood Lane, Hector Street, Warren Place, Sunrise Road and Richards Place. It provides water to other parts of the City and Cornell during emergencies and planned maintenance periods. During 2010 the Bolton Point system did not experience any restriction of its water source. Meetings of the Bolton Point Water Commission are held on the first Thursday after the first Tuesday of each month at 4:00 p.m. at the Bolton Point water treatment plant, 1402 East Shore Drive, Ithaca New York 14850.

CITY OF ITHACA WATER SYSTEM (CITY OR CIWS)

Six Mile Creek is the source of water for the CIWS. Water is drawn from a reservoir in the creek and flows by gravity to the water plant. The forested watershed is 46.4 square miles in size. The system serves most of the residents of the City of Ithaca and supplies water to Bolton Point-Town of Ithaca customers along East Shore Drive and Taughannock Boulevard. During 2010 the City system did not experience any restriction of its water source. Its treatment plant is located at 202 Water Street, Ithaca, New York 14850. The Board of Public Works Committee of the Whole meets the first and third Wednesdays of the month. An additional voting meeting is held the second Wednesday of the month. These meetings begin at 4:30 p.m. Common Council meets the first Wednesday of the month at 7:00 p.m. All meetings are held in council chambers on the third floor of City Hall, 108 East Green Street, Ithaca 14850.

CORNELL UNIVERSITY WATER SYSTEM (CORNELL OR CUWS)

Fall Creek is the source of water for the CUWS. The water intake is on Forest Home Drive near the Cornell Plantations Arboretum entrance. Fall Creek originates in Lake Como northeast of Ithaca and flows through a 125 square mile watershed. The system serves residents of the University's campus and supplies water to City customers in the Cornell Heights area and to Bolton Point-Town of Ithaca customers on the south side of Fall Creek in the Forest Home area. During 2010 the Cornell system did not experience any restriction of its water source. Its water treatment plant is located at 101 Caldwell Road, Ithaca, New York 14853.

Contacts for additional information or to arrange a tour:

BOLTON POINT
Joan Foote, Production Manager
277-0660, ext.241, www.boltonpoint.org

CITY OF ITHACA
Chuck Baker, Chief Operator
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CORNELL UNIVERSITY
Chris Bordlemay, Water Filter Plant Manager
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Table of Contents

A Water Treatment Processes

The three water systems use the following conventional water treatment process.

PRE-TREATMENT: Coagulating agents such as alum or polymers are added to the water to remove impurities and control taste and odor. A disinfectant is added to destroy microorganisms.

MIXING: The water is rapidly mixed to distribute the treatment chemicals evenly.

COAGULATION AND FLOCCULATION: The water flows into large basins where the coagulants react with impurities in the water (coagulation) causing them to form larger, heavier particles called floc (flocculation).

SEDIMENTATION: Flocculated water flows into basins where the floc particles settle to the bottom, thereby removing impurities and chemicals from the water.

FILTRATION: Following the settling process, water flows through layers of anthracite coal, sand, and gravel where further removal of particulate impurities occurs.

POST-TREATMENT: Chlorine is added to inhibit bacterial growth in the distribution system, and the pH is adjusted to inhibit the corrosion of metal pipes and fixtures. The Cornell treatment plant adds an additional corrosion inhibitor.

Common Water Quality Definitions

ALKALINITY is a measure of the capability of water to neutralize acids. Bicarbonates, carbonates and hydroxides are the most common forms of alkalinity.

HARDNESS is a measure of the calcium and magnesium content of natural waters. The harder the water, the greater the tendency to precipitate soap and to form mineral deposits. Alkalinity and hardness occur naturally due to the contact of water with minerals in the earth's crust.

pH indicates how acidic or alkaline a water sample is. A value of 7 is neutral, 0-6 is acidic and 8-14 is alkaline.

TOTAL ORGANIC CARBON (TOC) is a measure of the organic content of water. A high concentration of TOC in water may lead to high levels of disinfection byproducts.

TURBIDITY is a measure of the cloudiness of water. It is an indication of the effectiveness of water treatment. NYS regulations require that treated water turbidity always be below 1 NTU (nephelometric turbidity unit). For filtered systems 95% of the composite effluent samples must be below 0.3 NTU.

B Health Effects and Individuals At-Risk

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water.

