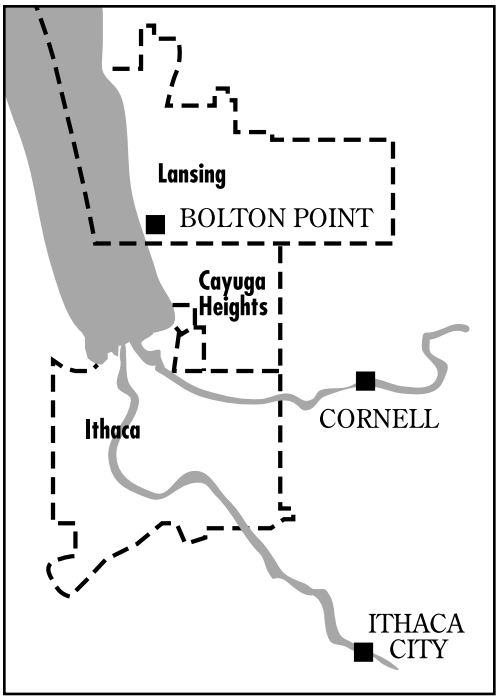
Drinking Water Quality Report 2008

Bolton Point-Municipal Water System City of Ithaca Water System Cornell University Water System



Introduction

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. During 2007 the Bolton Point system did not experience any restriction of its water source. 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 plus some customers in the Town of Ulysses. It provides water to other parts of the City and to Cornell during emergencies and planned maintenance periods. 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. During 2007 the City system did not experience any restriction of its water source. 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. 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. During 2007 the Cornell system did not experience any restriction of its water source. 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. 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
Ken Butler, Production Manager
277-0660, ext.234
www.boltonpoint.org

City of Ithaca
Chuck Baker, Chief Operator
273-4680
www.ci.ithaca.ny.us

Cornell University
Chris Bordlemay,
Water Filter Plant Manager
255-3381

Table of Contents

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.

Water Treatment Processes

The three water systems use the following conventional water treatment.

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.

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 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, 401 Harris B. Dates Drive, Ithaca, New York 14850 or by phone at 274-6688.

C 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.

General Water Information

Table 1: General Water Data — 2007

Water source	Cayuga Lake	Six Mile Creek	Fall Creek
Approximate population served	30,000	30,000	33,000
Number of service connections	6,569	5,400	219
Total production in 2007 (MG[1])	1,044	1,045	494
Average daily withdrawal (MGD[2])	2.93	2.87	1.37
Average daily delivered (MGD)	2.86	1.92	1.35
Average daily loss (MGD)[3]	0.07	0.95	0.02
Annual charge per 1000 gal.	$3.30	$3.77	$4.66

[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 — 2007

Analyte	Units	BP-MWS Annual Average	CIWS Annual Average	CUWS Annual Average
pH (EP)		8.3	7.8	7.7
Turbidity (EP)	NTU	0.04	0.05	0.048
Total hardness	mg/l	150	123	150
Total alkalinity	mg/l	115	109	111
Total dissolved solids	mg/l	NR	222	NR
Iron (soluble)	mg/l	NR	0.02	NR
Chlorine residual (EP)	mg/l	1.35	1.7	1.26
Chlorine Residual (POU)	mg/l	0.58	1.1	0.67
Turbidity (POU)	NTU	0.10	0.24	0.16
Total organic carbon (EP)	mg/l	2.1	2.0	2.0
Dissolved organic carbon (EP)	mg/l	2.0	2.0	1.9

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

E 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 2008, a summary will be posted on our websites and provided in next year's annual *Drinking Water Quality Report*.

F 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.

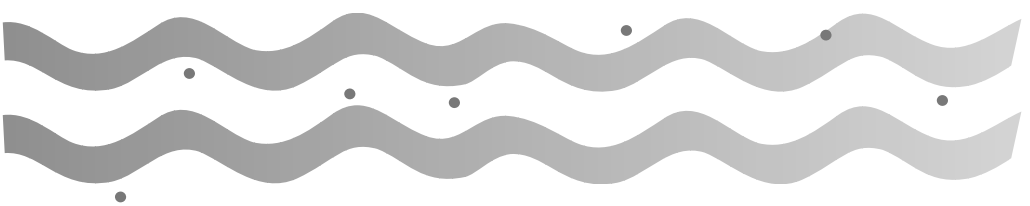
TOTAL COLIFORMS: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

ADDITIONAL WATER SYSTEM DATA FOR CIWS: The City has completed the necessary plans and reports to comply with Phase 2 of the Disinfection Byproduct Rule and the Long Term 2 Enhanced Surface Water Treatment Rule before the EPA mandated deadline of 2009-10. This data is available on the City of Ithaca website (www.cityofithaca.org). From the City of Ithaca homepage, click on City Departments, then Department of Public Works, then Water and Sewer Division, then Water Information, and then Stage 2 Disinfection Byproduct Rule, or The Long Term 2 Rule.

