Drinking Water Quality Report 2006

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

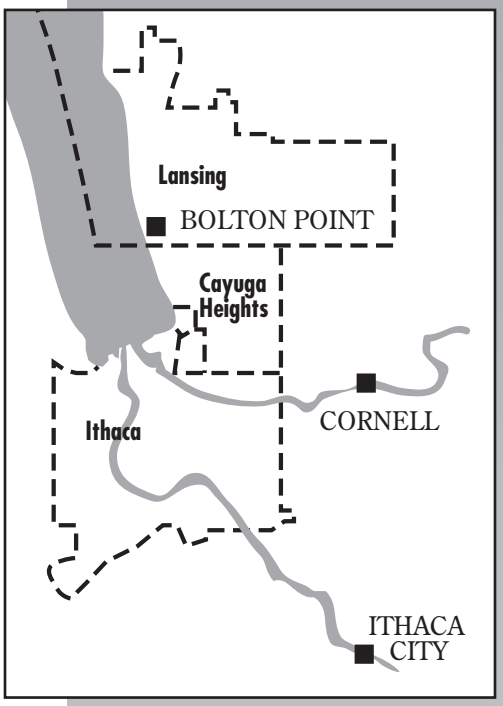
Introduction

In the spirit of municipal cooperation, the Bolton Point, City of Ithaca, and Cornell University water systems have prepared this Drinking Water Quality Report describing the quality of your drinking water. These three interconnected water supply systems are the largest in Tompkins County. The purpose of this report is to provide information on the quality of your drinking water and increase awareness of the need to protect our drinking water sources.

This report provides an overview of last year's water quality, including details about where your water comes from, what it contains, and how it compares to State standards. We want you to be informed about your drinking water. If you have any questions about this report or your drinking water, please contact the appropriate contact person listed in the box below. Or you may attend any of our regularly scheduled public meetings.

In July 2005 total coliforms were detected within the City water system. The four positive samples put the system over the maximum limits allowed within NYS. After corrective measures were instituted, the system was back in compliance by July 22nd. The cause of the problem was believed to be low chlorine residuals and poor circulation within portions of the water system. As a result of the violation, the Elm St. tank has been taken out of service and will have a supplemental chlorination system installed. A system to promote better circulation within the Elm St. tank is being considered. A program for routine flushing is in effect, and chlorine residuals have been raised within the system. Public notification was provided concerning this violation.

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 2005 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. It provides water to the City and 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 2005 the City system did not experience any restriction of its water source. The system serves 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 Wednesday 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 2005 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
www.boltonpoint.org

City of Ithaca
Chuck Baker, Chief Operator, 273-4680

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

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Common Water Quality Definitions

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

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

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

TURBIDITY: 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.

A 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. An oxidizing agent may be added to destroy microorganisms, remove iron and control taste and odor. Bolton Point adds chlorine dioxide and the City adds potassium permanganate.

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; then Cornell and the City add chlorine to control microorganisms.

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.

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 that 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 cryptosporidium or giardia has been detected in previous testing of the treated water of any of the three systems. Individuals who think they may have one of these illnesses should contact their health care provider immediately. For additional information contact the Tompkins County Health Department, 401 Harris B. Dates Drive, Ithaca, New York 14850 or by phone at 274-6688.

C Security Concerns

Until recently security threats to the three water systems have been primarily minor vandalism and property damage. Recent events have changed the security focus to a 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 modified 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 increased patrolling of the facilities. Your awareness and reporting of suspicious activity throughout the three systems will be appreciated.

D General Water Information

Table 1: General Water Data — 2005

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	6,445	5,400	216
Total production in 2005 (MG[1])	1,085	1,000	530
Average daily withdrawal (MGD[2])	3.02	2.74	1.51
Average daily delivered (MGD)	2.97	1.88	1.45
Average daily lost (MGD [3])	0.05	0.86	0.06
Annual charge per 1000 gal.	$3.21	$3.58	$3.37