Environmental Protection Agency/Center for Disease Control (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). No trace of either of these pathogens has been detected in previous testing of the treated water of Bolton Point, the City or Cornell. Individuals who think they may have one of these illnesses should contact their health care provider immediately. For additional information please contact the Tompkins County Health Department, 55 Brown Road, Ithaca, New York 14850 or by phone at 274-6688.

C Water Quality Data

INTRODUCTION: 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. It also 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.

To ensure that tap water is safe to drink, the State and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Health Department and Federal Drug Administration regulations also establish limits for contaminants in bottled water, which must provide the same protection for public health.

In accordance with State regulations the three systems routinely monitor your drinking water for numerous contaminants. Tables 3-5 show the analytical test results for contaminants that were detected. These results are compared to the applicable state guideline or maximum contaminate level (MCL). Table 6 shows the contaminants that were not detected in your water.

The State allows testing less than once per year for some contaminants since the concentrations of these contaminants do not change frequently. Therefore, some data, though representative, are more than one year old.

TOTAL COLIFORMS: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

ADDITIONAL WATER SYSTEM DATA FOR CUWS: Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone. During 2010, as part of our elective sampling, four raw water samples from Fall Creek were collected and analyzed for Giardia cysts. Of these samples, one sample contained 2 Giardia cysts. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where handwashing practices are poor.

ADDITIONAL WATER SYSTEM DATA FOR CIWS: During 2010, while reviewing the data, it was discovered that results were never received for sulfate and chloride. This was due to a mixup with the outside laboratory as to what was to be analyzed. These two inorganic components are primarily related to taste and odor concerns.

SULFATE: The maximum contaminant level (MCL) for sulfate is 250 milligrams per liter (mg/l). The level in 2009 was 12 mg/l. Sulfate is naturally occurring. High concentrations of sulfate in drinking water have three effects: (1) water containing appreciable amounts of sulfate tends to form hard scales in boilers and heat exchangers; (2) sulfates cause taste effects; and (3) sulfates can cause laxative effects with excessive intake. The laxative effects of sulfates is usually noted in transient users of a water supply because people who are accustomed to high sulfate levels in drinking water have no adverse response. Diarrhea can be induced at sulfate levels greater than 500 mg/l, but typically above 750 mg/l.

CHLORIDE: The MCL for chloride is 250 mg/l. The level in 2009 was 28 mg/l. Chloride is naturally occurring, or indicative of road salt contamination. There are no health effects associated with chloride. The MCL for chloride is the level above which taste of water may become objectionable. In addition to the adverse taste effects, high chloride concentration levels in the water contribute to the deterioration of domestic plumbing and water heaters. Elevated chloride concentrations may also be associated with the presence of sodium in drinking water.

COPPER: Monitoring continued in 2010 as part of the follow up sampling required by the Lead & Copper Rule (LCR). In 2008, the City exceeded the Action Level (AL) for copper. A total of five samples exceeded the AL in 2008 from all the samples taken. The reporting level in 2008 was 1.4 mg/l and the 2010 AL is 1.3 mg/l. Plans were submitted and approved to bring the levels back into compliance. The City has been feeding a corrosion inhibitor to abate the copper levels. Following are the reporting levels for the 2009 and 2010 follow up monitoring for copper:

July-Dec. 2009	1.0 mg/l	0 samples > AL
Jan.-June 2010	0.52 mg/l	0 samples > AL

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791) or the Environmental Protection Agency website (www.epa.gov/safewater/index/html).

LEAD: The three water systems were required to sample for lead in 2008. While there were no violations of State standards, it should be noted that the action level for lead was exceeded in three of the thirty samples collected by the City of Ithaca and for one of the thirty samples collected by Bolton Point. During the extra copper monitoring for the City of Ithaca, lead samples were also analyzed. In 2009, the reporting level was 9.2 micrograms per liter (ug/l), with two samples exceeding the AL; and in 2010, the level was 3.3 ug/l, with one sample above the AL. The AL for lead is 15 ug/l. Based upon these occurrences, the following information on lead in drinking water is required to be presented.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Also you can flush your tap for thirty seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791) or website (www.epa.gov/safewater/index/html).

SODIUM: People who are on severely restricted sodium diets should not drink water containing more than 20 mg/l of sodium. Since the 2010 level of sodium in Bolton Point was 30 mg/l, Cornell water was 25 mg/l and the City of Ithaca average level was 22 mg/l, customers on severely restricted sodium diets may wish to consult their health care providers. People who are on moderately restricted sodium diets should not drink water containing more than 270 mg/I of sodium. The sodium levels of the water from all three systems are well below this level.