LEAD: While the three water systems had no violations of State standards, it should be noted that the action level for lead was exceeded in two of the thirty samples collected for the City of Ithaca in 2005. Based on 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 2007 level of sodium in Bolton Point water was 30 mg/l and the City of Ithaca's level was 20 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/l of sodium. The sodium levels of the water from all three systems are well below this level.



G 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	3/15/07	0.07	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<0.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2007	44 (20-72)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2007	16 (2-30)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2007	1.90	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Antimony	mg/l	No	12/6/07	0.0014	MCL=0.006	N/A	Fire retardants, electronics, solder.
Barium	mg/l	No	12/6/07	0.0028	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	2000	45	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	2005	0 .065 (0.0046-0.910)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Lead	ug/l	No	2005	4.9 (ND-11)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nickel	mg/l	No	12/6/07	0.0013	N/A	N/A	Discharge from steel and pulp mills, erosion of natural deposits.
Nitrate	mg/l	No	12/6/07	1.2	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	01/6/07	30	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Radioactive							
Gross alpha	pCi/l	No	12/13/01	<2	MCL=15	0	Erosion of natural deposits.
Gross beta	pCi/l	No	12/13/01	<2	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. This means that 90 percent of the individual samples tested for lead and copper were at or below the maximum level reported. Testing for these metals is only required every three years. The three water systems collected samples in 2005 and will resample in 2008.

HAA5 (haloacetic acids): These are a group of chemicals that are formed from the disinfection of water with chlorine. The regulated haloacetic acids, known as HAA5, are monochloroacetic, dichloroacetic, trichloroacetic, monobromoacetic, and dibromoacetic.

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): Bromodichloromethane, bromoform, chloroform, dibromochloromethane. These compounds result from the disinfection of water with chlorine. The maximum levels detected of THMs and HAA5 are the highest of the four quarterly running annual averages calculated during the year and are the basis of the MCL for these compounds. The range represents individual values.

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).

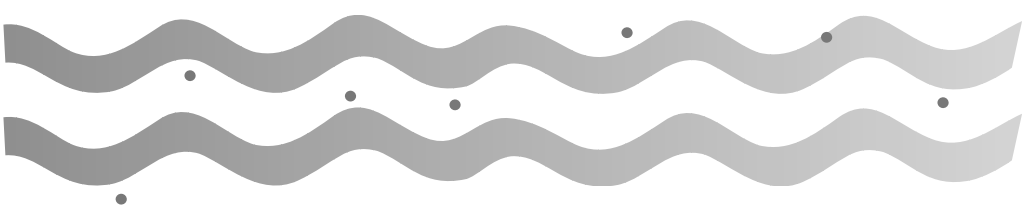


Table 4: Detected Contaminants: City Of Ithaca Water System

Contaminant	Units	Violation Yes/No	Date of Sample	Maximum Level Detected (Range)	Regulatory Limit	MCLG	Likely Source of Contamination
Microbiological contaminants							
Turbidity	NTU	No	9/24/07	0.39	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	99.9%	TT=95% of samples<0.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2007	50 (18-95)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2007	41 (25-68)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2007	1.7 (1.2-2.2)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	4/4/07	0.022	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	4/4/07	27	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	2005	1.3 (.03-1.5)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Lead	ug/l	No	2005	8.0 (ND-52)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nitrate	mg/l	No	3/22/07	0.81	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	2007	24 (15-24)	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	4/4/07	11	MCL=250	N/A	Naturally occurring.
Radioactive							
Gross alpha	pCi/l	No	6/19/02	0.61	MCL=15	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	9/8/07	0.143	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<0.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2007	47 (18-58)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2007	33 (13-39)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2007	1.71 (0.68-1.71)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	2/20/07	0.024	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	11/20/07	36	MCL=250	N/A	Naturally occurring or road salt.
Chromium	mg/l	No	2/20/07	0.006	MCL=0.01	0.01	Discharge from steel and pulp mills; erosion of natural deposits.
Copper	mg/l	No	2005	0.103 (0.013-0.75)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Flouride	mg/l	No	2/20/07	0.16	MCL=2.2	N/A	Erosion of natural deposits; discharge from fertilizer.
Lead	ug/l	No	2005	1.04 (ND-29)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nickel	mg/l	No	2/20/07	0.0021	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	2/20/07	1.7	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	2/20/07	16	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	11/20/07	17	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	11/20/07	0.11	MCL=5	N/A	Naturally occurring; mining waste.
Radioactive							
Gross alpha	pCi/l	No	2/2/02	0.174	MCL=15	0	Erosion of natural deposits.