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

Table 2: General Water Quality Data — 2005

Analyte	Units	BP-MWS Annual Average	CIWS Annual Average	CUWS Annual Average
pH (EP)		8.3	7.8	6.9
Turbidity (EP)	NTU	0.03	0.07	0.07
Total hardness	mg/l	150	120	160
Total hlkalinity	mg/l	104	103	128
Total dissolved solids	mg/l	NR	222	NR
Iron (soluble)	mg/l	NR	0.01	NR
Chlorine residual (EP)	mg/l	1.38	1.43	1.31
Chlorine Residual (POU)	mg/l	0.67	0.84	0.68
Turbidity (POU)	NTU	0.08	0.26	0.16
Total organic carbon (EP)	mg/l	2.0	2.3	2.1
Dissolved organic carbon (EP)	mg/l	1.9	2.2	2.0

NR = Not Required; EP = Entry Point; POU = Point of Use;
Definitions of NTU and mg/l follow Tables 3 - 5.

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 2006, a summary will be provided in next year's Annual 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.

In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which 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 water systems routinely monitor your drinking water for numerous contaminants. Tables 3-5 show the analytical test results for contaminants that were detected in your water. The test 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.

In July 2005 four samples from the City water system detected total coliforms in excess of the maximum limits allowed within NYS. After corrective measures were instituted, the system was back in compliance by July 22nd. The cause of the problem was believed to be low chlorine residuals and poor circulation within portions of the water system. As a result of the violation, the Elm St. tank has been taken out of service and will have a supplemental chlorination system installed. A system to promote better circulation within the Elm St. tank is being considered. A program for routine flushing is in effect, and chlorine residuals have been raised within the system. Public notification was provided concerning this violation.

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. You can also 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).

SODIUM

People who are on severely restricted sodium diets should not drink water containing more than 20 mg/l of sodium. Since the level of sodium in Bolton Point water was 31 mg/l in 2005, 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	9/17/05	0.06	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2005	57 (42-86)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2005	22 (8.1-37)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2005	2.05 (0-2.05)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	12/15/05	0.0024	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.
Chromium	mg/l	No	12/15/05	0.0056	MCL=.1	.1	Discharge from steel and pulp mills; erosion of natural deposits.
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.
Nitrate	mg/l	No	12/15/2005	1.2	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Selenium	mg/l	No	12/15/2005	0.0071	MCL=0.05	N/A	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines.
Sodium	mg/l	No	12/15/2005	31	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	12/13/01	29.1	MCL=250	N/A	Naturally occurring.
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 action level (AL) set by the State. Testing for lead and copper is only required every five years. The three water systems collected samples for lead and copper in 2005. If four or more of these samples had been above the action level, a water quality violation would have occurred requiring additional treatment or other action.

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 for control of 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 in excess of 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. 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).