During the course of the year, for maintenance purposes, or for emergency help, potable water is exchanged between the three water systems. If you wish to know if this occurred, the time periods, and the water volumes, please call your water supplier.

D General Water Information

Table 1: General Water Data — 2010

WATER SYSTEM PUBLIC WATER SUPPLY ID #	BP-MWS 5404423	CIWS 0066600	CUWS 5417680
Water source	Cayuga Lake	Six Mile Creek	Fall Creek
Approximate population served	30,000	30,000	31,000
Number of service connections	6,732	5,400	239
Total production in 2008 (MG[1])	1005	1,045	484
Average daily withdrawal (MGD[2])	2.83	2.90	1.345
Average daily delivered (MGD)	2.75	1.68	1.325
Average daily loss (MGD)[3]	0.08	1.22	0.025
Annual charge per 1000 gal.	$3.87	$4.44	$4.80

[1] MG = million gallons [2] MGD = million gallons per day
[3] The average daily loss includes water used to flush mains, fight fires, and leakage.

Table 2: General Water Quality Data — 2010

ANALYTE	UNITS	BP-MWS ANNUAL AVERAGE	CIWS ANNUAL AVERAGE	CUWS ANNUAL AVERAGE
pH (EP)		8.3	7.6	8.21
Turbidity (EP)	NTU	0.04	0.09	0.056
Total hardness	mg/l	150	121	150
Total alkalinity	mg/l	108	106	136
Total dissolved solids	mg/l	NR	182	NR
Iron (soluble)	mg/l	NR	0.04	NR
Chlorine residual (EP)	mg/l	1.35	2.1	1.27
Chlorine residual (POU)	mg/l	0.62	1.3	0.69
Turbidity (POU)	NTU	0.09	0.4	0.062
Total organic carbon (EP)	mg/l	2.1	1.9	1.8
Dissolved organic carbon (EP)	mg/l	2.1	1.9	1.9

NR = Not Required; EP = Entry Point; POU = Point of Use;
Definitions of NTU and mg/l follow Table 3.

E

Tables of Detected Contaminants

Table 3: Detected Contaminants: Bolton Point Municipal Water System

CONTAMINANT	UNITS	VIOLATION YES/NO	DATE OF SAMPLE	MAXIMUM LEVEL DETECTED (RANGE)	REGULATORY LIMIT	MCLG	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS							
Turbidity	NTU	No	10/9/10	0.063	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	% below MCL	No	Daily	100%	TT=95% of samples<0.3NTU	N/A	Soil runoff.
DISINFECTION BY-PRODUCTS							
Total THMs	ug/l	No	2010	50 (29-82)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2010	20 (7.5-30)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	Daily	1.85 (0-1.85)	MRDL=4	N/A	Due to drinking water chlorination.
INORGANICS							
Barium	mg/l	No	11/18/10	0.030	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	mg/l	No	11/18/10	0.0034	MCL=0.10	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Copper	mg/l	No	2008	0 .084 (0.0031-1.1)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Flouride	mg/l	No	11/18/10	0.10	MCL=2.2	N/A	Erosion of natural deposits; discharge from fertilizer and aluminum factories.
Lead	ug/l	No	2008	2.9 (ND-25)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nickel	mg/l	No	11/18/10	0.0021	N/A	N/A	Discharge from steel and pulp mills, erosion of natural deposits.
Nitrate	mg/l	No	11/18/10	0.89	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	11/18/10	30	See Water Quality, Section C	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
RADIOACTIVE							
Gross alpha	pCi/l	No	11/6/08	-0.37	MCL=15	0	Erosion of natural deposits.
Radium-226	pCi/l	No	11/6/08	0.0989	MCL=15	0	Erosion of natural deposits.
Radium-228	pCi/l	No	11/6/08	0.394	MCL=15	0	Erosion of natural deposits.

NOTES AND DEFINITIONS FOR TABLES 3-5:

AL (action level): The concentration of a contaminant that, if exceeded, triggers additional treatment or other requirements that a water system must follow.

Lead and Copper: The maximum level values reported for lead and copper represent the 90th percentile of the samples taken. Testing for these metals is only required every three years. The three water systems collected samples in 2008 and will resample in 2011.