H Table 6: Non-Detected Contaminates: All Systems

CONTAMINANT	BP-MWS 2007	CIWS 2007	CUWS 2007
Microbiological			
Total coliform	X	X	X*
E. coli	X	X	X*
Inorganics			
Antimony	D	X	X
Arsenic	X	X	X
Asbestos	NR	NR	X
Beryillium	X	X	X
Cadmium	X	X	X
Chromium	X	X	X
Color	NR	X	NR
Cyanide	X	X	X
Flouride	X	X	D
Mercury	X	X	X
Nickel	D	X	D
Nitrite	X	X	X
Selenium	X	X	X
Silver	NR	X	NR
Thallium	X	X	X
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	X
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 2007	CIWS 2007	CUWS 2007
2-Chlorotoluene	X	X	X
4-Chlorotoluene	X	X	X
1,2-Dibromo-3-chloropropane	X	NR	NR
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			
1,2-Diphenylbrazine	NR	X	X
Diazinon	NR	X	X
Disulfoton	NR	X	X
Fonofos	NR	X	X
Nitrobenzine	NR	X	X
Prometon	NR	X	X
Terbufos	NR	X	X
2-Methylphenol	NR	X	X
2,4-Dichlorophenol	NR	X	X
2,4-Dinitrophenol	NR	X	X
2,4,6-Trichlorophenol	NR	X	X
Diuron	NR	X	X
Linuron	NR	X	X
Other			
Giardia	NR	NR	X
Cryptosporidium	NR	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 * = CUWS detected total coliform and E. coli in one round of sampling that was believed to be laboratory error. Immediate repeat sampling found no total coliform or E. coli. Chlorine residuals in the original detected samples were sufficient to kill any bacteria, so laboratory error is suspected.

I Major Modifications Completed in 2007

Bolton Point (BP-MWS):

- Placed into service a 3 million gallon storage tank on East Hill. This tank maintains pressure in the transmission main, provides storage of a full day's production, and allows more pumping to take place during off peak hours.
- Installed new 200 hp pumps and variable frequency drives at the primary transmission pump station.
- Replaced 1,000 feet of sixteen inch transmission main.
- Rebuilt one of the 300 hp finished water pumps. All three finished water pumps have been rebuilt. The raw water pumps will be rebuilt in 2008-2010.
- Performed numerous upgrades and additions to the Supervisory Control and Data Acquisition (SCADA) system including: installation of surge and fuse protection at all 33 remote sites, bringing the NYSEG tank site into the system, installation of power backup and surge suppression devices for the electronic equipment at the treatment plant, purchase of a computer to serve as a dedicated archive for data, and purchase of backup replacement parts for the SCADA system.
- Installed a new polymer pump and two filter effluent turbidimeters at the treatment plant, rebuilt one of the wash water return pumps and the rapid mixer.
- Distribution system improvements: replaced three isolation valves and rebuilt one pump control valve at the Coddington road pump station, installed a softstart at the Pine Grove pump station, installed a hypochlorite feed pump at the Woolf Lane pump station.
- Installed 3000 feet of 10 and 8 inch main between Candlewyck Apartments and the Professional Building on Route 96.
- Removed the original control panel at the treatment plant and retiled the floor in the control room .

City (CIWS):

- Replaced the hypochlorite transfer pump at the treatment plant.

- Installed a feed pump for coagulant trials, replaced coagulant aid feed pump and completed trials of new coagulant aids.
- Replaced lighting in the treatment plant pipe gallery
- Rebuilt the control valve of pump #1 at Vinegar Hill Pump Station and installed seamless gutters.
- Installed new fall protection hookups in the slow mix areas
- Replaced a pump control valve on pump #6 at the Mitchell Street pump station.
- Repaired the loading dock roof, applied seal coating to the lab/office and Water Street pump station roof.
- Mapped the raw water main components using GPS coordinates.
- Replaced 270 ft of 8 inch water main on the 100 block of N. Aurora Street.
- Replaced 742 ft of 12 inch water main from North Stewart Avenue to Thurston Avenue.