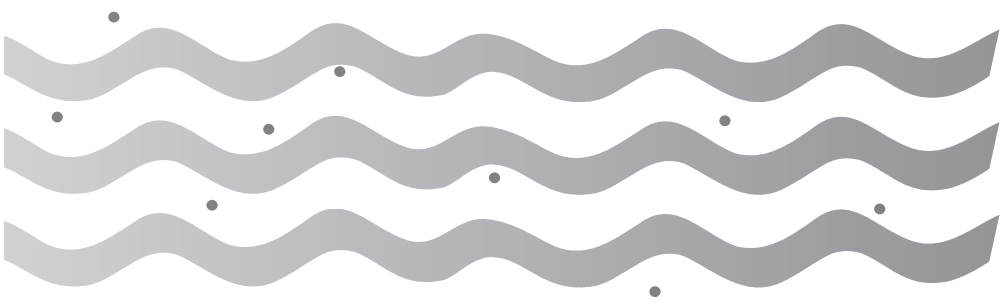

Table 4: Detected Contaminants: City Of Ithaca Water System

Contaminant	Units	Violation Yes/No	Date of Sample	Maximum Level Detected (Range)	Regulatory Limit	MCLG	Likely Source of Contamination
Microbiological contaminants							
Turbidity	NTU	No	11/22/05	0.5	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.3NTU	N/A	Soil runoff.
Total Coliforms	**#/100ml**	**Yes**	**7/11/05 7/20/05**	**3**	**>2/mo.**	**0**	**Naturally present in the environment. Contamination from Elm St. tank top not sealed or repaired yet.**
Disinfection by-products							
Total THMs	ug/l	No	2005	64 (22-137)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2005	46 (21-75)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2005	2.2 (0.8-2.2)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	3/9/05	0.031	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	3/9/05	46	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	2005	1.3 (0.03-1.5)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Flouride	mg/l	No	3/9/05	0.2	MCL=2.2	N/A	Erosion of natural deposits; discharge from fertilizer.
Lead	ug/l	No	2005	8 (0-52)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Nickel	mg/l	No	3/9/05	0.0012	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	3/9/05	0.67	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	2005	12 (10-13)	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	3/9/05	12	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	3/9/05	0.38	MCL=5	N/A	Naturally occurring; mining waste.
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	6/29/05	0.28 (0.03-0.28)	TT=<1 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.3NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2005	62.9 (13-63)	MCL = 80	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2005	58 (18-58)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2005	2.2 (0.7-2.2)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	2/17/05	0.015	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	2/17/05	31	MCL=250	N/A	Naturally occurring or road salt.
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	2/17/05	0.17	MCL=2.2	N/A	Erosion of natural deposits; discharge from fertilizer.
Iron	ug/l	No	1/29/01	100	MCL=300	N/A	Naturally occurring.
Lead	ug/l	No	2005	1.04 (ND-29)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Manganese	ug/l	No	1/29/01	12	MCL=300	N/A	Naturally occurring; lamdfill contamination.
Nickel	mg/l	No	2/17/05	0.0012	N/A	N/A	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrate	mg/l	No	2/17/05	1	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	2/17/05	18	See Water Quality, Section F	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	2/17/05	24	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	2/17/05	0.16	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 2005	CIWS 2005	CUWS 2005
Microbiological			
Total Coliform	X	D	X
E. Coli	X	X	X
Inorganics			
Antimony	X	X	X
Arsenic	X	X	X
Asbestos	NR	X	X
Beryillium	X	X	X
Cadmium	X	X	X
Chromium	D	X	X
Color	NR	X	NR
Cyanide	X	X	X
Mercury	X	X	X
Nickel	X	D	D
Nitrite	X	X	X
Odor	NR	X	NR
Selenium	D	X	X
Silver	NR	X	X
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
Di(2-ethylhexyl) adipate	X	X	X
Di(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 2005	CIWS 2005	CUWS 2005
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			
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			2003
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
UMCR = Unregulated Contaminant Monitoring Requirements

I Major Modifications Completed in 2005

Bolton Point (BP-MWS):

- The 7,600 square foot office addition and 4,000 square foot building renovation project was completed.
- The developing computer control system was extended to approximately half of the system's remote locations using radio telemetry. When completed, all 24 tanks, 10 pump stations and 10 major control valve stations will be monitored and controlled from the treatment plant.
- Town of Ithaca customers on West Hill were supplied with Bolton Point water through a new control valve station on Stone Quarry Road, a new pump station on Coy Glen Road and new tanks on Bostwick Road on West Hill.
- Work was started on a new three million gallon tank located on East Hill. The tank will be completed by mid 2006.
- Installation of 3,000 feet of 16 inch transmission main was completed from the present transmission line near East Hill Plaza to the site of the new East Hill tank.
- A high voltage transformer was purchased as part of the electrical backup system for the treatment plant and raw water pump station.
- One of the 300 hp finished water pumps was rebuilt.
- A new 20 inch butterfly valve was installed to control the inflow of backwash water to filter #3.
- A variable speed drive was installed on one of the two backwash pumps to save energy.
- Two of the turbidimeters monitoring filter effluents were replaced with more advanced units.
- An amperometric tritrator and an online chlorine dioxide meter were purchased as part of a trial of chlorine dioxide as the initial disinfectant to lower disinfectant byproducts.
- Two new pump motors with phase loss protection units were installed at the Regency Lane pump station.
- New cathodic protection rectifiers were installed at the Sheldon Road and Ridgecrest Road tanks; hanging

anode systems were repaired at the Sapsucker Road and Christopher Circle tanks.

- A hydropneumatic pump station was constructed to improve pressure for customers on Bean Hill Road in the Town of Lansing.