HAA5 (haloacetic acids): These are a group of chemicals that are formed when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. The regulated haloacetic acids, known as HAA5, are monochloroacetic, dichloroacetic, trichloroacetic, monobromoacetic, and dibromoacetic acids. The maximum level detected of HAA5 is the highest of the four quarterly running annual averages calculated during the year and is the basis of the MCL for these compounds.

Maximum Level Detected: The highest measurement detected for the contaminant during the year. For total THMs and HAA5 the maximum level detected is the highest of the four quarterly running annual averages during the year.

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

MCLG (maximum contaminant level goal): 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.

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

MRDL (maximum residual disinfection level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants.

MRDLG (maximum residual disinfectant level goal): 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.

N/A (not applicable).

ND (not detected): Laboratory analysis indicates that the constituent is not present.

NTU (nephelometric turbidity unit): A measure of the clarity of water. Turbidity of approximately 5 NTU is barely noticeable by the average person.

pCi/l (picocuries per liter): A measure of radioactivity in water.

Range: The range of lowest to highest measurements detected for contaminants measured during the year.

THM (trihalomethanes): These are a group of chemicals that are formed when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. The regulated trihalomethanes are bromodichloromethane, bromoform, chloroform, dibromochloromethane. These compounds result from the disinfection of water with chlorine. The maximum level detected of THMs is the highest of the four quarterly running annual averages calculated during the year and is the basis of the MCL for these compounds.

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

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

Table 4: Detected Contaminants: City Of Ithaca Water System

CONTAMINANT	UNITS	VIOLATION YES/NO	DATE OF SAMPLE	MAXIMUM LEVEL DETECTED (RANGE)	REGULATORY LIMIT	MCLG	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS							
Turbidity	NTU	No	1/27/10	0.36	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	% below MCL	No	Daily	99.9%	TT=95% of samples<0.3NTU	N/A	Soil runoff.
DISINFECTION BY-PRODUCTS							
Total THMs	ug/l	No	2010	49 (40-49)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2010	57 (45-57)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	Daily	2.6 (1.6-2.6)	MRDL=4	N/A	Due to drinking water chlorination.
INORGANICS							
Barium	mg/l	No	3/16/10	0.019	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Copper	mg/l	No	2010	.52 (.03-.93)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Lead	ug/l	No	2010	3.3 (ND-24)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nitrate	mg/l	No	3/16/10	0.41	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	2010	37 (15-37)	See Water Quality, Section C	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
RADIOACTIVE							
Gross alpha	pCi/l	No	8/28/08	0.82	MCL=15	0	Erosion of natural deposits.
Radium-226+228	pCi/l	No	8/28/08	0.178	MCL=5	0	Erosion of natural deposits.

Table 5: Detected Contaminants: Cornell University Water System

CONTAMINANT	UNITS	VIOLATION YES/NO	DATE OF SAMPLE	MAXIMUM LEVEL DETECTED (RANGE)	REGULATORY LIMIT	MCLG	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS							
Turbidity	NTU	No		(0.021-0.165)	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	% below MCL	No	Daily	100%	TT=95% of samples<0.3NTU	N/A	Soil runoff.
Giardia	cysts	No	1/27/10	2 cysts (raw water)	TT=99.9% removal	0	Human and animal fecal waste.
DISINFECTION BY-PRODUCTS							
Total THMs	ug/l	No	8/19/09	67.8 (22.3-67.8)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	8/26/08	44 (19-44)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	Daily	1.27 (0.87-1.84)	MRDL=4	N/A	Due to drinking water chlorination.
INORGANICS							
Barium	mg/l	No	10/21/10	0.021	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	5/19/08	40	MCL=250	N/A	Naturally occurring or road salt.
Chromium	mg/l	No	10/21/10	0.0035	MCL=0.01	0.01	Discharge from steel and pulp mills; erosion of natural deposits.
Copper	mg/l	No	2008	0.14 (0.009-0.53)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Lead	ug/l	No	2008	3 (ND-13)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nickel	mg/l	No	10/21/10	0.0023	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	10/21/10	.73	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	*	5/19/08	25	See Water Quality, Section C	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	5/19/08	14	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	5/19/08	0.088	MCL=5	N/A	Naturally occurring; mining waste.
RADIOACTIVE							
Gross alpha	pCi/l	No	3/19/08	0.21	MCL=15	0	Erosion of natural deposits.