Cornell (CUWS):

- Performed preliminary design for a new water storage facility on Hungerford Hill, evaluated the distribution system for current and future use.
- Obtained DEC approval to modify the Fall Creek bed to produce a naturally scouring pool for the secondary intake near the Mundy Wildflower Garden.
- Housed a student operated pilot plant in the Water Filtration Plant to study the best means of producing water for villages in Honduras. The plant manager was invited to Honduras to inspect the Cornell designed facilities and offer operational advice to the local operators.

J Future Capital Improvements (Planned for 2008)

Bolton Point (BP-MWS)

- Construct a one million gallon storage tank as a companion tank for the Burdick Hill tank, which will allow the Burdick Hill tank to be taken off line for maintenance.
- Construct a pump station at the East Hill tank to replace the Regency Lane pump station.
- Rebuild one 150 hp raw water pump.
- Replace 1,000 feet of eighteen inch transmission main along Triphammer Road.
- Bring the last remaining remote site, the Woolf Lane pump station, into the SCADA system.
- Install a windmill at the West Hill tank to supplement the solar power generation equipment.
- Install two 20" filter backwash inflow valves.
- Install 11,000 feet of 8" main along Algerine Road and replace 3,000 feet of 8" main along Hanshaw Road.
- Install a sound deadening wall between the Oakcrest pump station and the Village of Lansing offices.

City (CIWS):

- The City's water plant needs to be replaced or rebuilt. The City has reduced its options to either rebuild at the existing location and rehabilitate the reservoir; or obtain water from the Bolton Point system. Preparation of the environmental impact statements for the two options has begun. The findings from the statements are expected in the fall of 2008.
- Finish the sampling sheds and piping at the Cornell St. and Maple Ave. tanks.
- Install radio telemetry for the alarms from the dechlorination building at the sludge lagoons and upgrade the existing radio telemetry system.
- Clean out and rebuild the underdrain system of waste lagoon #1.
- Dredge behind the silt dam.
- Finish the 12" southwest water loop from Home Depot to Lowe's and Cherry Street.
- Install new cathodic protection for the steel water tanks.
- Modify the Elm Street tank to overcome the elevation differential for tank turnover.
- Replace 8" water main and sleeve, boring under railroad crossing on 3rd St.
- Continue water meter replacement/retrofit and automated meter read system installation including leak detection network.
- Install 12" main on South Cayuga St. bridge over 6 Mile Creek, replace the 6" main across the Brindley Street bridge, install a main from Gateway Plaza to Giles Street, and finish the Taylor Place main.
- Acquire and retrofit Town of Ithaca's Oakwood Lane pumping station so the City can reduce water age problems in its West Hill tanks.
- Rehabilitate, repair, and re-line the 16" gravity main through the Commons area in conjunction with the Commons improvement project. Valves, hydrants, and services will be replaced as needed, and fire service lines will be installed throughout the area.

Cornell (CUWS)

- Construct a one million gallon storage tank to serve the future needs of the campus and surrounding communities.
- Replace the roof of the water filtration plant.
- Renovate the workspace, lab, and control room of the Water Filtration Plant.
- Construct a naturally scouring pool in Fall Creek for the secondary intake.
- Install a water main from Campus Road to Rt. 366 to improve fire protection at the central heating plant and improve service to Zone 1 of the distribution system.

K Water Conservation

You can play a role in conserving water by becoming conscious of the amount of water your household is using.

- 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.
- Run your dishwasher and washing machine only when they are full.
- 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.
- When washing a car, use soap and water from a bucket. In five minutes, 50 gallons of water passes through the typical garden hose.
- Put 10 drops of food coloring in your toilet tank. If the color shows up in the bowl, you have a leak to repair.
- If every American home installed low-flow faucet aerators, the U.S. would save 250 million gallons of water a day.
- A dripping faucet through a 1/16" hole 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.

Water Trivia

- There are over 58,900 community water systems in the United States processing more than 34 billion gallons per day.
- It takes 1,851 gallons of water to refine one barrel of crude oil.
- The average residence in the United States uses 107,000 gallons of water a year.
- Of all the earth's water, 97% is in oceans or seas.
- A one acre cornfield gives off 4,000 gallons of water per day in evaporation.
- It takes 62,600 gallons of water to produce one ton of steel.
- There are 7.48 gallons of water in one cubic foot.
- Water acts as a natural insulator to regulate the earth's temperature.
- Only one percent of the earth's water is suitable for drinking.

Web sites with more water information and activities for children:

www.epa.gov/safewater/index.html
www.epa.gov/safewater/kids/index.html

High Quality Drinking Water for Tompkins County Residents

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

Current Resident