City (CIWS):

- The sodium hypochlorite feed system at the water plant was improved by installing new feed pumps for the pre-filter disinfection point.
- Work began on the supplemental chlorination system for the Elm St. tank.
- Controls and electrical work were completed for the backwash pump.
- Waste lagoon #1 was cleaned, and the drain system was temporarily repaired.
- The heating system at the water plant was upgraded.
- The City boat for monitoring the watershed was rebuilt and placed back in service.
- The City narrowed the choices for the future of its water supply to either rebuild at the current site or obtain water from Bolton Point. Discussions began with Bolton Point.
- Installation of 1760 ft. of 12 inch water main was completed on 1st Street in the 100-400 blocks.
- Installation of 600 ft. of 8 inch water main was completed on West Court Street in the 300-400 blocks.
- Installation of 300 ft. of 6 inch water main was completed along South Cascadilla Avenue from Sears Street to Tioga Street.
- Installation of 180 ft. of 8 inch water main was completed along Adams Street from Alice Miller Way to 1st Street.

Cornell (CUWS):

- Water mains related to West Campus renewal project were replaced.
- Water storage facilities were inspected and cleaned.
- Computer automation of the water filtration plant was installed.
- Filter piping and valves were replaced.
- Chemical feed systems were updated and automated.
- Monitoring instrumentation was updated.
- Sedimentation basin troughs were replaced.

J Future Capital Improvements (Planned for 2006)

Bolton Point (BP-MWS)

- Complete and place online a three million gallon storage tank on East Hill.
- Install new motors and pumps at the Oakcrest pump station.
- Complete Phase III of SCADA system for the control and monitoring of the remote pump stations, tanks and control valve stations.
- Complete the chlorine dioxide trial and make a determination on its use as the initial disinfectant to reduce the production of disinfection byproducts.
- Replace the last of the four filter effluent control valves and one backwash influent valve.
- Acquire three trailer mounted generators as electrical backup for municipal pump stations.
- Rebuild another 300 hp finished water pump.
- Install a variable speed drive on the second backwash pump.
- Upgrade the Trumansburg Road and Sheldon Road tanks.
- Construct a new control valve station near the Trumansburg Road tank.

City (CIWS):

- Install sampling stations at Maple Avenue and Cornell Street tanks.
- Complete improvements of the sodium hypochlorite system at the water plant, including the feed to the clearwell influent.
- Complete the Elm Street tank supplemental chlorination system and controls; address the circulation concerns on West Hill.
- Clean and properly repair the waste lagoons.
- Investigate the installation of a corrosion inhibitor feed system.
- Make a final decision on the future of the City's water supply.
- Complete plans to re-loop the water mains truncated by the Town of Ithaca on the South end of the City of Ithaca.
- Replace the check valve in the Cornell Street tank pit.
- Prepare bids for the painting and cathode protection of the steel water tanks.

Cornell (CUWS)

- Replace water mains related to the new Life Sciences Building.
- Replace a one million gallon steel ground tank with a pre-stressed concrete tank.
- Paint the elevated tank on campus.
- Install a new water line to Game Farm Road.

K Water Conservation

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 that you can apply directly in your own home.

- Save water to lessen the strain on the water system during a dry spell or drought and help to avoid severe water use restrictions so that essential fire fighting needs are met.
- By doing laundry only when you have a full load, we can save 26.25 million gallons of water a day or 787 million gallons per month.
- 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.
- 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.
- In 1900 Americans used an average of five gallons of water per day for personal care and housekeeping. Today we use an average of 50 gallons of water per day for those same purposes.
- 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.

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 approximately one million miles of pipeline and aqueducts in the United States and Canada, or enough to circle the earth 40 times.
- It takes more than 39,000 gallons of water to manufacture a new car.
- A cornfield of one acre gives off 4,000 gallons of water per day in evaporation.
- It would take 219 million gallons of water to cover one square mile with one foot of water. That much water would weigh more than 1.8 billion pounds.
- It takes 24 gallons of water to manufacture one pound of plastic.
- One gallon of water weighs 8.34 pounds.
- Water is the only substance found naturally on earth in all three phases – solid, liquid and gas.
- Water acts as a natural insulator to regulate the earth's temperature.
- There are over 58,900 community public water systems in the United States processing more than 34 billion gallons per day.

High Quality Drinking Water for Tompkins County Residents

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