*Sodium was not sampled in 2010, but will be sampled in 2011.

F Table 6: Non-Detected Contaminates: All Systems

CONTAMINANT	BP-MWS 2010	CIWS 2010	CUWS 2010
MICROBIOLOGICAL			
Total coliform	X	X	X
E. coli	X	X	X
INORGANICS			
Antimony	X	X	X
Arsenic	X	X	X
Asbestos	NR	NR	X
Beryillium	X	X	X
Cadmium	X	X	X
Chromium	D	X	D
Color	NR	X	NR
Cyanide	X	X	X
Flouride	D	X	X
Mercury	X	X	X
Nickel	D	X	D
Selenium	X	X	X
Silver	NR	X	NR
Thallium	X	X	X
Zinc	NR	NR	D
SYNTHETIC ORGANICS & PESTICIDES; GROUPS 1 & 2			
Alachlor	X	X	X
Aldicarb	X	X	X
Aldicarb sulfoxide	X	X	X
Aldicarb sulfone	X	X	X
Atrazine	X	X	X
Carbofuran	X	X	X
Chlordane	X	X	X
Dibromochloropropane	X	X	X
2,4-D	X	X	X
Endrin	X	X	X
Ethylene dibromide	NR	X	X
Heptachlor	X	X	X
Heptachlor epoxide	X	X	X
Lindane	X	X	X
Methoxychlor	X	X	X
PCB - aroclor 1016	X	X	X
PCB - aroclor 1221	X	X	X
PCB - aroclor 1232	X	X	X
PCB - aroclor 1242	X	X	X
PCB - aroclor 1248	X	X	X
PCB - aroclor 1254	X	X	X
PCB - aroclor 1260	X	X	X
Pentachlorophenol	X	X	X
Toxaphene	X	X	X
2,4,5-TP (silvex)	X	X	X
Aldrin	X	X	X
Benzo(a)pyrene	X	X	X
Butachlor	X	X	X
Carbaryl	X	X	X
Dalapon	X	X	X
Bis(2-ethylhexyl) adipate	X	X	X
Bis(2-ethylhexyl) phthalate	X	X	X
Dicamba	X	X	X
Dieldrin	X	X	X
Dinoseb	X	X	X
Glyphosphate	NR	X	NR
Hexachlorobenzene	X	X	X
Hexachlorooxyclopentadiene	X	X	X
3-Hydroxycarbofuran	X	X	X
Methomyl	X	X	X
Metolachlor	X	X	X
Metribuzin	X	X	X
Oxamyl vydate	X	X	X
Picloram	X	X	X
Propachlor	X	X	X
Simazine	X	X	X
PRINCIPAL ORGANICS			
Benzene	X	X	X
Bromobenzene	X	X	X
Bromochloromethane	X	X	X
Bromomethane	X	X	X
N-Butylbenzene	X	X	X
sec-Butylbenzene	X	X	X
tert-Butylbenzene	X	X	X
Carbon tetrachloride	X	X	X
Chlorobenzene	X	X	X
Chloroethane	X	X	X
Chloromethane	X	X	X

CONTAMINANT	BP-MWS 2010	CIWS 2010	CUWS 2010
2-Chlorotoluene	X	X	X
4-Chlorotoluene	X	X	X
1,2-Dibromo-3-chloropropane	X	NR	X
1,2-Dibromoethane	X	NR	NR
Dibromomethane	X	X	X
1,2-Dichlorobenzene	X	X	X
1,3-Dichlorobenzene	X	X	X
1,4-Dichlorobenzene	X	X	X
Dichlorodifluoromethane	X	X	X
1,1-Dichloroethane	X	X	X
1,2-Dichloroethane	X	X	X
1,1-Dichloroethene	X	X	X
cis-1,2-Dichloroethene	X	X	X
trans-1,2-Dichloroethene	X	X	X
1,2-Dichloropropane	X	X	X
1,3-Dichloropropane	X	X	X
2,2-Dichloropropane	X	X	X
1,1-Dichloropropene	X	X	X
cis-1,3-Dichloropropene	X	X	X
trans-1,3-Dichloropropene	X	X	X
Ethylbenzene	X	X	X
Hexachlorobutadiene	X	X	X
Isopropylbenzene	X	X	X
p-Isopropyltoluene	X	X	X
Methylene chloride	X	X	X
n-Propylbenzene	X	X	X
Styrene	X	X	X
1,1,1,2-Tetrachloroethane	X	X	X
1,1,2,2-Tetrachloroethane	X	X	X
Tetrachloroethene	X	X	X
Toluene	X	X	X
1,2,3-Trichlorobenzene	X	X	X
1,2,4-Trichlorobenzene	X	X	X
1,1,1-Trichloroethane	X	X	X
1,1,2-Trichloroethane	X	X	X
Trichloroethene	X	X	X
Trichlorofluoromethane	X	X	X
1,2,3-Trichloropropane	X	X	X
1,2,4-Trimethylbenzene	X	X	X
1,3,5-Trimethylbenzene	X	X	X
m-Xylene	X	X	X
o-Xylene	X	X	X
p-Xylene	X	X	X
Vinyl chloride	X	X	X
MBTE	X	X	X
UCMR LIST 1	2003	2003	2003
2,4-Dinitrotoluene	X	X	X
2,6-Dinitrotoluene	X	X	X
Acetochlor	X	X	X
DCPA mono-acid degradate	X	X	X
DCPA di-acid degradate	X	X	X
4,4'-DDE	X	X	X
EPTC	X	X	X
Molinate	X	X	X
Nitrobenzene	X	X	X
Perchlorate	X	X	X
Terbacil	X	X	X
UCMR LIST 2	2009/10	2008	2008
1,2-Diphenylbrazine	X	X	X
Diazinon	X	X	X
Disulfoton	X	X	X
Fonofos	X	X	X
Nitrobenzine	X	X	X
Prometon	X	X	X
Terbufos	X	X	X
2-Methylphenol	X	X	X
2,4-Dichlorophenol	X	X	X
2,4-Dinitrophenol	X	X	X
2,4,6-Trichlorophenol	X	X	X
Diuron	X	X	X
Linuron	X	X	X
OTHER			
Giardia	X	NR	D (in raw water)
Cryptosporidium	X	NR	X

X = Monitored, but not detected D = Refer to detected list
NR = Not required and not monitored in the past five years
UCMR = Unregulated Contaminant Monitoring Requirements

G Major Modifications Completed in 2010

Bolton Point (BP-MWS):

- Rebuilt one 250 hp raw water pump
- Replaced underdrain and media in filter #3
- Completed UCMR2 sampling
- Received final NYSDOH approvals for LT2 and DBP2, forwarded to USEPA
- Recoated Town of Ithaca Ridgecrest Tank
- Upgraded the Varna pump station
- Removed Village of Lansing Oakcrest tank from service

City (CIWS):

- Investigated a large & continued water loss at the water plant; leakage found in the 1929 clearwell & temporary patching was completed
- Pilot tested 3 membrane manufacturers to qualify their units for consideration in a new water plant
- Bids awarded for the modifications for the 3 steel water tanks; to include painting, new roofs, and cathodic protection
- Continued lead & copper monitoring due to the 2008 Action Level exceedance for copper
- Continued discussion on items of improvements that need to be completed prior to the water plant rebuild
- Replaced 800 ft of water main on Hopper/Westfield, upgrading from a 6 inch to an 8 inch main
- Replaced 650 ft of 8 inch water main in the 100 block of Prospect
- Began work on University Ave. to replace 1900 ft of 8 & 12 inch water mains from the Johnson Art Museum to East Ave.

Cornell (CUWS):

- New water storage tank was commissioned and put in service in 2010, along with the related transmission and distribution lines (approximately 25,000 feet of 16 inch pipe)
- New pumps and controls were installed in our pumping station.
- Pressure Reducing Valve Station was commissioned and put in service to serve the eastern portion of our campus
- New raw water pump was installed in our secondary intake facility along Fall Creek
- 3000 feet of transmission main was installed from the water filtration plant to a 1 MG storage tank in the Plantations Arboretum
- Pressure zone was created and the Palm Road area services were transferred to Cornell

H Future Projects and Capital Improvements (Planned for 2010)

Bolton Point (BP-MWS)

- Rebuild one backwash pump
- Dismantle the Village of Lansing Oakcrest tank
- Continue engineering the replacement of the North Triphammer Road transmission main
- Decommission the Mitchell Street PRV vault
- Town of Ithaca Snyder Hill Road main replacement
- Town of Ithaca and Town of Lansing East Shore main replacement
- East Hill pump station and water main extension
- Village of Lansing Burdick Hill Road main replacement
- Town of Lansing Schofield Road tank installation and main replacement

City (CIWS):

- Pilot testing of chlorine dioxide at the water plant
- Moving forward with emergency maintenance concerning the water supply intake
- Completion of the work on the 3 steel water tanks, rehab and cathodic protection system
- Coordinating work on the dams with work related to the water supply project
- Continued investigation into the water loss at the water plant site
- Furthering the items of improvements that need to be competed prior to the water plant rebuild
- Replacement of 1080 ft of 8 inch water main on Stewart Ave. from Buffalo to South Ave.
- Replacement of the 12 inch water main on the Columbia St. pedestrian bridge
- Replacement of the water mains in the 300 block of E. Seneca St.
- Additional mains to loop the water system through Carpenter's Circle from 3rd St. Ext. to the Community Gardens
- Replace the 6 inch water main on Sunset up to Westfield

Cornell (CUWS)

- Improve fire flow to the south eastern portion of our distribution system this year by installing an 8 inch water main approximately 600 feet from Palm Road to the Gallus Road area (poultry complex)
- Replace pumps and controls in the Water Filtration Plant.

I Water Conservation Concerns

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. The following are some ideas you can apply directly in your own home.

- Use your water meter to detect hidden leaks. Turn off all taps and water using appliances, then record the meter reading and check the meter after 15 minutes. If it moves, you have a leak.
- Restaurants in the U.S. serve approximately 70 million meals a day. Every glass of water brought to your table requires another two glasses of water to wash and rinse the glass.
- The bathroom accounts for 75 percent of the water used inside the home.
- Water your lawn only when it needs it. If you step on the grass and it springs back up when you move, it doesn't need water. If it stays flat, it does.
- Put 10 drops of food coloring in your toilet tank. If the color shows up in the bowl, you have a leak to repair. It is common to lose up to 100 gallons a day from a toilet leak. Fix it, and you save more than 30,000 gallons a year.
- Do not hose down your driveway or sidewalk. Use a broom to clean leaves and other debris from these areas. Using a hose to clean a driveway can waste hundreds of gallons of water.
- If every American home installed low-flow faucet aerators, the United States would save 250 million gallons of water a day.
- Fix leaks as soon as they are found. A dripping faucet with a 1/16 inch stream wastes 100 gallons of water per day.
- Saving water can lower your power bills by reducing your demand for hot or pumped water. These few simple steps will preserve the resource for future generations and also save up to 30% on your bill.

J Security Concerns

Generally, security threats to the three water systems have been primarily minor vandalism and property damage. However, our security efforts focus to a high degree on the much less likely, but more serious, threat of intentional contamination of the water supply. All three water systems have performed security assessments of their entire systems and updated their Emergency Response Plans to cover the possibility of terrorism. Weaknesses in procedures have been corrected and improvements to increase the security of the infrastructure have been undertaken. Local police are aware of the security needs of the water systems and have maintained increased patrolling of the facilities. Your awareness and reporting of suspicious activity throughout the systems will be appreciated.

K Source Water Protection

The New York State Health Department is in the process of developing a Source Water Assessment Report for every surface drinking water source in the state. When the reports for our three sources are completed, the systems will review them and provide a summary. If these reports become available in 2011, a summary will be posted on our websites and provided in next year's Annual Drinking Water Quality Report.

High Quality Drinking Water for Tompkins County Residents

PRSRT STD
U.S. Postage
PAID
Ithaca, NY
Permit #780

Current Resident

Water Trivia

- There are over 58,900 community water systems in the United States processing more than 34 billion gallons per day.
- The average residence in the United States uses 107,000 gallons of water a year.
- It takes 62,600 gallons of water to produce one ton of steel.
- Eighty percent of the earth's surface is covered by water, but only one percent of the earth's water is suitable for drinking.
- It takes 101 gallons of water to make one pound of wool or cotton.
- Water acts as a natural insulator to regulate the earth's temperature.
- It would take 219 million gallons of water to cover one square mile with one foot of water.
- One gallon of water weighs 8.34 pounds.

Web sites with more water information and activities for children:
www.epa.gov/safewater/index.html
www.epa.gov/safewater/kids/index.html